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Proposal for a

REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

concerning the Registration, Evaluation, Authorisation and Restrictions of Chemicals (REACH)

ORIGINAL: EN

(presented by the Commission)

ANNEX XI

GENERAL PROVISIONS FOR DOWNSTREAM USERS TO ASSESS SUBSTANCES AND PREPARE CHEMICAL SAFETY REPORTS

INTRODUCTION

The purpose of this Annex is to set out how downstream users are to assess and document that the risks arising from the substance(s) they use are adequately controlled during their use for a use not covered by the safety data sheet supplied to them and that other users further down the supply chain can adequately control the risks. The assessment shall cover the life-cycle of the substance, from its receipt by the downstream user, for his own uses and for his identified uses further down the supply chain. The assessment shall consider the use of the substance on its own, in a preparation or in an article.

In carrying out the chemical safety assessment and producing the Chemical Safety Report, the downstream user shall take account of information received in the Safety Data Sheet from the supplier of the chemical in accordance with Article 29 of this Regulation. Where available and appropriate, an assessment carried out under Community legislation, (e.g. risk assessments completed under Regulation 793/93) shall be taken into account in the chemical safety assessment and be reflected in the Chemical Safety Report. Deviations from such assessments shall be justified. Assessments carried out under other international and national programmes may also be taken into account.

The process which the downstream user goes through in carrying out the chemical safety assessment and in producing his Chemical Safety Report, involves three steps:

Step 1: Development of exposure scenario(s)

The downstream user shall develop exposure scenarios for uses not covered in a safety data sheet supplied to him in accordance with Section 5 of Annex I.

Step 2: If necessary, a refinement of the hazard assessment by the supplier;

If the downstream user considers the assessments reported in the Safety Data Sheet supplied to him to be appropriate, then no further hazard assessment or PBT and vPvB assessment is necessary. In this case he shall use the relevant information reported by the supplier for the risk characterisation. This shall be stated in the chemical safety report.

If the downstream user considers the assessments reported in the Safety Data Sheet supplied to him to be inappropriate, then he shall carry out the relevant assessments in accordance with Annex I, sections 1 through 4 as appropriate to him.

In those cases where the downstream user considers that information in addition to that provided by the supplier is necessary for producing his Chemical Safety Report the downstream user shall gather this information. Where this information can only be obtained by testing on vertebrate animals, he shall submit a proposal for a testing strategy to the Agency in accordance with Article 35. He shall explain why he considers that additional information is necessary. While waiting for results of further testing, he shall record the risk management measures he has put in place.

On completion of any additional testing, the downstream user shall revise the Chemical Safety Report, and his Safety Data Sheet, as appropriate.

Step 3: Risk characterisation.

A risk characterisation shall be carried out for each new exposure scenario as prescribed in section 6 of Annex I. The risk characterisation shall be presented under the relevant heading of the Chemical Safety Report and summarised in the Safety Data Sheet under the relevant heading(s).

In these steps, iterations may be made between on the one hand developing new exposure scenario, which entails developing and implementing or recommending risk management measures, and on the other hand generating further information. The purpose of generating further information is to establish a more precise risk characterisation, based on a refined hazard assessment and/or exposure assessment.

The downstream user shall produce a Chemical Safety Report detailing his chemical safety assessment using part C, sections 5 and 6, of the format set out in Section 7 of Annex I and the other sections of this format, if appropriate.

Part A of the Chemical Safety Report shall include a declaration that the risk management measures outlined in the relevant exposure scenarios are implemented by the downstream user for his own uses and that the risk management measures outlined in the exposure scenarios for the identified uses are communicated down the supply chain.

ANNEX XII

CRITERIA FOR THE IDENTIFICATION OF PERSISTENT, BIOACCUMULATIVE AND TOXIC SUBSTANCES, AND VERY PERSISTENT AND VERY BIOACCUMULATIVE SUBSTANCES

This Annex lays down the criteria for the identification of:

i) persistent, bioaccumulative and toxic substances (PBT-substances), and

ii) very persistent and very bioaccumulative substances (vPvB-substances).

A substance is identified as a PBT substance if it fulfils the criteria in Sections 1.1, 1.2 and 1.3. A substance is identified as a vPvB substance if it fulfils the criteria in Sections 2.1 and 2.2. This annex shall not apply to inorganic substances, but shall apply to organo-metals.

1. PBT-SUBSTANCES

A substance that fulfils all three of the criteria of the sections below is a PBT substance.

1.1. Persistence

A substance *fulfils* the persistence criterion (P-) when:

- the half-life in marine water is higher than 60 days, or
- the half-life in fresh- or estuarine water is higher than 40 days, or
- the half-life in marine sediment is higher than 180 days, or
- the half-life in fresh- or estuarine water sediment is higher than 120 days, or
- the half-life in soil is higher than 120 days.

The assessment of the persistency in the environment shall be based on available half-life data collected under the adequate conditions, which shall be described by the registrant.

1.2. Bioaccumulation

A substance *fulfils* the bioaccumulation criterion (B-) when:

- the bioconcentration factor (BCF) is higher than 2000.

The assessment of bioaccumulation shall be based on measured data on bioconcentration in aquatic species. Data from freshwater as well as marine water species can be used.

1.3. Toxicity

A substance *fulfils* the toxicity criterion (T-) when:

– the long-term no-observed effect concentration (NOEC) for marine or freshwater organisms is less than 0.01 mg/l, or

– the substance is classified as carcinogenic (category 1 or 2), mutagenic (category 1 or 2), or toxic for reproduction (category 1, 2, or 3), or

– there is other evidence of chronic toxicity, as identified by the classifications: T, R48, or Xn, R48 according to Directive 67/548/EEC.

2. vPvB – SUBSTANCES

A substance that fulfils the criteria of the sections below is a vPvB substance.

2.1. Persistence

A substance *fulfils* the very persistence criterion (vP-) when:

– the half-life in marine, fresh- or estuarine water is higher than 60 days, or

– the half-life in marine, fresh- or estuarine water sediment is higher than 180 days, or

– the half-life in soil is higher than 180.

2.2. Bioaccumulation

A substance *fulfils* the very bioaccumulative criterion (vB-) when:

– the bioconcentration factor is greater than 5000.

ANNEX XIII

LIST OF SUBSTANCES SUBJECT TO AUTHORISATION

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ANNEX XIV

DOSSIERS

The purpose of this Annex is to lay down general principles for Member States to submit and justify proposals for restrictions, harmonised classification and labelling or identification of a substance as a PBT, a vPvB, or a substance of equivalent concern on a Community-wide basis.

CONTENT OF DOSSIERS

Part A – Proposal

This shall include details of:

a) the restriction(s) proposed including the substance(s) concerned and the manufacture, use(s) and/or placing on the market affected, or

b) the substance(s) concerned and the harmonised classification and labelling proposed, or

c) the substance(s) concerned and whether it is proposed to be identified as a PBT according to Article 54(d), a vPvB according to Article 54(e), or a substance of equivalent concern according to Article 54(f).

Part B – Technical and Scientific Basis

An assessment of the hazard or risk, which demonstrates that action on a Community wide basis is necessary beyond any measures that are already in place. This shall be presented according to the format set out in Part B of the Chemical Safety Report in Annex I and, as appropriate, using the methodology set out in that Annex.

For a restrictions proposal, the relevant parts of Annex I needed to support the proposal shall be completed.

For a classification and labelling proposal, the relevant parts of Section 1 needed to support the proposal shall be completed.

For a proposal to identify a substance as a PBT or a vPvB, the relevant parts of Sections 1-4 needed to support the proposal shall be completed.

Member States shall consider any relevant data from registration dossiers and may use any information available. Statements regarding lack of relevant information are not required.

For information which has not been previously submitted to the Agency and that is used in the dossier, a robust study summary shall be prepared and submitted to the Agency in the format specified by the Agency in accordance with Article 108.

The dossier may consider emissions of the substance from any source.

The dossier may develop exposure scenarios, which take into account the actual risk management measures in place.

The dossier shall contain scientific justification of any grouping of substances.

The Member State submitting the dossier shall, on request, provide the Agency or the Commission with any or all information on which the dossier was based or to which reference is made in the dossier.

Part C – Justification for Action at Community Level

a) Evidence that implemented risk management measures (including those identified in registrations under Articles 9 to 13) are not sufficient.

b) Justification for the proposal that action is required on a Community-wide basis.

c) Identification of the available options for addressing the concerns identified in Part B. For restrictions, this includes evidence that alternative substances and/or processes have been considered in the preparation of the proposal.

d) Identification of the administrative, legal or other tools by which the available options can be implemented.

e) Justification for the option and implementation method selected. The options shall be evaluated using the following criteria:

   i) **effectiveness**: the action must be targeted to the effects or exposures that cause the risks identified and must be capable of reducing these risks to a level where the risk is adequately controlled within a reasonable period of time;

   ii) **practicality**: the action must be implementable, enforceable and manageable. Priority should be given to those measures that can be implemented with the existing infrastructure;

   iii) **monitorability**: the ability to monitor the result of the implementation of the proposed action;

   iv) a socio-economic assessment may be made of the impact of the proposed action on the producers/importers and/or downstream users of the substance and on other parties. This assessment should follow Annex XV.

Part D – Other Information

a) A statement about which interested parties have been consulted about the proposed action and, if appropriate, how their views have been taken into account.

b) Other relevant information.

ANNEX XV

SOCIO-ECONOMIC ANALYSIS

This Annex outlines the information that may be addressed by those submitting a socio-economic analysis (SEA) with an application for authorisation, as specified in Article 59 (5) (a), or in connection with a proposed restriction, as specified in Article 66(3)(b).

The Agency shall prepare guidance for the preparation of SEAs. SEAs, or contributions to them, shall be submitted in the format specified by the Agency in accordance with Article 108.

However, the level of detail and scope of the SEA, or contributions to them, shall be the responsibility of the applicant for authorisation, or, in the case of a proposed restriction, the interested party. The information provided can address the socio-economic impacts at any level.

An SEA may include the following elements:

- Impact of a granted or refused authorisation on the applicant(s), or, in the case of a proposed restriction, the impact on industry (e.g. manufacturers and importers). The impact on all other actors in the supply chain, downstream users and associated businesses in terms of commercial consequences such as impact on investment, one-off and operating costs (e.g. compliance; transitional arrangements; changes to existing processes, reporting and monitoring systems; installation of new technology etc).

- Impacts of a granted or refused authorisation, or a proposed restriction, on consumers. For example, product prices, changes in composition or quality or performance of products, availability of products, consumer choice.

- Social implications of a granted or refused authorisation, or a proposed restriction. For example job security and employment.

- Availability, suitability, and technical feasibility of alternatives, and economic consequences thereof, and information on the rates of, and potential for, technological change in the sector(s) concerned. In the case of an application for authorisation, the social and/or economic impacts of using any available alternatives identified in Article 59(5)(b).

- Wider implications on trade, competition and economic development (in particular SMEs) of a granted or refused authorisation, or a proposed restriction. This may include consideration of local, regional, national or international aspects.

- In the case of a proposed restriction, proposals for other regulatory or non-regulatory measures that could meet the aim of the proposed restriction (this shall take account of existing legislation). This should include an assessment of the costs linked to alternative risk management measures.

- In the case of a proposed restriction, the social and economic benefits of the proposed restriction. For example, worker health, environmental performance and the distribution of these benefits, for example, geographically, population groups.

– An SEA may also address any other issue that is considered to be relevant by the applicant(s) or interested party.

ANNEX XVI

Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles

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↓ 76/769/EEC (adapted)

ANNEX ⌦ XVI ⌫

Restrictions on the production, placing on the market and use of certain dangerous substances and preparations and articles

	↓ 76/769/EEC
Designation of the substance, of the groups of substances or of the preparation	**Conditions of restriction**
	↓ 85/467/EEC Art. 1(1) (new) →1 89/677/EEC Art. 1 point 1
1. ~~– Polychlorinated biphenyls (PCB) except mono- and dichlorinated biphenyls~~ – Polychlorinated terphenyls (PCTs) – Preparations, including waste oils, with a ~~PCB or~~ PCT content higher than →1 0,005 % ← by weight.	⌦ 1. Shall ⌫ ~~May~~ not be used. However, the following ~~categories may be used under the following conditions:~~ ⌦ use of equipment, installations and fluids which were in service on 30 June 1986 shall continue to be permitted until they are disposed of or reach the end of their service life: ⌫ ~~1.~~ ⌦ (a) ⌫ ~~until 30 June 1986 at the latest:~~ closed-system electrical equipment transformers, resistors and inductors; ~~2.~~ ⌦ (b) ⌫ ~~until 30 June 1986 at the latest:~~ large condensers (≥ 1 kg total weight); ~~3.~~ ⌦ (c) ⌫ ~~until 30 June 1986 at the latest:~~ small condensers ~~(provided that the PCB has a maximum chlorine content of 43 % and does not contain more than 3,5 % of penta- and higher chlorinated biphenyls)~~; ~~4.~~ ⌦ (d) ⌫ ~~until 30 June 1986 at the latest:~~ heat-transmitting fluids in closed-circuit heat-transfer installations: ~~5.~~ ⌦ (e) ⌫ ~~until 30 June 1986 at the latest:~~ hydraulic fluids for underground mining equipment~~:~~ ~~The use of equipment, plant and fluids referred to in points 1 to 5 above which are in service on 30 June 1986 shall continue to be~~

~~authorized until they are disposed of or reach the end of their service life~~.

⌦ 2. The ⌫ ~~—~~Member State~~s~~ may, for reasons of protection of health and the environment, prohibit ~~within their territory~~ the use of ~~such~~ equipment, ~~plant~~ ⌦ installations ⌫ and fluids ⌦ covered by paragraph 1 ⌫ before they are disposed of or reach the end of their service life.

⌦ 3. ⌫ ~~–~~ The placing on the second-hand market of ~~such~~ equipment, plant and fluids ⌦ covered by paragraph 1 ⌫ which are not intended for disposal shall be prohibited ~~from 30 June 1986 onwards~~.

⌦ 4. ⌫ ~~–~~ Where the Member State~~s~~ considers that it is not possible for technical reasons to use substitute ~~products~~ ⌦ articles ⌫ , ~~they~~ ⌦ it ⌫ may ~~continue to authorize~~ ⌦ permit ⌫ the use of ~~PCBs~~, PCTs and preparations thereof where the latter are solely intended, in the normal conditions of maintenance of equipment, to supplement the level of liquids containing ~~PCBs~~ ⌦ PCTs ⌫ in properly functioning existing ~~plant~~ ⌦ installations ⌫ purchased before ~~the entry into force of this Directive~~ ⌦ 1 October 1985 ⌫ .

~~6~~ ⌦ 5 ⌫ . ~~until 30 June 1986 at the latest: primary and intermediate products for further processing into other products not prohibited by Directive 76/769/EEC and the Directives amending it; after 30 June 1986~~ ⌦ The ⌫ Member State~~s~~ may, provided prior notification stating the reasons is sent to the Commission, grant derogations from the ban on the ~~marketing~~ ⌦ placing on the market ⌫ and use of ~~such~~ primary and intermediate ~~products~~ ⌦ substances an preparations ⌫ , in so far as they consider that these derogations have no deleterious effects on health and the environment.

		↓ 85/467/EEC Art. 1(2) second indent (new)
		⌦ 6. ⌫ Without prejudice to the ~~provisions~~ ⌦ implementation ⌫ of other ~~Directives~~ ⌦ Community provisions ⌫ relating to the labelling of dangerous substances and preparations, ~~Member States may require~~ equipment and ~~plant~~ ⌦ installations ⌫ containing ~~PCBs or~~ PCTs ⌦ must ⌫ also ~~to~~ display instructions concerning the disposal of ~~PCBs and~~ PCTs and the maintenance and use of equipment and ~~plant~~ ⌦ installations ⌫ containing them. These instructions must be capable of being read horizontally when the object containing the ~~PCBs or~~ PCTs is installed in the normal way. The inscription must stand out clearly from its background ~~Member States may require the inscription to~~ ⌦ and shall ⌫ be in a language which is understood in the~~ir~~ territory ⌦ where it is being used ⌫ .
		↓ 76/769/EEC (adapted)
2.	Chloro-1-ethylene (monomer vinyl chloride) ⌦ CAS No 75-01-4 EINECS No 200-831-0 ⌫	~~May~~ ⌦ Shall ⌫ not be used as aerosol propellant for any use ~~whatsoever~~.
		↓ 97/64/EC Art. 1 (adapted)
3.	Liquid substances or preparations, which are regarded as dangerous according to the definitions in ~~Article 2(2) and the criteria in Annex VI, Part 2, 3 and 4, to~~ Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances[1],	1. ~~May~~ ⌦ Shall ⌫ not be used in – ornamental objects, intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays, – tricks and jokes, – games for one or more participants,

	as ⌦ last ⌫ adapted to technical progress by Commission Directive~~s 93/21/EEC~~ ⌦ 2001/59/EC ⌫[2] and ~~96/54/EC~~[3] ⌦ Directive 1999/45/EC of the European Parliament and of the Council of 31 May 1999 on the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations[4], as amended by Commission Directive 2001/60/EC[5] ⌫ .	or any object intended to be used as such, even with ornamental aspects. 2. Without prejudice to ~~the above~~ ⌦ paragraph 1 ⌫, substances and preparations which: – present an aspiration hazard and are labelled with R65, and – can be used as fuel in decorative lamps, and – are placed on the market in packaging of a capacity of 15 litres or less, ~~may~~ ⌦ shall ⌫ not contain a colouring agent, unless required for fiscal reasons, or perfume or both. ⌦ 3. ⌫ Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and preparations, the packaging of substances and preparations covered by ~~paragraph 2~~ ⌦ paragraph 2 ⌫ , where intended for use in lamps, must be marked legibly and indelibly as follows: «Keep lamps filled with this liquid out of the reach of children»

		↓ 79/663/EEC Art. 1 (adapted)
4.	Tris (2,3 dibromopropyl) phosphate CAS No ~~(Chemical Abstract Service Number)~~ 126-72-7	~~May~~ ⌦ Shall ⌫ not be used in textile articles, such as garments, undergarments and linen, intended to come into contact with the skin.

		↓ 82/806/EEC Art. 1 (adapted)
5.	Benzene CAS No ~~(Chemical Abstract Service Number)~~ 71-43-2 ⌦ EINECS No 200-753-785 ⌫	⌦ 1. ⌫ Not permitted in toys or parts of toys as placed on the market where the concentration of benzene in the free state is in excess of 5 mg/kg of the weight of the toy or part of toy.
		↓ 89/677/EEC Art. 1 point 3 (adapted)
		⌦ 2. Shall ⌫ ~~May~~ not be used in concentrations equal to, or greater than, 0,1 % by mass in substances or preparations placed on the market. ⌦ 3. ⌫ However, ~~this provision~~ ⌦ paragraph 2 ⌫ shall not apply to: (a) motor fuels which are covered by Directive ~~85/210/EEC~~ ⌦ 98/70/EC of the European Parliament and of the Council of 13 October 1998 on the quality of petrols an diesel fuels and amending Council Directive 93/12/EC[6] ⌫ ; (b) substances and preparations for use in industrial processes not allowing for the emission of benzene in quantities in excess of those laid down in existing legislation; (c) waste covered by ⌦ Council ⌫ Directive~~s~~ 75/442/EEC[7] and ⌦ Council Directive ⌫ ~~78/319/EEC~~ ⌦ 91/689/EEC ⌫ [8].
		↓ 83/478/EEC Art. 2 (adapted) →1 85/610/EEC Art. 1
→1 6. ←	Asbestos fibres	
~~6.1.~~⌦ (a) ⌫	Crocidolite	~~6.1.~~ ⌦ 1. ⌫ The placing on the market and

CAS No 12001-28-4 ⌦ (b) ⌫ Amosite CAS No 12172-73-5 ⌦ (c) ⌫ Anthophyllite ~~asbestos,~~ ~~CAS No 77536-67-5~~	use of these fibres and of ~~products~~ ⌦ articles ⌫ containing these fibres added intentionally shall be prohibited. ~~6.2. The placing on the market and use of this fibre and of products containing this fibre added intentionally shall be prohibited.~~

	↓ 1999/77/EC Art. 1 (adapted)
⌦ (d) ⌫ Actinolite ~~asbestos,~~ CAS No 77536-66-4 ⌦ (e) ⌫ Tremolite ~~asbestos,~~ ~~CAS No 77536-68-6~~ ~~6.2.~~⌦ (f) ⌫ Chrysotile ⌦ [9] ⌫ CAS No 12001-29-5 ⌦ CAS No 132207-32-0 ⌫	However, Member States may except ⌦ the placing on the market and use of ⌫ diaphragms ⌦ containing chrysotile (point 6(f)) ⌫ for existing electrolysis installations until they reach the end of their service life, or until suitable asbestos-free substitutes become available, whichever is the sooner. The Commission will review this derogation before 1 January 2008. ⌦ 2. ⌫ The use of ~~products~~ ⌦ articles ⌫ containing asbestos fibres referred to in ~~points 6.1 and 6.2~~ ⌦ paragraph 1 above ⌫ which were already installed and/or in service before ~~the implementation date of Directive 1999/77/EC by the Member State concerned~~ ⌦ 1 January 2005 ⌫ shall continue to be ~~authorised~~ ⌦ permitted ⌫ until they are disposed of or reach the end of their service life. However, Member States may, for reasons of protection of health, prohibit ~~within their territory~~ the use of such ~~products~~ ⌦ articles ⌫ before they are disposed of or reach the end of their service life.

	↓ 1999/77/EC Art. 2(3) (adapted)
	⌦ From the entry into force of this Regulation to 1st January 2005, Member States shall not permit the introduction of new applications for chrysotile asbestos on their territories. ⌫
	↓ 1999/77/EC Art. 1 (adapted)
	⌦ 3. ⌫ Without prejudice to the application of other Community provisions on the classification, packaging and labelling of dangerous substances and preparations, the placing on the market and use of these fibres and of ~~products~~ ⌦ articles ⌫ containing these fibres, as ~~authorised~~ ⌦ permitted ⌫ according to the prece~~e~~ding derogations, ~~may~~ ⌦ shall ⌫ be permitted only if the ~~products~~ ⌦ articles ⌫ bear a label in accordance with the provisions of ~~Annex II to Directive 76/769/EEC~~ ⌦ Appendix 7 to this Regulation ⌫ .
	↓ 83/264/EEC Art. 1 (adapted) ⇨ new
~~8~~ ⌦ 7 ⌫ . Tris(aziridinyl)-phosphinoxide CAS No 5455-55-1	~~May~~ ⌦ Shall ⌫ not be used in textile articles, such as garments, undergarments and linen, intended to come into contact with the skin
~~9~~ ⌦ 8 ⌫ . ⌦ Polybromobiphenyls ⌫; Polybrominatedbiphenyls (PBB) CAS No 59536-65-1	

~~10~~ ⌦ 9 ⌫ . Soap bark powder *(Quillaja saponaria)* and its derivatives containing saponines Powder of the roots of *Helleborus viridis* and *Helleborus niger* Powder of the roots of *Veratrum album* and *Veratrum nigrum* Benzidine and/or its derivatives ⌦ CAS No 92-87-5 EINECS No 202-199-1 ⌫ *o*-Nitrobenzaldehyde CAS No 552-89-6 Wood powder	~~May~~ ⌦ 1. Shall ⌫ not be used in jokes and hoaxes or in objects intended to be used as such, for instance as a constituent of sneezing powder and stink bombs. ~~However, Member States may tolerate on their territory stink bombs containing not more than 1,5 ml.~~ ⇨ 2. However, paragraph 1 does not apply to stink bombs containing not more than 1,5 ml of liquid ⇦ .
~~11~~ ⌦ 10 ⌫ . Ammonium sulphide CAS No 12135-76-1 ~~and~~ Ammonium hydrogen sulphide CAS No 12124-99-1 Ammonium polysulphide ~~CAS No 12259-92-6~~ ⌦ CAS No 9080-17-5 EINECS No 232-989-1 ⌫	
~~12~~ ⌦ 11 ⌫ . Volatile esters of bromoacetic acids: Methyl bromoacetate CAS No 96-32-2 ⌦ EINECS No 202-499-2 ⌫ Ethyl bromoacetate CAS No 105-36-2 ⌦ EINECS No 203-290-9 ⌫	

Propyl bromoacetate ⌦ CAS No 35223-80-4 ⌫ Butyl bromoacetate	

	↓ 89/677/EEC Art. 1 point 4 (adapted) →1 Corrigendum 89/677/EEC (OJ L 250, 23.9.1999, p. 14)
~~13~~ ⌦ 12 ⌫ . 2-Naphthylamine CAS No 91-59-8 ⌦ EINECS No 202-080-4 ⌫ and its salts	⌦ 1. Shall ⌫ ~~May~~ not be used in concentrations equal to or greater than 0,1 % by weight in substances and preparations placed on the market. However, this provision shall not apply to waste containing one or more of these substances and covered by Directives 75/442/EEC and ~~78/319/EEC~~ ⌦ 91/689/EEC ⌫ . ⌦ 2. ⌫ Such substances and preparations ~~may~~ ⌦ shall ⌫ not be sold to the general public. ⌦ 3 ⌫ Without prejudice to the application of other Community provisions on the classification, packaging and labelling of dangerous substances and preparations, the packaging of such preparations shall be legible and indelibly marked as follows: «Restricted to professional users».
~~14~~ ⌦ 13 ⌫ . Benzidine CAS No 92-87-5 ⌦ EINECS No 202-199-1 ⌫ and its salts	
~~15~~ ⌦ 14 ⌫ . 4-Nitrobiphenyl CAS No 92-93-3 ⌦ EINECS No 202-204-7 ⌫	
~~16~~ ⌦ 15 ⌫ . 4-Aminobiphenyl ⌦ xenylamine ⌫ CAS No 92-67-1 ⌦ EINECS No 202-177-1 ⌫ and its salts	

~~17~~ ⌦ 16 ⌫ . Lead carbons:	~~May not be used as substances and constituents of preparations intended for use as paints, except for the restoration and maintenance of works of art and historic buildings and their interiors, where Member States wish to authorize this on their territory, in accordance with the provisions of ILO Convention 13 on the use of white lead in paint.~~
⌦ (a) ⌫ – Neutral anhydrous carbonate ($PbCO_3$) CAS No 598-63-0 ⌦ EINECS No 209-943-4 ⌫	
⌦ (b) ⌫ – ➔1 Trilead-bis(carbonate)-dihydroxide ← 2 Pb CO_3-$Pb(OH)_2$ CAS No 1319-46-6 ⌦ EINECS No 215-290-6 ⌫	~~May~~ ⌦ Shall ⌫ not be used as substances and a constituent of preparations intended for use as paints, except for the restoration and maintenance of works of art and historic buildings and their interiors, where Member States wish to ~~authorize~~ ⌦ permit ⌫ this on their territory, in accordance with the provisions of ILO Convention 13 on the use of ⌦ white lead and ⌫ sulphates of lead in paint.
~~18~~ ⌦ 17 ⌫ . Lead sulphates	
⌦ (a) ⌫ $PbSO_4$ (1:1) CAS No 7446-14-2 ⌦ EINECS No 231-198-9 ⌫	
⌦ (b) ⌫ $Pb_x SO_4$ CAS No 15739-80-7 ⌦ EINECS No 239-831-0 ⌫	
~~19~~ ⌦ 18 ⌫ . Mercury compound	⌦ 1. Shall ⌫ ~~May~~ not be used as substances and constituents of preparations intended for use: (a) to prevent the fouling by micro-organisms, plants or animals of: – the hulls of boats, – cages, floats, nets and any other appliances or equipment used for fish or shellfish farming, – any totally or partly submerged appliances or equipment; (b) in the preservation of wood;

(c) in the impregnation of heavy-duty industrial textiles and yarn intended for their manufacture;

(d) in the treatment of industrial waters, irrespective of their use.

↓ 98/101/EC Art. 1 point 1 (adapted)

⌦ 2. The placing on the market ⌫ ~~Member States shall prohibit, as from 1 January 2000 at the latest, the marketing~~ of batteries and accumulators, containing more than 0,0005 % of mercury by weight, including in those cases where these batteries and accumulators are incorporated into appliances ⌦ shall be prohibited ⌫ . Button cells and batteries composed of button cells with a mercury content of no more than 2 % by weight shall be exempted from this prohibition.

	↓ 2003/2/EC Art. 1 (adapted)
~~20~~⌦ 19 ⌫ . Arsenic compounds	1. ~~May~~ ⌦ Shall ⌫ not be used as substances and constituents of preparations intended for use: (a) to prevent the fouling by micro-organisms, plants or animals of: – the hulls of boats, – cages, floats, nets and any other appliances or equipment used for fish or shellfish farming, – any totally or partly submerged appliances or equipment; (b) in the preservation of wood. Furthermore, wood so treated ~~may~~ ⌦ shall ⌫ not be placed on the market; (c) however, by way of derogation: (i) Relating to the substances and preparations in the preservation of wood: these may only be used in industrial installations using vacuum or pressure to impregnate wood if they are solutions of inorganic compounds of the copper, chromium, arsenic (CCA) type C. Wood so treated ~~may~~ ⌦ shall ⌫ not be placed on the market before fixation of the preservative is completed.

(ii) Relating to wood treated with CCA solutions in industrial installations according to point (i): this may be placed on the market for professional and industrial use provided that the structural integrity of the wood is required for human or livestock safety and skin contact by the general public during its service life is unlikely:

- as structural timber in public and agricultural buildings, office buildings, and industrial premises,
- in bridges and bridgework,
- as constructional timber in freshwater areas and brackish waters e.g. jetties and bridges,
- as noise barriers,
- in avalanche control,
- in highway safety fencing and barriers,
- as debarked round conifer livestock fence posts,
- in earth retaining structures,
- as electric power transmission and telecommunications poles,
- as underground railway sleepers.

Without prejudice to the application of other Community provisions on the classification, packaging and labelling of dangerous substances and preparations, all treated wood placed on the market shall be individually labelled «For professional and industrial installation and use only, contains arsenic». In addition, all wood placed on the market in packs shall also bear a label stating «Wear gloves when handling this wood. Wear a dust mask and eye protection when cutting or otherwise crafting this wood. Waste from this wood shall be treated as hazardous by an authorised undertaking».

(iii) Treated wood referred to under points (i) and (ii) ~~may~~ ⌦ shall ⌫ not be used:

– in residential or domestic constructions, whatever the purpose,

– in any application where there is a risk of repeated skin contact,

– in marine waters,

– for agricultural purposes other than for livestock fence posts and structural uses in accordance with point (ii),

– in any application where the treated wood may come into contact with intermediate or finished ~~products~~ ⌦ articles ⌫ intended for human and/or animal consumption.

	2. ~~May~~ ⌦ Shall ⌫ not be used as substances and constituents of preparations intended for use in the treatment of industrial waters, irrespective of their use.

	↓ 2002/62/EC Art. 1 (adapted) →1 Corrigendum 2002/62/EC (OJ L 203, 1.8.2002, p. 64)
~~21~~ ⌦ 20 ⌫ . Organostannic compounds	1. ~~May~~ ⌦ Shall ⌫ not be placed on the market for use as substances and constituents of preparations when acting as biocides in free association paint. 2. ~~May~~ ⌦ Shall ⌫ not be placed on the market or used as substances and constituents of preparations which act as biocides to prevent the fouling by microorganisms, plants or animals of: →1 (a) all craft ← irrespective of their length intended for use in marine, coastal, estuarine and inland waterways and lakes; (b) cages, floats, nets and any other appliances or equipment used for fish or shellfish farming; (c) any totally or partly submerged appliance or equipment. 3. ~~May~~ ⌦ Shall ⌫ not be used as substances and constituents of preparations intended for use in the treatment of industrial waters.

	↓ 89/677/EEC Art. 1 point 4 (adapted)
~~22~~ ⌦ 21 ⌫ . Di-µ-oxo-di-n-butylstanniohydroxyborane ⌦ dibutyltin hydrogen borate ⌫ $C_8H_{19}BO_3S_n$ (DBB) CAS No 75113-37-0	Shall be prohibited in a concentration equal to or greater than 0,1 % in substances and constituents of preparations placed on the market. However, this provision shall not apply to this substance (DBB) or preparations containing it if these are intended solely for conversion into finished ~~products~~ ⌦ articles ⌫ , among which this substance will no longer feature in a

⌦ ELINCS No 401-040-5 ⌫	concentration equal to or greater than 0,1%.

	↓ 1999/51/EC Art. 1 and Annex point 2 (adapted)
~~23~~ ⌦ 22 ⌫ . Pentachlorophenol CAS No 87-86-5 ⌦ EINECS No 201-778-6 ⌫ and its salts and esters	⌦ 1. ⌫ Shall not be used in a concentration equal to or greater than 0,1 % by mass in substances or preparations placed on the market. ⌦ 2. Transitional provisions: ⌫ By way of derogation until 31 December 2008 France, Ireland, Portugal, Spain and the United Kingdom may chose not to apply this provision to substances and preparations intended for use in industrial installations not permitting the emission and/or discharge of pentachlorophenol (PCP) in quantities greater than those prescribed by existing legislation: (a) in the treatment of wood. However, treated wood ~~may~~ ⌦ shall ⌫ not be used: – inside buildings whether for decorative purposes or not, whatever their purpose (residence, employment, leisure), – for the manufacture and re-treatment of: (i) containers intended for growing purposes; (ii) packaging that may come into contact with raw materials, intermediate or finished ~~products~~ ⌦ articles ⌫ destined for human and/or animal consumption; (iii) other materials that may contaminate the ~~products~~ ⌦ articles ⌫ mentioned in (i) and (ii);

(b) in the impregnation of fibres and heavy-duty textiles not intended in any case for clothing or for decorative furnishings;

(c) by way of special exception, Member States may on a case-by-case basis, ~~authorise~~ ⌦ permit ⌫ on their territory specialised professionals to carry out *in situ* and for buildings of cultural, artistic and historical interest, or in emergencies, a remedial treatment of timber and masonry infected by dry rot fungus *(Serpula lacrymans)* and cubic rot fungi.

In any case:

(a) Pentachlorophenol used alone or as a component of preparations employed within the framework of the above exceptions must have a total hexachlorodibenzoparadioxin (HCDD) content of not more than two parts per million (ppm);

(b) these substances and preparations ~~may~~ ⌦ shall ⌫ not:

– be placed on the market except in packages of 20 litres or more;

– be sold to the general public.

⌦ 3. ⌫ Without prejudice to the implementation of other Community provisions concerning the classification, packaging and labelling of dangerous substances and preparations, the packaging of ~~such~~ ⌦ substances and ⌫ preparations ~~should~~ ⌦ covered by paragraphs 1 and 2 shall ⌫ be marked clearly and indelibly:

«Reserved for industrial and professional use»

~~In addition,~~ This provision shall not apply to waste covered by Directives 75/442/EEC and 91/689/EEC.

	↓ 91/338/EEC Art. 1 (adapted)
~~24~~⌦ 23 ⌫ Cadmium CAS No 7440-43-9 ⌦ EINECS No 231-152-8 ⌫ and its compounds	1.~~1. May~~ ⌦ Shall ⌫ not be used to give colour to finished ~~products~~ ⌦ articles ⌫ manufactured from the substances and preparations listed below: ⌦ (a) ⌫ – polyvinyl chloride (PVC) [3904 10] [3904 21] [3904 22] – polyurethane (PUR) [3909 50] – low-density polyethylene (ld PE), with the exception of low-density polyethylene used for the production of coloured masterbatch [3901 10] – cellulose acetate (CA) [3912 11] [3912 12] – cellulose acetate butyrate (CAB) [3912 11] [3912 12] – epoxy resins [3907 30] ~~In any case, whatever their use or intended final purpose, finished products or components of products manufactured from the substances and preparations listed above coloured with cadmium may not be placed on the market if their cadmium content (expressed as Cd metal) exceeds 0.01 % by mass of the plastic material.~~ ~~.1.2. Section 1.1 also applies from 31 December 1995 for:~~ ~~Shall not be used in (a)finished articles products manufactured from the following substances and preparations:~~	10

	– melamine — formaldehyde (MF) resins [3909 20] – urea — formaldehyde (UF) resins [3909 10] – unsaturated polyesters (UP) [3907 91] – polyethylene terephthalate (PET) [3907 60] – polybutylene terephthalate (PBT) – transparent/general-purpose polystyrene [3903 11] [3903 19] – acrylonitrile methylmethacrylate (AMMA) – cross-linked polyethylene (VPE) – high-impact polystyrene – polypropylene (PP) [3902 10]	[10]
(b)	paints [3208] [3209] However, if the paints have a high zinc content, their residual concentration of cadmium ~~must~~ ⌦ shall ⌫ be as low as possible and ⌦ shall ⌫ at all events not exceed 0,1 % by mass.	

In any case, whatever their use or intended final purpose, finished ~~products~~ ⌦ articles ⌫ or components of ~~products~~ ⌦ articles ⌫ manufactured from the substances and preparations listed above coloured with cadmium ~~may~~ ⌦ shall ⌫ not be placed on the market if their cadmium content (expressed as Cd metal) exceeds 0,01 % by mass of the plastic material.

~~1.3~~ ⌦ 2 ⌫ . However, paragraph~~s 1.1 and 1.2~~ ⌦ 1 ⌫ does not apply to ~~products~~ ⌦ articles ⌫ to be coloured for safety reasons.

~~2.1. May~~ ⌦ 3. Shall ⌫ not be used to stabilize the finished ~~products~~ ⌦ articles ⌫ listed below manufactured from polymers or copolymers of vinyl chloride:

–	packaging materials (bags, containers, bottles, lids) [3923 29 10] [3920 41] [3920 42]	10
–	office or school supplies [3926 10]	
–	fittings for furniture, coachwork or the like [3926 30]	
–	articles of apparel and clothing accessories (including gloves) [3926 20]	
–	floor and wall coverings [3918 10]	
–	impregnated, coated, covered or laminated textile fabrics [5903 10]	
–	imitation leather [4202]	
–	gramophone records [8524 10]	
–	tubes and pipes and their fittings [3917 23]	
–	swing doors	
–	vehicles for road transport (interior, exterior, underbody)	
–	coating of steel sheet used in construction or in industry	
–	insulation for electrical wiring	

In any case, whatever their use or intended final purpose, the placing on the market of the above finished ~~products~~ ⌦ articles ⌫ or components of ~~products~~ ⌦ articles ⌫ manufactured from polymers or copolymers of vinyl chloride, stabilized by substances containing cadmium ~~is~~ ⌦ shall be ⌫ prohibited, if their cadmium content (expressed as Cd metal) exceeds 0,01 % by mass of the polymer.

~~These provisions enter into force on 30 June 1994.~~

~~2.2~~ ⌦ 4 ⌫ . However, paragraph ~~2.1~~ ⌦ 3 ⌫ does not apply to finished ~~products~~ ⌦ articles ⌫ using cadmium-based stabilizers for safety reasons.

~~3~~ ⌦ 5 ⌫ . Within the meaning of this ~~Directive~~ ⌦ Regulation ⌫ , «cadmium plating» means any deposit or coating of metallic cadmium on a metallic surface.

~~3.1. May~~ ⌦ Shall ⌫ not be used for cadmium plating metallic ~~products~~ ⌦ articles ⌫ or components of the ~~products~~ ⌦ articles ⌫ used in the sectors/applications listed below:

(a) equipment and machinery for:

– food production [8210] [8417 20] [8419 81] [8421 11] [8421 22] [8422] [8435] [8437] [8438] [8476 11]

– agriculture [8419 31] [8424 81] [8432] [8433] [8434] [8436]

– cooling and freezing [8418]

– printing and book-binding [8440] [8442] [8443]

[10]

(b) equipment and machinery for the production of:

– household goods [7321] [8421 12] [8450] [8509] [8516]

– furniture [8465] [8466] [9401] [9402] [9403] [9404]

– sanitary ware [7324]

– central heating and air conditioning plant [7322] [8403] [8404] [8415]

In any case, whatever their use or intended final purpose, the placing on the market of cadmium-plated ~~products~~ ⌦ articles ⌫ or components of such ~~products~~ ⌦ articles ⌫ used in the sectors/applications listed in (a) and (b) above and of ~~products~~ ⌦ articles ⌫ manufactured in the sectors listed in (b) above ~~is~~ ⌦ shall be ⌫ prohibited.

~~3.2.~~ ⌦ 6. ⌫ The provisions referred to in ~~Section 3.1~~ ⌦ paragraph 5 ⌫ are also applicable ~~from 30 June 1995~~ to cadmium-plated ~~products~~ ⌦ articles ⌫ or components of such ~~products~~ ⌦ articles ⌫ when used in the sectors/applications listed in (a) and (b) below and to ~~products~~ ⌦ articles ⌫ manufactured in the sectors listed in (b) below:

(a) equipment and machinery for the production of:

– paper and board [8419 32] [8439] [8441]

– textiles and clothing [8444] [8445] [8447] [8448] [8449] [8451] [8452]

(b) equipment and machinery for the production of:

– industrial handling equipment and machinery [8425] [8426] [8427] [8428] [8429] [8430] [8431]

– road and agricultural vehicles [chapter 87]

– rolling stock [chapter 86]

– vessels [chapter 89]

~~3.3.~~ ⌦ 7. ⌫ However, ~~Sections 3.1 and 3.2~~ ⌦ the restrictions in paragraphs 5 an 6 ⌫ do not apply to:

– ~~products~~ ⌦ articles ⌫ and components of the ~~products~~ ⌦ articles ⌫ used in the aeronautical, aerospace, mining, offshore and nuclear sectors whose applications require high safety standards and in safety devices in road and agricultural vehicles, rolling stock and vessels,

– electrical contacts in any sector of use, on account of the reliability required of the apparatus on which they are installed.

🡻 91/338/EEC Art. 2 (adapted)

⌦ Owing to the development of knowledge and techniques in respect of substitutes less dangerous than cadmium and its compounds, the Commission shall, in consultation with the Member States, assess the situation at regular intervals in accordance with the procedure laid down in Art 113(3) of the present Regulation. ⌫

	↓ 1999/51/EC Art. 1 and Annex point 3 (adapted)
	~~4. Austria and Sweden, which already apply restrictions to cadmium going further than those prescribed in Sections 1, 2 and 3 may continue to apply these restrictions until 31 December 2002. The Commission will review the provisions on cadmium in Annex I to Directive 76/769/EEC before this date in light of the results of risk assessment for cadmium and of development of knowledge and techniques in respect of substitutes for cadmium.~~
	↓ 91/339/EEC Art. 1 (adapted)
~~25.~~ ⌦ 24 ⌫ . Monomethyl tetrachlorodiphenyl methane Trade name: Ugilec 141 CAS No 76253-60-6	— ⌦ 1. ⌫ ~~As from 18 June 1994~~The marketing and use of this substance and of preparations and ~~products~~ ⌦ articles ⌫ containing it shall be prohibited. ⌦ 2. ⌫ By way of exception ~~this provision~~ ⌦ paragraph 1 ⌫ shall not apply: ~~1.~~ ⌦ (a) ⌫ in the case of plant and machinery already in service on 18 June 1994 until such plant and machinery is disposed of. However, ~~as from 18 June 1994~~ Member States may, on grounds of health protection and environmental protection, prohibit within their territory the use of such plant or machinery before it is disposed of; ~~2.~~ ⌦ (b) ⌫ in the case of the maintenance of plant and machinery already in service ⌦ within a Member State ⌫ on 18 June 1994. ⌦ 3. ⌫ ~~As from 18 June 1994~~ The placing on the secondhand market of this substance, preparations containing this substance and plant/machinery containing this substance, shall

	be prohibited.
~~26~~ ⌦ 25 ⌫ . Monomethyl-dichloro-diphenyl methane Trade name: Ugilec 121, Ugilec 21 ; CAS No — unknown	The marketing and use of this substance and of preparations and ~~products~~ ⌦ articles ⌫ containing it shall be prohibited.
~~27~~ ⌦ 26 ⌫ . Monomethyl-dibromo-diphenyl methane ⌦ bromobenzylbromotoluene, mixture of isomers ⌫ Trade name: DBBT CAS No 99688-47-8	The marketing and use of this substance and of preparations and ~~products~~ ⌦ articles ⌫ containing it shall be prohibited.

🡻 94/27/EC Art. 1 (adapted)

~~28~~ ⌦ 27 ⌫ . Nickel CAS No ~~7440-0-20~~ ⌦ 7440-02-0 ⌫ EINECS No ~~2311114~~ ⌦ 231-111-4 ⌫ and its compounds	⌦ 1. Shall ⌫ ~~May~~ not be used: ~~1.~~ ⌦ (a) ⌫ in post assemblies which are inserted into pierced ears and other pierced parts of the human body during epithelization of the wound caused by piercing, whether subsequently removed or not, unless such post assemblies are homogeneous and the concentration of nickel — expressed as mass of nickel to total mass — is less than 0,05 %; ~~2.~~ ⌦ (b) ⌫ in ~~products~~ ⌦ articles ⌫ intended to come into direct and prolonged contact with the skin such as: – earrings, – necklaces, bracelets and chains, anklets, finger rings, – wrist-watch cases, watch straps and tighteners, – rivet buttons, tighteners, rivets, zippers and metal marks, when these are used in garments, if the rate of nickel release from the parts of these ~~products~~ ⌦ articles ⌫

coming into direct and prolonged contact with the skin is greater than 0,5 µg/cm^2/week;

~~3.~~ ⌦ (c) ⌫ in ~~products~~ ⌦ articles ⌫ such as those listed in ~~point 2~~ ⌦ paragraph 1(b) ⌫ where these have a non-nickel coating unless such coating is sufficient to ensure that the rate of nickel release from those parts of such ~~products~~ ⌦ articles ⌫ coming into direct and prolonged contact with the skin will not exceed 0,5 µg/cm^2/week for a period of at least two years of normal use of the ~~product~~ ⌦ article ⌫ .

⌦ 2. ⌫ ~~Furthermore, products~~ ⌦ Articles ⌫ which are the subject of ~~points 1, 2 and 3, may~~ ⌦ paragraph 1(a) to (c), shall ⌫ not be placed on the market unless they conform to the requirements set out in those points.

⬇ 94/27/EC Art. 2(1) (adapted)

⌦ The standards adopted by the European Committee for Standardization (CEN) shall be used as the test methods for demonstrating the conformity of articles to paragraphs 1 and 2. ⌫

	↓ 97/10/EC Art. 1 (adapted) →1 97/56/EC Art. 1 point 1 →2 Corrigendum 97/10/EC (OJ L 216, 14.8.1999, p. 25)

~~29~~ ⌦ 28 ⌫ . Substances which appear in Annex I to ⌦ Council ⌫ Directive 67/548/EEC ⌦ [11] ⌫ classified as carcinogen category 1 or carcinogen category 2 and labelled at least as «Toxic (T)» with risk phrase R 45: «May cause cancer» or risk phrase R49: «May cause cancer by inhalation», and listed as follows:

Carcinogen category 1~~: See List 1 in the Appendix~~ ⌦ listed in Appendix 1 ⌫ .

Carcinogen category 2~~: See List 2 in the Appendix~~ ⌦ listed in Appendix 2 ⌫ .

~~30~~ ⌦ 29 ⌫ . Substances which appear in Annex I to Directive 67/548/EEC classified as mutagen category 1 or mutagen category 2 and labelled with risk phrase R46: «May cause heritable genetic damage», and listed as follows:

Mutagen category 1~~: See List 3 in the Appendix~~ ⌦ listed in Appendix 3 ⌫ .

Mutagen category 2~~: See List 4 in the Appendix~~ ⌦ listed in Appendix 4 ⌫ .

Without prejudice to the other ~~points~~ ⌦ parts ⌫ of ⌦ this ⌫ Annex ~~I to Directive 76/769/EEC~~ ⌦ the following shall apply to entries 28 to 30 ⌫:

⌦ 1. Shall ⌫ ~~May~~ not be used in substances and preparations placed on the market for sale to the general public in individual concentration equal to or greater than:

– either the ⌦ relevant ⌫ concentration specified in Annex I to Directive 67/548/EEC~~[12]~~, or

– the ⌦ relevant ⌫ concentration specified in ~~point 6, Table VI, of Annex I to Council Directive 88/379/EEC[13]; where no concentration limit appears in Annex I to Directive 67/548/EEC~~ ⌦ Directive 1999/45/EC ⌫.

Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and preparations, the packaging of such substances and preparations must be marked legibly and indelibly as follows:

"Restricted to professional users"

~~31~~ ⌦ 30 ⌫ . Substances which appear in Annex I to Directive 67/548/EEC classified as toxic to reproduction category 1 or toxic to reproduction category 2 and labelled with risk phrase R60: «May impair fertility» and/or R61: «May cause harm to the unborn child», and listed as follows:

Toxic to reproduction category 1~~:~~ ~~See List 5 in the Appendix~~ ⌦ listed in Appendix 5 ⌫ .

Toxic to reproduction category 2~~:~~ ~~See List 6 in the Appendix~~ ⌦ listed in Appendix 6 ⌫ .

⌦ 2. ⌫ By way of derogation, ~~this provision~~ ⌦ paragraph 1 ⌫ shall not apply to:

(a) medicinal or veterinary products as defined by ~~Council~~ Directive ~~65/65/EEC~~ ⌦ 2001/82/ECof the European Parliament and of the Council ⌫ [14] ⌦ and Directive 2001/83/EC of the European Parliament and of the Council[15] ⌫ ;

(b) cosmetic products as defined by Council Directive 76/768/EEC[16];

(c) ➔2 – motor fuels which are covered by Directive ~~85/210/EEC~~[17] ⌦ 98/70/EC ⌫,

– mineral oil ~~products~~ ⌦ articles ⌫ intended for use as fuel in mobile or fixed combustion plants,

– fuels sold in closed systems (e.g. liquid gas bottles); ➔

(d) artists' paints covered by ~~Council~~ Directive 88~~/379/EEC~~[18] ⌦ 1999/45/EC ⌫ .

~~Without prejudice to the other points of Annex I to Directive 76/769/EEC~~

~~May not be used in substances and preparations placed on the market for sale to the general public in individual concentration equal to or greater than:~~

- ~~either the concentration specified in Annex I to Directive 67/548/EEC, or~~
- ~~the concentration specified in point 6, Table VI, of Annex I to Directive 88/379/EEC where no concentration limit appears in Annex I to Directive 67/548/EEC.~~

➔1 ~~Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and preparations, the packaging of such substances and preparations must be marked legibly and indelibly as follows:~~

~~«Restricted to professional users».~~ ←

~~By way of derogation, this provision shall not apply to:~~

~~(a) medicinal or veterinary products as defined by Directive 65/65/EEC;~~

~~(b) cosmetic products as defined by Directive 76/768/EEC;~~

~~(c)~~ ➔2 ~~– motor fuels which are covered by Council Directive 85/210/EEC[7];~~

- ~~mineral oil products intended for use as fuel in mobile or fixed combustion plants,~~
- ~~fuels sold in closed systems (e.g. liquid gas bottles);~~ ←

~~(d) artists' paints covered by Directive 88/379/EEC.~~

~~Without prejudice to the other points of Annex I to Directive 76/769/EEC~~

~~May not be used in substances and preparations placed on the market for sale to the general public in individual concentration equal to or greater than:~~

- ~~either the concentration specified in Annex I to Directive 67/548/EEC, or~~
- ~~the concentration specified in point 6, Table VI, of Annex I to Directive 88/379/EEC where no concentration limit appears in Annex I to Directive 67/548/EEC.~~

~~1~~ ~~Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and preparations, the packaging of such substances and preparations must be marked legibly and indelibly as follows:~~

~~«Restricted to professional users».~~

~~By way of derogation, this provision shall not apply to:~~

~~(a) medicinal or veterinary products as defined by Directive 65/65/EEC;~~

~~(b) cosmetic products as defined by Directive 76/768/EEC;~~

~~(c)~~ ~~2~~
- ~~motor fuels which are covered by Council Directive 85/210/EEC[7];~~
- ~~mineral oil products intended for use as fuel in mobile or fixed combustion plants;~~
- ~~fuels sold in closed systems (e.g. liquid gas bottles);~~

~~(d) artists' paints covered by Directive 88/379/EEC.~~

	↓ 2001/90/EC Art. 1 (adapted)
~~32~~⌦ 31 ⌫. ~~Substances and preparations containing one or more of the following substances:~~(a) creosote; ⌦ wash oil ⌫ ⌦ CAS No 8001-58-9 ⌫ EINECS No 232-287-5 ~~CAS No 8001-58-9~~ (b) creosote oil; ⌦ wash oil ⌫ ⌦ CAS No 61789-28-4 ⌫ EINECS No 263-047-8 ~~CAS No 61789-28-4~~ (c) distillates (coal tar), naphthalene oils; ⌦ naphthalene oil ⌫ ⌦ CAS No 84650-04-4 ⌫ EINECS No 283-484-8 ~~CAS No 84650-04-4~~ (d) creosote oil, acenaphthene fraction; ⌦ wash oil ⌫ ⌦ CAS No 90640-84-9 ⌫ EINECS No 292-605-3 ~~CAS No 90640-84-9~~ (e) distillates (coal tar), upper; ⌦ heavy anthracene oil ⌫ ⌦ CAS No 65996-91-0 ⌫ EINECS No 266-026-1 ~~CAS No 65996-91-0~~ (f) anthracene oil ⌦ CAS No 90640-80-5 ⌫	1. ~~May~~ ⌦ Shall ⌫ not be used ⌦ as substances or in preparations ⌫ in the treatment of wood. Furthermore, wood so treated ~~may~~ ⌦ shall ⌫ not be placed on the market. 2. However by way of derogation: (i) Relating to the substances and preparations: these may be used for wood treatment in industrial installations or by professionals covered by Community legislation on the protection of workers for *in situ* retreatment only if they contain: (a) benzo[a]pyrene at a concentration of less than 0,005 % by mass (b) and water extractable phenols at a concentration of less than 3 % by mass. Such substances and preparations for use in wood treatment in industrial installations or by professionals: – may be placed on the market only in packaging of a capacity equal to or greater than 20 litres, – ~~may~~ ⌦ shall ⌫ not be sold to consumers. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of dangerous substances and preparations, the packaging of such substances and preparations shall be legibly and indelibly marked ⌦ as follows: ⌫ «For use in industrial installations or professional treatment only». (ii) Relating to wood treated in industrial installations or by professionals according to (i) which is placed on the market for the first time or retreated *in-*

EINECS No 292-602-7

~~CAS No 90640-80-5~~

(g) tar acids, coal, crude; ⌦ crude phenols ⌫

⌦ CAS No 65996-85-2 ⌫

EINECS No 266-019-3

~~CAS No 65996-85-2~~

(h) creosote, wood

⌦ CAS No 8021-39-4 ⌫

EINECS No 232-419-1

~~CAS No 8021-39-4~~

(i) low temperature tar oil, alkaline; ⌦ extract residues (coal), low temperature coal tar alkaline ⌫

⌦ CAS No 122384-78-5 ⌫

EINECS No 310-191-5

~~CAS No 122384-78-5~~

situ: this is permitted for professional and industrial use only, e.g. on railways, in electric power transmission and telecommunications, for fencing, for agricultural purposes (e.g. stakes for tree support) and in harbours and waterways.

(iii) ⌦ The prohibition in paragraph 1 on the placing on the market shall not apply ⌫ ~~Relating~~ to wood ~~having~~ ⌦ which has ⌫ been treated with substances listed in point ~~32~~ ⌦ 31 ⌫ (a) to ⌦ 31 ⌫ (i) before ~~this Directive applies~~ ⌦ 31 December 2002 ⌫ ~~: the prohibition in point 1 on the placing on the market shall not apply where this~~ ⌦ and ⌫ is placed on the second-hand market for re-use

3. However, treated wood referred to under ~~point~~ ⌦ paragraphs ⌫ 2(ii) and (iii) ~~may~~ ⌦ shall ⌫ not be used:

– inside buildings, whatever their purpose,

– in toys,

– in playgrounds,

– in parks, gardens, and outdoor recreational and leisure facilities where there is a risk of frequent skin contact,

– in the manufacture of garden furniture such as picnic tables,

– for the manufacture and use and any re-treatment of:

  – containers intended for growing purposes,

  – packaging that may may come into contact with raw materials, intermediate or finished ~~products~~ ⌦ articles ⌫ destined for human and/or animal consumption,

  – other materials which may contaminate the ~~products~~ ⌦ articles ⌫ mentioned above.

↓ 96/55/EC Art. 1 (adapted)

~~33~~⌦ 32 ⌫ . Chloroform ~~No~~

CAS No 67-66-3

⌦ EINECS No 200-663-8 ⌫

~~34~~⌦ 33 ⌫ . Carbon tetrachloride ⌦ — tetrachloromethane ⌫

CAS No 56-23-5

⌦ EINECS No 200-262-8 ⌫

~~35~~⌦ 34 ⌫ . 1,1,2 Trichloroethane

CAS No 79-00-5

⌦ EINECS No 201-166-9 ⌫

~~36~~⌦ 35 ⌫ . 1,1,2,2 Tetrachloroethane

CAS No 79-34-5

⌦ EINECS No 201-197-8 ⌫

~~37~~⌦ 36 ⌫ . 1,1,1,2 Tetrachloroethane

CAS No 630-20-6

~~38~~⌦ 37 ⌫ . Pentachloroethane

CAS No 76-01-7

⌦ EINECS No 200-925-1 ⌫

~~39~~⌦ 38 ⌫ . 1,1 Dichloroethylene

CAS No 75-35-4

⌦ EINECS No 200-864-0 ⌫

~~40~~ ⌦ 39 ⌫ . 1,1,1 Trichloroethane, ⌦ methyl chloroform ⌫

CAS No 71-55-6

⌦ EINECS No 200-756-3 ⌫

⌦ 1. Shall ⌫ ~~May~~ not be used in concentrations equal to or greater than 0,1 % by weight in substances and preparations placed on the market for sale to the general public and/or in diffusive applications such as in surface cleaning and cleaning of fabrics.

⌦ 2. ⌫ Without prejudice to the application of other Community provisions on the classification, packaging and labelling of dangerous substances and preparations, the packaging of such substances and preparations containing them in concentrations equal to or greater than 0,1 % shall be legible and indelibly marked as follows:

«For use in industrial installations only».

By way of derogation this provision shall not apply to:

(a) medicinal or veterinary products as defined by Directive ~~65/65/EEC~~[19]~~, as last amended by Directive 93/39/EEC~~[20] ⌦ 2001/82/EC and Directive 2001/83/EC ⌫ ;

(b) cosmetic products as defined by Directive 76/768/EEC[21]~~, as last amended by Directive 93/35/EEC~~[22].

⌦ 40. Substances meeting the criteria of flammability in Council Directive 67/548/EEC and classified as flammable, highly flammable or extremely flammable regardless of whether they appear in Annex I to that Directive or not.⌫~~Substances~~ ~~either~~ ~~– appearing in Annex I to Directive 67/548/EEC which are classified as flammable or extremely flammable and labelled as such,~~ ~~or~~ ~~– not yet appearing in Annex I to Directive 67/548/EEC but conforming to the criteria of flammability of Annex VI to Directive 67/548/EEC and being provisionally classified and labelled as flammable, highly flammable or extremely flammable according to Article 5(2) of Directive 67/548/EEC.~~	↓ 94/48/EC Art. 1 (adapted) 1. ~~May~~ ⌦ Shall ⌫ not be used ~~as such~~ ⌦ on their own ⌫ or in the form of preparations in aerosol generators ~~marketed and intended for sale to~~ ⌦ that are placed on the market for ⌫ the general public for entertainment and decorative purposes such as the following: – metallic glitter intended mainly for decoration, – artificial snow and frost, – «whoopee» cushions, – silly string aerosols, – imitation excrement, – horn for parties, – decorative flakes and foams, – artificial cobwebs, – stink bombs, – etc. 2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of dangerous substances, the following words must appear legibly and indelibly on the packaging of aerosol generators referred to above; «For professional users only». 3. By way of derogation, paragraphs 1 and 2 shall not apply to the aerosol generators referred to in Article 9a of ⌦ Council ⌫ Directive 75/324/EEC ⌦ [23] ⌫ . 4. The ~~products~~ ⌦ articles ⌫ referred to ⌦ in paragraphs 1 and 2 ⌫ above ~~may~~ ⌦ shall ⌫ not be placed on the market unless they conform to the requirements indicated.

		↓ 2001/91/EC Art. 1 (adapted)
41.	Hexachloroethane CAS No 67-72-1 EINECS No 200-6664	~~May~~ ⌦ Shall ⌫ not be used in the manufacturing or processing of non-ferrous metals.
		↓ 2002/45/EC Art. 1 (adapted)
42.	Alkanes, C_{10}-C_{13}, chloro (short-chain chlorinated paraffins) ⌦ (SCCPs) ⌫ ⌦ EINECS No 287-476-5 ⌫	~~1. May~~ ⌦ From 6 January 2004 shall ⌫ not be placed on the market for use as substances or as constituents of other substances or preparations in concentrations higher than 1 %: – in metalworking; – for fat liquoring of leather. ~~2. Before 1 January 2003 all remaining uses of SCCPs will be reviewed by the European Commission, in cooperation with the Member States and the OSPAR Commission, in the light of any relevant new scientific data on risks posed by SCCPs to health and the environment.~~ ~~The European Parliament will be informed of the outcome of this review.~~
		↓ 2003/3/EC Art. 1 and Annex, first indent (adapted)
43.	Azocolourants	1. Azodyes which, by reductive cleavage of one or more azo groups, may release one or more of the aromatic amines listed in ~~the~~ Appendix ⌦ 8 to this Regulation ⌫ , in detectable concentrations, i.e. above 30 ppm in the finished articles or in the dyed parts thereof, according to the testing method established in accordance with Article ~~2(a) of this Directive, may~~ ⌦ 113(3) of this Regulation, shall ⌫ not be used in textile and leather articles which may come into direct and prolonged contact with the

	human skin or oral cavity, such as: – clothing, bedding, towels, hairpieces, wigs, hats, nappies and other sanitary items, sleeping bags, – footwear, gloves, wristwatch straps, handbags, purses/wallets, briefcases, chair covers, purses worn round the neck, – textile or leather toys and toys which include textile or leather garments, – yarn and fabrics intended for use by the final consumer. 2. Furthermore, the textile and leather articles referred to in ~~point~~ ⌦ paragraph ⌫ 1 above ~~may~~ ⌦ shall ⌫ not be placed on the market unless they conform to the requirements set out in that ~~point~~ ⌦ paragraph ⌫ . By way of derogation, until 1 January 2005, this provision shall not apply to textile articles made of recycled fibres if the amines are released by residues deriving from previous dyeing of the same fibres and if the listed amines are released in concentrations below 70 ppm. 3. Azodyes, which are contained in ~~the~~ ⌦ Appendix 9, ⌫ «List of azodyes» ⌦ , of this Regulation, shall ⌫ ~~that is hereby added to the Appendix, may~~ not be placed on the market or used for colouring textile and leather articles as a substance or constituent of preparations in concentrations higher than 0,1 % by mass. 4. Not later than 11 September 2005, the Commission shall, in the light of new scientific knowledge, review the provisions on azocolourants.

	➧ 2003/11/EC Art. 1 (adapted) ➔1 Corrigendum 2003/11/EC (OJ L 170, 9.7.2003, p.31)
➔1 44. ← Diphenylether, pentabromo derivative $C_{12}H_5Br_5O$	1. ~~May~~ ⌦ Shall ⌫ not be placed on the market or used as a substance or as a constituent of ~~substances or of~~ preparations in concentrations

	higher than 0,1 % by mass. 2. Articles may not be placed on the market if they, or flame-retarded parts thereof, contain this substance in concentrations higher than 0,1 % by mass.
→ 1 45. ← Diphenylether, octabromo derivative $C_{12}H_2Br_8O$	1. ~~May~~ ⌦ Shall ⌫ not be placed on the market or used as a substance or as a constituent of ~~substances or of~~ substances or of preparations in concentrations higher than 0,1 % by mass. 2. Articles may not be placed on the market if they, or flame-retardant parts thereof, contain this substance in concentrations higher than 0,1 % by mass.

		↓ 2003/53/EC Art. 1 (adapted)
46.	~~(1)~~ ⌦ (a) ⌫ Nonylphenol $C_6H_4(OH)C_9H_{19}$ ~~(2)~~ ⌦ (b) ⌫ Nonylphenol ethoxylate $(C_2H_4O)_nC_{15}H_{24}O$	~~May~~ ⌦ Shall ⌫ not be placed on the market or used as a substance or constituent of preparations in concentrations equal or higher than 0,1 % by mass for the following purposes: (1) industrial and institutional cleaning except: – controlled closed dry cleaning systems where the washing liquid is recycled or incinerated, – cleaning systems with special treatment where the washing liquid is recycled or incinerated; (2) domestic cleaning; (3) textiles and leather processing except: – processing with no release into waste water, – systems with special treatment where the process water is pre-treated to remove the organic fraction completely prior to biological waste water treatment (degreasing of sheepskin); (4) emulsifier in agricultural teat dips; (5) metal working except: – uses in controlled closed systems where the washing liquid is recycled or incinerated; (6) manufacturing of pulp and paper; (7) cosmetic products;

	(8) other personal care products except: – spermicides. (9) co-formulants in pesticides and biocides.
47. Cement	~~(1)~~1. Cement and cement-containing preparations ~~may~~ ⌦ shall ⌫ not be used or placed on the market, if they contain, when hydrated, more than 0,0002 % soluble chromium VI of the total dry weight of the cement. ~~(2)~~2. If reducing agents are used, then without prejudice to the application of other Community provisions on the classification, packaging and labelling of dangerous substances and preparations, the packaging of cement or cement-containing preparations shall be legibly and indelibly marked with information on the packing date, as well as on the storage conditions and the storage period appropriate to maintaining the activity of the reducing agent and to keeping the content of soluble chromium VI below the limit indicated in paragraph 1. ~~(3)~~3. By way of derogation, paragraphs 1 and 2 shall not apply to the placing on the market for, and use in, controlled closed and totally automated processes in which cement and cement-containing preparations are handled solely by machines and in which there is no possibility of contact with the skin.

🡻 76/769/CEE (adapted)
➔1 97/64/EC Art. 1
➔2 89/677/EEC Art. 1 point 3
➔3 91/338/EEC Art. 1
➔4 97/10/EC Art. 1
➔5 96/55/EC Art. 1
➔6 94/48/EC Art. 1

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➔1 [1] OJ L 196, 16. 8. 1967, p. 1.

[2] ~~OJ L 110, 4. 5. 1993, p. 20~~ ⌦ OJ L 225, 21.8.2001, p. 1 ⌫ .

[3] ~~OJ L 248, 30. 9. 1996, p. 1~~

[4] ⌦ OJ L 200, 30.7.1999, p. 1 ⌫ .

[5] ⌦ OJ L 226, 22.8.2001, p. 5. ⌫ 🡸

➔2 [6] ~~OJ L 96, 3. 4. 1985, p. 25.~~OJ L 350, 28.12.1998, p. 58.

[7] OJ L 194, 25. 7. 1975, p 39. Directive ⌦ as last amended by Commision Decision 96/350/EC (OJ L 135, 6.6.1996, p. 32). ⌫

[8] ~~OJ L 84, 31. 3. 1978, p. 43~~ ⌦ OJ L 377, 31.12.1991, p. 20. Directive as amended by Council Directive 94/31/EC (OJ L 168, 2.7.1994, p. 28) ⌫ . ←

[9] Chrysotile has two CAS Nos, confirmed by ECB.

→3 [10] Council Regulation (EEC) No 2658/87 of 23 July 1987 on the tariff and statistical nomenclature and on the Common Customs Tariff (OJ No L 256, 7. 9. 1987) as last amended by Commission Regulation No 2176/2002 (OJ L 331, 7.12.2002, p. 3). ←

→4 [11] OJ 196, 16. 8. 1967, p. 1/67.

~~[12] OJ 196, 16. 8. 1967, p. 1/67.~~

~~[13] OJ No L 187, 16. 7. 1988, p. 14~~.

[14] ~~OJ 22, 9. 2. 1965, p. 369/65.~~ ⌦ OJ L 311, 28.11.2001, p. 1. ⌫

[15] OJ L 311, 28.11.2001, p. 67

[16] OJ L 262, 27. 9. 1976, p. 169.

~~[17] OJ L 96, 3. 4. 1985, p. 25.~~

~~[18] OJ No L 187, 16. 7. 1988, p. 14~~. ←

→5 ~~[19] OJ 22, 9. 2. 1965, p. 369/65.~~

~~[20] OJ L 214, 24. 8. 1993, p. 22.~~

~~[21] OJ L 262, 27. 9. 1976, p. 169.~~

~~[22] OJ L 151, 23. 6. 1993, p. 32.~~ ←

→6 [23] OJ L 147, 9.6.1975, p. 40. Directive last amended by Commission Directive 94/1/EC (OJ L 23, 28.1.1994, p. 28) ← .

↓ 97/56/EC Art. 1 point 2 (adapted)

~~Appendix~~ ⌦ Appendices 1 o 6 ⌫

FOREWORD

Explanations of column headings

Substances:

The name is the same as that used for the substance in Annex I to ⌦ Council ⌫ Directive 67/548/EEC. Whenever possible dangerous substances are designated by their EINECS (European Inventory of Existing Commercial Chemical Substances) or ELINCS (European List of Notified Chemical Substances) names. ⌦ These are refered to as EC numbers in the table. ⌫ Other entries not listed in EINECS or ELINCS are designated using an internationally recognized chemical name (e.g. ISO, IUPAC). An additional common name is included in some cases.

Index number:

The index number is the identification code given to the substance in Annex I of Directive 67/548/EEC. Substances are listed in the Appendix according to this index number.

~~EC~~ ⌦ EINECS ⌫ number:

For each substance listed in the European Inventory of Existing Commercial Chemical Substances (EINECS) there is an identification code. The code starts at 200-001-8.

⌦ ELINCS number ⌫

For each new substance notified under the Directive 67/548/EEC an identification code has been defined and published in the European List of Notified Chemical Substances (ELINCS). The code starts at 400-010-9.

CAS number:

Chemical Abstracts Service (CAS) numbers have been defined for substances to help in their identification.

Notes:

The full text of the notes can be found in the foreword of Annex I of Directive 67/548/EEC.

The notes to be taken into account for the purposes of this ~~Directive~~ ⌦ Regulation ⌫ are as follows:

↓ 97/56/EC Art. 1 point 2 (adapted)

⌦ Note C : ⌫

⌦ Some organic substances may be markketed either in a specific isomeric form or as a mixture of several isomers. ⌫

⌦ Note D : ⌫

⌦ Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed in annex I to Directive 67/548/EEC. ⌫

⌦ However, such substances are sometimes placed on the market in a non-stabilised form. In this case, the manufacturer or any person who places such a substance on the market must state on the label the name of the substance followed by the words 'non-stabilised'. ⌫

⌦ Note E : ⌫

⌦ Substances with specific effects on human health (see chapter 4 of Annex VI of Directive 67/548/EEC) that are classified as carcinogenic, mutagenic and/or toxic for reproduction in categories 1 or 2 are ascribed Note E if they are also classified as very toxic (T+), toxic (T) or harmful (Xn). For these substances, the risk phrases R20, R21, R22, R23, R24, R25, R26, R27, R28, R39, R68 (harmful), R48 and R65 and all combinations of these risk phrases shall be preceded by the word 'Also'. ⌫

Note J:

The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene (EINECS No 200-753-7).

Note K:

The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0,1 % w/w 1,3-butadiene (EINECS No 203-450-8).

Note L:

The classification as a carcinogen need not apply if it can be shown that the substance contains less than 3 % DMSO extract as measured by IP 346.

Note M:

The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0,005 % w/w benzo[a]-pyrene (EINECS No 200-028-5).

Note N:

The classification as a carcinogen need not apply if the full refining history is known and it can be shown that the substance from which it is produced is not a carcinogen.

Note P:

The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene (EINECS No 200-753-7).

↓ 2001/41/EC Art. 1 point 1 (adapted)

Note R:

The classification as a carcinogen need not apply to fibres with a length weighted geometric mean diameter, less two standard errors, greater than 6μm.

⌦ Note S : ⌫

⌦ This substance may not require a label according to Article 23 (see section 8 of Annex VI) of Directive 67/548/EEC ⌫

↓ 97/56/EC Art. 1 point 2 (adapted)

⌦ Appendix 1 ⌫

Point ~~29~~ ⌦ 28 ⌫ — Carcinogens: category 1

Substances	Index number	EC number	CAS number	Notes
Chromium ⌦ (VI) ⌫ trioxide	024-001-00-0	215-607-8	1333-82-0	
Zinc chromates including zinc potassium chromate	024-007-00-3			
Nickel monoxide	028-003-00-2	215-215-7	1313-99-1	
Nickel dioxide	028-004-00-8	234-823-3	12035-36-8	
Dinickel trioxide	028-005-00-3	215-217-8	1314-06-3	
Nickel sulphide	028-006-00-9	240-841-2	16812-54-7	
Nickel subsulphide	028-007-00-4	234-829-6	12035-72-2	
Diarsenic trioxide; arsenic trioxide	033-003-00-0	215-481-4	1327-53-3	
Arsenic pentoxide; arsenic oxide	033-004-00-6	215-116-9	1303-28-2	
Arsenic acid and its salts	033-005-00-1			
Lead hydrogen arsenate	082-011-00-0	232-064-2	7784-40-9	

↓ 2003/36/EC Art. 1

Butane [containing ≥0,1 % Butadiene (203-450-8)] [1]	601-004-01-8	203-448-7 [1]	106-97-8 [1]	C, S
Isobutane [containing ≥0,1 % Butadiene (203-450-8)] [2]		200-857-2 [2]	75-28-5 [2]	
1,3-Butadiene; buta-1,3-diene	601-013-00-X	203-450-8	106-99-0	D

		↓ 97/56/EC Art. 1 point 2 (adapted)		
Benzene	601-020-00-8	200-753-7	71-43-2	
Vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4	
Bis (chloromethyl) ether	603-046-00-5	208-832-8	542-88-1	
Chloromethyl methyl ether; chlorodimethyl ether	603-075-00-3	203-480-1	107-30-2	
2-Naphthylamine; beta-naphthylamine	612-022-00-3	202-080-4	91-59-8	
Benzidine; 4,4′-diaminobiphenyl; biphenyl-4,4′-ylenediamine	612-042-00-2	202-199-1	92-87-5	
Salts of benzidine	612-070-00-5			
Salts of 2-naphthylamine	612-071-00-0	⌦ 209-030-0[1] 210-313-6[2] ⌫	⌦ 553-00-4[1] 612-52-2[2] ⌫	
Biphenyl-4-ylamine; xenylamine; 4-aminobiphenyl	612-072-00-6	202-177-1	92-67-1	
Salts of biphenyl-4-ylamine; salts of xenylamine; salts of 4-aminobiphenyl	612-073-00-1			
Tar, coal; Coal tar (The by-product from the destructive distillation of coal. Almost black semisolid. A complex combination of aromatic hydro-carbons, phenolic compounds, nitrogen bases and thiophene.)	648-081-00-7	232-361-7	8007-45-2	
Tar, coal, high-temp.; Coal tar (The condensation product obtained by cooling, to approximately ambient temperature, the gas evolved in the high temperature (greater than 700 °C ~~(1292 °F)~~) destructive distillation of coal. A black viscous liquid denser than water. Composed primarily of a complex mixture of condensed ring aromatic hydrocarbons. May contain minor amounts of phenolic compounds	648-082-00-2	266-024-0	65996-89-6	

and aromatic nitrogen bases.)				
Tar, coal, low-temp.; Coal oil (The condensation product obtained by cooling, to approximately ambient temperature, the gas evolved in low temperature (less than 700 °C ~~(1292 °F)~~) destructive distillation of coal. A black viscous liquid denser than water. Composed primarily of condensed ring aromatic hydrocarbons, phenolic compounds, aromatic nitrogen bases, and their alkyl derivatives.)	648-083-00-8	266-025-6	65996-90-9	
Tar brown-coal; (An oil distilled from brown-coal tar. Composed primarily of aliphatic, naphthenic and one- to three-ring aromatic hydrocarbons, their alkyl derivates, heteroaromatics and one- and two-ring phenols boiling in the range of approximately 150 °C to 360 °C ~~(302 °F to 680 °F)~~.)	648-145-00-4	309-885-0	101316-83-0	
Tar, brown-coal, low temp.; (A tar obtained from low temperature carbonization and low temperature gasification of brown coal. Composed primarily of aliphatic, naphthenic and cyclic aromatic hydrocarbons, heteroaromatic hydrocarbons and cyclic phenols.)	648-146-00-X	309-886-6	101316-84-1	
Distillates (petroleum), light paraffinic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons produced by vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of less than ~~100 SUS at 100 °F (19 cS at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains a relatively large proportion of saturated aliphatic hydrocarbons	649-050-00-0	265-051-5	64741-50-0	

normally present in this distillation range of crude oil.)				
Distillates (petroleum), heavy paraffinic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons produced by vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}, and produces a finished oil with a viscosity of at least ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains a relatively large proportion of saturated aliphatic hydrocarbons.)	649-051-00-6	265-052-0	64741-51-1	
Distillates (petroleum), light naphthenic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons produced by vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30}, and produces a finished oil with a viscosity of less than ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains relatively few normal paraffins.)	649-052-00-1	265-053-6	64741-52-2	
Distillates (petroleum), heavy naphthenic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons produced by vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}, and produces a finished oil with a viscosity of at least ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains relatively few normal	649-053-00-7	265-054-1	64741-53-3	

paraffins.)				
Distillates (petroleum), acid-treated heavy naphthenic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons obtained as a raffinate from a sulfuric acid treating process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}, and produces a finished oil with a viscosity of at least ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains relatively few normal paraffins.)	649-054-00-2	265-117-3	64742-18-3	
Distillates (petroleum), acid-treated light naphthenic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons obtained as a raffinate from a sulfuric acid treating process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30}, and produces a finished oil with a viscosity of less than ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains relatively few normal paraffins.)	649-055-00-8	265-118-9	64742-19-4	
Distillates (petroleum), acid-treated heavy paraffinic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons obtained as a raffinate from a sulfuric acid process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}, and produces a finished oil with a viscosity of at least ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ .)	649-056-00-3	265-119-4	64742-20-7	
Distillates (petroleum), acid-treated light paraffinic; Unrefined or mildly	649-057-00-9	265-121-5	64742-21-8	

refined base oil (A complex combination of hydrocarbons obtained as a raffinate from a sulfuric acid treating process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil having a viscosity of less than ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ .)				
Distillates (petroleum), chemically neutralized heavy paraffinic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons obtained from a treating process to remove acidic materials. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}, and produces a finished oil with a viscosity of at least ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains a relatively large proportion of aliphatic hydrocarbons.)	649-058-00-4	265-127-8	64742-27-4	
Distillates (petroleum), chemically neutralized light paraffinic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30}, and produces a finished oil with a viscosity of ~~at least~~ ⌦ less than ⌫ ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ .)	649-059-00-X	265-128-3	64742-28-5	
Distillates (petroleum), chemically neutralized heavy naphthenic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It	649-060-00-5	265-135-1	64742-34-3	

consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}, and produces a finished oil with a viscosity of at least ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains relatively few normal paraffins.)				
Distillates (petroleum), chemically neutralized light naphthenic; Unrefined or mildly refined base oil (A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30}, and produces a finished oil with a viscosity of ~~at least~~ ⌦ less than ⌫ ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains relatively few normal paraffins.)	649-061-00-0	265-136-7	64742-35-4	
Erionite	650-012-00-0		12510-42-8	
Asbestos	650-013-00-6		⌦ 12001-29-5 12001-28-4 ⌫ ~~132207-33-1~~ 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5	

⌦ Appendix 2 ⌫

Point ~~29~~ ⌦ 28 ⌫ — Carcinogens: category 2

Substances	Index number	EC number	CAS number	Notes
Beryllium	004-001-00-7	231-150-7	7440-41-7	
Beryllium compounds with the exception of aluminium beryllium silicates	004-002-00-2			

		🡻 2003/36/EC Art. 1		
Beryllium oxide	004-003-00-8	215-133-1	1304-56-9	E

		🡻 97/56/EC Art. 1 point 2 (adapted)		
Sulfallate (ISO); 2-chlorallyl diethyldithiocarbamate	006-038-00-4	202-388-9	95-06-7	
Dimethylcarbamoyl chloride	006-041-00-0	201-208-6	79-44-7	
Diazomethane	006-068-00-8	206-382-7	334-88-3	
Hydrazine	007-008-00-3	206-114-9	302-01-2	
N,N-Dimethylhydrazine	007-012-00-5	200-316-0	57-14-7	
1,2-Dimethylhydrazine	007-013-00-0		540-73-8	
Salts of hydrazine	007-014-00-6			
Hydrazobenzene; 1,2-diphenylhydrazine	007-021-00-4	204-563-5	122-66-7	
Hydrazine bis(3-carboxy-4-hydroxybenzensulfonate)	007-022-00-X	405-030-1		
Hexamethylphosphoric triamide; hexamethylphosphoramide	015-106-00-2	211-653-8	680-31-9	
Dimethyl sulphate	016-023-00-4	201-058-1	77-78-1	

Diethyl sulphate	016-027-00-6	200-589-6	64-67-5	
1,3-Propanesultone	016-032-00-3	214-317-9	1120-71-4	
Dimethylsulfamoylchloride	016-033-00-9	236-412-4	13360-57-1	

↓ 1999/43/EC Art. 1 (adapted)

Potassium dichromate	024-002-00-6	231-906-6	7778-50-9	
Ammonium dichromate	024-003-00-1	232-143-1	7789-09-5	
Sodium dichromate	024-004-00-7	234-190-3	10588-01-9	
Sodium dichromate, dihydrate	024-004-01-4	234-190-3	7789-12-0	
Chromyl dichloride; chromic oxychloride	024-005-00-2	239-056-8	14977-61-8	
Potassium chromate	024-006-00-8	232-140-5	7789-00-6	

↓ 97/56/EC Art. 1 point 2

Calcium chromate	024-008-00-9	237-366-8	13765-19-0	
Strontium chromate	024-009-00-4	232-142-6	7789-06-2	
Chromium III chromate; chromic chromate	024-010-00-X	246-356-2	24613-89-6	

↓ 1999/43/EC Art. 1

Chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in Annex I to Directive 67/548/EEC	024-017-00-8	—	—	

		↓ 2003/36/EC Art. 1		
Sodium chromate	024-018-00-3	231-889-5	7775-11-3	E

		↓ 2003/34/EC Art. 1		
Cobalt dichloride	027-004-00-5	231-589-4	7646-79-9	
Cobalt sulphate	027-005-00-0	233-334-2	10124-43-3	

		↓ 97/56/EC Art. 1 point 2 (adapted)		
Potassium bromate	035-003-00-6	231-829-8	7758-01-2	
Cadmium oxide	048-002-00-0	215-146-2	1306-19-0	

		↓ 2003/34/EC Art. 1		
Cadmium fluoride	048-006-00-2	232-222-0	7790-79-6	

		↓ 97/56/EC Art. 1 point 2 (adapted)		
Cadmium chloride	048-008-00-3	233-296-7	10108-64-2	
Cadmium sulphate	048-009-00-9	233-331-6	10124-36-4	
Benzo[a]pyrene; benzo[d,e,f]chrysene	601-032-00-3	200-028-5	50-32-8	
Benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	
Benzo[b]fluoranthene; benzo[e]acephenanthrylene	601-034-00-4	205-911-9	205-99-2	
Benzo[j]fluoranthene	601-035-00-X	205-910-3	205-82-3	
Benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	

Dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	

		↓ 2003/34/EC Art. 1		
Chrysene	601-048-00-0	205-923-4	218-01-9	
Benzo[e]pyrene	601-049-00-6	205-892-7	192-97-2	

		↓ 97/56/EC Art. 1 point 2 (adapted)		
1,2-Dibromoethane; ethylene dibromide	602-010-00-6	203-444-5	106-93-4	
1,2-Dichloroethane; ethylene dichloride	602-012-00-7	203-458-1	107-06-2	
1,2-Dibromo-3-chloropropane	602-021-00-6	202-479-3	96-12-8	

		↓ 1999/43/EC Art. 1		
Bromoethylene	602-024-00-2	209-800-6	593-60-2	

		↓ 2003/36/EC Art. 1		
Trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6	
α-Chlorotoluene; benzyl chloride	602-037-00-3	202-853-6	100-44-7	E

		↓ 97/56/EC Art. 1 point 2		
α,α,α-Trichlorotoluene; benzotrichloride	602-038-00-9	202-634-5	98-07-7	
1,3-Dichloro-2-propanol	602-064-00-0	202-491-9	96-23-1	

Hexachlorobenzene	602-065-00-6	204-273-9	118-74-1	
1,4-Dichlorobut-2-ene	602-073-00-X	212-121-8	764-41-0	

		↓ 2003/36/EC Art. 1		
2,3-dibromopropan-1-ol; 2,3-dibromo-1-propanol	602-088-00-1	202-480-9	96-13-9	E

		↓ 97/56/EC Art. 1 point 2 →1 2003/36/EC Art. 1		
Ethylene oxide; oxirane	603-023-00-X	200-849-9	75-21-8	
1-Chloro-2,3-epoxypropane; epichlorhydrin	603-026-00-6	203-439-8	106-89-8	
Propylene oxide; 1,2-epoxypropane; methyloxirane	603-055-00-4	200-879-2	75-56-9	→1 E ←

		↓ 2003/34/EC Art. 1		
2,2'-Bioxirane; 1,2:3,4-diepoxybutane	603-060-00-1	215-979-1	1464-53-5	
2,3-Epoxypropan-1-ol; glycidol	603-063-00-8	209-128-3	556-52-5	

		↓ 2003/36/EC Art. 1		
Phenyl glycidyl ether; 2,3-epoxypropyl phenyl ether; 1,2-epoxy-3-phenoxypropane	603-067-00-X	204-557-2	122-60-1	E

		↓ 97/56/EC Art. 1 point 2		
Styrene oxide; (epoxyethyl)benzene; phenyloxirane	603-084-00-2	202-476-7	96-09-3	

		↓ 2003/36/EC Art. 1		
Furan	603-105-00-5	203-727-3	110-00-9	E
R-2,3-epoxy-1-propanol	603-143-00-2	404-660-4	57044-25-4	E
(R)-1-chloro-2,3-epoxypropane	603-166-00-8	424-280-2	51594-55-9	

		↓ 97/56/EC Art. 1 point 2		
4-Amino-3-fluorophenol	604-028-00-X	402-230-0	399-95-1	

		↓ 1999/43/EC Art. 1		
5-Allyl-1,3-benzodioxole; safrole	605-020-00-9	202-345-4	94-59-7	

		↓ 97/56/EC Art. 1 point 2		
3-Propanolide; 1,3-propiolactone	606-031-00-1	200-340-1	57-57-8	
Urethane(INN); ethyl carbamate	607-149-00-6	200-123-1	51-79-6	
Methyl acrylamidomethoxyacetate (containing ≥ 0,1 % acrylamide)	607-190-00-X	401-890-7	77402-03-0	
Methyl acrylamidoglycolate (containing ≥ 0,1 % acrylamide)	607-210-00-7	403-230-3	77402-05-2	
Acrylonitrile	608-003-00-4	203-466-5	107-13-1	
2-Nitropropane	609-002-00-1	201-209-1	79-46-9	

		↓ 2003/34/EC Art. 1		
2,4-Dinitrotoluene [1]; dinitrotoluene [2]; dinitrotoluene, technical grade	609-007-00-9	204-450-0 [1]	121-14-2 [1]	

		246-836-1 [2]	25321-14-6 [2]	

↓ 97/56/EC Art. 1 point 2

5-Nitroacenaphthene	609-037-00-2	210-025-0	602-87-9	
2-Nitronaphthalene	609-038-00-8	209-474-5	581-89-5	
4-Nitrobiphenyl	609-039-00-3	202-204-7	92-93-3	
Nitrofen (ISO); 2,4-dichlorophenyl4-nitrophenyl ether	609-040-00-9	217-406-0	1836-75-5	
2-Nitroanisole	609-047-00-7	202-052-1	91-23-6	

↓ 2003/34/EC Art. 1

2,6-Dinitrotoluene	609-049-00-8	210-106-0	606-20-2	

↓ 2003/36/EC Art. 1

2,3-dinitrotoluene	609-050-00-3	210-013-5	602-01-7	E
3,4-dinitrotoluene	609-051-00-9	210-222-1	610-39-9	E
3,5-dinitrotoluene	609-052-00-4	210-566-2	618-85-9	E

↓ 2003/34/EC Art. 1

Hydrazine-tri-nitromethane	609-053-00-X	414-850-9	—	

↓ 2003/36/EC Art. 1

2,5-dinitrotoluene	609-055-00-0	210-581-4	619-15-8	E

		↓ 2003/34/EC Art. 1		
Azobenzene	611-001-00-6	203-102-5	103-33-3	

		↓ 97/56/EC Art. 1 point 2		
Methyl-ONN-azoxymethyl acetate; methyl azoxy methyl acetate	611-004-00-2	209-765-7	592-62-1	
Disodium {5-[(4′-((2,6-hydroxy-3-((2-hydroxy-5-sulphophenyl)azo)phenyl)azo)(1,1′-biphenyl)-4-yl)azo]salicylato(4-)}cuprate(2-); CI Direct Brown 95	611-005-00-8	240-221-1	16071-86-6	
4-o-Tolylazo-o-toluidine; 4-amino-2′,3-dimethylazobenzene; fast garnet GBC base; AAT; o-aminoazotoluene	611-006-00-3	202-591-2	97-56-3	
4-Aminoazobenzene	611-008-00-4	200-453-6	60-09-3	

		↓ 1999/43/EC Art. 1		
Benzidine based azo dyes; 4,4'-diarylazobiphenyl dyes, with the exception of those specified elsewhere in Annex I to Directive 67/548/EEC	611-024-00-1	—	—	
Disodium 4-amino 3-[[4′-[(2,4-diaminophenyl)azo][1,1′-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphtalene-2,7-disulphonate; C.I. Direct Black 38	611-025-00-7	217-710-3	1937-37-7	
Tetrasodium 3,3′-[[1,1′-biphenyl]-4,4′-dylbis(azo)]bis[5-amino-4-hydroxynaphthalene-2,7-disulphonate]; C.I. Direct Blue 6	611-026-00-2	220-012-1	2602-46-2	

Disodium 3,3′-[[1,1′-bifenyl]-4,4′dylbis(azo)]bis[4-aminonaphthalene-1-sulphonate); C.I. Direct Red 28	611-027-00-8	209-358-4	573-58-0	

↓ 2003/34/EC Art. 1

o-Dianisidine based azo dyes; 4,4'-diarylazo-3,3'-dimethoxybiphenyl dyes with the exception of those mentioned elsewhere in Annex I to Directive 67/548/EEC	611-029-00-9	—	—	
o-Tolidine based dyes; 4,4'-diarylazo-3,3'-dimethylbiphenyl dyes, with the exception of those mentioned elsewhere in Annex I to Directive 67/548/EEC	611-030-00-4	—	—	
1,4,5,8-Tetraaminoanthraquinone; C.I. Disperse Blue 1	611-032-00-5	219-603-7	2475-45-8	

↓ 2003/36/EC Art. 1

6-hydroxy-1-(3-isopropoxypropyl)-4-methyl-2-oxo-5-[4-(phenylazo)phenylazo]-1,2-dihydro-3-pyridinecarbonitrile	611-057-00-1	400-340-3	85136-74-9	
(6-(4-hydroxy-3-(2-methoxyphenylazo)-2-sulfonato-7-naphthylamino)-1,3,5-triazin-2,4-diyl)bis[(amino-1-methylethyl)-ammonium] formate	611-058-00-7	402-060-7	108225-03-2	
Trisodium-[4'-(8-acetylamino-3,6-disulfonato-2-naphthylazo)-4''-(6-benzoylamino-3-sulfonato-2-naphthylazo)biphenyl-1,3',3'',1'''-tetraolato-O, O', O'', O''']copper(II)	611-063-00-4	413-590-3	—	
Phenylhydrazine [1]	612-023-00-9	202-873-5 [1]	100-63-0 [1]	E

Phenylhydrazinium chloride [2] Phenylhydrazine hydrochloride [3] Phenylhydrazinium sulphate (2:1) [4]		200-444-7 [2] 248-259-0 [3] 257-622-2 [4]	59-88-1 [2] 27140-08-5 [3] 52033-74-6 [4]	

		↓ 97/56/EC Art. 1 point 2 (adapted)		
2-Methoxyaniline; o-anisidine	612-035-00-4	201-963-1~~(o)~~	90-04-0	
3,3′-Dimethoxybenzidine; o-dianisidine	612-036-00-X	204-355-4	119-90-4	
Salts of 3,3′-dimethoxybenzidine; salts of o-dianisidine	612-037-00-5			
3,3′-Dimethylbenzidine; o-tolidine	612-041-00-7	204-358-0	119-93-7	
4,4′-Diaminodiphenylmethane; 4,4′-methylenedianiline	612-051-00-1	202-974-4	101-77-9	
3,3′-Dichlorobenzidine; 3,3′-dichlorobiphenyl-4,4′-ylenediamine	612-068-00-4	202-109-0	91-94-1	
Salts of 3,3′-dichlorobenzidine; salts of 3,3′-dichlorobiphenyl-4,4′-ylenediamine	612-069-00-X	⌦ 210-323-0[1] 265-293-1[2] 277-822-3[3] ⌫	⌦ 612-83-9[1] 64969-34-2[2] 74332-73-3[3] ⌫	
N-nitrosodimethylamine; dimethylnitrosamine	612-077-00-3	200-549-8	62-75-9	
2,2′-Dichloro-4,4′-methylenedianiline; 4,4′-Methylene bis(2-chloroaniline)	612-078-00-9	202-918-9	101-14-4	
Salts of 2,2′-dichloro-4,4-methylenedianiline; salts of 4,4′-methylenebis(2-chloroaniline)	612-079-00-4			

Salts of 3,3′-dimethylbenzidine; salts of o-tolidine	612-081-00-5	⌦ 210-322-5[1] 265-294-7[2] 277-985-0[3] ⌫	⌦ 612-82-8[1] 64969-36-4[2] 74753-18-7[3] ⌫	
1-Methyl-3-nitro-1-nitrosoguanidine	612-083-00-6	200-730-1	70-25-7	
4,4′-Methylenedi-o-toluidine	612-085-00-7	212-658-8	838-88-0	
2,2′-(Nitrosoimino)bisethanol	612-090-00-4	214-237-4	1116-54-7	
o-Toluidine	612-091-00-X	202-429-0	95-53-4	
Nitrosodipropylamine	612-098-00-8	210-698-0	621-64-7	
4-Methyl-m-phenylenediamine	612-099-00-3	202-453-1	95-80-7	

		↓ 1999/43/EC Art. 1		
Toluene-2,4-diammonium sulphate	612-126-00-9	265-697-8	65321-67-7	

		↓ 2001/41/EC Art. 1 point 2		
4-Chloraniline	612-137-00-9	203-401-0	106-47-8	

		↓ 97/56/EC Art. 1 point 2 (adapted)		
Ethyleneimine; aziridine	613-001-00-1	205-793-9	151-56-4	
2-Methylaziridine; propyleneimine	613-033-00-6	200-878-7	75-55-8	
Captafol (ISO); 1,2,3,6-tetrahydro-N-(1,1,2,2-tetrachloroethylthio) phthalimide	613-046-00-7	219-363-3	2425-06-1	
Carbadox (INN); methyl 3-(quinoxalin-2-ylmethylene)carbazate 1,4-dioxide; 2-	613-050-00-9	229-879-0	6804-07-5	

(methoxycarbonylhydrazonomethyl)quinoxaline 1,4-dioxide				
Acrylamide	616-003-00-0	201-173-7	79-06-1	
Thioacetamide	616-026-00-6	200-541-4	62-55-5	

↓ 2003/36/EC Art. 1

A mixture of: N-[3-hydroxy-2-(2-methylacryloylamino-methoxy)propoxymethyl]-2-methylacrylamide; N-[2,3-Bis-(2-methylacryloylamino-methoxy)propoxymethyl]-2-methylacrylamide; methacrylamide; 2-methyl-N-(2-methyl-acryloylaminomethoxymethyl)-acrylamide; N-2,3-dihydroxypropoxymethyl)-2-methylacrylamide	616-057-00-5	412-790-8	—	

↓ 97/56/EC Art. 1 point 2 (adapted)

Distillates (coal tar), benzole fraction; Light oil (A complex combination of hydrocarbons obtained by the distillation of coal tar. It consists of hydrocarbons having carbon numbers primarily in the range of C_4 to C_{10} and distilling in the approximate range of 80 °C to 160 °C ~~(175 °F to 320° F)~~.)	648-001-00-0	283-482-7	84650-02-2	
Tar oils, brown-coal; Light oil (The distillate from lignite tar boiling in the range of approximately 80 °C to 250 °C ~~(176° F to 482° F)~~. Composed primarily of aliphatic and aromatic hydrocarbons and monobasic phenols.)	648-002-00-6	302-674-4	94114-40-6	J

Benzol forerunnings (coal); Light oil redistillate, low boiling (The distillate from coke oven light oil having an approximate distillation range below 100 °C ~~(212° F)~~. Composed primarily of C_4 to C_6 aliphatic hydrocarbons.)	648-003-00-1	266-023-5	65996-88-5	J
Distillates (coal tar), benzole fraction, BTX-rich; Light oil redistillate, low boiling (A residue from the distillation of crude benzole to remove benzole fronts. Composed primarily of benzene, toluene and xylenes boiling in the range of approximately 75 °C to 200 °C ~~(167° F to 392° F)~~.)	648-004-00-7	309-984-9	101896-26-8	J
Aromatic hydrocarbons, C_{6-10}, C_8-rich; Light oil redistillate, low boiling	648-005-00-2	292-697-5	90989-41-6	J
Solvent naphtha (coal), light; Light oil redistillate, low boiling	648-006-00-8	287-498-5	85536-17-0	J
Solvent naphtha (coal), xylene-styrene cut; Light oil redistillate, intermediate boiling	648-007-00-3	287-502-5	85536-20-5	J
Solvent naphtha (coal), coumarone-styrene contg.; Light oil redistillate, intermediate boiling	648-008-00-9	287-500-4	85536-19-2	J
Naphtha (coal), distn. residues; Light oil redistillate, high boiling (The residue remaining from the distillation of recovered naphtha. Composed primarily of naphthalene and condensation products of indene and styrene.)	648-009-00-4	292-636-2	90641-12-6	J
Aromatic hydrocarbons, C_8; Light oil redistillate, high boiling	648-010-00-X	292-694-9	90989-38-1	J
Aromatic hydrocarbons, C_{8-9}, hydrocarbon resin polymn. by-product; Light oil redistillate, high boiling (A complex combination of	648-012-00-0	295-281-1	91995-20-9	J

hydrocarbons obtained from the evaporation of solvent under vacuum from polymerized hydrocarbon resin. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_8 through C_9 and boiling in the range of approximately 120 °C to 215 °C ~~(248° C to 419° F)~~.)				
Aromatic hydrocarbons, C_{9-12}, benzene distn.; Light oil redistillate, high boiling	648-013-00-6	295-551-9	92062-36-7	J
Extract residues (coal), benzole fraction alk., acid ext.; Light oil extract residues, low boiling (The redistillate from the distillate, freed of tar acids and tar bases, from bituminous coal high temperature tar boiling in the approximate range of 90 °C to 160 °C ~~(194° F to 320° F)~~. It consists predominantly of benzene, toluene and xylenes.)	648-014-00-1	295-323-9	91995-61-8	J
Extract residues (coal tar), benzole fraction alk., acd ext.; Light oil extract residues, low boiling (A complex combination of hydrocarbons obtained by the redistillation of the distillate of high temperature coal tar (tar acid and tar base free). It consists predominantly of unsubstituted and substituted mononuclear aromatic hydrocarbons boiling in the range of 85 °C—195 °C ~~(185° F—383° F)~~.)	648-015-00-7	309-868-8	101316-63-6	J
Extract residues (coal), benzole fraction acid; Light oil extract residues, low boiling (An acid sludge by-product of the sulphuric acid refining of crude high temperature coal. Composed primarily of sulfuric acid and organic compounds.)	648-016-00-2	298-725-2	93821-38-6	J
Extract residues (coal), light oil alk., distn. overheads; Light oil extract	648-017-00-8	292-625-2	90641-02-4	J

residues, low boiling (The first fraction from the distillation of aromatic hydrocarbons, coumarone, naphthalene and indene rich prefactionator bottoms or washed carbolic oil boiling substantially below 145 °C ~~(293° F)~~. Composed primarily of C_7 and C_8 aliphatic and aromatic hydrocarbons.)				
Extract residues (coal), light oil alk., acid ext., indene fraction; Light oil extract residues, intermediate boiling	648-018-00-3	309-867-2	101316-62-5	J
Extract residues (coal), light oil alk., indene naphtha fraction; Light oil extract residues, high boiling (The distillate from aromatic hydrocarbons, coumarone, naphthalene and indene rich prefractionator bottoms or washed carbolic oils, having an approximate boiling range of 155 °C to 180 °C ~~(311° F to 356° F)~~. Composed primarily of indene, indan and trimethylbenzenes.)	648-019-00-9	292-626-8	90641-03-5	J
Solvent naphtha (coal); Light oil extract residues, high boiling (The distillate from either high temperature coal tar, coke oven light oil, or coal tar oil alkaline extract residue having an approximate distillation range of 130 °C to 210 °C ~~(266° F to 410° F)~~. Composed primarily of indene and other polycyclic ring systems containing a single aromatic ring. May contain phenolic compounds and aromatic nitrogen bases.)	648-020-00-4	266-013-0	65996-79-4	J
Distillates (coal tar), light oils, neutral fraction; Light oil extract residues, high boiling (A distillate from the fractional distillation of high temperature coal tar. Composed primarily of alkyl-substituted one ring aromatic	648-021-00-X	309-971-8	101794-90-5	J

hydrocarbons boiling in the range of approximately 135 °C to 210 °C ~~(275° F to 410° F)~~. May also include unsaturated hydrocarbons such as indene and coumarone.)				
Distillates (coal tar), light oils, acid exts.; Light oil extract residues, high boiling (This oil is a complex mixture of aromatic hydrocarbons, primarily indene, naphthalene, coumarone, phenol and o-, m- and p-cresol and boiling in the range of 140 °C to 215 °C ~~(284° F to 419° F)~~.)	648-022-00-5	292-609-5	90640-87-2	J
Distillates (coal tar), light oils; Carbolic oil (A complex combination of hydrocarbons obtained by distillation of coal tar. It consists of aromatic and other hydrocarbons, phenolic compounds and aromatic nitrogen compounds and distills at the approximate range of 150 °C to 210 °C ~~(302° F to 410° F)~~.)	648-023-00-0	283-483-2	84650-03-3	J
Tar oils, coal; Carbolic oil (The distillate from high temperature coal tar having an approximate distillation range of 130 °C to 250 °C ~~(266° F to 410° F)~~. Composed primarily of naphthalene, alkylnaphthalenes, phenolic compounds, and aromatic nitrogen bases.)	648-024-00-6	266-016-7	65996-82-9	J
Extract residues (coal), light oil alk., acid ext.; Carbolic oil extract residue (The oil resulting from the acid washing of alkali-washed carbolic oil to remove the minor amounts of basic compounds (tar bases). Composed primarily of indene, indan and alkylbenzenes.)	648-026-00-7	292-624-7	90641-01-3	J
Extract residues (coal), tar oil alk.; Carbolic oil extract residue	648-027-00-2	266-021-4	65996-87-4	J

(The residue obtained from coal tar oil by an alkaline wash such as aqueous sodium hydroxide after the removal of crude coal tar acids. Composed primarily of naphthalenes and aromatic nitrogen bases.)				
Extract oils (coal), light oil; Acid Extract (The aqueous extract produced by an acidic wash of alkali-washed carbolic oil. Composed primarily of acid salts of various aromatic nitrogen bases including pyridine, quinoline and their alkyl derivatives.)	648-028-00-8	292-622-6	90640-99-6	J
Pyridine, alkyl derivs.; Crude tar bases (The complex combination of polyalkylated pyridines derived from coal tar distillation or as high-boiling distillates approximately above 150 °C ~~(302° F)~~ from the reaction of ammonia with acetaldehyde, formaldehyde or paraformaldehyde.)	648-029-00-3	269-929-9	68391-11-7	J
Tar bases, coal, picoline fraction; Distillate bases (Pyridine bases boiling in the range of approximately 125 °C to 160 °C ~~(257° F to 320° F)~~ obtained by distillation of neutralized acid extract of the base-containing tar fraction obtained by the distillation of bituminous coal tars. Composed chiefly of lutidines and picolines.)	648-030-00-9	295-548-2	92062-33-4	J
Tar bases, coal, lutidine fraction; Distillate bases	648-031-00-4	293-766-2	91082-52-9	J
Extract oils (coal), tar base, collidine fraction; Distillate bases (The extract produced by the acid extraction of bases from crude coal tar aromatic oils, neutralization, and distillation of the bases. Composed primarily of collidines, aniline,	648-032-00-X	273-077-3	68937-63-3	J

toluidines, lutidines, xylidines.)				
Tar bases, coal, collidine fraction; Distillate bases (The destillation fraction boiling in the range of approximately 181 °C to 186 °C ~~(356° F to 367° F)~~ from the crude bases obtained from the neutralized, acid-extracted base-containing tar fractions obtained by the distillation of bituminous coal tar. It contains chiefly aniline and collidines.)	648-033-00-5	295-543-5	92062-28-7	J
Tar Bases, coal, aniline fraction; Distillate bases (The distillation fraction boiling in the range of approximately 180 °C to 200 °C ~~(356° F to 392° F)~~ from the crude bases obtained by dephenolating and debasing the carbolated oil from the distillation of coal tar. It contains chiefly aniline, collidines, lutidines and toluidines.)	648-034-00-0	295-541-4	92062-27-6	J
Tar bases, coal, toluidine fraction; Distillate bases	648-035-00-6	293-767-8	91082-53-0	J
Distillates (petroleum), alkene-alkyene manuf. pyrolysis oil, mixed with high-temp. coal tar, indene fraction; Redistillates (A complex combination of hydrocarbons obtained as a redistillate from the fractional distillation of bituminous coal high temperature tar and residual oils that are obtained by the pyrolytic production of alkenes and alkynes from petroleum products or natural gas. It consists predominantly of indene and boils in a range of approximately 160 °C to 190 °C ~~(320° F to 374° F)~~.)	648-036-00-1	295-292-1	91995-31-2	J
Distillates (coal), coal tar-residual pyrolysis oils, naphthalene oils; Redistillates	648-037-00-7	295-295-8	91995-35-6	J

(The redistillate obtained from the fractional distillation of bituminous coal high temperature tar and pyrolysis residual oils and boiling in the range of approximately 190 °C to 270 °C ~~(374 °F to 518 °F)~~. Composed primarily of substituted dinuclear aromatics.)				
Extract oils (coal), coal tar-residual pyrolysis oils, naphthalene oil, redistillate; Redistillates (The redistillate from the fractional distillation of dephenolated and debased methylnaphthalene oil obtained from bituminous coal high temperature tar and pyrolysis residual oils boiling in the approximate range of 220 °C to 230 °C ~~(428° F to 446° F)~~. It consists predominantly of unsubstituted and substituted dinuclear aromatic hydrocarbons.)	648-038-00-2	295-329-1	91995-66-3	J
Extract oils (coal), coal tar-residual pyrolysis oils, naphthalene oils; Redistillates (A neutral oil obtained by debasing and dephenolating the oil obtained from the distillation of high temperature tar and pyrolysis residual oils which has a boiling range of 225 °C to 255 °C ~~(437° F to 491° F)~~. Composed primarily of substituted dinuclear aromatic hydrocarbons.)	648-039-00-8	310-170-0	122070-79-5	J
Extract oils (coal), coal tar residual pyrolysis oils, naphthalene oil, distn. residues; Redistillates (Residue from the distillation of dephenolated and debased methylnaphthalene oil (from bituminous coal tar and pyrolysis residual oils) with a boiling range of 240 °C to 260 °C ~~(464° F to 500° F)~~. Composed primarily of substituted dinuclear aromatic and heterocyclic hydrocarbons.)	648-040-00-3	310-171-6	122070-80-8	J

Absorption oils, bicyclo arom. and heterocyclic hydrocarbon fraction; Wash oil redistillate (A complex combination of hydrocarbons obtained as a redistillate from the distillation of wash oil. It consists predominantly of 2-ringed aromatic and heterocyclic hydrocarbons boiling in the range of approximately 260 °C to 290 °C ~~(500° F to 554° F)~~.)	648-041-00-9	309-851-5	101316-45-4	M
Distillates (coal tar), upper, fluorene-rich; Wash oil redistillate (A complex combination of hydrocarbons obtained by the crystallization of tar oil. It consists of aromatic and polycyclic hydrocarbons primarily fluorene and some acenaphthene.)	648-042-00-4	284-900-0	84989-11-7	M
Creosote oil, acenaphthene fraction, acenaphthene-free; Wash oil redistillate (The oil remaining after removal by a crystallization process of acenaphthene from acenaphthene oil from coal tar. Composed primarily of naphthalene and alkylnaphthalenes.)	648-043-00-X	292-606-9	90640-85-0	M
Distillates (coal tar), heavy oils; Heavy anthracene oil (Distillate from the fractional distillation of coal tar of bituminous coal, with boiling range of 240 °C to 400 °C ~~(464° F to 752° F)~~. Composed primarily of tri- and polynuclear hydrocarbons and heterocyclic compounds.)	648-044-00-5	292-607-4	90640-86-1	
Anthracene oil, acid ext.; Anthracene oil extract residue (A complex combination of hydrocarbons from the base-freed fraction obtained from the distillation of coal tar and boiling in the range of approximately 325 °C to 365 °C	648-046-00-6	295-274-3	91995-14-1	M

~~(617° F to 689° F)~~. It contains predominantly anthracene and phenanthrene and their alkyl derivatives.)				
Distillates (coal tar); Heavy anthracene oil (The distillate from coal tar having an approximate distillation range of 100 °C to 450 °C ~~(212° F to 842° F)~~. Composed primarily of two to four membered condensed ring aromatic hydrocarbons, phenolic compounds, and aromatic nitrogen bases.)	648-047-00-1	266-027-7	65996-92-1	M
Distillates (coal tar), pitch, heavy oils; Heavy anthracene oil (The distillate from the distillation of the pitch obtained from bituminous high temperature tar. Composed primarily of tri- and polynuclear aromatic hydrocarbons and boiling in the range of approximately 300 °C to 470 °C ~~(572° F to 878° F)~~. The product may also contain heteroatoms.)	648-048-00-7	295-312-9	91995-51-6	M
Distillates (coal tar), pitch; Heavy anthracene oil (The oil obtained from condensation of the vapors from the heat treatment of pitch. Composed primarily of two- to four-ring aromatic compounds boiling in the range of 200 °C to greater than 400 °C ~~(392° F to greater than 752° F.)~~.)	648-049-00-2	309-855-7	101316-49-8	M
Distillates (coal tar), heavy oils, pyrene fraction; Heavy anthracene oil redistillate (The redistillate obtained from the fractional distillation of pitch distillate boiling in the range of approximately 350 °C to 400 °C ~~(662° F to 752° F)~~. Consists predominantly of tri- and polynuclear aromatic and heterocyclic hydrocarbons.)	648-050-00-8	295-304-5	91995-42-5	M

Distillates (coal tar), pitch, pyrene fraction; Heavy anthracene oil redistillate (The redistillate obtained from the fractional distillation of pitch distillate and boiling in the range of approximately 380 °C to 410 °C ~~(716° F to 770° F)~~. Composed primarily of tri- and polynuclear aromatic hydrocarbons and heterocyclic compounds.)	648-051-00-3	295-313-4	91995-52-7	M
Paraffin waxes (coal), brown-coal high-temp. tar, carbon-treated; Coal tar extract (A complex combination of hydrocarbons obtained by the treatment of lignite carbonization tar with activated carbon for removal of trace constituents and impurities. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{12}.)	648-052-00-9	308-296-6	97926-76-6	M
Paraffin waxes (coal), brown-coal high-temp. tar, carbon-treated; Coal tar extract (A complex combination of hydrocarbons obtained by the treatment of lignite carbonization tar with bentonite for removal of trace constituents and impurities. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{12}.)	648-053-00-4	308-297-1	97926-77-7	M
Pitch; Pitch	648-054-00-X	263-072-4	61789-60-4	M
Pitch, coal tar, high temp.; Pitch (The residue from the distillation of high temperature coal tar. A black solid with an approximate softening point from 30 °C to 180 °C ~~(86° F to 356° F)~~. Composed primarily of a complex mixture of three or more membered condensed ring aromatic	648-055-00-5	266-028-2	65996-93-2	

hydrocarbons.)				
Pitch, coal tar, high temp., heat-treated; Pitch (The heat treated residue from the distillation of high temperature coal tar. A black solid with an approximate softening point from 80 °C to 180 °C ~~(176° F to 356° F)~~. Composed primarily of a complex mixture of three or more membered condensed ring aromatic hydrocarbons.)	648-056-00-0	310-162-7	121575-60-8	M
Pitch, coal tar, high temp., secondary; Pitch redistillate (The residue obtained during the distillation of high boiling fractions from bituminous coal high temperature tar and/or pitch coke oil, with a softening point of 140 °C to 170 °C ~~(284° F to 392° F)~~ according to DIN 52025. Composed primarily of tri- and polynuclear aromatic compounds which also contain heteroatoms.)	648-057-00-6	302-650-3	94114-13-3	M
Residues (coal tar), pitch distn.; Pitch redistillate (Residue from the fractional distillation of pitch distillate boiling in the range of approximately 400 °C to 470 °C ~~(752° F to 846° F)~~. Composed primarily of polynuclear aromatic hydrocarbons, and heterocyclic compounds.)	648-058-00-1	295-507-9	92061-94-4	M
Tar, coal, high-temp., distn. and storage residues; Coal tar solids residue (Coke- and ash-containing solid residues that separate on distillation and thermal treatment of bituminous coal high temperature tar in distillation installations and storage vessels. Consists predominantly of carbon and contains a small quantity of hetero compounds as well as ash	648-059-00-7	295-535-1	92062-20-9	M

components.)				
Tar, coal, storage residues; Coal tar solids residue (The deposit removed from crude coal tar storages. Composed primarily of coal tar and carbonaceous particulate matter.)	648-060-00-2	293-764-1	91082-50-7	M
Tar, coal, high-temp., residues; Coal tar solids residue (Solids formed during the coking of bituminous coal to produce crude bituminous coal high temperature tar. Composed primarily of coke and coal particles, highly aromatized compounds and mineral substances.)	648-061-00-8	309-726-5	100684-51-3	M
Tar, coal, high-temp., high-solids; Coal tar solids residue (The condensation product obtained by cooling, to approximately ambient temperature, the gas evolved in the high temperature (greater than 700 °C ~~(1292° F)~~) destructive distillation of coal. Composed primarily of a complex mixture of condensed ring aromatic hydrocarbons with a high solid content of coal-type materials.)	648-062-00-3	273-615-7	68990-61-4	M
Waste solids, coal-tar pitch coking; Coal tar solids residue (The combination of wastes formed by the coking of bituminous coal tar pitch. It consists predominantly of carbon.)	648-063-00-9	295-549-8	92062-34-5	M
Extract residues (coal), brown; Coal tar extract (The residue from extraction of dried coal.)	648-064-00-4	294-285-0	91697-23-3	M
Paraffin waxes (coal), brown-coal-high-temp. tar; Coal tar extract (A complex combination of hydrocarbons obtained from lignite	648-065-00-X	295-454-1	92045-71-1	M

carbonization tar by solvent crystallisation (solvent deoiling), by sweating or an adducting process. It consists predominantly of straight and branched chain saturated hydrocarbons having carbon numbers predominantly greater than C_{12}.)				
Paraffin waxes (coal), brown-coal-high-temp. tar, hydrotreated; Coal tar extract (A complex combination of hydrocarbons obtained from lignite carbonization tar by solvent crystallisation (solvent deoiling), by sweating or an adducting process treated with hydrogen in the presence of a catalyst. It consists predominantly of straight and branched chain saturated hydrocarbons having carbon numbers predominantly greater than C_{12}.)	648-066-00-5	295-455-7	92045-72-2	M
Paraffin waxes (coal), brown-coal high-temp tar, silicic acid-treated; Coal tar extract (A complex combination of hydrocarbons obtained by the treatment of lignite carbonization tar with silicic acid for removal of trace constituents and impurities. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{12}.)	648-067-00-0	308-298-7	97926-78-8	M
Tar, coal, low-temp., distn. residues; Tar oil, intermediate boiling (Residues from fractional distillation of low temperature coal tar to remove oils that boil in a range up to approximately 300 °C ~~(572 °F)~~. Composed primarily of aromatic compounds.)	648-068-00-6	309-887-1	101316-85-2	M
Pitch, coal tar, low-temp; Pitch residue (A complex black solid or semi-solid	648-069-00-1	292-651-4	90669-57-1	M

obtained from the distillation of a low temperature coal tar. It has a softening point within the approximate range of 40 °C to 180 °C ~~(104 °F to 356 °F)~~. Composed primarily of a complex mixture of hydrocarbons.)				
Pitch, coal tar, low-temp., oxidized; Pitch residue, oxidised (The product obtained by air-blowing, at elevated temperature, low-temperature coal tar pitch. It has a softening-point within the approximate range of 70 °C to 180 °C ~~(158 °F to 356 °F)~~. Composed primarily of a complex mixture of hydrocarbons.)	648-070-00-7	292-654-0	90669-59-3	M
Pitch, coal tar, low-temp., heat-treated; Pitch residue, oxidised; Pitch residue, heat-treated (A complex black solid obtained by the heat treatment of low temperature coal tar pitch. It has a softening point within the approximate range of 50 °C to 140 °C ~~(122 °F to 284 °F)~~. Composed primarily of a complex mixture of aromatic compounds.)	648-071-00-2	292-653-5	90669-58-2	M
Distillates (coal-petroleum), condensed ring arom.; Distillates (The distillate from a mixture of coal and tar and aromatic petroleum streams having an approximate distillation range of 220 °C to 450 °C ~~(428 °F to 842 °F)~~. Composed primarily of 3- to 4-membered condensed ring aromatic hydrocarbons.)	648-072-00-8	269-159-3	68188-48-7	M
Aromatic hydrocarbons, C_{20-28}, polycyclic, mixed coal-tar pitch-polyethylene-polypropylene pyrolysis-derived; Pyrolysis products (A complex combination of hydrocarbons obtained from mixed coal tar pitch-polyethylene-	648-073-00-3	309-956-6	101794-74-5	M

polypropylene pyrolysis. Composed primarily of polycyclic aromatic hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{28} and having a softening point of 100 °C to 220 °C ~~(212 °F to 428 °F)~~ according to DIN 52025.)				
Aromatic hydrocarbons, C_{20-28}, polycyclic, mixed coal-tar pitch-polyethylene pyrolysis-derived; Pyrolysis products (A complex combination of hydrocarbons obtained from mixed coal tar pitch-polyethylene pyrolysis. Composed primarily of polycyclic aromatic hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{28} and having a softening point of 100 °C to 220 °C ~~(212 °F to 428 °F)~~ according to DIN 52025.)	648-074-00-9	309-957-1	101794-75-6	M
Aromatic hydrocarbons, C_{20-28}, polycyclic, mixed coal-tar pitch-polystyrene pyrolysis-derived; Pyrolysis products (A complex combination of hydrocarbons obtained from mixed coal tar pitch-polystyrene pyrolysis. Composed primarily of polycyclic aromatic hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{28} and having a softening point of 100 °C to 220 °C ~~(212 °F to 428 °F)~~ according to DIN 52025.)	648-075-00-4	309-958-7	101794-76-7	M
Pitch, coal tar-petroleum; Pitch residues (The residue from the distillation of a mixture of coal tar and aromatic petroleum streams. A solid with a softening point from 40 °C to 180 °C ~~(140 °F to 356 °F)~~. Composed primarily of a complex combination of three or more membered condensed ring aromatic	648-076-00-X	269-109-0	68187-57-5	M

hydrocarbons.)				
Phenanthrene, distn. residues; Heavy anthracene oil redistillate (Residue from the distillation of crude phenanthrene boiling in the approximate range of 340 °C to 420 °C ~~(644 °F to 788 °F)~~. It consists predominantly of phenanthrene, anthracene and carbazole.)	648-077-00-5	310-169-5	122070-78-4	M
Distillates (coal tar), upper, fluorene-free; Wash oil redistillate (A complex combination of hydrocarbons obtained by the crystallization of tar oil. It consists of aromatic polycyclic hydrocarbons, primarily diphenyl, dibenzofuran and acenaphthene.)	648-078-00-0	284-899-7	84989-10-6	M
Residues (coal tar), creosote oil distn.; Wash oil redistillate (The residue from the fractional distillation of wash oil boiling in the approximate range of 270 °C to 330 °C ~~(518 °F to 626 °F)~~. It consists predominantly of dinuclear aromatic and heterocyclic hydrocarbons.)	648-080-00-1	295-506-3	92061-93-3	M
Distillates (coal), coke-oven light oil, naphthalene cut; Naphthalene oil (The complex combination of hydrocarbons obtained from prefractionation (continuous distillation) of coke oven light oil. It consists predominantly of naphthalene, coumarone and indene and boils above 148 °C ~~(298 °F)~~.)	648-084-00-3	285-076-5	85029-51-2	J, M
Distillates (coal tar), naphthalene oils, naphthalene-low; Napththalene oil redistillate (A complex combination of hydrocarbons obtained by crystallization of naphthalene oil. Composed primarily of naphthalene, alkyl naphthalenes and phenolic	648-086-00-4	284-898-1	84989-09-3	J, M

compounds.)				
Distillates (coal tar), naphthalene oil crystn. mother liquor; Naphthalene oil redistillate (A complex combination of organic compounds obtained as a filtrate from the crystallization of the naphthalene fraction from coal tar and boiling in the range of approximately 200 °C to 230 °C ~~(392 °F to 446 °F)~~. Contains chiefly naphthalene, thionaphthene and alkylnaphthalenes.)	648-087-00-X	295-310-8	91995-49-2	J, M
Extract residues (coal), naphthalene oil, alk.; Naphthalene oil extract residue (A complex combination of hydrocarbons obtained from the alkali washing of naphthalene oil to remove phenolic compounds (tar acids). It is composed of naphthalene and alkyl naphthalenes.)	648-088-00-5	310-166-9	121620-47-1	J, M
Extract residues (coal), naphthalene oil, alk., naphthalene-low; Naphthalene oil extract residue (A complex combination of hydrocarbons remaining after the removal of naphthalene from alkali-washed naphthalene oil by a crystallization process. It is composed primarily of naphthalene and alkyl naphthalenes.)	648-089-00-0	310-167-4	121620-48-2	J, M
Distillates (coal tar), naphthalene oils, naphthalene-free, alk. exts.; Naphthalene oil extract residue (The oil remaining after the removal of phenolic compounds (tar acids) from drained naphthalene oil by an alkali wash. Composed primarily of naphthalene and alkyl naphthalenes.)	648-090-00-6	292-612-1	90640-90-7	J, M
Extract residues (coal), naphthalene oil alk., distn. overheads; Naphthalene oil extract residue	648-091-00-1	292-627-3	90641-04-6	J, M

(The distillation from alkali-washed naphthalene oil having an approximate distillation range of 180 °C to 220 °C ~~(356 °F to 428 °F)~~. Composed primarily of naphthalene, alkylbenzenes, indene and indan.)				
Distillates (coal tar), naphthalene oils, methylnaphthalene fraction; Methylnaphthalene oil (A distillate from the fractional distillation of high temperature coal tar. Composed primarily of substituted two ring aromatic hydrocarbons and aromatic nitrogen bases boiling in the range of approximately 225 °C to 255 °C ~~(437 °F to 491 °F)~~.)	648-092-00-7	309-985-4	101896-27-9	J, M
Distillates (coal tar), naphthalene oils, indole-methylnaphthalene fraction; Methylnaphthalene oil (A distillate from the fractional distillation of high temperature coal tar. Composed primarily of indole and methylnaphthalene boiling in the range of approximately 235 °C to 255 °C ~~(455 °F to 491 °F)~~.)	648-093-00-2	309-972-3	101794-91-6	J, M
Distillates (coal tar), naphthalene oils, acid exts.; Methylnaphtalene oil extract residue (A complex combination of hydrocarbons obtained by debasing the methylnaphthalene fraction obtained by the distillation of coal tar and boiling in the range of approximately 230 °C to 255 °C ~~(446 °F to 491 °F)~~. Contains chiefly 1(2)-methylnaphthalene, naphthalene, dimethylnaphthalene and biphenyl.)	648-094-00-8	295-309-2	91995-48-1	J, M
Extract residues (coal), naphthalene oil alk., distn. residues; Methylnaphthalene oil extract residue (The residue from the distillation of alkali-washed naphthalene oil having an approximate distillation range of	648-095-00-3	292-628-9	90641-05-7	J, M

220 °C to 300 °C ~~(428 °F to 572 °F)~~. Composed primarily of naphthalene, alkylnaphthalenes and aromatic nitrogen bases.)				
Extract oils (coal), acidic, tar-base free; Methylnaphthalene oil extract residue (The extract oil boiling in the range of approximately 220 °C to 265 °C ~~(428 °F to 509 °F)~~ from coal tar alkaline extract residue produced by an acidic wash such as aqueous sulfuric acid after distillation to remove tar bases. Composed primarily of alkylnaphthalenes.)	648-096-00-9	284-901-6	84989-12-8	J, M
Distillates (coal tar), benzole fraction, distn. residues; Wash oil (A complex combination of hydrocarbons obtained from the distillation of crude benzole (high temperature coal tar). It may be a liquid with the approximate distillation range of 150 °C to 300 °C ~~(302 °F to 572 °F)~~ or a semi-solid or solid with a melting point up to 70 °C ~~(158 °F)~~. It is composed primarily of naphthalene and alkyl naphthalenes.)	648-097-00-4	310-165-3	121620-46-0	J, M
Creosote oil, high-boiling distillate; Wash oil (The high-boiling distillation fraction obtained from the high temperature carbonization of bituminous coal which is further refined to remove excess crystalline salts. It consists primarily of creosote oil with some of the normal polynuclear aromatic salts, which are components of coal tar distillates, removed. It is crystal free at approximately 5 °C ~~(41 °F)~~.)	648-100-00-9	274-565-9	70321-79-8	J, M
Extract residues (coal), creosote oil acid; Wash oil extract residue (A complex combination of hydrocarbons from the base-freed fraction from the distillation of coal	648-102-00-X	310-189-4	122384-77-4	J, M

tar, boiling in the range of approximately 250 °C to 280 °C ~~(482 °F to 536 °F)~~. It consists predominantly of biphenyl and isomeric diphenylnaphthalenes.)				
Anthracene oil, anthracene paste; Anthracene oil fraction (The anthracene-rich solid obtained by the crystallization and centrifuging of anthracene oil. It is composed primarily of anthracene, carbazole and phenanthrene.)	648-103-00-5	292-603-2	90640-81-6	J, M
Anthracene oil, anthracene-low; Anthracene oil fraction (The oil remaining after the removal, by a crystallization process, of an anthracene-rich solid (anthracene paste) from anthracene oil. It is composed primarily of two, three and four membered aromatic compounds.)	648-104-00-0	292-604-8	90640-82-7	J, M
Residues (coal tar), anthracene oil distn.; Anthracene oil fraction (The residue from the fraction distillation of crude anthracene boiling in the approximate range of 340 °C to 400 °C ~~(644 °F to 752 °F)~~. It consists predominantly of tri- and polynuclear aromatic and heterocyclic hydrocarbons.)	648-105-00-6	295-505-8	92061-92-2	J, M
Anthracene oil, anthracene paste, anthracene fraction; Anthracene oil fraction (A complex combination of hydrocarbons from the distillation of anthracene obtained by the crystallization of anthracene oil from bituminous high temperature tar and boiling in the range of 330 °C to 350 °C ~~(626 °F to 662 °F)~~. It contains chiefly anthracene, carbazole and phenanthrene.)	648-106-00-1	295-275-9	91995-15-2	J, M
Anthracene oil, anthracene paste, carbazole fraction; Anthracene oil	648-107-00-7	295-276-4	91995-16-3	J, M

fraction (A complex combination of hydrocarbons from the distillation of anthracene obtained by crystallization of anthrancene oil from bituminous coal high temperature tar and boiling in the approximate range of 350 °C to 360 °C ~~(662 °F to 680 °F)~~. It contains chiefly anthracene, carbazole and phenanthrene.)				
Anthracene oil, anthracene paste, distn. lights; Anthracene oil fraction (A complex combination of hydrocarbons from the distillation of anthracene obtained by crystallization of anthracene oil from bituminous light temperature tar and boiling in the range of approximately 290 °C to 340 °C ~~(554 °F to 644 °F)~~. It contains chiefly trinuclear aromatics and their dihydro derivatives.)	648-108-00-2	295-278-5	91995-17-4	J, M
Tar oils, coal, low-temp.; Tar oil, high boiling (A distillate from low-temperature coal tar. Composed primarily of hydrocarbons, phenolic compounds and aromatic nitrogen bases boiling in the range of approximately 160 °C to 340 °C ~~(320 °F to 644 °F)~~.)	648-109-00-8	309-889-2	101316-87-4	J, M
Phenols, ammonia liquor ext.; Alkaline extract (The combination of phenols extracted, using isobutyl acetate, from the ammonia liquor condensed from the gas evolved in low-temperature (less than 700 °C ~~(1292 °F)~~) destructive distillation of coal. It consists predominantly of a mixture of monohydric and dihydric phenols.)	648-111-00-9	284-881-9	84988-93-2	J, M
Distillates (coal tar), light oils, alk. exts.; Alkaline extract (The aqueous extract from carbolic oil produced by an alkaline wash such	648-112-00-4	292-610-0	90640-88-3	J, M

as aqueous sodium hydroxide. Composed primarily of the alkali salts of various phenolic compounds.)				
Extracts, coal tar oil alk.; Alkaline extract (The extract from coal tar oil produced by an alkaline wash such as aqueous sodium hydroxide. Composed primarily of the alkali salts of various phenolic compounds.)	648-113-00-X	266-017-2	65996-83-0	J, M
Distillates (coal tar), naphthalene oils, alk. exts.; Alkaline extract (The aqueous extract from naphthalene oil produced by an alkaline wash such as aqueous sodium hydroxid. Composed primarily of the alkali salts of various phenolic compounds.)	648-114-00-5	292-611-6	90640-89-4	J, M
Extract residues (coal), tar oil alk., carbonated, limed; Crude phenols (The product obtained by treatment of coal tar oil alkaline extract with CO_2 and CaO. Composed primarily of $CaCO_3$, $Ca(OH)_2$, Na_2CO_3 and other organic and inorganic impurities.)	648-115-00-0	292-629-4	90641-06-8	J, M
Tar acids, brown-coal, crude; Crude phenols (An acidified alkaline extract of brown coal tar distillate. Composed primarily of phenol and phenol homologs.)	648-117-00-1	309-888-7	101316-86-3	J, M
Tar acids, brown-coal gasification; Crude phenols (A complex combination of organic compounds obtained from brown coal gasification. Composed primarily of C_{6-10} hydroxy aromatic phenols and their homologs.)	648-118-00-7	295-536-7	92062-22-1	J, M
Tar acids, distn. residues; Distillate phenols	648-119-00-2	306-251-5	96690-55-0	J, M

(A residue from the distillation of crude phenol from coal. It consists predominantly of phenols having carbon numbers in the range of C_8 through C_{10} with a softening point of 60 °C to 80 °C ~~(140 °F to 176 °F)~~.)				
Tar acids, methylphenol fraction; Distillate phenols (The fraction of tar acid rich in 3- and 4-methylphenol, recovered by distillation of low-temperature coal tar crude tar acids.)	648-120-00-8	284-892-9	84989-04-8	J, M
Tar acids, polyalkylphenol fraction; Distillate phenols (The fraction of tar acids, recovered by distillation of low-temperature coal tar crude tar acids, having an approximate boiling range of 225 °C to 320 °C ~~(437 °F to 608 °F)~~. Composed primarily of polyalkylphenols.)	648-121-00-3	284-893-4	84989-05-9	J, M
Tar acids, xylenol fraction; Distillate phenols (The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.)	648-122-00-9	284-895-5	84989-06-0	J, M
Tar acids, ethylphenol fraction; Distillate phenols (The fraction of tar acids, rich in 3- and 4-ethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.)	648-123-00-4	284-891-3	84989-03-7	J, M
Tar acids, 3,5-xylenol fraction; Distillate phenols (The fraction of tar acids, rich in 3,5-dimethylphenol, recovered by distillation of low-temperature coal tar acids.)	648-124-00-X	284-896-0	84989-07-1	J, M
Tar acids, residues, distillates, first-	648-125-00-5	270-713-1	68477-23-6	J, M

cut; Distillate phenols (The residue from the distillation in the range of 235 °C to 355 °C ~~(481 °F to 697 °F)~~ of light carbolic oil.)				
Tar acids, cresylic, residues; Distillate phenols (The residue from crude coal tar acids after removal of phenol, cresols, xylenols and any higher boiling phenols. A black solid with a melting point approximately 80 °C ~~(176 °F)~~. Composed primarily of polyalkyphenols, resin gums, and inorganic salts.)	648-126-00-0	271-418-0	68555-24-8	J, M
Phenols, C_{9-11}; Distillate phenols	648-127-00-6	293-435-2	91079-47-9	J, M
Tar acids, cresylic; Distillate phenols (A complex combination of organic compounds obtained from brown coal and boiling in the range of approximately 200 °C to 230 °C ~~(392 °F to 446 °F)~~. It contains chiefly phenols and pyridine bases.)	648-128-00-1	295-540-9	92062-26-5	J, M
Tar acids, brown-coal, C_2-alkylphenol fraction; Distillate phenols (The distillate from the acidification of alkaline washed lignite tar distillate boiling in the range of approximately 200 °C to 230 °C ~~(392 °F to 446 °F)~~. Composed primarily of m- and p-ethylphenol as well as cresols and xylenols.)	648-129-00-7	302-662-9	94114-29-1	J, M
Extract oils (coal), naphthalene oils; Acid extract (The aqueous extract produced by an acidic wash of alkali-washed naphthalene oil. Composed primarily of acid salts of various aromatic nitrogen bases including pyridine, quinoline and their alkyl derivatives.)	648-130-00-2	292-623-1	90641-00-2	J, M
Tar bases, quinoline derivs.; Distillate bases	648-131-00-8	271-020-7	68513-87-1	J, M

Tar bases, coal, quinoline derivs. fraction; Distillate bases	648-132-00-3	274-560-1	70321-67-4	J, M
Tar bases, coal, distn. residues; Distillate bases (The distillation residue remaining after the distillation of the neutralized, acid-extracted base-containing tar fractions obtained by the distillation of coal tars. It contains chiefly aniline, collidines, quinoline and quinoline derivatives and toluidines.)	648-~~132~~ ⌦ 133 ⌫ -00-9	274-544-0	92062-29-8	J, M
Hydrocarbon oils, arom., mixed with polyethylene and polypropylene, pyrolyzed, light oil fraction; Heat treatment products (The oil obtained from the heat treatment of a polyethylene/polypropylene mixture with coal tar pitch or aromatic oils. It consists predominantly of benzene and its homologs boiling in a range of approximately 70 °C to 120 °C ~~(158 °F to 248 °F)~~.)	648-134-00-4	309-745-9	100801-63-6	J, M
Hydrocarbon oils, arom., mixed with polyethylene, pyrolyzed, light oil fraction; Heat treatment products (The oil obtained from the heat treatment of polyethylene with coal tar pitch or aromatic oils. It consists predominantly of benzene and its homologs boiling in a range of 70 °C to 120 °C ~~(158 °F to 248 °F)~~.)	648-135-00-X	309-748-5	100801-65-8	J, M
Hydrocarbon oils, arom., mixed with polystyrene, pyrolyzed, light oil fraction; Heat treatment products (The oil obtained from the heat treatment of polystyrene with coal tar pitch or aromatic oils. It consists predominantly of benzene and its homologs boiling in a range of approximately 70 °C to 210 °C ~~(158 °F to 410 °F)~~.)	648-136-00-5	309-749-0	100801-66-9	J, M

Extract residues (coal), tar oil alk., naphthalene distn. residues; Naphthalene oil extract residue (The residue obtained from chemical oil extracted after the removal of naphthalene by distillation composed primarily of two to four membered condensed ring aromatic hydrocarbons and aromatic nitrogen bases.)	648-137-00-0	277-567-8	736665-18-6	J, M
Creosote oil, low-boiling distillate; Wash oil (The low-boiling distillation fraction obtained from the high temperature carbonization of bituminous coal, which is further refined to remove excess crystalline salts. It consists primarily of creosote oil with some of the normal polynuclear aromatic salts, which are components of coal tar distillate, removed. It is crystal free at approximately 38 °C ~~(100 °F)~~.)	648-138-00-6	274-566-4	70321-80-1	J, M
Tar acids, cresylic, sodium salts, caustic solns.; Alkaline extract	648-139-00-1	272-361-4	68815-21-4	J, M
Extract oils (coal), tar base; Acid extract (The extract from coal tar oil alkaline extract residue produced by an acidic wash such as aqueous sulfuric acid after distillation to remove naphthalene. Composed primarily of the acid salts of various aromatic nitrogen bases including pyridine, quinoline, and their alkyl derivatives.)	648-140-00-7	266-020-9	65996-86-3	J, M
Tar bases, coal, crude; Crude tar bases (The reaction product obtained by neutralizing coal tar base extract oil with an alkaline solution, such as aqueous sodium hydroxide, to obtain the free bases. Composed primarily of such organic bases as acridine, phenanthridine, pyridine, quinoline	648-141-00-2	266-018-8	65996-84-1	J, M

and their alkyl derivatives.)				
Residues (coal), liq. solvent extn.; (A cohesive powder composed of coal mineral matter and undissolved coal remaining after extraction of coal by a liquid solvent.)	648-142-00-8	302-681-2	94114-46-2	M
Coal liquids, liq. solvent extn. soln.; (The product obtained by filtration of coal mineral matter and undissolved coal from coal extract solution produced by digesting coal in a liquid solvent. A black, viscous, highly complex liquid combination composed primarily of aromatic and partly hydrogenated aromatic hydrocarbons, aromatic nitrogen compounds, aromatic sulfur compounds, phenolic and other aromatic oxygen compounds and their alkyl derivatives.)	648-143-00-3	302-682-8	94114-47-3	M
Coal liquids, liq. solvent extn.; (The substantially solvent-free product obtained by the distillation of the solvent from filtered coal extract solution produced by digesting coal in a liquid solvent. A black semi-solid, composed primarily of a complex combination of condensed-ring aromatic hydrocarbons, aromatic nitrogen compounds, aromatic sulfur compounds, phenolic compounds and other aromatic oxygen compounds, and their alkyl derivatives.)	648-144-00-9	302-683-3	94114-48-4	M
Light oil (coal), coke-oven; Crude benzole (The volatile organic liquid extracted from the gas evolved in the high temperature (greater than 700 °C ~~(1292 °F)~~) destructive distillation of coal. Composed primarily of benzene, toluene, and xylenes. May contain other minor hydrocarbon constituents.)	648-147-00-5	266-012-5	65996-78-3	J

Distillates (coal), liq. solvent extn., primary; (The liquid product of condensation of vapours emitted during the digestion of coal in a liquid solvent and boiling in the range of approximately 30 °C to 300 °C ~~(86 °F to 572 °F)~~. Composed primarily of partly hydrogenated condensed-ring aromatic hydrocarbons, aromatic compounds containing nitrogen, oxygen and sulfur, and their alkyl derivatives having carbon numbers predominantly in the range of C_4 through C_{14}.)	648-148-00-0	302-688-0	94114-52-0	J
Distillates (coal), solvent extn., hydrocracked; (Distillate obtained by hydrocracking of coal extract or solution produced by the liquid solvent extraction or supercritical gas extraction process and boiling in the range of approximately 30 °C to 300 °C ~~(86 °F to 572 °F)~~. Composed primarily of aromatic, hydrogenated aromatic and naphthenic compounds, their alkyl derivatives and alkanes with carbon numbers predominantly in the range of C_4 through C_{14}. Nitrogen, sulfur and oxygen-containing aromatic and hydrogenated aromatic compounds are also present.)	648-149-00-6	302-689-6	94114-53-1	J
Naphtha (coal), solvent extn., hydrocracked; (Fraction of the distillate obtained by hydrocracking of coal extract or solution produced by the liquid solvent extraction or supercritical gas extraction processes and boiling in the range of approximately 30 °C to 180 °C ~~(86 °F to 356 °F)~~. Composed primarily of aromatic, hydrogenated aromatic and naphthenic compounds, their alkyl derivatives and alkanes with carbon numbers predominantly in the range of C_4 to C_9. Nitrogen,	648-150-00-1	302-690-1	94114-54-2	J

sulfur and oxygen-containing aromatic and hydrogenated aromatic compounds are also present.)				
Gasoline, coal solvent extn., hydrocracked naphtha; (Motor fuel produced by the reforming of the refined naphtha fraction of the products of hydrocracking of coal extract or solution produced by the liquid solvent extraction or supercritical gas extraction processes and boiling in the range of approximately 30 °C to 180 °C ~~(86 °F to 356 °F)~~. Composed primarily of aromatic and naphthenic hydrocarbons, their alkyl derivatives and alkyl hydrocarbons having carbon numbers in the range of C_4 through C_9.)	648-151-00-7	302-691-7	94114-55-3	J
Distillates (coal), solvent extn., hydrocracked middle; (Distillate obtained from the hydrocracking of coal extract or solution produced by the liquid solvent extraction or supercritical gas extraction processes and boiling in the range of approximately 180 °C to 300 °C ~~(356 °F to 572 °F)~~. Composed primarily of two-ring aromatic, hydrogenated aromatic and naphthenic compounds, their alkyl derivatives and alkanes having carbon numbers predominantly in the range of C_9 through C_{14}. Nitrogen, sulfur and oxygen-containing compounds are also present.)	648-152-00-2	302-692-2	94114-56-4	J
Distillates (coal), solvent extn., hydrocracked hydrogenated middle; (Distillate from the hydrogenation of hydrocracked middle distillate from coal extract or solution produced by the liquid solvent extraction or supercritical gas extraction processes and boiling in the range of approximately 180 °C to 280 °C ~~(356 °F to 536 °F)~~. Composed primarily of	648-153-00-8	302-693-8	94114-57-5	J

hydrogenated two-ring carbon compounds and their alkyl derivatives having carbon numbers predominantly in the range of C_9 through C_{14}.)				
Light oil (coal), semi-coking process; Fresh oil (The volatile organic liquid condensed from the gas evolved in the low temperature (less than 700 °C ~~(1292 °F)~~) destructive distillation of coal. Composed primarily of C_{6-10} hydrocarbons.)	648-156-00-4	292-635-7	90641-11-5	J
Extracts (petroleum), light naphthenic distillate solvent	649-001-00-3	265-102-1	64742-03-6	
Extracts (petroleum), heavy paraffinic distillate solvent	649-002-00-9	265-103-7	64742-04-7	
Extracts (petroleum), light paraffinic distillate solvent	649-003-00-4	265-104-2	6472-05-8	
Extracts (petroleum), heavy naphthenic distillate solvent	649-004-00-X	265-111-0	64742-11-6	
Extracts (petroleum), light vacuum gas oil solvent	649-005-00-5	295-341-7	91995-78-7	
Hydrocarbons C_{26-55}, arom.-rich	649-006-00-0	307-753-7	97722-04-8	
Residues (petroleum), atm. tower; Heavy fuel oil (A complex residuum from the atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly greater than C_{20} and boiling above approximately 350 °C ~~(662 °F)~~. This stream is likely to contain 5 wt. % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.)	649-008-00-1	265-045-2	64741-45-3	
Gas oils (petroleum), heavy vacuum; Heavy fuel oil (A complex combination of hydrocarbons produced by the vacuum distillation of the residuum	649-009-00-7	265-058-3	64741-57-7	

from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and boiling in the range of approximately 350 °C to 600 °C ~~(662 °F to 1112 °F)~~. This stream is likely to contain 5 wt. % more of 4- to 6-membered condensed ring aromatic hydrocarbons.)				
Distillates (petroleum), heavy catalytic cracked; Heavy fuel oil (A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{35} and boiling in the range of approximately 260 °C to 500 °C ~~(500 °F to 932 °F)~~. This stream is likely to contain 5 wt. % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.)	649-010-00-2	265-063-0	64741-61-3	
Clarified oils (petroleum), catalytic cracked; Heavy fuel oil (A complex combination of hydrocarbons produced as the residual fraction from distillation of the products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly greater than C_{20} and boiling above approximately 350 °C ~~(662 °F)~~. This stream is likely to contain 5 wt. % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.)	649-011-00-8	265-064-6	64741-62-4	
Residues (petroleum), hydrocracked; Heavy fuel oil (A complex combination of hydrocarbons produced as the residual fraction from distillation of the products of a hydrocracking process. It consists of hydrocarbons having carbon numbers predominantly greater than C_{20} and	649-012-00-3	265-076-1	64741-75-9	

boiling above approximately 350 °C ~~(662 °F)~~.)				
Residues (petroleum), thermal cracked; Heavy fuel oil (A complex combination of hydrocarbons produced as the residual fraction from distillation of the product from a thermal cracking process. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly greater than C_{20} and boiling above approximately 350 °C ~~(662 °F)~~. This stream is likely to contain 5 wt. % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.)	649-013-00-9	265-081-9	64741-80-6	
Distillates (petroleum), heavy thermal cracked; Heavy fuel oil (A complex combination of hydrocarbons from the distillation of the products from a thermal cracking process. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{36} and boiling in the range of approximately 260 °C to 480 °C ~~(500 °F to 896 °F)~~. This stream is likely to contain 5 wt. % or more or 4- to 6-membered condensed ring aromatic hydrocarbons.)	649-014-00-4	265-082-4	64741-81-7	
Gas oils (petroleum), hydrotreated vacuum; Heavy fuel oil (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{13} through C_{50} and boiling in the range of approximately 230 °C to 600 °C ~~(446 °F to 1112 °F)~~. This stream is likely to contain 5 wt. % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.)	649-015-00-X	265-162-9	64742-59-2	

Residues (petroleum) hydrodesulfurized atmospheric tower; Heavy fuel oil (A complex combination of hydrocarbons obtained by treating an atmospheric tower residuum with hydrogen in the presence of a catalyst under conditions primarily to remove organic sulfur compounds. It consists of hydrocarbons having carbon numbers predominantly greater than C_{20} and boiling above approximately 350 °C ~~(662 °F)~~. This stream is likely to contain 5 wt. % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.)	649-016-00-5	265-181-2	64742-78-5	
Gas oils (petroleum), hydrodesulfurized heavy vacuum; Heavy fuel oil (A complex combination of hydrocarbons obtained from a catalytic hydrodesulfurization process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and boiling in the range of approximately 350 °C to 600 °C ~~(662 °F to 1112 °F)~~. This stream is likely to contain 5 wt. % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.)	649-017-00-0	265-189-6	64742-86-5	
Residues (petroleum), steam-cracked; Heavy fuel oil (A complex combination of hydrocarbons obtained as the residual fraction from the distillation of the products of a steam cracking process (including steam cracking to produce ethylene). It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly greater than C_{14} and boiling above approximately 260 °C ~~(500 °F)~~. This stream is likely to contain 5 wt. % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.)	649-018-00-6	265-193-8	64742-90-1	

Residues (petroleum), atmospheric; Heavy fuel oil (A complex residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly greater than C_{11} and boiling above approximately 200 °C ~~(392 °F)~~. This stream is likely to contain 5 wt. % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.)	649-019-00-1	269-777-3	68333-22-2	
Clarified oils (petroleum), hydrodesulfurized catalytic cracked; Heavy fuel oil (A complex combination of hydrocarbons obtained by treating catalytic cracked clarified oil with hydrogen to convert organic sulfur to hydrogen sulfide which is removed. It consists of hydrocarbons having carbon numbers predominantly greater than C_{20} and boiling above approximately 350 °C ~~(662 °F)~~. This stream is likely to contain 5 wt. % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.)	649-020-00-7	269-782-0	68333-26-6	
Distillates (petroleum), hydrodesulfurized intermediate catalytic cracked; Heavy fuel oil (A complex combination of hydrocarbons obtained by treating intermediate catalytic cracked distillates with hydrogen to convert organic sulfur to hydrogen sulfide which is removed. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{11} through C_{30} and boiling in the range of approximately 205 °C to 450 °C ~~(401 °F to 842 °F)~~. It contains a relatively large proportion of tricyclic aromatic hydrocarbons.)	649-021-00-2	269-783-6	68333-27-7	
Distillates (petroleum), hydrodesulfurized heavy catalytic cracked; Heavy fuel oil	649-022-00-8	269-784-1	68333-28-8	

(A complex combination of hydrocarbons obtained by treatment of heavy catalytic cracked distillates with hydrogen to convert organic sulfur to hydrogen sulfide which is removed. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{35} and boiling in the range of approximately 260 °C to 500 °C ~~(500 °F to 932 °F)~~. This stream is likely to contain 5 wt. % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.)				
Fuel oil, residues-straight-run gas oils, high-sulfur; Heavy fuel oil	649-023-00-3	270-674-0	68476-32-4	
Fuel oil, residual; Heavy fuel oil (The liquid product from various refinery streams, usually residues. The composition is complex and varies with the source of the crude oil.)	649-024-00-9	270-675-6	68476-33-5	
Residues (petroleum), catalytic reformer fractionator residue distn.; Heavy fuel oil (A complex residuum from the distillation of catalytic reformer fractionator residue. It boils above approximately 399 °C ~~(750 °F)~~.)	649-025-00-4	270-792-2	68478-13-7	
Residues (petroleum), heavy coker gas oil and vacuum gas oil; Heavy fuel oil (A complex combination of hydrocarbons produced as the residual fraction from the distillation of heavy coker gas oil and vacuum gas oil. It predominantly consists of hydrocarbons having carbon numbers predominantly greater than C_{13} and boiling above approximately 230 °C ~~(446 °F)~~.)	649-026-00-X	270-796-4	68478-17-1	
Residues (petroleum), heavy coker and light vacuum; Heavy fuel oil	649-027-00-5	270-983-0	68512-61-8	

(A complex combination of hydrocarbons produced as the residual fraction from the distillation of heavy coker gas oil and light vacuum gas oil. It consists predominantly of hydrocarbons having carbon numbers predominantly greater than C_{13} and boiling above approximately 230 °C ~~(446 °F)~~.)				
Residues (petroleum), light vacuum; Heavy fuel oil (A complex residuum from the vacuum distillation of the residuum from the atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly greater than C_{13} and boiling above approximately 230 °C ~~(446 °F)~~.)	649-028-00-0	270-984-6	68512-62-9	
Residues (petroleum), steam-cracked light; Heavy fuel oil (A complex residuum from the distillation of the products from a steam-cracking process. It consists predominantly of aromatic and unsaturated hydrocarbons having carbon numbers greater than C_7 and boiling in the range of approximately 101 °C to 555 °C ~~(214 °F to 1030 °F)~~.)	649-029-00-6	271-013-9	68513-69-9	
Fuel oil, No 6; Heavy fuel oil (A distillate oil having a minimum viscosity of ⌦ 197 10^{-6} m^2s^{-1} ⌫ ~~900 SUS~~ at 37,7 °C ~~(100 °F)~~ to a maximum of ⌦ 197 10^{-5} m^2s^{-1} ⌫ ~~9000 SUS~~ at 37,7 °C ~~(100 °F)~~.)	649-030-00-1	271-384-7	68553-00-4	
Residues (petroleum), topping plant, low-sulfur; Heavy fuel oil (A low-sulfur complex combination of hydrocarbons produced as the residual fraction from the topping plant distillation of crude oil. It is the residuum after the straight-run	649-031-00-7	271-763-7	68607-30-7	

gasoline cut, kerosene cut and gas oil cut have been removed.)				
Gas oils (petroleum), heavy atmospheric; Heavy fuel oil (A complex combination of hydrocarbons obtained by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{35} and boiling in the range of approximately 121 °C to 510 °C ~~(250 °F to 950 °F)~~.)	649-032-00-2	272-184-2	68783-08-4	
Residues (petroleum), coker scrubber, Condensed-ring-arom.-contg.; Heavy fuel oil (A very complex combination of hydrocarbons produced as the residual fraction from the distillation of vacuum residuum and the products from a thermal cracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly greater than C_{20} and boiling above approximately 350 °C ~~(662 °F)~~. This stream is likely to contain 5 wt. % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.)	649-033-00-8	272-187-9	68783-13-1	
Distillates (petroleum), petroleum residues vacuum; Heavy fuel oil (A complex combination of hydrocarbons produced by the vacuum distillation of the residuum from the atmospheric distillation of crude oil.)	649-034-00-3	273-263-4	68955-27-1	
Residues (petroleum), steam-cracked, resinous; Heavy fuel oil (A complex residuum from the distillation of steam-cracked petroleum residues.)	649-035-00-9	273-272-3	68955-36-2	
Distillates (petroleum), intermediate vacuum; Heavy fuel oil	649-036-00-4	274-683-0	70592-76-6	

(A complex combination of hydrocarbons produced by the vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{14} through C_{42} and boiling in the range of approximately 250 °C to 545 °C ~~(482 °F to 1013 °F)~~. This stream is likely to contain 5 wt. % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.)				
Distillates (petroleum), light vacuum; Heavy fuel oil (A complex combination of hydrocarbons produced by the vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{11} through C_{35} and boiling in the range of approximately 250 °C to 545 °C ~~(482 °F to 1013 °F)~~.)	649-037-00-X	247-684-6	70592-77-7	
Distillates (petroleum), vacuum; Heavy fuel oil (A complex combination of hydrocarbons produced by the vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists of hydrocarbons having numbers predominantly in the range of C_{15} through C_{50} and boiling in the range of approximately 270 °C to 600 °C ~~(518 °F to 1112 °F)~~. This stream is likely to contain 5 wt. % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.)	649-038-00-5	274-685-1	70592-78-8	
Gas oils (petroleum), hydrodesulphurized coker heavy vacuum; Heavy fuel oil (A complex combination of hydrocarbons obtained by hydrodesulphurization of heavy coker distillate stocks. It consists predominantly of hydrocarbons	649-039-00-0	285-555-9	85117-03-9	

having carbon numbers predominantly in the range C_{18} to C_{44} and boiling in the range of approximately 304 °C to 548 °C ~~(579 °F to 1018 °F)~~. Likely to contain 5 ⌦ wt. ⌫ % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.)				
Residues (petroleum), steam-cracked, distillates; Heavy fuel oil (A complex combination of hydrocarbons obtained during the production of refined petroleum tar by the distillation of steam cracked tar. It consists predominantly of aromatic and other hydrocarbons and organic sulfur compounds.)	649-040-00-6	292-657-7	90669-75-3	
Residues (petroleum), vacuum, light; Heavy fuel oil (A complex residuum from the vacuum distillation of the residuum from atmospheric distillation of crude oil. It consists predominantly of hydrocarbons having carbon numbers predominantly greater than C_{24} and boiling above approximately 390 °C ~~(734 °F)~~.)	649-041-00-1	292-658-2	90669-76-4	
Fuel oil, heavy, high-sulphur; Heavy fuel oil (A complex combination of hydrocarbons obtained by the distillation of crude petroleum. It consists predominantly of aliphatic, aromatic and cycloaliphatic hydrocarbons having carbon numbers predominantly higher than C_{25} and boiling above approximately 400 °C ~~(752 °F)~~.)	649-042-00-7	295-396-7	92045-14-2	
Residues (petroleum), catalytic cracking; Heavy fuel oil (A complex combination of hydrocarbons produced as the residual fraction from the distillation of the products from a catalytic	649-043-00-2	295-511-0	92061-97-7	

cracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly greater than C_{11} and boiling above approximately 200 °C ~~(392 °F)~~.)				
Distillates (petroleum), intermediate catalytic cracked, thermally degraded; Heavy fuel oil (A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process which has been used as a heat transfer fluid. It consists predominantly of hydrocarbons boiling in the range of approximately 220 °C to 450 °C ~~(428 °F to 842 °F)~~. This stream is likely to contain organic sulfur compounds.)	649-044-00-8	295-990-6	92201-59-7	
Residual oils (petroleum); Heavy fuel oil (A complex combination of hydrocarbons, sulfur compounds and metal-containing organic compounds obtained as the residue from refinery fractionation cracking processes. It produces a finished oil with a viscosity above ~~2 cSt. at 100 °C~~ ⌦ 2 10^{-6} $m^2.s^{-1}$ at 100 °C ⌫ .)	649-045-00-3	298-754-0	93821-66-0	
Residues, steam cracked, thermally treated; Heavy fuel oil (A complex combination of hydrocarbons obtained by the treatment and distillation of raw steam-cracked naphtha. It consists predominantly of unsaturated hydrocarbons boiling in the range above approximately 180 °C ~~(356 °F)~~.)	649-046-00-9	308-733-0	98219-64-8	
Distillates (petroleum), hydrodesulphurized full-range middle; Heavy fuel oil (A complex combination of hydrocarbons obtained by treating a	649-047-00-4	309-863-0	101316-57-8	

petroleum stock with hydrogen. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_9 through C_{25} and boiling in the range of approximately 150 °C to 400 °C ~~(302 °F to 752 °F)~~.)				
Residues (petroleum), catalytic reformer fractionator; Heavy fuel oil (A complex combination of hydrocarbons produced as the residual fraction from distillation of the product from a catalytic reforming process. It consists of predominantly aromatic hydrocarbons having carbon numbers predominantly in the range of C_{10} through C_{25} and boiling in the range of approximately 160 °C to 400 °C ~~(320 °F to 725 °F)~~. This stream is likely to contain 5 wt. % or more of 4- or 6-membered condensed ring aromatic hydrocarbons.)	649-048-00-X	265-069-3	64741-67-9	
Petroleum; Crude oil (A complex combination of hydrocarbons. It consists predominantly of aliphatic, alicyclic and aromatic hydrocarbons. It may also contain small amounts of nitrogen, oxygen and sulfur compounds. This category encompasses light, medium, and heavy petroleums, as well as the oils extended from tar sands. Hydrocarbonaceous materials requiring major chemical changes for their recovery or conversion to petroleum refinery feedstocks such as crude shale oils; upgraded shale oils and liquid coal fuels are not included in this definition.)	649-049-00-5	232-298-5	8002-05-9	
Gases (petroleum), catalytic cracked naphtha depropanizer overhead, C_3-rich acid-free; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation of catalytic cracked	649-062-00-6	270-755-0	68477-73-6	K

hydrocarbons and treated to remove acidic impurities. It consists of hydrocarbons having carbon numbers in the range of C_2 through C_4, predominantly C_3.)				
Gases (petroleum), catalytic cracker; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of the products from a catalytic cracking process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-063-00-1	270-756-6	68477-74-7	K
Gases (petroleum), catalytic cracker, C_{1-5}-rich; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of aliphatic hydrocarbons having carbon numbers in the range of C_1 through C_6, predominantly C_1 through C_5.)	649-064-00-7	270-757-1	68477-75-8	K
Gases (petroleum), catalytic polymd. naphtha stabilizer overhead, C_{2-4}-rich; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation stabilization of catalytic polymerized naphtha. It consists of aliphatic hydrocarbons having carbon numbers in the range of C_2 through C_6, predominantly C_2 through C_4.)	649-065-00-2	270-758-7	68477-76-9	K
Gases (petroleum), catalytic reformer, C_{1-4}-rich; Petroleum gas (A complex combination of hydrocarbons produced by distillation of products from a catalytic reforming process. It consists of hydrocarbons having carbon numbers in the range of C_1 through C_6, predominantly C_1 through C_4.)	649-066-00-8	270-760-8	68477-79-2	K

Gases (petroleum), C_{3-5} olefinic-paraffinic alkylation feed; Petroleum gas (A complex combination of olefinic and paraffinic hydrocarbons having carbon numbers in the range of C_3 through C_5 which are used as alkylation feed. Ambient temperatures normally exceed the critical temperature of these combinations.)	649-067-00-3	270-765-5	68477-83-8	K
Gases (petroleum), C_4-rich; Petroleum gas (A complex combination of hydrocarbons produced by distillation of products from a catalytic fractionation process. It consists of aliphatic hydrocarbons having carbon numbers in the range of C_3 through C_5, predominantly C_4.)	649-068-00-9	270-767-6	68477-85-0	K
Gases (petroleum), deethanizer overheads; Petroleum gas (A complex combination of hydrocarbons produced from distillation of the gas and gasoline fractions from the catalytic cracking process. It contains predominantly ethane and ethylene.)	649-069-00-4	270-768-1	68477-86-1	K
Gases (petroleum), deisobutanizer tower overheads; Petroleum gas (A complex combination of hydrocarbons produced by the atmospheric distillation of a butane-butylene stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_3 through C_4.)	649-070-00-X	270-769-7	68477-87-2	K
Gases (petroleum), depropanizer dry, propene-rich; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of products from the gas and gasoline fractions of a catalytic	649-071-00-5	270-772-3	68477-90-7	K

cracking process. It consists predominantly of propylene with some ethane and propane.)				
Gases (petroleum), depropanizer overheads; Petroleum gas (A complex combination of hydrocarbons produced by distillation of products from the gas and gasoline fractions of a catalytic cracking process. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_4.)	649-072-00-0	270-773-9	68477-91-8	K
Gases (petroleum), gas recovery plant depropanizer overheads; Petroleum gas (A complex combination of hydrocarbons obtained by fractionation of miscellaneous hydrocarbon streams. It consists predominantly of hydrocarbons having carbon numbers in the range of C_1 through C_4, predominantly propane.)	649-073-00-6	270-777-0	68477-94-1	K
Gases (petroleum), Girbatol unit feed; Petroleum gas (A complex combination of hydrocarbons that is used as the feed into the Girbatol unit to remove hydrogen sulfide. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_4.)	649-074-00-1	270-778-6	68477-95-2	K
Gases (petroleum), isomerized naphtha fractionator, C_4-rich, hydrogen sulfide-free; Petroleum gas	649-075-00-7	270-782-8	68477-99-6	K
Tail gas (petroleum), catalytic cracked clarified oil and thermal cracked vacuum residue fractionation reflux drum; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation of catalytic cracked	649-076-00-2	270-802-5	68478-21-7	K

clarified oil and thermal cracked vacuum residue. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)				
Tail gas (petroleum), catalytic cracked naphtha stabilization absorber; Petroleum gas (A complex combination of hydrocarbons obtained from the stabilization of catalytic cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-077-00-8	270-803-0	68478-22-8	K
Tail gas (petroleum), catalytic cracker, catalytic reformer and hydrodesulfurizer combined fractionater; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation of products from catalytic cracking, catalytic reforming and hydrodesulfurizing processes treated to remove acidic impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-078-00-3	270-804-6	68478-24-0	K
Tail gas (petroleum), catalytic reformed naphtha fractionation stabilizer; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation stabilization of catalytic reformed naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-079-00-9	270-806-7	68478-26-2	K
Tail gas (petroleum), saturate gas plant mixed stream, C_4-rich; Petroleum gas	649-080-00-4	270-813-5	68478-32-0	K

(A complex combination of hydrocarbons obtained from the fractionation stabilization of straight-run naphtha, distillation tail gas and catalytic reformed naphtha stabilizer tail gas. It consists of hydrocarbons having carbon numbers in the range of C_3 through C_6, predominantly butane and isobutane.)				
Tail gas (petroleum), saturate gas recovery plant, C_{1-2}-rich; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation of distillate tail gas, straight-run naphtha, catalytic reformed naphtha stabilizer tail gas. It consists predominantly of hydrocarbons having carbon numbers in the range of C_1 through C_5, predominantly methane and ethane.)	649-081-00-X	270-814-0	68478-33-1	K
Tail gas (petroleum), vacuum residues thermal cracker; Petroleum gas (A complex combination of hydrocarbons obtained from the thermal cracking of vacuum residues. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-082-00-5	270-815-6	68478-34-2	K
Hydrocarbons, C_{3-4}-rich, petroleum distillate; Petroleum gas (A complex combination of hydrocarbons produced by distillation and condensation of crude oil. It consists of hydrocarbons having carbon numbers in the range of C_3 through C_5, predominantly C_3 through C_4.)	649-083-00-0	270-990-9	68512-91-4	K
Gases (petroleum), full-range straight-run naphtha dehexanizer off; Petroleum gas (A complex combination of hydrocarbons obtained by the	649-084-00-6	271-000-8	68513-15-5	K

fractionation of the full-range straight-run naphtha. It consists of hydrocarbons having carbon numbers predominantly in the range of C_2 through C_6.)				
Gases (petroleum), hydrocracking depropanizer off, hydrocarbon-rich; Petroleum gas (A complex combination of hydrocarbon produced by the distillation of products from a hydrocracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4. It may also contain small amounts of hydrogen and hydrogen sulfide.)	649-085-00-1	271-001-3	68513-16-6	K
Gases (petroleum), light straight-run naphtha stabilizer off; Petroleum gas (A complex combination of hydrocarbons obtained by the stabilization of light straight-run naphtha. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_6.)	649-086-00-7	271-002-9	68513-17-7	K
Residues (petroleum), alkylation splitter, C_4-rich; Petroleum gas (A complex residuum from the distillation of streams from various refinery operations. It consists of hydrocarbons having carbon numbers in the range of C_4 through C_5, predominantly butane, and boiling in the range of approximately −11,7 °C to 27,8 °C ~~(11 °F to 82 °F)~~.)	649-087-00-2	271-010-2	68513-66-6	K
Hydrocarbons, C_{1-4}, sweetened; Petroleum gas (A complex combination of hydrocarbons obtained by subjecting hydrocarbon gases to a sweetening process to convert mercaptans or to remove acidic impurities. It consists	649-089-00-3	271-038-5	68514-36-3	K

of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4 and boiling in the range of approximately − 164 °C to − 0,5 °C ~~(−263 °F to 31 °F)~~.)				
Hydrocarbons, C_{1-3}; Petroleum gas (A complex combination of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_3 and boiling in the range of approximately − 164 °C to − 42 °C ~~(− 263 °F to − 44 °F)~~.)	649-090-00-9	271-259-7	68527-16-2	K
Hydrocarbons, C_{1-4}, debutanizer fraction; Petroleum gas	649-091-00-4	271-261-8	68527-19-5	K
Gases (petroleum), C_{1-5}, wet; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of crude oil and/or the cracking of tower gas oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-092-00-X	271-624-0	68602-83-5	K
Hydrocarbons, C_{2-4}; Petroleum gas	649-093-00-5	271-734-9	68606-25-7	K
Hydrocarbons, C_3; Petroleum gas	649-094-00-0	271-735-4	68606-26-8	K
Gases (petroleum), alkylation feed; Petroleum gas (A complex combination of hydrocarbons produced by the catalytic cracking of gas oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_4.)	649-095-00-6	271-737-5	68606-27-9	K
Gases (petroleum), depropanizer bottoms fractionation off; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation of depropanizer bottoms. It consists predominantly of butane, isobutane and butadiene.)	649-096-00-1	271-742-2	68606-34-8	K

Gases (petroleum), refinery blend; Petroleum gas (A complex combination obtained from various processes. It consists of hydrogen, hydrogen sulfide and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-097-00-7	272-183-7	68783-07-3	K
Gases (petroleum), catalytic cracking; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of the products from a catalytic cracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_5.)	649-098-00-2	272-203-4	68783-64-2	K
Gases (petroleum), C_{2-4}, sweetened; Petroleum gas (A complex combination of hydrocarbons obtained by subjecting a petroleum distillate to a sweetening process to convert mercaptans or to remove acidic impurities. It consists predominantly of saturated and unsaturated hydrocarbons having carbon numbers predominantly in the range of C_2 through C_4 and boiling in the range of approximately − 51 °C to − 34 °C ~~(− 60 °F to − 30 °F)~~.)	649-099-00-8	272-205-5	68783-65-3	K
Gases (petroleum), crude oil fractionation off; Petroleum gas (A complex combination of hydrocarbons produced by the fractionation of crude oil. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-100-00-1	272-871-7	68918-99-0	K
Gases (petroleum), dehexanizer off; Petroleum gas (A complex combination of	649-101-00-7	272-872-2	68919-00-6	K

hydrocarbons obtained by the fractionation of combined naphtha streams. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)				
Gases (petroleum), light straight run gasoline fractionation stabilizer off; Petroleum gas (A complex combination of hydrocarbons obtained by the fractionation of light straight-run gasoline. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-102-00-2	272-878-5	68919-05-1	K
Gases (petroleum), naphtha unifiner desulfurization stripper off; Petroleum gas (A complex combination of hydrocarbons produced by a naphtha unifiner desulfurization process and stripped from the naphtha product. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-103-00-8	272-879-0	68919-06-2	K
Gases (petroleum), straight-run naphtha catalytic reforming off; Petroleum gas (A complex combination of hydrocarbons obtained by the catalytic reforming of straight-run naphtha and fractionation of the total effluent. It consists of methane, ethane, and propane.)	649-104-00-3	272-882-7	68919-09-5	K
Gases (petroleum), fluidized catalytic cracker splitter overheads; Petroleum gas (A complex combination of hydrocarbons produced by the fractionation of the charge to the C_3-C_4 splitter. It consists predominantly of C_3 hydrocarbons.)	649-105-00-9	272-893-7	68919-20-0	K

Gases (petroleum), straight-run stabilizer off; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation of the liquid from the first tower used in the distillation of crude oil. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-106-00-4	272-883-2	68919-10-8	K
Gases (petroleum), catalytic cracked naphtha debutanizer; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation of catalytic cracked naphtha. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-107-00-X	273-169-3	68952-76-1	K
Tail gas (petroleum), catalytic cracked distillate and naphtha stabilizer; Petroleum gas (A complex combination of hydrocarbons obtained by the fractionation of catalytic cracked naphtha and distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-108-00-5	273-170-9	68952-77-2	K
Tail gas (petroleum), thermal-cracked distillate, gas oil and naphtha absorber; Petroleum gas (A complex combination of hydrocarbons obtained from the separation of thermal-cracked distillates, naphtha and gas oil. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-109-00-0	273-175-6	68952-81-8	K
Tail gas (petroleum), thermal cracked hydrocarbon fractionation stabilizer,	649-110-00-6	273-176-1	68952-82-9	K

petroleum coking; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation stabilization of thermal cracked hydrocarbons from a petroleum coking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)				
Gases (petroleum, light steam-cracked, butadiene conc.; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of products from a thermal cracking process. It consists of hydrocarbons having a carbon number predominantly of C_4.)	649-111-00-1	273-265-5	68955-28-2	K
Gases (petroleum), straight-run naphtha catalytic reformer stabilizer overhead; Petroleum gas (A complex combination of hydrocarbons obtained by the catalytic reforming of straight-run naphtha and the fractionation of the total effluent. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_4.)	649-112-00-7	273-270-2	68955-34-0	K
Hydrocarbons, C_4; Petroleum gas	649-113-00-2	289-339-5	87741-01-3	K
Alkanes, C_{1-4}, C_3-rich; Petroleum gas	649-114-00-8	292-456-4	90622-55-2	K
Gases (petroleum), steam-cracker C_3-rich; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of products from a steam cracking process. It consists predominantly of propylene with some propane and boils in the range of approximately − 70 °C to 0 °C ~~(− 94 °F to 32 °F)~~.)	649-115-00-3	295-404-9	92045-22-2	K
Hydrocarbons, C_4, steam-cracker	649-116-00-9	295-405-4	92045-23-3	K

distillate; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of the products of a steam cracking process. It consists predominantly of hydrocarbons having a carbon number of C_4, predominantly 1-butene and 2-butene, containing also butane and isobutene and boiling in the range of approximately − 12 °C to 5 °C ~~(10.4 °F to 41 °F)~~.)				
Petroleum gases, liquefied, sweetened, C_4 fraction; Petroleum gas (A complex combination of hydrocarbons obtained by subjecting a liquified petroleum gas mix to a sweetening process to oxidize mercaptans or to remove acidic impurities. It consists predominantly of C_4 saturated and unsaturated hydrocarbons.)	649-117-00-4	295-463-0	92045-80-2	K
Hydrocarbons, C_4, 1,3-butadiene-and isobutene-free; Petroleum gas	649-118-00-X	306-004-1	95465-89-7	K
Raffinates (petroleum), steam-cracked C_4 fraction cuprous ammonium acetate extn., C_{3-5} and C_{3-5} unsatd., butadiene-free; Petroleum gas	649-~~199~~ ⌦ 119 ⌫ -00-5	307-769-4	97722-19-5	K
Gases (petroleum), amine system feed; Refinery gas (The feed gas to the amine system for removal of hydrogen sulphide. It consists primarily of hydrogen. Carbon monoxide, carbon dioxide, hydrogen sulfide and aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5 may also be present.)	649-120-00-0	270-746-1	68477-65-6	K
Gases (petroleum), benzene unit hydrodesulphurizer off; Refinery gas (Off gases produced by the benzene unit. It consists primarily of	649-121-00-6	270-747-7	68477-66-7	K

hydrogen. Carbon monoxide and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6, including benzene, may also be present.)				
Gases (petroleum), benzene unit recycle, hydrogen-rich; Refinery gas (A complex combination of hydrocarbons obtained by recycling the gases of the benzene unit. It consists primarily of hydrogen with various small amounts of carbon monoxide and hydrocarbons having carbon numbers in the range of C_1 through C_6.)	649-122-00-1	270-748-2	68477-67-8	K
Gases (petroleum), blend oil, hydrogen-nitrogen-rich; Refinery gas (A complex combination of hydrocarbons obtained by distillation of a blend oil. It consists primarily of hydrogen and nitrogen with various small amounts of carbon monoxide, carbon dioxide, and aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-123-00-7	270-749-8	68477-68-9	K
Gases (petroleum), catalytic reformed naphtha stripper overheads; Refinery gas (A complex combination of hydrocarbons obtained from stabilization of catalytic reformed naphtha. It consists of hydrogen and saturated hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-124-00-2	270-759-2	68477-77-0	K
Gases (petroleum), C_{6-8} catalytic reformer recycle; Refinery gas (A complex combination of hydrocarbons produced by distillation of products from catalytic reforming of C_6-C_8 feed and recycled to conserve hydrogen. It consists primarily of hydrogen. It may also	649-125-00-8	270-761-3	68477-80-5	K

contain various small amounts of carbon monoxide, carbon dioxide, nitrogen, and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)				
Gases (petroleum), C_{6-8} catalytic reformer; Refinery gas (A complex combination of hydrocarbons produced by distillation of products from catalytic reforming of C_6-C_8 feed. It consists of hydrocarbons having carbon numbers in the range of C_1 through C_5 and hydrogen.)	649-126-00-3	270-762-9	68477-81-6	K
Gases (petroleum), C_{6-8} catalytic reformer recycle, hydrogen-rich; Refinery gas	649-127-00-9	270-763-4	68477-82-7	K
Gases (petroleum), C_2-return stream; Refinery gas (A complex combination of hydrocarbons obtained by the extraction of hydrogen from a gas stream which consists primarily of hydrogen with small amounts of nitrogen, carbon monoxide, methane, ethane, and ethylene. It contains predominantly hydrocarbons such as methane, ethane, and ethylene with small amounts of hydrogen, nitrogen and carbon monoxide.)	649-128-00-4	270-766-0	68477-84-9	K
Gases (petroleum), dry sour, gas-concn.-unit-off; Refinery gas (The complex combination of dry gases from a gas concentration unit. It consists of hydrogen, hydrogen sulphide and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_3.)	649-129-00-X	270-774-4	68477-92-9	K
Gases (petroleum), gas concn. reabsorber distn.; Refinery gas (A complex combination of hydrocarbons produced by distillation of products from combined gas	649-130-00-5	270-776-5	68477-93-0	K

streams in a gas concentration reabsorber. It consists predominantly of hydrogen, carbon monoxide, carbon dioxide, nitrogen, hydrogen sulphide and hydrocarbons having carbon numbers in the range of C_1 through C_3.)				
Gases (petroleum), hydrogen absorber off; Refinery gas (A complex combination obtained by absorbing hydrogen from a hydrogen rich stream. It consists of hydrogen, carbon monoxide, nitrogen, and methane with small amounts of C_2 hydrocarbons.)	649-131-00-0	270-779-1	68477-96-3	K
Gases (petroleum), hydrogen-rich; Refinery gas (A complex combination separated as a gas from hydrocarbon gases by chilling. It consists primarily of hydrogen with various small amounts of carbon monoxide, nitrogen, methane, and C_2 hydrocarbons.)	649-132-00-6	270-780-7	68477-97-4	K
Gases (petroleum), hydrotreater blend oil recycle, hydrogen-nitrogen-rich; Refinery gas (A complex combination obtained from recycled hydrotreated blend oil. It consists primarily of hydrogen and nitrogen with various small amounts of carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-133-00-1	270-781-2	68477-98-5	K
Gases (petroleum), recycle, hydrogen-rich; Refinery gas (A complex combination obtained from recycled reactor gases. It consists primarily of hydrogen with various small amounts of carbon monoxide, carbon dioxide, nitrogen, hydrogen sulphide, and saturated aliphatic hydrocarbons having carbon numbers in the range of C_1 through	649-134-00-7	270-783-3	68478-00-2	K

C_5.)				
Gases (petroleum), reformer make-up, hydrogen-rich; Refinery gas (A complex combination obtained from the reformers. It consists primarily of hydrogen with various small amounts of carbon monoxide and aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-135-00-2	270-784-9	68478-01-3	K
Gases (petroleum), reforming hydrotreater; Refinery gas (A complex combination obtained from the reforming hydrotreating process. It consists primarily of hydrogen, methane, and ethane with various small amounts of hydrogen sulphide and aliphatic hydrocarbons having carbon numbers predominantly in the range C_3 through C_5.)	649-136-00-8	270-785-4	68478-02-4	K
Gases (petroleum), reforming hydrotreater, hydrogen-methane-rich; Refinery gas (A complex combination obtained from the reforming hydrotreating process. It consists primarily of hydrogen and methane with various small amounts of carbon monoxide, carbon dioxide, nitrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_5.)	649-137-00-3	270-787-5	68478-03-5	K
Gases (petroleum), reforming hydrotreater make-up, hydrogen-rich; Refinery gas (A complex combination obtained from the reforming hydrotreating process. It consists primarily of hydrogen with various small amounts of carbon monoxide and aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1	649-138-00-9	270-788-0	68478-04-6	K

through C_5.)				
Gases (petroleum), thermal cracking distn.; Refinery gas (A complex combination produced by distillation of products from a thermal cracking process. It consists of hydrogen, hydrogen sulphide, carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-139-00-4	270-789-6	68478-05-7	K
Tail gas (petroleum), catalytic cracker refractionation absorber; Refinery gas (A complex combination of hydrocarbons obtained from refractionation of products from a catalytic cracking process. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_3.)	649-140-00-X	270-805-1	68478-25-1	K
Tail gas (petroleum), catalytic reformed naphtha separator; Refinery gas (A complex combination of hydrocarbons obtained from the catalytic reforming of straight-run naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-141-00-5	270-807-2	68478-27-3	K
Tail gas (petroleum), catalytic reformed naphtha stabilizer; Refinery gas (A complex combination of hydrocarbons obtained from the stabilization of catalytic reformed naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-142-00-0	270-808-8	68478-28-4	K
Tail gas (petroleum), cracked distillate hydrotreater separator; Refinery gas	649-143-00-6	270-809-3	68478-29-5	K

(A complex combination of hydrocarbons obtained by treating cracked distillates with hydrogen in the presence of a catalyst. It consists of hydrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)				
Tail gas (petroleum), hydrodesulphurized straight-run naphtha separator; Refinery gas (A complex combination of hydrocarbons obtained from hydrodesulphurization of straight-run naphtha. It consists of hydrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-144-00-1	270-810-9	68478-30-8	K
Gases (petroleum), catalytic reformed straight-run naphtha stabilizer overheads; Refinery gas (A complex combination of hydrocarbons obtained from the catalytic reforming of straight-run naphtha followed by fractionation of the total effluent. It consists of hydrogen, methane, ethane and propane.)	649-145-00-7	270-999-8	68513-14-4	K
Gases (petroleum), reformer effluent high-pressure flash drum off; Refinery gas (A complex combination produced by the high-pressure flashing of the effluent from the reforming reactor. It consists primarily of hydrogen with various small amounts of methane, ethane, and propane.)	649-146-00-2	271-003-4	68513-18-8	K
Gases (petroleum), reformer effluent low-pressure flash drum off; Refinery gas (A complex combination produced by low-pressure flashing of the effluent from the reforming reactor. It consists	649-147-00-8	271-005-5	68513-19-9	K

primarily of hydrogen with various small amounts of methane, ethane, and propane.)				
Gases (petroleum), oil refinery gas distn. off; Refinery gas (A complex combination separated by distillation of a gas stream containing hydrogen, carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers in the range of C_1 through C_6 or obtained by cracking ethane and propane. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_2, hydrogen, nitrogen, and carbon monoxide.)	649-148-00-3	271-258-1	68527-15-1	K
Gases (petroleum), benzene unit hydrotreater depentanizer overheads; Refinery gas (A complex combination produced by treating the feed from the benzene unit with hydrogen in the presence of a catalyst followed by depentanizing. It consists primarily of hydrogen, ethane and propane with various small amounts of nitrogen, carbon monoxide, carbon dioxide and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6. It may contain trace amounts of benzene.)	649-149-00-9	271-623-5	68602-82-4	K
Gases (petroleum), secondary absorber off, fluidized catalytic cracker overheads fractionator; Refinery gas (A complex combination produced by the fractionation of the overhead products from the catalytic cracking process in the fluidized catalytic cracker. It consists of hydrogen, nitrogen, and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_3.)	649-150-00-4	271-625-6	68602-84-6	K
Petroleum products, refinery gases;	649-151-~~0~~	271-750-6	68607-11-4	K

Refinery gas (A complex combination which consists primarily of hydrogen with various small amounts of methane, ethane and propane.)	⌦ 00 ⌫ -X			
Gases (petroleum), hydrocracking low-pressure separator; Refinery gas (A complex combination obtained by the liquid-vapour separation of the hydrocracking process reactor effluent. It consists predominantly of hydrogen and saturated hydrocarbons having carbon numbers predominantly in the range of C_1 through C_3.)	649-152-00-5	272-182-1	68783-06-2	K
Gases (petroleum), refinery; Refinery gas (A complex combination obtained from various petroleum refining operations. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_3.)	649-153-00-0	272-338-9	68814-67-5	K
Gases (petroleum), platformer products separator off; Refinery gas (A complex combination obtained from the chemical reforming of naphthenes to aromatics. It consists of hydrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_4.)	649-154-00-6	272-343-6	68814-90-4	K
Gases (petroleum), hydrotreated sour kerosine depentanizer stabilizer off; Refinery gas (The complex combination obtained from the depentanizer stabilization of hydrotreated kerosine. It consists primarily of hydrogen, methane, ethane, and propane with various small amounts of nitrogen, hydrogen sulphide, carbon monoxide and hydrocarbons having carbon numbers	649-155-00-1	272-775-5	68911-58-0	K

predominantly in the range of C_4 through C_5.)				
Gases (petroleum), hydrotreated sour kerosine flash drum; Refinery gas (A complex combination obtained from the flash drum of the unit treating sour kerosine with hydrogen in the presence of a catalyst. It consists primarily of hydrogen and methane with various small amounts of nitrogen, carbon monoxide, and hydro-carbons having carbon numbers predominantly in the range of C_2 through C_5.)	649-156-00-7	272-776-0	68911-59-1	K
Gases (petroleum), distillate unifiner desulphurization stripper off; Refinery gas (A complex combination stripped from the liquid product of the unifiner desulphurization process. It consists of hydrogen sulphide, methane, ethane, and propane.)	649-157-00-2	272-873-8	68919-01-7	K
Gases (petroleum), fluidized catalytic cracker fractionation off; Refinery gas (A complex combination produced by the fractionation of the overhead product of the fluidized catalytic cracking process. It consists of hydrogen, hydrogen sulphide, nitrogen, and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-158-00-8	272-874-3	68919-02-8	K
Gases (petroleum), fluidized catalytic cracker scrubbing secondary absorber off; Refinery gas (A complex combination produced by scrubbing the overhead gas from the fluidized catalytic cracker. It consists of hydrogen, nitrogen, methane, ethane and propane.)	649-159-00-3	272-875-9	68919-03-9	K
Gases (petroleum), heavy distillate hydrotreater desulphurization stripper off; Refinery gas	649-160-00-9	272-876-4	68919-04-0	K

(A complex combination stripped from the liquid product of the heavy distillate hydrotreater desulphurization process. It consists of hydrogen, hydrogen sulphide, and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)				
Gases (petroleum), platformer stabilizer off, light ends fractionation; Refinery gas (A complex combination obtained by the fractionation of the light ends of the platinum reactors of the platformer unit. It consists of hydrogen, methane, ethane and propane.)	649-161-00-4	272-880-6	68919-07-3	K
Gases (petroleum), preflash tower off, crude distn.; Refinery gas (A complex combination produced from the first tower used in the distillation of crude oil. It consists of nitrogen and saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-162-00-X	272-881-1	68919-08-4	K
Gases (petroleum), tar stripper off; Refinery gas (A complex combination obtained by the fractionation of reduced crude oil. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-163-00-5	272-884-8	68919-11-9	K
Gases (petroleum), unifiner stripper off; Refinery gas (A combination of hydrogen and methane obtained by fractionation of the products from the unifiner unit.)	649-164-00-0	272-885-3	68919-12-0	K
Tail gas (petroleum), catalytic hydrodesulphurized naphtha	649-165-00-6	273-173-5	68952-79-4	K

separator; Refinery gas (A complex combination of hydrocarbons obtained from the hydrodesulphurization of naphtha. It consists of hydrogen, methane, ethane, and propane.)				
Tail gas (petroleum), straight-run naphtha hydrodesulphurizer; Refinery gas (A complex combination obtained from the hydrodesulphurization of straight-run naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-166-00-1	273-174-0	68952-80-7	K
Gases (petroleum), sponge absorber off, fluidized catalytic cracker and gas oil desulphurizer overhead fractionation; Refinery gas (A complex combination obtained by the fractionation of products from the fluidized catalytic cracker and gas oil desulphurizer. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-167-00-7	273-269-7	68955-33-9	K
Gases (petroleum), crude distn. and catalytic cracking; Refinery gas (A complex combination produced by crude distillation and catalytic cracking processes. It consists of hydrogen, hydrogen sulphide, nitrogen, carbon monoxide and paraffinic and olefinic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-168-00-2	273-563-5	68989-88-8	K
Gases (petroleum), gas oil diethanolamine scrubber off; Refinery gas (A complex combination produced by desulphurization of gas oils with diethanolamine. It consists	649-169-00-8	295-397-2	92045-15-3	K

predominantly of hydrogen sulphide, hydrogen and aliphatic hydrocarbons having carbon numbers in the range of C_1 through C_5.)				
Gases (petroleum), gas oil hydrodesulphurization effluent; Refinery gas (A complex combination obtained by separation of the liquid phase from the effluent from the hydrogenation reaction. It consists predominantly of hydrogen, hydrogen sulphide and aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_3.)	649-170-00-3	295-398-8	92045-16-4	K
Gases (petroleum), gas oil hydrodesulphurization purge; Refinery gas (A complex combination of gases obtained from the reformer and from the purges from the hydrogenation reactor. It consists predominantly of hydrogen and aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-171-00-9	295-399-3	92045-17-5	K
Gases (petroleum), hydrogenator effluent flash drum off; Refinery gas (A complex combination of gases obtained from flash of the effluents after the hydrogenation reaction. It consists predominantly of hydrogen and aliphatic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-172-00-4	295-400-7	92045-18-6	K
Gases (petroleum), naphtha steam cracking high-pressure residual; Refinery gas (A complex combination obtained as a mixture of the non-condensable portions from the product of a naphtha steam cracking process as well as residual gases obtained during the preparation of subsequent	649-173-00-X	295-401-2	92045-19-7	K

products. It consists predominantly of hydrogen and paraffinic and olefinic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5 with which natural gas may also be mixed.)				
Gases (petroleum), residue visbaking off; Refinery gas (A complex combination obtained from viscosity reduction of residues in a furnace. It consists predominantly of hydrogen sulphide and paraffinic and olefinic hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-174-00-5	295-402-8	92045-20-0	K
Foots oil (petroleum), acid-treated; Foots oil (A complex combination of hydrocarbons obtained by treatment of Foot's oil with sulphuric acid. It consists predominantly of branched-chain hydrocarbons with carbon numbers predominantly in the range of C_{20} through C_{50}.)	649-175-00-0	300-225-7	93924-31-3	L
Foots oil (petroleum), clay-treated; Foots oil (A complex combination of hydrocarbons obtained by treatment of Foot's oil with natural or modified clay in either a contacting or percolation process to remove the trace amounts of polar compounds and impurities present. It consists predominantly of branched chain hydrocarbons with carbon numbers predominantly in the range of C_{20} through C_{50}.)	649-176-00-6	300-226-2	93924-32-4	L
Gases (petroleum), C_{3-4}; Petroleum gas (A complex combination of hydrocarbons produced by distillation of products from the cracking of crude oil. It consists of hydrocarbons having carbon numbers in the range	649-177-00-1	268-629-5	68131-75-9	K

of C_3 through C_4, predominantly of propane and propylene, and boiling in the range of approximately −51 °C to −1 °C ~~(−60 °F to 30 °F.)~~.)				
Tail gas (petroleum), catalytic cracked distillate and catalytic cracked naphtha fractionation absorber; Petroleum gas (The complex combination of hydrocarbons from the distillation of the products from catalytic cracked distillates and catalytic cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers in the range of C_1 through C_4.)	649-178-00-7	269-617-2	68307-98-2	K
Tail gas (petroleum), catalytic polymn. naphtha fractionation stabilizer; Petroleum gas (A complex combination of hydrocarbons from the fractionation stabilization products from polymerization of naphtha. It consists predominantly of hydrocarbons having carbon numbers in the range of C_1 through C_4.)	649-179-00-2	269-618-8	68307-99-3	K
Tail gas (petroleum), catalytic reformed naphtha fractionation stabilizer, hydrogen sulphide-free; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation stabilization of catalytic reformed naphtha and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-180-00-8	269-619-3	68308-00-9	K
Tail gas (petroleum), cracked distillate hydrotreater stripper; Petroleum gas (A complex combination of hydrocarbons obtained by treating	649-181-00-3	269-620-9	68308-01-0	K

thermal cracked distillates with hydrogen in the presence of a catalyst. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)				
Tail gas (petroleum), straight-run distillate hydrodesulphurizer, hydrogen sulphide-free; Petroleum gas (A complex combination of hydrocarbons obtained from catalytic hydrodesulphurization of straight run distillates and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-182-00-9	269-630-3	68308-10-1	K
Tail gas (petroleum), gas oil catalytic cracking absorber; Petroleum gas (A complex combination of hydrocarbons obtained from the distillation of products from the catalytic cracking of gas oil. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-183-00-4	269-623-5	68308-03-2	K
Tail gas (petroleum), gas recovery plant; Petroleum gas (A complex combination of hydrocarbons from the distillation of products from miscellaneous hydrocarbon streams. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-184-00-X	269-624-0	68308-04-3	K
Tail gas (petroleum), gas recovery plant deethanizer; Petroleum gas (A complex combination of hydrocarbons from the distillation of products from miscellaneous	649-185-00-5	269-625-6	68308-05-4	K

hydrocarbon streams. It consists of hydrocarbon having carbon numbers predominantly in the range of C_1 through C_4.)				
Tail gas (petroleum), hydrodesulphurized distillate and hydrodesulphurized naphtha fractionator, acid-free; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation of hydrodesulphurized naphtha and distillate hydrocarbon streams and treated to remove acidic impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-186-00-0	269-626-1	68308-06-5	K
Tail gas (petroleum), hydrodesulphurized vacuum gas oil stripper, hydrogen sulphide-free; Petroleum gas (A complex combination of hydrocarbons obtained from stripping stabilization of catalytic hydrodesulphurized vacuum gas oil and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-187-00-6	269-627-7	68308-07-6	K
Tail gas (petroleum), light straight-run naphtha stabilizer, hydrogen sulphide-free; Petroleum gas (A complex combination of hydrocarbons obtained from fractionation stabilization of light straight-run naphtha and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-188-00-1	269-629-8	68308-09-8	K

Tail gas (petroleum), propane-propylene alkylation feed prep deethanizer; Petroleum gas (A complex combination of hydrocarbons obtained from the distillation of the reaction products of propane with propylene. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-189-00-7	269-631-9	68308-11-2	K
Tail gas (petroleum), vacuum gas oil hydrodesulphurizer, hydrogen sulphide-free; Petroleum gas (A complex combination of hydrocarbons obtained from catalytic hydrodesulphurization of vacuum gas oil and from which hydrogen sulphide has been removed by amine treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_6.)	649-190-00-2	269-632-4	68308-12-3	K
Gases (petroleum), catalytic cracked overheads; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of products from the catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_5 and boiling in the range of approximately −48 °C to 32 °C ~~(−54 °F to 90 °F)~~.)	649-191-00-8	270-071-2	68409-99-4	K
Alkanes, C_{1-2}; Petroleum gas	649-193-00-9	270-651-5	68475-57-0	K
Alkanes, C_{2-3}; Petroleum gas	649-194-00-4	270-652-0	68475-58-1	K
Alkanes, C_{3-4}; Petroleum gas	649-195-00-X	270-653-6	68475-59-2	K
Alkanes, C_{4-5}; Petroleum gas	649-196-00-5	270-654-1	68475-60-5	K
Fuel gases; Petroleum gas (A combination of light gases. It consists predominantly of hydrogen and/or low molecular weight	649-197-00-0	270-667-2	68476-26-6	K

hydrocarbons.)				
Fuel gases, crude oil of distillates; Petroleum gas (A complex combination of light gases produced by distillation of crude oil and by catalytic reforming of naphtha. It consists of hydrogen and hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4 and boiling in the range of approximately − 217 °C to − 12 °C ~~(−423 °F to 10 °F)~~.)	649-198-00-6	270-670-9	68476-29-9	K
Hydrocarbons, C_{3-4}; Petroleum gas	649-199-00-1	270-681-9	68476-40-4	K
Hydrocarbons, C_{4-5}; Petroleum gas	649-200-00-5	270-682-4	68476-42-6	K
Hydrocarbons, C_{2-4}, C_3-rich; Petroleum gas	649-201-00-0	270-689-2	68476-49-3	K
Petroleum gases, liquefied; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_7 and boiling in the range of approximately −40 °C to 80 °C ~~(−40 °F to 176 °F)~~.)	649-202-00-6	270-704-2	68476-85-7	K
Petroleum gases, liquefied, sweetened; Petroleum gas (A complex combination of hydrocarbons obtained by subjecting liquefied petroleum gas mix to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_7 and boiling in the range of approximately −40 °C to 80 °C ~~(−40 °F to 176 ° F)~~.)	649-203-00-1	270-705-8	68476-86-8	K
Gases (petroleum), C_{3-4}, isobutane-rich; Petroleum gas	649-204-00-7	270-724-1	68477-33-8	K

(A complex combination of hydrocarbons from the distillation of saturated and unsaturated hydrocarbons usually ranging in carbon numbers from C_3 through C_6, predominantly butane and isobutane. It consists of saturated and unsaturated hydrocarbons having carbon numbers in the range of C_3 through C_4, predominantly isobutane.)				
Distillates (petroleum), C_{3-6}, piperylene-rich; Petroleum gas (A complex combination of hydrocarbons from the distillation of saturated and unsaturated aliphatic hydrocarbons usually ranging in the carbon numbers C_3 through C_6. It consists of saturated and unsaturated hydrocarbons having carbon numbers in the range of C_3 through C_6, predominantly piperylenes.)	649-205-00-2	270-726-2	68477-35-0	K
Gases (petroleum), butane splitter overheads; Petroleum gas (A complex combination of hydrocarbons obtained from the distillation of the butane stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_3 through C_4.)	649-206-00-8	270-750-3	68477-69-0	K
Gases (petroleum), C_{2-3}; Petroleum gas (A complex combination of hydrocarbons produced by the distillation of products from a catalytic fractionation process. It contains predominantly ethane, ethylene, propane, and propylene.)	649-207-00-3	270-751-9	68477-70-3	K
Gases (petroleum), catalytic-cracked gas oil depropanizer bottoms, C_4-rich acid-free; Petroleum gas (A complex combination of hydrocarbons obtained from	649-208-00-9	270-752-4	68477-71-4	K

fractionation of catalytic cracked gas oil hydrocarbon stream and treated to remove hydrogen sulphide and other acidic components. It consists of hydrocarbons having carbon numbers in the range of C_3 through C_5, predominantly C_4.)				
Gases (petroleum), catalytic-cracked naphtha debutanizer bottoms, C_{3-5}-rich; Petroleum gas (A complex combination of hydrocarbons obtained from the stabilization of catalytic cracked naphtha. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_3 through C_5.)	649-209-00-4	270-754-5	68477-72-5	K
Tail gas (petroleum), isomerized naphtha fractionation stabilizer; Petroleum gas (A complex combination of hydrocarbons obtained from the fractionation stabilization products from isomerized naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_4.)	649-210-00-X	269-628-2	68308-08-7	K
Foots oil (petroleum), carbon-treated; Foot's oil (A complex combination of hydrocarbons obtained by the treatment of Foot's oil with activated carbon for the removal of trace constituents and impurities. It consists predominantly of saturated straight chain hydrocarbons having carbon numbers predominantly greater than C_{12}.)	649-211-00-5	308-126-0	97862-76-5	L
Distillates (petroleum), sweetened middle; Gas oil — unspecified (A complex combination of hydrocarbons obtained by subjecting a petroleum distillate to a sweetening	649-212-00-0	265-088-7	64741-86-2	N

process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of C_9 through C_{20} and boiling in the range of approximately 150 °C to 345 °C ~~(302 °F to 653 °F)~~.)				
Gas oils (petroleum), solvent-refined; Gas oil — unspecified (A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_{11} through C_{25} and boiling in the range of approximately 205 °C to 400 °C ~~(401 °F to 752 °F)~~.)	649-213-00-6	265-092-9	64741-90-8	N
Distillates (petroleum), solvent-refined middle; Gas oil — unspecified (A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_9 through C_{20} and boiling in the range of approximately 150 °C to 345 °C ~~(302 °F to 653 °F)~~.)	649-214-00-1	265-093-4	64741-91-9	N
Gas oils (petroleum), acid-treated; Gas oil — unspecified (A complex combination of hydrocarbons obtained as a raffinate from a sulphuric acid treating process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{13} through C_{25} and boiling in the range of approximately 230 °C to 400 °C ~~(446 °F to 752 °F)~~.)	649-215-00-7	265-112-6	64742-12-7	N
Distillates (petroleum), acid-treated middle; Gas oil — unspecified (A complex combination of hydrocarbons obtained as a raffinate	649-216-00-2	265-113-1	64742-13-8	N

from a sulphuric acid treating process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{11} through C_{20} and boiling in the range of approximately 205 °C to 345 °C ~~(401 °F to 653 °F)~~.)				
Distillates (petroleum), acid-treated light; Gas oil — unspecified (A complex combination of hydrocarbons obtained as a raffinate from a sulphuric acid treating process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_9 through C_{16} and boiling in the range of approximately 150 °C to 290 °C ~~(302 °F to 554 °F)~~.)	649-217-00-8	265-114-7	64742-14-9	N
Gas oils (petroleum), chemically neutralized; Gas oil — unspecified (A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{13} through C_{25} and boiling in the range of approximately 230 °C to 400 °C ~~(446 °F to 752 °F)~~.)	649-218-00-3	265-129-9	64742-29-6	N
Distillates (petroleum), chemically neutralized middle; Gas oil — unspecified (A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{11} through C_{20} and boiling in the range of approximately 205 °C to 345 °C ~~(401 °F to 653 °F)~~.)	649-219-00-9	265-130-4	64742-30-9	N
Distillates (petroleum), clay-treated middle; Gas oil — unspecified (A complex combination of hydrocarbons resulting from treatment of a petroleum fraction with natural or modified clay, usually in a percolation process to remove the	649-220-00-4	265-139-3	64742-38-7	N

trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly in the range of C_9 through C_{20} and boiling in the range of approximately 150 °C to 345 °C ~~(302 °F to 653 °F)~~.)				
Distillates (petroleum), hydrotreated middle; Gas oil — unspecified (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{11} through C_{25} and boiling in the range of approximately 205 °C to 400 °C ~~(401 °F to 752 °F)~~.)	649-221-00-X	265-148-2	64742-46-7	N
Gas oils (petroleum), hydrodesuphurized; Gas oil — unspecified (A complex combination of hydrocarbons obtained from a petroleum stock by treating with hydrogen to convert organic sulphur to hydrogen sulphide which is removed. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{13} through C_{25} and boiling in the range of approximately 230 °C to 400 °C ~~(446 °F to 752 °F)~~.)	649-222-00-5	265-182-8	64742-79-6	N
Distillates (petroleum), hydrodesulphurized middle; Gas oil — unspecified (A complex combination of hydrocarbons obtained from a petroleum stock by treating with hydrogen to convert organic sulphur to hydrogen sulphide which is removed. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{11} through C_{25} and boiling in the range of approximately 205 °C to 400 °C	649-223-00-0	265-183-3	64742-80-9	N

~~(401 °F to 752 °F)~~.)				
Distillates (petroleum), catalytic reformer fractionator residue, high-boiling; Gas oil — unspecified (A complex combination of hydrocarbons from the distillation of catalytic reformer fractionator residue. It boils in the range of approximately 343 °C to 399 °C ~~(650 °F to 750 °F)~~.)	649-228-00-8	270-719-4	68477-29-2	N
Distillates (petroleum), catalytic reformer fractionator residue, intermediate-boiling; Gas oil — unspecified (A complex combination of hydrocarbons from the distillation of catalytic reformer fractionator residue. It boils in the range of approximately 288 °C to 371 °C ~~(550 °F to 700 °F)~~.)	649-229-00-3	270-721-5	68477-30-5	N
Distillates (petroleum), catalytic reformer fractionator residue, low-boiling; Gas oil — unspecified (The complex combination of hydrocarbons from the distillation of catalytic reformer fractionator residue. It boils approximately below 288 °C ~~(550 °F)~~.)	649-230-00-9	270-722-0	68477-31-6	N
Distillates (petroleum), highly refined middle; Gas oil — unspecified (A complex combination of hydrocarbons obtained by the subjection of a petroleum fraction to several of the following steps: filtration, centrifugation, atmospheric distillation, vacuum distillation, acidification, neutralization and clay treatment. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{10} through C_{20}.)	649-231-00-4	292-615-8	90640-93-0	N
Distillates (petroleum) catalytic reformer, heavy arom. conc.; Gas oil	649-232-00-X	295-294-2	91995-34-5	N

— unspecified (A complex combination of hydrocarbons obtained from the distillation of a catalytically reformed petroleum cut. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{10} through C_{16} and boiling in the range of approximately 200 °C to 300 °C ~~(392 °F to 572 °F)~~.)				
Gas oils, paraffinic; Gas oil — unspecified (A distillate obtained from the redistillation of a complex combination of hydrocarbons obtained by the distillation of the effluents from a severe catalytic hydrotreatment of paraffins. It boils in the range of approximately 190 °C to 330 °C ~~(374 °F to 594 °F)~~.)	649-233-00-5	300-227-8	93924-33-5	N
Naphtha (petroleum), solvent-refined hydrodesulphurized heavy; Gas oil — unspecified	649-234-00-0	307-035-3	97488-96-5	N
Hydrocarbons, C_{16-20}, hydrotreated middle distillate, distn. lights; Gas oil — unspecified (A complex combination of hydrocarbons obtained as first runnings from the vacuum distillation of effluents from the treatment of a middle distillate with hydrogen. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{16} through C_{20} and boiling in the range of approximately 290 °C to 350 °C ~~(554 °F to 662 °F)~~. It produces a finished oil having a viscosity of ~~≥ eSt at 100 °C (212 °F)~~ ⌦ $2\ 10^{-6}$ $m^2.s^{-1}$ at 100 °C ⌫ .)	649-235-00-6	307-659-6	97675-85-9	N
Hydrocarbons, C_{12-20}, hydrotreated paraffinic, distn. lights; Gas oil — unspecified	649-236-00-1	307-660-1	97675-86-0	N

(A complex combination of hydrocarbons obtained as first runnings from the vacuum distillation of effluents from the treatment of heavy paraffins with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{12} through C_{20} and boiling in the range of approximately 230 °C to 350 °C ~~(446 °F to 662 °F)~~. It produces a finished oil having a viscosity of ~~2 eSt at 100 °C (212 °F)~~ ⌦ $2\ 10^{-6}$ $m^2.s^{-1}$ at 100 °C ⌫ .)				
Hydrocarbons, C_{11-17}, solvent-extd. light naphthenic; Gas oil — unspecified (A complex combination of hydrocarbons obtained by extraction of the aromatics from a light naphthenic distillate having a viscosity of ~~2.2 eSt at 40 °C (104 °F)~~ ⌦ $2.2\ 10^{-6}$ $m^2.s^{-1}$ at 40 °C ⌫ . It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{11} through C_{17} and boiling in the range of approximately 200 °C to 300 °C ~~(392 °F to 572 °F)~~.)	649-237-00-7	307-757-9	97722-08-2	N
Gas oils, hydrotreated; Gas oil — unspecified (A complex combination of hydrocarbons obtained from the redistillation of the effluents from the treatment of paraffins with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{17} through C_{27} and boiling in the range of approximately 330 °C to 340 °C ~~(626 °F to 644 °F)~~.)	649-238-00-2	308-128-1	97862-78-7	N
Distillates (petroleum), carbon-treated light paraffinic; Gas oil — unspecified	649-239-00-8	309-667-5	100683-97-4	N

(A complex combination of hydrocarbons obtained by the treatment of a petroleum oil fraction with activated charcoal for the removal of traces of polar constituents and impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{12} through C_{28}.)				
Distillates (petroleum), intermediate paraffinic, carbon-treated; Gas oil — unspecified (A complex combination of hydrocarbons obtained by the treatment of petroleum with activated charcoal for the removal of trace polar constituents and impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{16} through C_{36}.)	649-240-00-3	309-668-0	100683-98-5	N
Distillates (petroleum), intermediate paraffinic, clay-treated; Gas oil — unspecified (A complex combination of hydrocarbons obtained by the treatment of petroleum with bleaching earth for the removal of trace polar constituents and impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{16} through C_{36}.)	649-241-00-9	309-669-6	100683-99-6	N
Alkanes, C_{12-26}-branched and linear;	649-242-00-4	292-454-3	90622-53-0	N
Lubricating greases; Grease (A complex combination of hydrocarbons having carbon numbers predominantly in the range of C_{12} through C_{50}. May contain organic salts of alkali metals, alkaline earth metals, and/or aluminium compounds.)	649-243-00-X	278-011-7	74869-21-9	N

Slack wax (petroleum); Slack wax (A complex combination of hydrocarbons obtained from a petroleum fraction by solvent crystallization (solvent dewaxing) or as a distillation fraction from a very waxy crude. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{20}.)	649-244-00-5	265-165-5	64742-61-6	N
Slack wax (petroleum), acid-treated; Slack wax (A complex combination of hydrocarbons obtained as a raffinate by treatment of a petroleum slack wax fraction with sulphuric acid treating process. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{20}.)	649-245-00-0	292-659-8	90669-77-5	N
Slack wax (petroleum), clay-treated; Slack wax (A complex combination of hydrocarbons obtained by treatment of a petroleum slack wax fraction with natural or modified clay in either a contacting or percolation process. It consists predominantly of saturated straight and branched hydrocarbons having carbon numbers predominantly greater than C_{20}.)	649-246-00-6	292-660-3	90669-78-6	N
Slack wax (petroleum), hydrotreated; Slack wax (A complex combination of hydrocarbons obtained by treating slack wax with hydrogen in the presence of a catalyst. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{20}.)	649-247-00-1	295-523-6	92062-09-4	N
Slack wax (petroleum), low-melting;	649-248-00-7	295-524-1	92062-10-7	N

Slack wax (A complex combination of hydrocarbons obtained from a petroleum fraction by solvent deparaffination. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{12}.)				
Slack wax (petroleum), low-melting, hydrotreated; Slack wax (A complex combination of hydrocarbons obtained by treatment of low-melting petroleum slack wax with hydrogen in the presence of a catalyst. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{12}.)	649-249-00-2	295-525-7	92062-11-8	N
Slack wax (petroleum), low-melting, carbon-treated; Slack wax (A complex combination of hydrocarbons obtained by the treatment of low-melting slack wax with activated carbon for the removal of trace polar constituents and impurities. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{12}.)	649-250-00-8	308-155-9	97863-04-2	N
Slack wax (petroleum), low-melting, clay-treated; Slack wax (A complex combination of hydrocarbons obtained by the treatment of low-melting petroleum slack wax with bentonite for removal of trace polar constituents and impurities. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{12}.)	649-251-00-3	308-156-4	97863-05-3	N
Slack wax (petroleum), low-melting,	649-252-00-9	308-158-5	97863-06-4	N

silicic acid-treated; Slack wax (A complex combination of hydrocarbons obtained by the treatment of low-melting petroleum slack wax with silicic acid for the removal of trace polar constituents and impurities. It consists predominantly of saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C_{12}.)				
Slack wax (petroleum), carbon-treated; Slack wax (A complex combination of hydrocarbons obtained by treatment of petroleum slack wax with activated charcoal for the removal of trace polar constituents and impurities.)	649-253-00-4	309-723-9	100684-49-9	N
Petrolatum; Petrolatum (A complex combination of hydrocarbons obtained as a semi-solid from dewaxing paraffinic residual oil. It consists predominantly of saturated crystalline and liquid hydrocarbons having carbon numbers predominantly greater than C_{25}.)	649-254-00-X	232-373-2	8009-03-8	N
Petrolatum (petroleum), oxidized; Petrolatum (A complex combination of organic compounds, predominantly high molecular weight carboxylic acids, obtained by the air oxidation of petrolatum.)	649-255-00-5	265-206-7	64743-01-7	N
Petrolatum (petroleum), alumina-treated; Petrolatum (A complex combination of hydrocarbons obtained when petrolatum is treated with Al_2O_3 to remove polar components and impurities. It consists predominantly of saturated, crystalline, and liquid hydrocarbons having carbon numbers predominantly greater than C_{25}.)	649-256-00-0	285-098-5	85029-74-9	N

Petrolatum (petroleum), hydrotreated; Petrolatum (A complex combination of hydrocarbons obtained as a semi-solid from dewaxed paraffinic residual oil treated with hydrogen in the presence of a catalyst. It consists predominantly of saturated, microcrystalline, and liquid hydrocarbons having carbon numbers predominantly greater than C_{20}.)	649-257-00-6	295-459-9	92045-77-7	N
Petrolatum (petroleum), carbon-treated; Petrolatum (A complex combination of hydrocarbons obtained by the treatment of petroleum petrolatum with activated carbon for the removal of trace polar consituents and impurities. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly greater than C_{20}.)	649-258-00-1	308-149-6	97862-97-0	N
Petrolatum (petroleum), silicic acid-treated; Petrolatum (A complex combination of hydrocarbons obtained by the treatment of petroleum petrolatum with silicic acid for the removal of trace polar constituents and impurities. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly greater than C_{20}.)	649-259-00-7	308-150-1	97862-98-1	N
Petrolatum (petroleum), clay-treated; Petrolatum (A complex combination of hydrocarbons obtained by treatment of petrolatum with bleaching earth for the removal of traces of polar constituents and impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of greater than C_{25}.)	649-260-00-2	309-706-6	100684-33-1	N

Gasoline, natural; Low boiling point naphtha (A complex combination of hydrocarbons separated from natural gas by processes such as refrigeration or absorption. It consists predominantly of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_4 through C_8 and boiling in the range of approximately −20 °C to 120 °C ~~(−4 °F to 248 °F)~~.)	649-261-00-8	232-349-1	8006-61-9	P
Naphtha; Low boiling point naphtha (Refined, partly refined, or unrefined petroleum products by the distillation of natural gas. It consists of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_6 and boiling in the range of approximately 100 °C to 200 °C ~~(212 °F to 392 °F)~~.)	649-262-00-3	232-443-2	8030-30-6	P
Ligroine; Low boiling point naphtha (A complex combination of hydrocarbons obtained by the fractional distillation of petroleum. This fraction boils in a range of approximately 20 °C to 135 °C ~~(58 °F to 275 °F)~~.)	649-263-00-9	232-453-7	8032-32-4	P
Naphtha (petroleum), heavy straight-run; Low boiling point naphtha (A complex combination of hydrocarbons produced by distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{12} and boiling in the range of approximately 65 °C to 230 °C ~~(149 °F to 446 °F)~~.)	649-264-00-4	265-041-0	64741-41-9	P
Naphtha (petroleum), full-range straight-run; Low boiling point naphtha (A complex combination of hydrocarbons produced by distillation	649-265-00-X	265-042-6	64741-42-0	P

of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately −20 °C to 220 °C ~~(−4 °F to 428 °F)~~.)				
Naphtha (petroleum), light straight-run; Low boiling point naphtha (A complex combination of hydrocarbons produced by distillation of crude oil. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{10} and boiling in the range of approximately −20 °C to 180 °C ~~(−4 °F to 356 °F)~~.)	649-266-00-5	265-046-8	64741-46-4	P
Solvent naphtha (petroleum), light aliph.; Low boiling point naphtha (A complex combination of hydrocarbons obtained from the distillation of crude oil or natural gasoline. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{10} and boiling in the range of approximately 35 °C to 160 °C ~~(95 °F to 320 °F)~~.)	649-267-00-0	265-192-2	64742-89-8	P
Distillates (petroleum), straight-run light; Low boiling point naphtha (A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C_2 through C_7 and boiling in the range of approximately −88 °C to 99 °C ~~(−127 °F to 210 °F)~~.)	649-268-00-6	270-077-5	68410-05-9	P
Gasoline, vapour-recovery; Low boiling point naphtha (A complex combination of hydrocarbons separated from the gases from vapour recovery systems by cooling. It consists of hydrocarbons having carbon numbers	649-269-00-1	271-025-4	68514-15-8	P

predominantly in the range of C_4 through C_{11} and boiling in the range of approximately −20 °C to 196 °C ~~(−4 °F to 384 °F)~~.)				
Gasoline, straight-run, topping-plant; Low boiling point naphtha (A complex combination of hydrocarbons produced from the topping plant by the distillation of crude oil. It boils in the range of approximately 36,1 °C to 193,3 °C ~~(97 °F to 380 °F)~~.)	649-270-00-7	271-727-0	68606-11-1	P
Naphtha (petroleum), unsweetened; Low boiling point naphtha (A complex combination of hydrocarbons produced from the distillation of naphtha streams from various refinery processes. It consists of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{12} and boiling in the range of approximately 0 °C to 230 °C ~~(25 °F to 446 °F)~~.)	649-271-00-2	272-186-3	68783-12-0	P
Distillates (petroleum), light straight-run gasoline fractionation stabilizer overheads; Low boiling point naphtha (A complex combination of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_6.)	649-272-00-8	272-931-2	68921-08-4	P
Naphtha (petroleum), heavy straight run, arom.-contg.; Low boiling point naphtha (A complex combination of hydrocarbons obtained from a distillation process of crude petroleum. It consists predominantly of hydrocarbons having carbon numbers in the range of C_8 through C_{12} and boiling in the range of approximately 130 °C to 210 °C ~~(266 °F to 410 °F)~~.)	649-273-00-3	309-945-6	101631-20-3	P
Naphtha (petroleum), full-range	649-274-00-9	265-066-7	64741-64-6	P

alkylate; Low boiling point modified naphtha (A complex combination of hydrocarbons produced by distillation of the reaction products of isobutane with monoolefinic hydrocarbons usually ranging in carbon numbers from C_3 through C_5. It consists of predominantly branched chain saturated hydro-carbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 90 °C to 220 °C ~~(194 °F to 428 °F)~~.)				
Naphtha (petroleum), heavy alkylate; Low boiling point modified naphtha (A complex combination of hydrocarbons produced by distillation of the reaction products of isobutane with monoolefinic hydrocarbons usually ranging in carbon numbers from C_3 to C_5. It consists of predominantly branched chain saturated hydrocarbons having carbon numbers predominantly in the range of C_9 through C_{12} and boiling in the range of approximately 150 °C to 220 °C ~~(302 °F to 428 °F)~~.)	649-275-00-4	265-067-2	64741-65-7	P
Naphtha (petroleum), light alkylate; Low boiling point modified naphtha (A complex combination of hydrocarbons produced by distillation of the reaction products of isobutane with monoolefinic hydrocarbons usually ranging in carbon numbers from C_3 through C_5. It consists of predominantly branched chain saturated hydro-carbons having carbon numbers predominantly in the range of C_7 through C_{10} and boiling in the range of approximately 90 °C to 160 °C ~~(194 °F to 320 °F)~~.)	649-276-00-X	265-068-8	64741-66-8	P
Naphtha (petroleum), isomerization; Low boiling point modified naphtha (A complex combination of	649-277-00-5	265-073-5	64741-70-4	P

hydrocarbons obtained from catalytic isomerization of straight chain paraffinic C_4 through C_6 hydrocarbons. It consists predominantly of saturated hydrocarbons such as isobutane, isopentane, 2,2-dimethylbutane, 2-methylpentane, and 3-methylpentane.)				
Naphtha (petroleum), solvent-refined light; Low boiling point modified naphtha (A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{11} and boiling in the range of approximately 35 °C to 190 °C ~~(95 °F to 374 °F)~~.)	649-278-00-0	265-086-6	64741-84-0	P
Naphtha (petroleum), solvent-refined heavy; Low boiling point modified naphtha (A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 90 °C to 230 °C ~~(194 °F to 446 °F)~~.)	649-279-00-6	265-095-5	64741-92-0	P
Raffinates (petroleum), catalytic reformer ethylene glycol-water countercurrent exts.; Low boiling point modified naphtha (A complex combination of hydrocarbons obtained as the raffinate from the UDEX extraction process on the catalytic reformer stream. It consists of saturated hydrocarbons having carbon numbers predominantly in the range of C_6 through C_9.)	649-280-00-1	270-088-5	68410-71-9	P

Raffinates (petroleum), reformer, Lurgi unit-sepd.; Low boiling point modified naphtha (The complex combination of hydrocarbons obtained as a raffinate from a Lurgi separation unit. It consists predominantly of non-aromatic hydrocarbons with various small amounts of aromatic hydrocarbons having carbon numbers predominantly in the range of C_6 through C_8.)	649-281-00-7	270-349-3	68425-35-4	P
Naphtha (petroleum), full-range alkylate, butane-contg.; Low boiling point modified naphtha (A complex combination of hydrocarbons produced by the distillation of the reaction products of isobutane with monoolefinic hydrocarbons usually ranging in carbon numbers from C_3 through C_5. It consists of predominantly branched chain saturated hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} with some butanes and boiling in the range of approximately 35 °C to 200 °C ~~(95 °F to 428 °F)~~.)	649-282-00-2	271-267-0	68527-27-5	P
Distillates (petroleum), naphtha steam cracking-derived, solvent-refined light hydrotreated; Low boiling point modified naphtha (A complex combination of hydrocarbons obtained as the raffinates from a solvent extraction process of hydrotreated light distillate from steam-cracked naphtha.)	649-283-00-8	295-315-5	91995-53-8	P
Naphtha (petroleum), C_{4-12} butane-alkylate, isooctane-rich; Low boiling point modified naphtha (A complex combination of hydrocarbons obtained by alkylation of butanes. It consists predominantly of hydrocarbons having carbon	649-284-00-3	295-430-0	92045-49-3	P

numbers predominantly in the range of C_4 through C_{12}, rich in isooctane, and boiling in the range of approximately 35 °C to 210 °C ~~(95 °F to 410 °F)~~.)				
Hydrocarbons, hydrotreated light naphtha distillates, solvent-refined; Low boiling point modified naphtha (A combination of hydrocarbons obtained from the distillation of hydrotreated naphtha followed by a solvent extraction and distillation process. It consists predominantly of saturated hydrocarbons boiling in the range of approximately 94 °C to 99 °C ~~(201 °F to 210 °F)~~.)	649-285-00-9	295-436-3	92045-55-1	P
Naphtha (petroleum), isomerization, C_6-fraction; Low boiling point modified naphtha (A complex combination of hydrocarbons obtained by distillation of a gasoline which has been catalytically isomerized. It consists predominantly of hexane isomers boiling in the range of approximately 60 °C to 66 °C ~~(140 °F to 151 °F)~~.)	649-286-00-4	295-440-5	92045-58-4	P
Hydrocarbons, C_{6-7}, naphtha-cracking, solvent-refined; Low boiling point modified naphtha (A complex combination of hydrocarbons obtained by the sorption of benzene from a catalytically fully hydrogenated benzene-rich hydrocarbon cut that was distillatively obtained from prehydrogenated cracked naphtha. It consists predominantly of paraffinic and naphthenic hydrocarbons having carbon numbers predominantly in the range of C_6 through C_7 and boiling in the range of approximately 70 °C to 100 °C ~~(158 °F to 212 °F)~~.)	649-287-00-X	295-446-8	92045-64-2	P
Hydrocarbons, C_6-rich, hydrotreated light naphtha distillates, solvent-refined; Low boiling point modified	649-288-00-5	309-871-4	101316-67-0	P

naphtha (A complex combination of hydrocarbons obtained by distillation of hydrotreated naphtha followed by solvent extraction. It consists predominantly of saturated hydrocarbons and boiling in the range of approximately 65 °C to 70 °C ~~(149 °F to 158 °F)~~.)				
Naphtha (petroleum), heavy catalytic cracked; Low boiling point cat-cracked naphtha (A complex combination of hydrocarbons produced by a distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{12} and boiling in the range of approximately 65 °C to 230 °C ~~(148 °F to 446 °F)~~. It contains a relatively large proportion of unsaturated hydrocarbons.)	649-289-00-0	265-055-7	64741-54-4	P
Naphtha (petroleum), light catalytic cracked; Low boiling point cat-cracked naphtha (A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately −20 °C to 190 °C ~~(−4 °F to 374 °F)~~. It contains a relatively large proportion of unsaturated hydrocarbons.)	649-290-00-6	265-056-2	64741-55-5	P
Hydrocarbons, C_{3-11}, catalytic cracker distillates; Low boiling point cat-cracked naphtha (A complex combination of hydrocarbons produced by the distillations of products from a catalytic cracking process. It consists of hydrocarbons having carbon	649-291-00-1	270-686-6	68476-46-0	P

numbers predominantly in the range of C_3 through C_{11} and boiling in a range approximately up to 204 °C ~~(400 °F)~~.)				
Naphtha (petroleum), catalytic cracked light distd.; Low boiling point cat-cracked naphtha (A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_1 through C_5.)	649-292-00-7	272-185-8	68783-09-5	P
Distillates (petroleum), naphtha steam cracking-derived, hydrotreated light arom.; Low boiling point cat-cracked naphtha (A complex combination of hydrocarbons obtained by treating a light distillate from steam-cracked naphtha. It consists predominantly of aromatic hydrocarbons.)	649-293-00-2	295-311-3	91995-50-5	P
Naphtha (petroleum), heavy catalytic cracked, sweetened; Low boiling point cat-cracked naphtha (A complex combination of hydrocarbons obtained by subjecting a catalytic cracked petroleum distillate to a sweetening process to convert mercaptans or to remove acidic impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{12} and boiling in the range of approximately 60 °C to 200 °C ~~(140 °F to 392 °F)~~.)	649-294-00-8	295-431-6	92045-50-6	P
Naphtha (petroleum), light catalytic cracked sweetened; Low boiling point cat-cracked naphtha (A complex combination of hydrocarbons obtained by subjecting naphtha from a catalytic cracking	649-295-00-3	295-441-0	92045-59-5	P

process to a sweetening process to convert mercaptans or to remove acidic impurities. It consists predominantly of hydrocarbons boiling in a range of approximately 35 °C to 210 °C ~~(95 °F to 410 °F)~~.)				
Hydrocarbons, C_{8-12}, catalytic-cracking, chem. neutralized; Low boiling point cat-cracked naphtha (A complex combination of hydrocarbons produced by the distillation of a cut from the catalytic cracking process, having undergone an alkaline washing. It consists predominantly of hydrocarbons having carbon numbers in the range of C_8 through C_{12} and boiling in the range of approximately 130 °C to 210 °C ~~(266 °F to 410 °F)~~.)	649-296-00-9	295-794-0	92128-94-4	P
Hydrocarbons, C_{8-12}, catalytic cracker distillates; Low boiling point cat-cracked naphtha (A complex combination of hydrocarbons obtained by distillation of products from a catalytic cracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_8 through C_{12} and boiling in the range of approximately 140 °C to 210 °C ~~(284 °F to 410 °F)~~.)	649-297-00-4	309-974-4	101794-97-2	P
Hydrocarbons, C_{8-12}, catalytic cracking, chem. neutralized, sweetened; Low boiling point cat-cracked naphtha	649-298-00-X	309-987-5	101896-28-0	P
Naphtha (petroleum), light catalytic reformed; Low boiling point cat-reformed naphtha (A complex combination of hydrocarbons produced from the distillation of products from a catalytic reforming process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{11} and boiling in	649-299-00-5	265-065-1	64741-63-5	P

the range of approximately 35 °C to 190 °C ~~(95 °F to 374 °F)~~. It contains a relatively large proportion of aromatic and branched chain hydrocarbons. This stream may contain 10 vol. % or more benzene.)				
Naphtha (petroleum), heavy catalytic reformed; Low boiling point cat-reformed naphtha (A complex combination of hydrocarbons produced from the distillation of products from a catalytic reforming process. It consists of predominantly aromatic hydrocarbons having numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 90 °C to 230 °C ~~(194 °F to 446 °F)~~.)	649-300-00-9	265-070-9	64741-68-0	P
Distillates (petroleum), catalytic reformed depentanizer; Low boiling point cat-reformed naphtha (A complex combination of hydrocarbons from the distillation of products from a catalytic reforming process. It consists predominantly of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_3 through C_6 and boiling in the range of approximately −49 °C to 63 °C ~~(−57 °F to 145 °F)~~.)	649-301-00-4	270-660-4	68475-79-6	P
Hydrocarbons, C_{2-6}, C_{6-8} catalytic reformer; Low boiling point cat-reformed naphtha	649-302-00-X	270-687-1	68476-47-1	P
Residues (petroleum), C_{6-8} catalytic reformer; Low boiling point cat-reformed naphtha (A complex residuum from the catalytic reforming of C_{6-8} feed. It consists of hydrocarbons having carbon numbers predominantly in the range of C_2 through C_6.)	649-303-00-5	270-794-3	68478-15-9	P
Naphtha (petroleum), light catalytic reformed, arom.-free; Low boiling	649-304-00-0	270-993-5	68513-03-1	P

point cat-reformed naphtha (A complex combination of hydrocarbons obtained from distillation of products from a catalytic reforming process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_8 and boiling in the range of approximately 35 °C to 120 °C ~~(95 °F to 248 °F)~~. It contains a relatively large proportion of branched chain hydrocarbons with the aromatic components removed.)				
Distillates (petroleum), catalytic reformed straight-run naphtha overheads; Low boiling point cat-reformed naphtha (A complex combination of hydrocarbons obtained by the catalytic reforming of straight-run naphtha followed by the fractionation of the total effluent. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_6.)	649-305-00-6	271-008-1	68513-63-3	P
Petroleum products, hydrofiner-powerformer reformates; Low boiling point cat-reformed naphtha (The complex combination of hydrocarbons obtained in a hydrofiner-powerformer process and boiling in a range of approximately 27 °C to 210 °C ~~(80 °F to 410 °F)~~.)	649-306-00-1	271-058-4	68514-79-4	P
Naphtha (petroleum, full-range reformed; Low boiling point cat-reformed naphtha (A complex combination of hydrocarbons produced by the distillation of the products from a catalytic reforming process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{12} and boiling in	649-307-00-7	272-895-8	68919-37-9	P

the range of approximately 35 °C to 230 °C ~~(95 °F to 446 °F)~~.)				
Naphtha (petroleum), catalytic reformed; Low boiling point cat-reformed naphtha (A complex combination of hydrocarbons produced by the distillation of products from a catalytic reforming process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{12} and boiling in the range of approximately 30 °C to 220 °C ~~(90 °F to 430 °F)~~. It contains a relatively large proportion of aromatic and branched chain hydrocarbons. This stream may contain 10 vol. % or more benzene.)	649-308-00-2	273-271-8	68955-35-1	P
Distillates (petroleum), catalytic reformed hydrotreated light, C_{8-12} arom. fraction; Low boiling point cat-reformed naphtha (A complex combination of alkylbenzenes obtained by the catalytic reforming of petroleum naphtha. It consists predominantly of alkylbenzenes having carbon numbers predominantly in the range of C_8 through C_{10} and boiling in the range of approximately 160 °C to 180 °C ~~(320 °F to 356 °F)~~.)	649-309-00-8	285-509-8	85116-58-1	P
Aromatic hydrocarbons, C_8, catalytic reforming-derived; Low boiling point cat-reformed naphtha	649-310-00-3	295-279-0	91995-18-5	P
Aromatic hydrocarbons, C_{7-12}, C_8-rich; Low boiling point cat-reformed naphtha (A complex combination of hydrocarbons obtained by separation from the platformate-containing fraction. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} (primarily C_8) and can contain nonaromatic	649-311-00-9	297-401-8	93571-75-6	P

hydrocarbons, both boiling in the range of approximately 130 °C to 200 °C ~~(266 °F to 392 °F)~~.)				
Gasoline, C_{5-11}, high-octane stabilized reformed; Low boiling point cat-reformed naphtha (A complex high octane combination of hydrocarbons obtained by the catalytic dehydrogenation of a predominantly naphthenic naphtha. It consists predominantly of aromatics and non-aromatics having carbon numbers predominantly in the range of C_5 through C_{11} and boiling in the range of approximately 45 °C to 185 °C ~~(113 °F to 365 °F)~~.)	649-312-00-4	297-458-9	93572-29-3	P
Hydrocarbons, C_{7-12}, C ⌦ > ⌫ $_{9}$-arom.-rich, reforming heavy fraction; Low boiling point cat-reformed naphtha (A complex combination of hydrocarbons obtained by separation from the platformate-containing fraction. It consists predominantly of nonaromatic hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 120 °C to 210 °C ~~(248 °F to 380 °F)~~ and C_9 and higher aromatic hydrocarbons.)	649-313-00-X	297-465-7	93572-35-1	P
Hydrocarbons, C_{5-11}, nonaroms.-rich, reforming light fraction; Low boiling point cat-reformed naphtha (A complex combination of hydrocarbons obtained by separation from the platformate-containing fraction. It consists predominantly of nonaromatic hydrocarbons having carbon numbers predominantly in the range of C_5 to C_{11} and boiling in the range of approximately 35 °C to 125 °C ~~(94 °F to 257 °F)~~, benzene and toluene.)	649-314-00-5	297-466-2	93572-36-2	P
Foots oil (petroleum), silicic acid-	649-315-00-0	308-127-6	97862-77-6	L

treated; Foots oil (A complex combination of hydrocarbons obtained by the treatment of Foots oil with silicic acid for removal of trace constituents and impurities. It consists predominantly of straight chain hydrocarbons having carbon numbers predominantly greater than C_{12}.)				
Naphtha (petroleum), light thermal cracked; Low boiling point thermally cracked naphtha (A complex combination of hydrocarbons from distillation of products from a thermal cracking process. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_4 through C_8 and boiling in the range of approximately −10 °C to 130 °C (~~14 °F to 266 °F~~).)	649-316-00-6	265-075-6	64741-74-8	P
Naphtha (petroleum), heavy thermal cracked; Low boiling point thermally cracked naphtha (A complex combination of hydrocarbons from distillation of products from a thermal cracking process. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{12} and boiling in the range of approximately 65 °C to 220 °C ~~(148 °F to 428 °F)~~.)	649-317-00-1	265-085-0	64741-83-9	P
Distillates (petroleum), heavy arom.; Low boiling point thermally cracked naphtha (The complex combination of hydrocarbons from the distillation of products from the thermal cracking of ethane and propane. This higher boiling fraction consists predominantly of C_5-C_7 aromatic hydrocarbons with some unsaturated aliphatic hydrocarbons having a carbon number predominantly of C_5.	649-318-00-7	267-563-4	67891-79-6	P

This stream may contain benzene.)				
Distillates (petroleum), light arom.; Low boiling point thermally cracked naphtha (The complex combination of hydrocarbons from the distillation of products from the thermal cracking of ethane and propane. This lower boiling fraction consists predominantly of C_5-C_7 aromatic hydrocarbons with some unsaturated aliphatic hydrocarbons having a carbon number predominantly of C_5. This stream may contain benzene.)	649-319-00-2	267-565-5	67891-80-9	P
Distillates (petroleum), naphtha-raffinate pyrolyzate-derived, gasoline-blending; Low boiling point thermally cracked naphtha (The complex combination of hydrocarbons obtained by the pyrolysis fractionation at 816 °C ~~(1500 °F)~~ of naphtha and raffinate. It consists predominantly of hydrocarbons having a carbon number of C_9 and boiling at approximately 204 °C ~~(400 °F)~~.)	649-320-00-8	270-344-6	68425-29-6	P
Aromatic hydrocarbons, C_{6-8}, naphtha-raffinate pyrolyzate-derived; Low boiling point thermally cracked naphtha (A complex combination of hydrocarbons obtained by the fractionation pyrolysis at 816 °C ~~(1500 °F)~~ of naphtha and raffinate. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_6 through C_8, including benzene.)	649-321-00-3	270-658-3	68475-70-7	P
Distillates (petroleum), thermal cracked naphtha and gas oil; Low boiling point thermally cracked naphtha (A complex combination of hydrocarbons produced by distillation	649-322-00-9	271-631-9	68603-00-9	P

of thermally cracked naphtha and/or gas oil. It consists predominantly of olefinic hydrocarbons having a carbon number of C_5 and boiling in the range of approximately 33 °C to 60 °C ~~(91 °F to 140 °F)~~.)				
Distillates (petroleum), thermal cracked naphtha and gas oil, C_5-dimer-contg.; Low boiling point thermally cracked naphtha (A complex combination of hydrocarbons produced by the extractive distillation of thermal cracked naphtha and/or gas oil. It consists predominantly of hydrocarbons having a carbon number of C_5 with some dimerized C_5 olefins and boiling in the range of approximately 33 °C to 184 °C ~~(91 °F to 363 °F)~~.)	649-323-00-4	271-632-4	68603-01-0	P
Distillates (petroleum), thermal cracked naphtha and gas oil, extractive; Low boiling point thermally cracked naphtha (A complex combination of hydrocarbons produced by the extractive distillation of thermal cracked naphtha and/or gas oil. It consists of paraffinic and olefinic hydrocarbons predominantly isoamylenes such as 2-methyl-1-butene and 2-methyl-2-butene and boiling in the range of approximately 31 °C to 40 °C ~~(88 °F to 104 °F)~~.)	649-324-00-X	271-634-5	68603-03-2	P
Distillates (petroleum), light thermal cracked, debutanized arom.; Low boiling point thermally cracked naphtha (A complex combination of hydrocarbons produced by the distillation of products from a thermal cracking process. It consists predominantly of aromatic hydrocarbons, primarily benzene.)	649-325-00-5	273-266-0	68955-29-3	P

Naphtha (petroleum), light thermal cracked, sweetened; Low boiling point thermally cracked naphtha (A complex combination of hydrocarbons obtained by subjecting a petroleum distillate from the high temperature thermal cracking of heavy oil fractions to a sweetening process to convert mercaptans. It consists predominantly of aromatics, olefins and saturated hydrocarbons boiling in the range of approximately 20 °C to 100 °C ~~(68 °F to 212 °F)~~.)	649-326-00-0	295-447-3	92045-65-3	P
Naphtha (petroleum), hydrotreated heavy; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{13} and boiling in the range of approximately 65 °C to 230 °C ~~(149 °F to 446 °F)~~.)	649-327-00-6	265-150-3	64742-48-9	P
Naphtha (petroleum), hydrotreated light; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately −20 °C to 190 °C ~~(−4 °F to 374 °F)~~.)	649-328-00-1	265-151-9	64742-49-0	P
Naphtha (petroleum), hydrodesulphurized light; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained from a catalytic hydrodesulphurization	649-329-00-7	265-178-6	64742-73-0	P

process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately −20 °C to 190 °C ~~(−4 °F to 374 °F)~~.)				
Naphtha (petroleum), hydrodesulphurized heavy; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained from a catalytic hydrodesulphurization process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 90 °C to 230 °C ~~(194 °F to 446 °F)~~.)	649-330-00-2	265-185-4	64742-82-1	P
Distillates (petroleum), hydrotreated middle, intermediate boiling; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained by the distillation of products from a middle distillate hydrotreating process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{10} and boiling in the range of approximately 127 °C to 188 °C ~~(262 °F to 370 °F)~~.)	649-331-00-8	270-092-7	68410-96-8	P
Distillates (petroleum), light distillate hydrotreating process, low-boiling; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained by the distillation of products from the light distillate hydrotreating process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_9 and boiling in the range of approximately 3 °C to 194 °C ~~(37 °F to 382 °F)~~.)	649-332-00-3	270-093-2	68410-97-9	P

Distillates (petroleum), hydrotreated heavy naphtha, deisohexanizer overheads; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained by distillation of the products from a heavy naphtha hydrotreating process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_3 through C_6 and boiling in the range of approximately −49 °C to 68 °C ~~(−57 °F to 155 °F)~~.)	649-333-00-9	270-094-8	68410-98-0	P
Solvent naphtha (petroleum), light arom., hydrotreated; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_8 through C_{10} and boiling in the range of approximately 135 °C to 210 °C ~~(275 °F to 410 °F)~~.)	649-334-00-4	270-988-8	68512-78-7	P
Naphtha (petroleum), hydrodesulphurized thermal cracked light; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained by fractionation of hydrodesulphurized thermal cracker distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_5 to C_{11} and boiling in the range of approximately 23 °C to 195 °C ~~(73 °F to 383 °F)~~.)	649-335-00-X	285-511-9	85116-60-5	P
Naphtha (petroleum), hydrotreated light, cycloalkane-contg.; Low boiling point hydrogen treated naphtha	649-336-00-5	285-512-4	85116-61-6	P

(A complex combination of hydrocarbons obtained from the distillation of a petroleum fraction. It consists predominantly of alkanes and cycloalkanes boiling in the range of approximately −20 °C to 190 °C ~~(−4 °F to 374 °F)~~.)				
Naphtha (petroleum), heavy steam-cracked, hydrogenated; Low boiling point hydrogen treated naphtha	649-337-00-0	295-432-1	92045-51-7	P
Naphtha (petroleum), hydrodesulphurized full-range; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained from a catalytic hydrodesulphurization process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately 30 °C to 250 °C ~~(86 °F to 482 °F)~~.)	649-338-00-6	295-433-7	92045-52-8	P
Naphtha (petroleum), hydrotreated light steam-cracked; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained by treating a petroleum fraction, derived from a pyrolysis process, with hydrogen in the presence of a catalyst. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{11} and boiling in the range of approximately 35 °C to 190 °C ~~(95 °F to 374 °F)~~.)	649-339-00-1	295-438-4	92045-57-3	P
Hydrocarbons, C_{4-12}, naphtha-cracking, hydrotreated; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained by distillation from the product of naphtha steam cracking process and subsequent	649-340-00-7	295-443-1	92045-61-9	P

catalytic selective hydrogenation of gum formers. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{12} and boiling in the range of approximately 30 °C to 230 °C ~~(86 °F to 446 °F)~~.)				
Solvent naphtha (petroleum), hydrotreated light naphthenic; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists predominantly of cycloparaffinic hydrocarbons having carbon numbers predominantly in the range of C_6 through C_7 and boiling in the range of approximately 73 °C to 85 °C ~~(163 °F to 185 °F)~~.)	649-341-00-2	295-529-9	92062-15-2	P
Naphtha (petroleum), light steam-cracked, hydrogenated; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons produced from the separation and subsequent hydrogenation of the products of a steam-cracking process to produce ethylene. It consists predominantly of saturated and unsaturated paraffins, cyclic paraffins and cyclic aromatic hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{10} and boiling in the range of approximately 50 °C to 200 °C ~~(122 °F to 392 °F)~~. The proportion of benzene hydrocarbons may vary up to 30 wt. % and the stream may also contain small amounts of sulphur and oxygenated compounds.)	649-342-00-8	296-942-7	93165-55-0	P
Hydrocarbons, C_{6-11}, hydrotreated, dearomatized; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained as solvents	649-343-00-3	297-852-0	93763-33-8	P

which have been subjected to hydrotreatment in order to convert aromatics to naphthenes by catalytic hydrogenation.)				
Hydrocarbons, C_{9-12}, hydrotreated, dearomatized; Low boiling point hydrogen treated naphtha (A complex combination of hydrocarbons obtained as solvents which have been subjected to hydrotreatment in order to convert aromatics to naphthenes by catalytic hydrogenation.)	649-344-00-9	297-853-6	93763-34-9	P
Stoddard solvent; Low boiling point naphtha — unspecified (A colourless, refined petroleum distillate that is free from rancid or objectionable odours and that boils in a range of approximately ~~300 °F to 400 °F~~ ⌦ 149 °C to 205 °C ⌫ .)	649-345-00-4	232-489-3	8052-41-3	P
Natural gas condensates (petroleum); Low boiling point naphtha — unspecified (A complex combination of hydrocarbons separated as a liquid from natural gas in a surface separator by retrograde condensation. It consists mainly of hydrocarbons having carbon numbers predominantly in the range of C_2 to C_{20}. It is a liquid at atmospheric temperature and pressure.)	649-346-00-X	265-047-3	64741-47-5	P
Natural gas (petroleum), raw liq. mix; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons separated as a liquid from natural gas in a gas recycling plant by processes such as refrigeration or absorption. It consists mainly of saturated aliphatic hydrocarbons having carbon numbers in the range of C_2 through C_8.)	649-347-00-5	265-048-9	64741-48-6	P

Naphtha (petroleum), light hydrocracked; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons from distillation of the products from a hydrocracking process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{10}, and boiling in the range of approximately −20 °C to 180 °C ~~(−4 °F to 356 °F)~~.)	649-348-00-0	265-071-4	64741-69-1	P
Naphtha (petroleum) heavy hydrocracked; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons from distillation of the products from a hydrocracking process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{12}, and boiling in the range of approximately 65 °C to 230 °C ~~(148 °F to 446 °F)~~.)	649-349-00-6	265-079-8	64741-78-2	P
Naphtha (petroleum), sweetened; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by subjecting a petroleum naphtha to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{12} and boiling in the range of approximately −10 °C to 230 °C ~~(14 °F to 446 °F)~~.)	649-350-00-1	265-089-2	64741-87-3	P
Naphtha (petroleum), acid-treated; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained as a raffinate from a sulphuric acid treating process. It consists of hydrocarbons having	649-351-00-7	265-115-2	64742-15-0	P

carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 90 °C to 230 °C ~~(194 °F to 446 °F)~~.)				
Naphtha (petroleum), chemically neutralized heavy; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_{12} and boiling in the range of approximately 65 °C to 230 °C ~~(149 °F to 446 °F)~~.)	649-352-00-2	265-122-0	64742-22-9	P
Naphtha (petroleum), chemically neutralized light; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons produced by a treating process to remove acidic materials. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately −20 °C to 190 °C ~~(−4 °F to 374 °F)~~.)	649-353-00-8	265-123-6	64742-23-0	P
Naphtha (petroleum), catalytic dewaxed; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained from the catalytic dewaxing of a petroleum fraction. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{12} and boiling in the range of approximately 35 °C to 230 °C ~~(95 °F to 446 °F)~~.)	649-354-00-3	265-170-2	64742-66-1	P
Naphtha (petroleum), light steam-cracked; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by the distillation of the products from a	649-355-00-9	265-187-5	64742-83-2	P

steam cracking process. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately −20 °C to 190 °C ~~(−4 °F to 374 °F)~~. This stream is likely to contain 10 vol. % or more benzene.)				
Solvent naphtha (petroleum), light arom.; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained from distillation of aromatic streams. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_8 through C_{10} and boiling in the range of approximately 135 °C to 210 °C ~~(275 °F to 410 °F)~~.)	649-356-00-4	265-199-0	64742-95-6	P
Aromatic hydrocarbons, C_{6-10}, acid-treated, neutralized; Low boiling point naphtha — unspecified	649-357-00-X	268-618-5	68131-49-7	P
Distillates (petroleum), C_{3-5}, 2-methyl-2-butene-rich; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons from the distillation of hydrocarbons usually ranging in carbon numbers from C_3 through C_5, predominantly isopentane and 3-methyl-1-butene. It consists of saturated and unsaturated hydrocarbons having carbon numbers in the range of C_3 through C_5, predominantly 2-methyl-2-butene.)	649-358-00-5	270-725-7	68477-34-9	P
Distillates (petroleum), polymd. steam-cracked petroleum distillates, C_{5-12} fraction; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained from the distillation of polymerized steam-cracked petroleum distillate. It	649-359-00-0	270-735-1	68477-50-9	P

consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{12}.)				
Distillates (petroleum), steam-cracked, C_{5-12} fraction; Low boiling point naphtha — unspecified (A complex combination of organic compounds obtained by the distillation of products from a steam cracking process. It consists of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_5 through C_{12}.)	649-360-00-6	270-736-7	68477-53-2	P
Distillates (petroleum), steam-cracked, C_{5-10} fraction, mixed with light steam-cracked petroleum naphtha C_5 fraction; Low boiling point naphtha — unspecified	649-361-00-1	270-738-8	68477-55-4	P
Extracts (petroleum), cold-acid, C_{4-6}; Low boiling point naphtha — unspecified (A complex combination of organic compounds produced by cold acid unit extraction of saturated and unsaturated aliphatic hydrocarbons usually ranging in carbon numbers from C_3 through C_6, predominantly pentanes and amylenes. It consists predominantly of saturated and unsaturated hydrocarbons having carbon numbers in the range of C_4 through C_6, predominantly C_5.)	649-362-00-7	270-741-4	68477-61-2	P
Distillates (petroleum), depentanizer overheads; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained from a catalytic cracked gas stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_4 through C_6.)	649-363-00-2	270-771-8	68477-894-4	P
Residues (petroleum), butane splitter	649-364-00-8	270-791-7	68478-12-6	P

bottoms; Low boiling point naphtha — unspecified (A complex residuum from the distillation of butane stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_4 through C_6.)				
Residual oils (petroleum), deisobutanizer tower; Low boiling point naphtha — unspecified (A complex residuum from the atmospheric distillation of the butane-butylene stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C_4 through C_6.)	649-365-00-3	270-795-9	68478-16-0	P
Naphtha (petroleum), full-range coker; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons produced by the distillation of products from a fluid coker. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{15} and boiling in the range of approximately 43 °C to 250 °C ~~(110 °F to 500 °F)~~.)	649-366-00-9	270-991-4	68513-02-0	P
Naphtha (petroleum), steam-cracked middle arom.; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons produced by the distillation of products from a steam-cracking process. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 130 °C to 220 °C ~~(266 °F to 428 °F)~~.)	649-367-00-4	271-138-9	68516-20-1	P
Naphtha (petroleum), clay-treated full-range straight-run; Low boiling	649-368-00-X	271-262-3	68527-21-9	P

point naphtha — unspecified (A complex combination of hydrocarbons resulting from treatment of full-range straight-run, naphtha with natural or modified clay, usually in a percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately −20 °C to 220 °C ~~(−4 °F to 429 °F)~~.)				
Naphtha (petroleum), clay-treated light straight-run; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons resulting from treatment of light straight-run naphtha with a natural or modified clay, usually in a percolation process to remove the trace amounts of polar compounds and impurities, present. It consists of hydro-carbons having carbon numbers predominantly in the range of C_7 through C_{10} and boiling in the range of approximately 93 °C to 180 °C ~~(200 °F to 356 °F)~~.)	649-369-00-5	271-263-9	68527-22-0	P
Naphtha (petroleum), light steam-cracked arom.; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons produced by distillation of products from a steam-cracking process. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_7 through C_9, and boiling in the range of approximately 110 °C to 165 °C ~~(230 °F to 329 °F)~~.)	649-370-00-0	271-264-4	68527-23-1	P
Naphtha (petroleum), light steam-cracked, debenzenized; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons produced by distillation	649-371-00-6	271-266-5	68527-26-4	P

of products from a steam-cracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{12} and boiling in the range of approximately 80 °C to 218 °C ~~(176 °F to 424 °F)~~.)				
Naphtha (petroleum), arom.-contg.; Low boiling point naphtha — unspecified	649-372-00-1	271-635-0	68603-08-7	P
Gasoline, pyrolysis, debutanizer bottoms; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained from the fractionation of depropanizer bottoms. It consists of hydrocarbons having carbon numbers predominantly greater than C_5.)	649-373-00-7	271-726-5	68606-10-0	P
Naphtha (petroleum), light, sweetened; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by subjecting a petroleum distillate to a sweetening process to convert mercaptans or to remove acidic impurities. It consists predominantly of saturated and unsaturated hydrocarbons having carbon numbers predominantly in the range of C_3 through C_6 and boiling in the range of approximately −20 °C to 100 °C ~~(−4 °F to 212 °F)~~.)	649-374-00-2	272-206-0	68783-66-4	P
Natural gas condensates; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons separated and/or condensed from natural gas during transportation and collected at the wellhead and/or from the production, gathering, transmission, and distribution pipelines in deeps, scrubbers, etc. It consists predominantly of hydrocarbons having carbon numbers	649-375-00-8	272-896-3	68919-39-1	J

predominantly in the range of C_2 through C_8.)				
Distillates (petroleum), naphtha unifiner stripper; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons produced by stripping the products from the naphtha unifiner. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C_2 through C_6.)	649-376-00-3	272-932-8	68921-09-5	P
Naphtha (petroleum), catalytic reformed light, arom.-free fraction; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons remaining after removal of aromatic compounds from catalytic reformed light naphtha in a selective absorption process. It consists predominantly of paraffinic and cyclic compounds having carbon numbers predominantly in the range of C_5 to C_8 and boiling in the range of approximately 66 °C to 121 °C ~~(151 °F to 250 °F)~~.)	649-377-00-9	285-510-3	85116-59-2	P
Gasoline; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons consisting primarily of paraffins, cycloparaffins, aromatic and olefinic hydrocarbons having carbon numbers predominantly greater than C_3 and boiling in the range of 30 °C to 260 °C ~~(86 °F to 500 °F)~~.)	649-378-00-4	289-220-8	86290-81-5	P
Aromatic hydrocarbons, C_{7-8}, dealkylation products, distn. residues; Low boiling point naphtha — unspecified	649-379-00-X	292-698-0	90989-42-7	P
Hydrocarbons, C_{4-6}, dependentanizer lights, arom. hydrotreater; Low boiling point naphtha — unspecified	649-380-00-5	295-298-4	91995-38-9	P

(A complex combination of hydrocarbons obtained as first runnings from the depentanizer column before hydrotreatment of the aromatic charges. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_6, predominantly pentanes and pentenes, and boiling in the range of approximately 25 °C to 40 °C ~~(77 °F to 104 °F)~~.)				
Distillates (petroleum), heat-soaked steam-cracked naphtha, C_5-rich; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by distillation of heat-soaked steam-cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers in the range of C_4 through C_6, predominantly C_5.)	649-381-00-0	295-302-4	91995-41-4	P
Extracts (petroleum), catalytic reformed light naphtha solvent; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained as the extract from the solvent extraction of a catalytically reformed petroleum cut. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_7 through C_8 and boiling in the range of approximately 100 °C to 200 °C ~~(212 °F to 392 °F)~~.)	649-382-00-6	295-331-2	91995-68-5	P
Naphtha (petroleum), hydrodesulphurized light, dearomatized; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by distillation of hydrodesulphurized and dearomatized light petroleum fractions. It consists predominantly of C_7 paraffins and cycloparaffins	649-383-00-1	295-434-2	92045-53-9	P

boiling in a range of approximately 90 °C to 100 °C ~~(194 °F to 212 °F)~~.)				
Naphtha (petroleum), light, C_5-rich, sweetened; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by subjecting a petroleum naphtha to a sweetening process to convert mercaptans or to remove acidic impurities. It consists of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_5, predominantly C_5, and boiling in the range of approximately −10 °C to 35 °C ~~(14 °F to 95 °F)~~.)	649-384-00-7	295-442-6	92045-60-8	P
Hydrocarbons, C_{8-11}, naphtha-cracking, toluene cut; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by distillation from prehydrogenated cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_8 through C_{11} and boiling in the range of approximately 130 °C to 205 °C ~~(266 °F to 401 °F)~~.)	649-385-00-2	295-444-7	92045-62-0	P
Hydrocarbons, C_{4-11}, naphtha-cracking; arom.-free; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained from prehydrogenated cracked naphtha after distillative separation of benzene- and toluene-containing hydrocarbon cuts and a higher boiling fraction. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_{11} and boiling in the range of approximately 30 °C to 205 °C ~~(86 °F to 401 °F)~~.)	649-386-00-8	295-445-2	92045-63-1	P
Naphtha (petroleum), light heat-soaked, steam-cracked; low boiling	649-387-00-3	296-028-8	92201-97-3	P

point naphtha — unspecified (A complex combination of hydrocarbons obtained by the fractionation of steam cracked naphtha after recovery from a heat soaking process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_4 through C_6 and boiling in the range of approximately 0 °C to 80 °C ~~(32 °F to 176 °F)~~.)				
Distillates (petroleum), C_6-rich; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained from the distillation of a petroleum feedstock. It consists predominantly of hydrocarbons having carbon numbers of C_5 through C_7, rich in C_6, and boiling in the range of approximately 60 °C to 70 °C ~~(140 °F to 158 °F)~~.)	649-388-00-9	296-903-4	93165-19-6	P
Gasoline, pyrolysis, hydrogenated; low boiling point naphtha — unspecified (A distillation fraction from the hydrogenation of pyrolysis gasoline boiling in the range of approximately 20 °C to 200 °C ~~(68 °F to 392 °F)~~.)	649-389-00-4	302-639-3	94114-03-1	P
Distillates (petroleum), steam-cracked, C_{8-12} fraction, polymd., distn. lights; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by distillation of the polymerized C_8 through C_{12} fraction from steam-cracked petroleum distillates. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_8 through C_{12}.)	649-390-00-X	305-750-5	95009-23-7	P
Extracts (petroleum); heavy naphtha solvent, clay-treated; low boiling	649-391-00-5	308-261-5	97926-43-7	P

point naphtha — unspecified (A complex combination of hydrocarbons obtained by the treatment of heavy naphthic solvent petroleum extract with bleaching earth. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_6 through $C_{~~181~~}$ $_{10}$, and boiling in the range of approximately 80 °C to 180 °C ~~(175 °F to 356 °F)~~.)				
Naphtha (petroleum), light steam-cracked, debenzenized, thermally treated; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by the treatment and distillation of debenzenized light steam-cracked petroleum naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_7 through C_{12} and boiling in the range of approximately 95 °C to 200 °C ~~(203 °F to 392 °F)~~.)	649-392-00-0	308-713-1	98219-46-6	P
Naphtha (petroleum), light steam-cracked, thermally treated; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by the treatment and distillation of light steam-cracked petroleum naphtha. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_6 and boiling in the range of approximately 35 °C to 80 °C ~~(95 °F to 176 °F)~~.)	649-393-00-6	308-714-7	98219-47-7	P
Distillates (petroleum), C_{7-9}, C_8-rich, hydrodesulphurized dearomatized; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by the	649-394-00-1	309-862-5	101316-56-7	P

distillation of petroleum light fraction, hydrodesulphurized and dearomatized. It consists predominantly of hydrocarbons having carbon numbers in the range of C_7 through C_9, predominantly C_8 paraffins and cycloparaffins, boiling in the range of approximately 120 °C to 130 °C ~~(248 °F to 266 °F)~~.)				
Hydrocarbons, C_{6-8}, hydrogenated sorption-dearomatized, toluene raffination; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained during the sorption of toluene from a hydrocarbon fraction from cracked gasoline treated with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_6 through C_8 and boiling in the range of approximately 80 °C to 135 °C ~~(176 °F to 275 °F)~~.)	649-395-00-7	309-870-9	101316-66-9	P
Naphtha (petroleum), hydrodesulphurized full-range coker; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by fractionation from hydrodesulphurized coker distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_5 to C_{11} and boiling in the range of approximately 23 °C to 196 °C ~~(73 °F to 385 °F)~~.)	649-396-00-2	309-879-8	101316-76-1	P
Naphtha (petroleum), sweetened light; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by subjecting a petroleum naphtha to a sweetening process to convert mercaptans or to	649-397-00-8	309-976-5	101795-01-1	P

remove acidic impurities. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_5 through C_8 and boiling in the range of approximately 20 °C to 130 °C ~~(68 °F to 266 °F)~~.)				
Hydrocarbons, C_{3-6}, C_5-rich, steam-cracked naphtha; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by distillation of steam-cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers in the range of C_3 through C_6, predominantly C_5.)	649-398-00-3	310-012-0	102110-14-5	P
Hydrocarbons, C_5-rich, dicyclopentadiene-contg.; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by distillation of the products from a steam-cracking process. It consists predominantly of hydrocarbons having carbon numbers of C_5 and dicyclopentadiene and boiling in the range of approximately 30 °C to 170 °C ~~(86 °F to 338 °F)~~.)	649-399-00-9	310-013-6	102110-15-6	P
Residues (petroleum), steam-cracked light, arom.; low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by the distillation of the products of steam cracking or similar processes after taking off the very light products resulting in a residue starting with hydrocarbons having carbon numbers greater than C_5. It consists predominantly of aromatic hydrocarbons having carbon numbers greater than C_5 and boiling above approximately 40 °C ~~(104 °F)~~.)	649-400-00-2	310-057-6	102110-55-4	P
Hydrocarbons, C ⌦ ≥ ⌫ 5, C_{5-6}-rich; low boiling point naphtha —	649-401-00-8	270-690-8	68476-50-6	P

unspecified				
Hydrocarbons, C_{5-6}-rich; low boiling point naphtha — unspecified	649-402-00-3	270-695-5	68476-55-1	P
Aromatic hydrocarbons, C_{8-10}; Light oil redistillate, high boiling	649-403-00-9	292-695-4	90989-39-2	P
Distillates (petroleum), light catalytic cracked; Cracked gas oil (A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_9 through C_{25} and boiling in the range of approximately 150 °C to 400 °C ~~(302 °F to 752 °F)~~. It contains a relatively large proportion of bicyclic aromatic hydrocarbons.)	649-435-00-3	265-060-4	64741-59-9	
Distillates (petroleum), intermediate catalytic cracked; Cracked gas oil (A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{11} through C_{30} and boiling in the range of approximately 205 °C to 450 °C ~~(401 °F to 842 °F)~~. It contains a relatively large proportion of tricyclic aromatic hydrocarbons.)	649-436-00-9	265-062-5	64741-60-2	
Distillates (petroleum), light thermal cracked; Cracked gas oil (A complex combination of hydrocarbons from the distillation of the products from a thermal cracking process. It consists predominantly of unsaturated hydrocarbons having carbon numbers predominantly in the range of C_{10} through C_{22} and boiling in the range of approximately 160 °C to 370 °C ~~(320 °F to 698 °F)~~.)	649-438-00-X	265-084-5	64741-82-8	
Distillates (petroleum),	649-439-00-5	269-781-5	68333-25-5	

hydrodesulphurized light catalytic cracked; Cracked gas oil (A complex combination of hydrocarbons obtained by treating light catalytic cracked distillates with hydrogen to convert organic sulphur to hydrogen sulphide which is removed. It consists of hydrocarbons having carbon numbers predominantly in the range of C_9 through C_{25} and boiling in the range of approximately 150 °C to 400 °C ~~(302 °F to 752 °F)~~. It contains a relatively large proportion of bicyclic aromatic hydrocarbons.)				
Distillates (petroleum), light steam-cracked naphtha; Cracked gas oil (A complex combination of hydrocarbons from the multiple distillation of products from a steam cracking process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{10} through C_{18}.)	649-440-00-0	270-662-5	68475-80-9	
Distillates (petroleum), cracked steam-cracked petroleum distillates; Cracked gas oil (A complex combination of hydrocarbons produced by distilling cracked steam cracked distillate and/or its fractionation products. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{10} to low molecular weight polymers.)	649-441-00-6	270-727-8	68477-38-3	
Gas oils (petroleum), steam-cracked; Cracked gas oil (A complex combination of hydrocarbons produced by distillation of the products from a steam cracking process. It consists of hydrocarbons having carbon numbers predominantly greater than C_9 and boiling in the range of from approximately 205 °C to 400 °C ~~(400~~	649-442-00-1	271-260-2	68527-18-4	

~~°F to 752 °F)~~.)				
Distillates (petroleum), hydrodesulphurized thermal cracked middle; Cracked gas oil (A complex combination of hydrocarbons obtained by fractionation from hydrodesulphurized thermal cracker distillate stocks. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{11} to C_{25} and boiling in the range of from approximately 205 °C to 400 °C ~~(401 °F to 752 °F)~~.)	649-443-00-7	285-505-6	85116-53-6	
Gas oils (petroleum), thermal-cracked, hydrodesulphurized; Cracked gas oil	649-444-00-2	295-411-7	92045-29-9	
Residues (petroleum), hydrogenated steam-cracked naphtha; Cracked gas oil (A complex combination of hydrocarbons obtained as a residual fraction from the distillation of hydrotreated steam-cracked naphtha. It consists predominantly of hydrocarbons boiling in the range of approximately 200 °C to 350 °C ~~(32 °F to 662 °F)~~.)	649-445-00-8	295-514-7	92062-00-5	
Residues (petroleum), steam-cracked naphtha distn.; Cracked gas oil (A complex combination of hydrocarbons obtained as a column bottom from the separation of effluents from steam cracking naphtha at a high temperature. It boils in the range of approximately 147 °C to 300 °C ~~(297 °F to 572 °F)~~ and produces a finished oil having a viscosity of ~~18 cSt at 50 °C~~ ⌦ 18 10^{-6} $m^2.s^{-1}$ at 50 °C ⌫ .)	649-446-00-3	295-517-3	92062-04-9	
Distillates (petroleum), light catalytic cracked, thermally degraded; Cracked gas oil	649-447-00-9	295-991-1	92201-60-0	

(A complex combination of hydrocarbons produced by the distillation of products from a catalytic cracking process which has been used as a heat transfer fluid. It consists predominantly of hydrocarbons boiling in the range of approximately 190 °C to 340 °C ~~(374 °F to 644 °F)~~. This steam is likely to contain organic sulphur compounds.)				
Residues (petroleum), steam-cracked, heat-soaked naphtha; Cracked gas oil (A complex combination of hydrocarbons obtained as residue from the distillation of steam-cracked heat-soaked naphtha and boiling in the range of approximately 150 °C to 350 °C ~~(302 °F to 662 °F)~~.)	649-448-00-4	297-905-8	93763-85-0	
Gas oils (petroleum), light vacuum, thermal-cracked hydrodesulphurized; Cracked gas oil (A complex combination of hydrocarbons obtained by catalytic dehydrosulphurization of thermal-cracked light vacuum petroleum. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{14} through C_{20} and boiling in the range of approximately 270 °C to 370 °C ~~(518 °F to 698 °F)~~.)	649-450-00-5	308-278-8	97926-59-5	
Distillates (petroleum), hydrodesulphurized middle coker; Cracked gas oil (A complex combination of hydrocarbons by fractionation from hydrodesulphurized coker distillate stocks. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{12} through C_{21} and boiling in the range of approximately 200 °C to 360 °C ~~(392 °F to 680 °F)~~.)	649-451-00-0	309-865-1	101316-59-0	
Distillates (petroleum), heavy steam-	649-452-00-6	309-939-3	101631-14-	

cracked; Cracked gas oil (A complex combination of hydrocarbons obtained by distillation of steam cracking heavy residues. It consists predominantly of highly alkylated heavy aromatic hydrocarbons boiling in the range of approximately 250 °C to 400 °C ~~(482 °F to 752 °F)~~.)			5	
Distillates (petroleum), heavy hydrocracked; Base oil — unspecified (A complex combination of hydrocarbons from the distillation of the products from a hydrocracking process. It consists predominantly of saturated hydrocarbons having carbon numbers in the range of C_{15} through C_{39} and boiling in the range of approximately 260 °C to 600 °C ~~(500 °F to 1112 °F)~~.)	649-453-00-1	265-077-7	64741-76-0	L
Distillates (petroleum), solvent-refined heavy paraffinic; Base oil — unspecified (A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity of at least ~~100 SUS at 100 °F (19 eSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ .)	649-454-00-7	265-090-8	64741-88-4	L
Distillates (petroleum), solvent-refined light paraffinic; Base oil — unspecified (A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil having a viscosity of less than ~~100 SUS at 100 °F (19 eSt at 40 °C)~~	649-455-00-2	265-091-3	64741-89-5	L

⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ .)				
Residual oils (petroleum), solvent deasphalted; Base oil — unspecified (A complex combination of hydrocarbons obtained as the solvent soluble fraction from C_3-C_4 solvent deasphalting of a residuum. It consists of hydrocarbons having carbon numbers predominantly higher than C_{25} and boiling above approximately 400 °C ~~(752 °F)~~.)	649-456-00-8	265-096-0	64741-95-3	L
Distillates (petroleum), solvent-refined heavy naphthenic; Base oil — unspecified (A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity of at least ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains relatively few normal paraffins.)	649-457-00-3	265-097-6	64741-96-4	L
Distillates (petroleum), solvent-refined light naphthenic; Base oil — unspecified (A complex combination of hydrocarbons obtained as the raffinate from a solvent extraction process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of less than ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains relatively few normal paraffins.)	649-458-00-9	265-098-1	64741-97-5	L
Residual oils (petroleum), solvent-refined; Base oil — unspecified (A complex combination of hydrocarbons obtained as the solvent insoluble fraction from solvent	649-459-00-4	265-101-6	64742-01-4	L

refining of a residuum using a polar organic solvent such as phenol or furfural. It consists of hydrocarbons having carbon numbers predominantly greater than C_{25} and boiling above approximately 400 °C ~~(752 °F)~~.)				
Distillates (petroleum), clay-treated paraffinic; Base oil — unspecified (A complex combination of hydrocarbons resulting from treatment of a petroleum fraction with natural or modified clay in either a contacting or percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity of at least ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains a relatively large proportion of saturated hydrocarbons.)	649-460-00-X	265-137-2	64742-36-5	L
Distillates (petroleum), clay-treated light paraffinic; Base oil — unspecified (A complex combination of hydrocarbons resulting from treatment of a petroleum fraction with natural or modified clay in either a contacting or percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of less than ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains a relatively large proportion of saturated hydrocarbons.)	649-461-00-5	265-138-8	64742-37-6	L
Residual oils (petroleum), clay-treated; Base oil — unspecified	649-462-00-0	265-143-5	64742-41-2	L

(A complex combination of hydrocarbons obtained by the treatment of a residual oil with a natural or modified clay in either a contacting or percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly greater than C_{25} and boiling above approximately 400 °C ~~(752 °F)~~.)				
Distillates (petroleum), clay-treated heavy naphthenic; Base oil — unspecified (A complex combination of hydrocarbons resulting from treatment of a petroleum fraction with a natural or modified clay in either a contacting or percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity of at least ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains relatively few normal paraffins.)	649-463-00-6	265-146-1	64742-44-5	L
Distillates (petroleum), clay-treated light naphthenic; Base oil — unspecified (A complex combination of hydrocarbons resulting from treatment of a petroleum fraction with natural or modified clay in either a contacting or percolation process to remove the trace amounts of polar compounds and impurities present. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of less than ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains relatively few normal paraffins.)	649-464-00-1	265-147-7	64742-45-6	L

Distillates (petroleum), hydrotreated heavy naphthenic; Base oil — unspecified (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity of at least ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains relatively few normal paraffins.)	649-465-00-7	265-155-0	64742-52-5	L
Distillates (petroleum), hydrotreated light naphthenic; Base oil — unspecified (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of less than ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains relatively few normal paraffins.)	649-466-00-2	265-156-6	64742-53-6	L
Distillates (petroleum), hydrotreated heavy paraffinic; Base oil — unspecified (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil of at least ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains a relatively large proportion of saturated hydrocarbons.)	649-467-00-8	265-157-1	64742-54-7	L

Distillates (petroleum), hydrotreated light paraffinic; Base oil — unspecified (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of less than ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains a relatively large proportion of saturated hydrocarbons.)	649-468-00-3	265-158-7	64742-55-8	L
Distillates (petroleum), solvent-dewaxed light paraffinic; Base oil — unspecified (A complex combination of hydrocarbons obtained by removal of normal paraffins from a petroleum fraction by solvent crystallization. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of less than ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ .)	649-469-00-9	265-159-2	64742-56-9	L
Residual oils (petroleum), hydrotreated; Base oil — unspecified (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly greater than C_{25} and boiling above approximately 400 °C ~~(752 °F)~~.)	649-470-00-4	265-160-8	64742-57-0	L
Residual oils (petroleum), solvent-dewaxed; Base oil — unspecified (A complex combination of hydrocarbons obtained by removal of long, branched chain hydrocarbons	649-471-00-X	265-166-0	64742-62-7	L

from a residual oil by solvent crystallization. It consists of hydrocarbons having carbon numbers predominantly greater than C_{25} and boiling above approximately 400 °C ~~(752 °F)~~.)				
Distillates (petroleum), solvent-dewaxed heavy naphthenic; Base oil — unspecified (A complex combination of hydrocarbons obtained by removal of normal paraffins from a petroleum fraction by solvent crystallization. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil of not less than ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains relatively few normal paraffins.)	649-472-00-5	265-167-6	64742-63-8	L
Distillates (petroleum), solvent-dewaxed light naphthenic; Base oil — unspecified (A complex combination of hydrocarbons obtained by removal of normal paraffins from a petroleum fraction by solvent crystallization. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of less than ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains relatively few normal paraffins.)	649-473-00-0	265-168-1	64742-64-9	L
Distillates (petroleum), solvent-dewaxed heavy paraffinic; Base oil — unspecified (A complex combination of hydrocarbons obtained by removal of normal paraffins from a petroleum fraction by solvent crystallization. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{20}	649-474-00-6	265-169-7	64742-65-0	L

through C_{50} and produces a finished oil with a viscosity of not less than ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ .)				
Naphthenic oils (petroleum), catalytic dewaxed heavy; Base oil — unspecified (A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity of at least ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains relatively few normal paraffins.)	649-475-00-1	265-172-3	64742-68-3	L
Naphthenic oils (petroleum), catalytic dewaxed light; Base oil — unspecified (A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of less than ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains relatively few normal paraffins.)	649-476-00-7	265-173-9	64742-69-4	L
Paraffin oils (petroleum), catalytic dewaxed heavy; Base oil — unspecified (A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity of at least ~~100 SUS at 100 °F (19 cSt at 40 °C)~~	649-477-00-2	265-174-4	64742-70-7	L

⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ .)				
Paraffin oils (petroleum), catalytic dewaxed light; Base oil — unspecified (A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of less than ~~100 SUS at 100 °F (19 eSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ .)	649-478-00-8	265-176-5	64742-71-8	L
Naphthenic oils (petroleum), complex dewaxed heavy; Base oil — unspecified (A complex combination of hydrocarbons obtained by removing straight chain paraffin hydrocarbons as a solid by treatment with an agent such as urea. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity of at least ~~100 SUS at 100 °F (19 eSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains relatively few normal paraffins.)	649-479-00-3	265-179-1	64742-75-2	L
Naphthenic oils (petroleum), complex dewaxed light; Base oil — unspecified (A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil having a viscosity less than ~~100 SUS at 100 °F (19 eSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains relatively few normal paraffins.)	649-480-00-9	265-180-7	64742-76-3	L

Lubricating oils (petroleum), C_{20-50}, hydrotreated neutral oil-based high-viscosity; Base oil — unspecified (A complex combination of hydrocarbons obtained by treating light vacuum gas oil, heavy vacuum gas oil, and solvent deasphalted residual oil with hydrogen in the presence of a catalyst in a two stage process with dewaxing being carried out between the two stages. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil having a viscosity of approximately ~~112 cSt at 40 °C~~ ⌦ 112 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains a relatively large proportion of saturated hydrocarbons.)	649-481-00-4	276-736-3	72623-85-9	L
Lubricating oils (petroleum), C_{15-30}, hydrotreated neutral oil-based; Base oil — unspecified (A complex combination of hydrocarbons obtained by treating light vacuum gas oil and heavy vacuum gas oil with hydrogen in the presence of a catalyst in a two stage process with dewaxing being carried out between the two stages. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil having a viscosity of approximately ~~15 cSt at 40 °C~~ ⌦ 15 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains a relatively large proportion of saturated hydrocarbons.)	649-482-00-X	276-737-9	72623-86-0	L
Lubricating oils (petroleum), C_{20-50}, hydrotreated neutral oil-based; Base oil — unspecified (A complex combination of hydrocarbons obtained by treating light vacuum gas oil, heavy vacuum gas oil and solvent deasphalted	649-483-00-5	276-738-4	72623-87-1	L

residual oil with hydrogen in the presence of a catalyst in a two stage process with dewaxing being carried out between the two stages. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity of approximately ~~32 cSt at 40 °C~~ ⌦ 32 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains a relatively large proportion of saturated hydrocarbons.)				
Lubricating oils; Base oil — unspecified (A complex combination of hydrocarbons obtained from solvent extraction and dewaxing processes. It consists predominantly of saturated hydrocarbons having carbon numbers in the range of C_{15} through C_{50}.)	649-484-00-0	278-012-2	74869-22-0	L
Distillates (petroleum), complex dewaxed heavy paraffinic; Base oil — unspecified (A complex combination of hydrocarbons obtained by dewaxing heavy paraffinic distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil with a viscosity of equal to or greater than ~~100 SUS at 100 °F (19 cSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains relatively few normal paraffins.)	649-485-00-6	292-613-7	90640-91-8	L
Distillates (petroleum), complex dewaxed light paraffinic; Base oil — unspecified (A complex combination of hydrocarbons obtained by dewaxing light paraffinic distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{12} through C_{30} and produces a finished	649-486-00-1	292-614-2	90640-92-9	L

oil with a viscosity of less than ~~100 SUS at 100 °F (19 eSt at 40 °C)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It contains relatively few normal paraffins.)				
Distillates (petroleum), solvent-dewaxed heavy paraffinic, clay-treated; Base oil — unspecified (A complex combination of hydrocarbons obtained by treating dewaxed heavy paraffinic distillate with neutral or modified clay in either a contacting or percolation process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}.)	649-487-00-7	292-616-3	90640-94-1	L
Hydrocarbons, C_{20-50}, solvent-dewaxed heavy paraffinic, hydrotreated; Base oil — unspecified (A complex combination of hydrocarbons produced by treating dewaxed heavy paraffinic distillate with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}.)	649-488-00-2	292-617-9	90640-95-2	L
Distillates (petroleum), solvent dewaxed light paraffinic, clay-treated; Base oil — unspecified (A complex combination of hydrocarbons resulting from treatment of dewaxed light paraffinic distillate with natural or modified clay in either a contacting or percolation process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30}.)	649-489-00-8	292-618-4	90640-96-3	L
Distillates (petroleum), solvent dewaxed light paraffinic, hydrotreated; Base oil — unspecified	649-490-00-3	292-620-5	90640-97-4	L

(A complex combination of hydrocarbons produced by treating a dewaxed light paraffinic distillate with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30}.)				
Residual oils (petroleum), hydrotreated solvent dewaxed; Base oil — unspecified	649-491-00-9	292-656-1	90669-74-2	L
Residual oils (petroleum), catalytic dewaxed; Base oil — unspecified	649-492-00-4	294-843-3	91770-57-9	L
Distillates (petroleum), dewaxed heavy paraffinic, hydrotreated; Base oil — unspecified (A complex combination of hydrocarbons obtained from an intensive treatment of dewaxed distillate by hydrogenation in the presence of a catalyst. It consists predominantly of saturated hydrocarbons having carbon numbers in the range of C_{25} through C_{39} and produces a finished oil with a viscosity of approximately ~~44 cSt at 50 °C~~ ⌦ 44 10^{-6} $m^2.s^{-1}$ at 50 °C ⌫ .)	649-493-00-X	295-300-3	91995-39-0	L
Distillates (petroleum), dewaxed light paraffinic, hydrotreated; Base oil — unspecified (A complex combination of hydrocarbons obtained from an intensive treatment of dewaxed distillate by hydrogenation in the presence of a catalyst. It consists predominantly of saturated hydrocarbons having carbon numbers in the range of C_{21} through C_{29} and produces a finished oil with a viscosity of approximately ~~13 cSt at 50 °C~~ ⌦ 13 10^{-6} $m^2.s^{-1}$ at 50 °C ⌫ .)	649-494-00-5	295-301-9	91995-40-3	L
Distillates (petroleum), hydrocracked solvent-refined, dewaxed; Base oil — unspecified	649-495-00-0	295-306-6	91995-45-8	L

(A complex combination of liquid hydrocarbons obtained by recrystallization of dewaxed hydrocracked solvent-refined petroleum distillates.)				
Distillates (petroleum), solvent-refined light naphthenic, hydrotreated; Base oil — unspecified (A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst and removing the aromatic hydrocarbons by solvent extraction. It consists predominantly of naphthenic hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30} and produces a finished oil with a viscosity of between ~~13-15 eSt at 40 °C~~ ⌦ 13-15 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ .)	649-496-00-6	295-316-0	91995-54-9	L
Lubricating oils (petroleum) C_{17-35}, solvent-extd., dewaxed, hydrotreated; Base oil — unspecified	649-497-00-1	295-423-2	92045-42-6	L
Lubricating oils (petroleum), hydrocracked nonarom. solvent-deparaffined; Base oil — unspecified	649-498-00-7	295-424-8	92045-43-7	L
Residual oils (petroleum), hydrocracked acid-treated solvent-dewaxed; Base oil — unspecified (A complex combination of hydrocarbons produced by solvent removal of paraffins from the residue of the distillation of acid-treated, hydrocracked heavy paraffins and boiling approximately above 380 °C ~~(716 °F)~~.)	649-499-00-2	295-499-7	92061-86-4	L
Paraffin oils (petroleum), solvent-refined dewaxed heavy; Base oil — unspecified (A complex combination of hydrocarbons obtained from sulphur-containing paraffinic crude oil. It consists predominantly of a solvent	649-500-00-6	295-810-6	92129-09-4	L

refined deparaffinated lubricating oil with a viscosity of ~~65 cSt at 50 °C~~ ⌦ 65 10^{-6} $m^2.s^{-1}$ at 50 °C ⌫ .)				
Lubricating oils (petroleum), base oils, paraffinic; Base oil — unspecified (A complex combination of hydrocarbons obtained by refining crude oil. It consists predominantly of aromatics, naphthenics and paraffinics and produces a finished oil with a viscosity of ~~120 SUS at 100 °F (23 cSt at 40 °C)~~ ⌦ 23 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ .)	649-501-00-1	297-474-6	93572-43-1	L
Hydrocarbons, hydrocracked paraffinic distn. residues, solvent-dewaxed; Base oil — unspecified	649-502-00-7	297-857-8	93763-38-3	L
Hydrocarbons, C_{20-50}, residual oil hydrogenation vacuum distillate; Base oil — unspecified	649-503-00-2	300-257-1	93924-61-9	L
Distillates (petroleum), solvent-refined hydrotreated heavy; hydrogenated; Base oil — unspecified	649-504-00-8	305-588-5	94733-08-1	L
Distillates (petroleum), solvent-refined hydrocracked light; Base oil — unspecified (A complex combination of hydrocarbons obtained by solvent dearomatization of the residue of hydrocracked petroleum. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{18} through C_{27} and boiling in the range of approximately 370 °C to 450 °C ~~(698 °F to 842 °F)~~.)	649-505-00-3	305-589-0	94733-09-2	L
Lubricating oils (petroleum), C_{18-40}, solvent-dewaxed hydrocracked distillate-based; Base oil — unspecified (A complex combination of hydrocarbons obtained by solvent deparaffination of the distillation	649-506-00-9	305-594-8	94733-15-0	L

residue from hydrocracked petroleum. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{18} through C_{40} and boiling in the range of approximately 370 °C to 550 °C ~~(698 °F to 1022 °F)~~.)				
Lubricating oils (petroleum), C_{18-40}, solvent-dewaxed hydrogenated raffinate-based; Base oil — unspecified (A complex combination of hydrocarbons obtained by solvent deparaffination of the hydrogenated raffinate obtained by solvent extraction of a hydrotreated petroleum distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{18} through C_{40} and boiling in the range of approximately 370 °C to 550 °C ~~(698 °F to 1022 °F)~~.)	649-507-00-4	305-595-3	94733-16-1	L
Hydrocarbons, C_{13-30}, arom.-rich, solvent-extd. naphthenic distillate; Base oil — unspecified	649-508-00-X	305-971-7	95371-04-3	L
Hydrocarbons, C_{16-32}, arom.-rich, solvent-extd. naphthenic distillate; Base oil — unspecified	649-509-00-5	305-972-2	95371-05-4	L
Hydrocarbons, C_{37-68}, dewaxed deasphalted hydrotreated vacuum distn. residues; Base oil — unspecified	649-510-00-0	305-974-3	95371-07-6	L
Hydrocarbons, C_{37-65}, hydrotreated deasphalted vacuum distn. residues; Base oil — unspecified	649-511-00-6	305-975-9	95371-08-7	L
Distillates (petroleum), hydrocracked solvent-refined light; Base oil — unspecified (A complex combination of hydrocarbons obtained by the solvent treatment of a distillate from hydrocracked petroleum distillates. It consists predominantly of	649-512-00-1	307-010-7	97488-73-8	L

hydrocarbons having carbon numbers predominantly in the range of C_{18} through C_{27} and boiling in the range of approximately 370 °C to 450 °C ~~(698 °F to 842 °F)~~.)				
Distillates (petroleum), solvent-refined hydrogenated heavy; Base oil — unspecified (A complex combination of hydrocarbons obtained by the treatment of a hydrogenated petroleum distillate with a solvent. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{19} through C_{40} and boiling in the range of approximately 390 °C to 550 °C ~~(734 °F to 1022 °F)~~.)	649-513-00-7	307-011-2	97488-74-9	L
Lubricating oils (petroleum) C_{18-27}, hydrocracked solvent-dewaxed; Base oil — unspecified	649-514-00-2	307-034-8	97488-95-4	L
Hydrocarbons, C_{17-30}, hydrotreated solvent-deasphalted atm. distn. residue, distn. lights; Base oil — unspecified (A complex combination of hydrocarbons obtained as first runnings from the vacuum distillation of effluents from the treatment of a solvent deasphalted short residue with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{17} through C_{30} and boiling in the range of approximately 300 °C to 400 °C ~~(572 °F to 752 °F)~~. It produces a finished oil having a viscosity of ~~4 eSt at approximately 100 °C (212 °F)~~ ⌦ $4\ 10^{-6}\ m^2.s^{-1}$ at approximately 100 °C ⌫ .)	649-515-00-8	307-661-7	97675-87-1	L
Hydrocarbons, C_{17-40}, hydrotreated solvent-deasphalted distn. residue, vacuum distn. lights; Base oil — unspecified	649-516-00-3	307-755-8	97722-06-0	L

(A complex combination of hydrocarbons obtained as first runnings from the vacuum distillation of effluents from the catalytic hydrotreatment of a solvent deasphalted short residue having a viscosity of ~~8 cSt at approximately 100 °C (212 °F)~~ ⌦ 8 10^{-6} $m^2.s^{-1}$ at approximately 100 °C ⌫ . It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{17} through C_{40} and boiling in the range of approximately 300 °C to 500 °C ~~(592 °F to 932 °F)~~.)				
Hydrocarbons, C_{13-27}, solvent-extd. light naphthenic; Base oil — unspecified (A complex combination of hydrocarbons obtained by extraction of the aromatics from a light naphthenic distillate having a viscosity of ~~9.5 cSt at 40 °C (104 °F)~~ ⌦ 9.5 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{13} through C_{27} and boiling in the range of approximately 240 °C to 400 °C ~~(464 °F to 752 °F)~~.)	649-517-00-9	307-758-4	97722-09-3	L
Hydrocarbons, C_{14-29}, solvent-extd. light naphthenic; Base oil — unspecified (A complex combination of hydrocarbons obtained by extraction of the aromatics from a light naphthenic distillate having a viscosity of ~~16 cSt at 40 °C (104 °F)~~ ⌦ 16 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ . It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{14} through C_{29} and boiling in the range of approximately 250 °C to 425 °C ~~(482 °F to 797 °F)~~.)	649-518-00-4	307-760-5	97722-10-6	L
Hydrocarbons, C_{27-42}, dearomatized;	649-519-00-X	308-131-8	97862-81-2	L

Base oil — unspecified				
Hydrocarbons, C_{17-30}, hydrotreated distillates, distn. lights; Base oil — unspecified	649-520-00-5	308-132-3	97862-82-3	L
Hydrocarbons, C_{27-45}, naphthenic vacuum distn.; Base oil — unspecified	649-521-00-0	308-133-9	97862-83-4	L
Hydrocarbons, C_{27-45}, dearomatized; Base oil — unspecified	649-522-00-6	308-287-7	97926-68-6	L
Hydrocarbons, C_{20-58}, hydrotreated; Base oil — unspecified	649-523-00-1	308-289-8	97926-70-0	L
Hydrocarbons, C_{27-42}, naphthenic; Base oil — unspecified	649-524-00-7	308-290-3	97926-71-1	L
Residual oils (petroleum), carbon-treated solvent-dewaxed; Base oil — unspecified (A complex combination of hydrocarbons obtained by the treatment of solvent-dewaxed petroleum residual oils with activated charcoal for the removal of trace polar constituents and impurities.)	649-525-00-2	309-710-8	100684-37-5	L
Residual oils (petroleum), clay-treated solvent-dewaxed; Base oil — unspecified (A complex combination of hydrocarbons obtained by treatment of solvent-dewaxed petroleum residual oils with bleaching earth for the removal of trace polar constituents and impurities.)	649-526-00-8	309-711-3	100684-38-6	L
Lubricating oils (petroleum) C_{25}, solvent-extd., deasphalted, dewaxed, hydrogenated; base oil — unspecified (A complex combination of hydrocarbons obtained by solvent extraction and hydrogenation of vacuum distillation residues. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of greater	649-527-00-3	309-874-0	101316-69-2	L

than C_{25} and produces a finished oil with a viscosity in the order of ~~32 eSt to 37 eSt at 100 °C (212 °F)~~ ⌦ 32 10^{-6} $m^2.s^{-1}$ to 37 10^{-6} $m^2.s^{-1}$ at 100 °C ⌫ .)				
Lubricating oils (petroleum) C_{17-32}, solvent-extd., dewaxed, hydrogenated; Base oil — unspecified (A complex combination of hydrocarbons obtained by solvent extraction and hydrogenation of atmospheric distillation residues. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{17} through C_{32} and produces a finished oil with a viscosity in the order ~~of 17 eSt to 23 eSt at 40 °C (104 °F)~~ ⌦ 17 10^{-6} $m^2.s^{-1}$ to 23 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ .)	649-528-00-9	309-875-6	101316-70-5	L
Lubricating oils (petroleum) C_{20-35}, solvent-extd., dewaxed, hydrogenated; Base oil — unspecified (A complex combination of hydrocarbons obtained by solvent extraction and hydrogenation of atmospheric distillation residues. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{35} and produces a finished oil with a viscosity in the order of ~~37 eSt to 44 eSt at 40 °C (104 °F)~~ ⌦ 37 10^{-6} $m^2.s^{-1}$ to 44 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ .)	649-529-00-4	309-876-1	101316-71-6	L
Lubricating oils (petroleum) C_{24-50}, solvent-extd., dewaxed, hydrogenated; Base oil — unspecified (A complex combination of hydrocarbons obtained by solvent extraction and hydrogenation of atmospheric distillation residues. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{24} through C_{50} and produces a finished	649-530-00-X	309-877-7	101316-72-7	L

oil with a viscosity in the order of ~~16 cSt to 75 cSt at 40 °C (104 °F)~~ ⌦ 16 10^{-6} $m^2.s^{-1}$ to 75 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ .)				
Extracts (petroleum), heavy naphthenic distillate solvent, arom. conc.; Distillate aromatic extract (treated) (An aromatic concentrate produced by adding water to heavy naphthenic distillate solvent extract and extraction solvent.)	649-531-00-5	272-175-3	68783-00-6	L
Extracts (petroleum), solvent-refined heavy paraffinic distillate solvent; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained as the extract from the re-extraction of solvent-refined heavy paraffinic distillate. It consists of saturated and aromatic hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}.)	649-532-00-0	272-180-0	68783-04-0	L
Extracts (petroleum), heavy paraffinic distillates, solvent-deasphalted; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained as the extract from a solvent extraction of heavy paraffinic distillate.)	649-533-00-6	272-342-0	68814-89-1	L
Extracts (petroleum), heavy naphthenic distillate solvent, hydrotreated; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained by treating a heavy naphthenic distillate solvent extract with hydrogen in the presence of a catalyst. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50} and produces a finished oil of at least ~~19 cSt at 40 °C (100~~	649-534-00-1	292-631-5	90641-07-9	L

~~SUS at 100 °F)~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ .)				
Extracts (petroleum), heavy paraffinic distillate solvent, hydrotreated; Distillate aromatic extract (treated) (A complex combination of hydrocarbons produced by treating a heavy paraffinic distillate solvent extract with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{21} through C_{33} and boiling in the range of approximately 350 °C to 480 °C ~~(662 °F to 896 °F)~~.)	649-535-00-7	292-632-0	90641-08-0	L
Extracts (petroleum), light paraffinic distillate solvent, hydrotreated; Distillate aromatic extract (treated) (A complex combination of hydrocarbons produced by treating a light paraffinic distillate solvent extract with hydrogen in the presence of a catalyst. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{17} through C_{26} and boiling in the range of approximately 280 °C to 400 °C ~~(536 °F to 752 °F)~~.)	649-536-00-2	292-633-6	90641-09-1	L
Extracts (petroleum), hydrotreated paraffinic light distillate solvent; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained as the extract from solvent extraction of intermediate paraffinic top solvent distillate that is treated with hydrogen in the presence of a catalyst. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{16} through C_{36}.)	649-537-00-8	295-335-4	91995-73-2	L
Extracts (petroleum), light naphthenic distillate solvent, hydrodesulphurized;	649-538-00-3	295-338-0	91995-75-4	L

Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained by treating the extract, obtained from a solvent extraction process, with hydrogen in the presence of a catalyst under conditions primarily to remove sulphur compounds. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{30}. This stream is likely to contain 5 wt. % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.)				
Extracts (petroleum), light paraffinic distillate solvent, acid-treated; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained as a fraction of the distillation of an extract from the solvent extraction of light paraffinic top petroleum distillates that is subjected to a sulphuric acid refining. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{16} through C_{32}.)	649-539-00-9	295-339-6	91995-76-5	L
Extracts (petroleum), light paraffinic distillate solvent, hydrodesulphurized; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained by solvent extraction of a light paraffin distillate and treated with hydrogen to convert the organic sulphur to hydrogen sulphide which is eliminated. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{40} and produces a finished oil having a viscosity of greater than ~~10 cSt at 40 °C~~ ⌦ 10^{-5} $m^2.s^{-1}$ at 40 °C ⌫ .)	649-540-00-4	295-340-1	91995-77-6	L
Extracts (petroleum), light vacuum gas oil solvent, hydrotreated;	649-541-00-X	295-342-2	91995-79-8	L

Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained by solvent extraction from light vacuum petroleum gas oils and treated with hydrogen in the presence of a catalyst. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{13} through C_{30}.)				
Extracts (petroleum), heavy paraffinic distillate solvent, clay-treated; Distillate aromatic extract (treated) (A complex combination of hydrocarbons resulting from treatment of a petroleum fraction with natural or modified clay in either a contact or percolation process to remove the trace amounts of polar compounds and impurities present. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}. This stream is likely to contain 5 wt. % or more 4-6 membered ring aromatic hydrocarbons.)	649-542-00-5	296-437-1	92704-08-0	L
Extracts (petroleum), heavy naphthenic distillate solvent, hydrodesulphurized; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained from a petroleum stock by treating with hydrogen to convert organic sulphur to hydrogen sulphide which is removed. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{50} and produces a finished oil with a viscosity of greater than ~~19 cSt at 40 °C~~ ⌦ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⌫ .)	649-543-00-0	297-827-4	93763-10-1	L
Extracts (petroleum), solvent-dewaxed heavy paraffinic distillate solvent, hydrodesulphurized;	649-544-00-6	297-829-5	93763-11-2	L

Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained from a solvent dewaxed petroleum stock by treating with hydrogen to convert organic sulphur to hydrogen sulphide which is removed. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C_{15} through C_{50} and produces a finished oil with a viscosity of greater than ~~19 eSt at 40 °C~~ ⊠ 19 10^{-6} $m^2.s^{-1}$ at 40 °C ⊠ .)				
Extracts (petroleum), light paraffinic distillate solvent, carbon-treated; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained as a fraction from distillation of an extract recovered by solvent extraction of light paraffinic top petroleum distillate treated with activated charcoal to remove traces of polar constituents and impurities. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{16} through C_{32}.)	649-545-00-1	309-672-2	100684-02-4	L
Extracts (petroleum), light paraffinic distillate solvent, clay-treated; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained as a fraction from distillation of an extract recovered by solvent extraction of light paraffinic top petroleum distillates treated with bleaching earth to remove traces of polar constituents and impurities. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{16} through C_{32}.)	649-546-00-7	309-673-8	100684-03-5	L
Extracts (petroleum), light vacuum, gas oil solvent, carbon-treated;	649-547-00-2	309-674-3	100684-04-6	L

Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained by solvent extraction of light vacuum petroleum gas oil treated with activated charcoal for the removal of trace polar constituents and impurities. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{13} through C_{30}.)				
Extracts (petroleum), light vacuum, gas oil solvent, clay-treated; Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained by solvent extraction of light vacuum petroleum gas oils treated with bleaching earth for removal of trace polar constituents and impurities. It consists predominantly of aromatic hydrocarbons having carbon numbers predominantly in the range of C_{13} through C_{30}.)	649-548-00-8	309-675-9	100684-05-7	L
Foots oil (petroleum); Foots oil (A complex combination of hydrocarbons obtained as the oil fraction from a solvent deoiling or a wax sweating process. It consists predominantly of branched chain hydrocarbons having carbon numbers predominantly in the range of C_{20} through C_{50}.)	649-549-00-3	265-171-8	64742-67-2	L
Foots oil (petroleum), hydrotreated; Foots oil	649-550-00-9	295-394-6	92045-12-0	L

↓ 2001/41/EC Art. 1 point 2

Refractory ceramic fibres; Special Purpose Fibres, with the exception of those specified elsewhere in Annex I to Directive 67/548/EEC; [Man-made vitreous (silicate) fibres with random	650-017-00-8			R

orientation with alkaline oxide and alkali earth oxide ($Na_2O + K_2O + CaO + MgO + BaO$) content less or equal to 18 % by weight]				

↓ 97/56/EC (adapted)

Appendix 3

Point 29 — Mutagens: category 1

↓ 97/56/EC Art. 1 point 2 (adapted)

⌦ Appendix 4 ⌫

Point ~~30~~ ⌦ 29 ⌫ — Mutagens: category 2

Substances	Index number	EC number	CAS number	Notes
Hexamethylphosphoric triamide; hexamethylphosphoramide	015-106-00-2	211-653-8	680-31-9	
Diethyl sulphate	016-027-00-6	200-589-6	64-67-5	

↓ 1999/43/EC Art. 1 (adapted)

Potassium dichromate	024-002-00-6	231-906-6	7778-50-9	
Ammonium dichromate	024-003-00-1	232-143-1	7789-09-5	
Sodium dichromate	024-004-00-7	234-190-3	10588-01-9	
Sodium dichromate, dihydrate	024-004-01-4	234-190-3	7789-12-0	
Chromyl dichloride; chromic oxychloride	024-005-00-2	239-056-8	14977-61-8	
Potassium chromate	024-006-00-8	232-140-5	7789-00-6	

↓ 2003/36/EC Art. 1

Sodium chromate	024-018-00-3	231-889-5	7775-11-3	E

↓ 2003/34/EC Art. 1

Cadmium fluoride	048-006-00-2	232-222-0	7790-79-6	
Cadmium chloride	048-008-00-3	233-296-7	10108-64-2	

↓ 2003/36/EC Art. 1

Butane [containing ≥ 0,1 % Butadiene (203-450-8)] [1] Isobutane [containing ≥ 0,1 % Butadiene (203-450-8)] [2]	601-004-01-8	203-448-7 [1] 20-857-2 [2]	106-97-8 [1] 75-28-5 [2]	C, S
1,3-Butadiene buta-1,3-diene	601-013-00-X	203-450-8	106-99-0	D

↓ 97/56/EC Art. 1 point 2

Benzo[a]pyrene; benzo[d,e,f]chrysene	601-032-00-3	200-028-5	50-32-8	
1,2-Dibromo-3-chloropropane	602-021-00-6	202-479-3	96-12-8	
Ethylene oxide; oxirane	603-023-00-X	200-849-9	75-21-8	

↓ 2003/36/EC Art. 1

Propylene oxide; 1,2-epoxypropane; Methyloxirane	603-055-00-4	200-879-2	75-56-9	E

↓ 2003/34/EC Art. 1

2,2'-Bioxirane; 1,2:3,4-diepoxybutane	603-060-00-1	215-979-1	1464-53-5	

↓ 97/56/EC Art. 1 point 2

Methyl acrylamidomethoxyacetate (containing ≥ 0,1 %	607-190-00-X	401-890-7	77402-03-0	

acrylamide)				
Methyl acrylamidoglycolate (containing ≥ 0,1 % acrylamide)	607-210-00-7	403-230-3	77402-05-2	
Ethyleneimine; aziridine	613-001-00-1	205-793-9	151-56-4	

↓ 1999/43/EC Art. 1

1,3,5,-Tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione; TGIC	615-021-00-6	219-514-3	2451-62-9	

↓ 97/56/EC Art. 1 point 2

Acrylamide	616-003-00-0	201-173-7	79-06-1	

↓ 2003/36/EC Art. 1

1,3,5-tris-[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione	616-091-00-0	423-400-0	59653-74-6	E

↓ 97/56/EC Art. 1 point 2 (adapted)

⌦ Appendix 5 ⌫

Point ~~31~~ ⌦ 30 ⌫ — Toxic ~~for~~ ⌦ to ⌫ reproduction: category 1

Substances	Index number	EC number	CAS number	Notes
Carbon monoxide	006-001-00-2	211-128-3	630-08-0	
Lead hexafluorosilicate	009-014-00-1	247-278-1	25808-74-6	
Lead compounds with the exception of those specified elsewhere in this Annex	082-001-00-6			
Lead alkyls	082-002-00-1			
Lead azide	082-003-00-7	236-542-1	13424-46-9	
Lead chromate	082-004-00-2	231-846-0	7758-97-6	
Lead di(acetate)	082-005-00-8	206-104-4	301-04-2	
Trilead bis(orthophosphate)	082-006-00-3	231-205-5	7446-27-7	
Lead acetate	082-007-00-9	215-630-3	1335-32-6	
Lead(II) methanesulphonate	082-008-00-4	401-750-5	17570-76-2	
C.I. Pigment Yellow 34; (This substance is identified in the Colour Index by Colour Index Constitution Number, C.I. 77603.)	082-009-00-X	215-693-7	1344-37-2	
C.I. Pigment Red 104; (This substance is identified in the Colour Index by Colour Index Consititution Number, C.I. 77605.)	082-010-00-5	235-759-9	12656-85-8	
Lead hydrogen arsenate	082-011-00-0	232-064-2	7784-40-9	

		↓ 1999/43/EC Art. 1		
1,2-Dibromo-3-chloropropane	602-021-00-6	202-479-3	96-12-8	

		↓ 2003/36/EC Art. 1		
2-bromopropane	602-085-00-5	200-855-1	75-26-3	E

		↓ 97/56/EC Art. 1 point 2 (adapted)		
Warfarin; 4-hydroxy-3-(3-oxo-1-phenylbutyl)coumarin	607-056-00-0	201-377-6	81-81-2	
Lead 2,4,6-trinitroresorcinoxide, lead styphnate	609-019-00-4	239-290-0	15245-44-0	

⌦ Appendix 6 ⌫

Point ~~31~~ ⌦ 30 ⌫ — Toxic ~~for~~ ⌦ to ⌫ reproduction: category 2

Substances	Index number	EC number	CAS number	Notes
		🡻 2001/41/EC Art. 1 point 2		
6-(2-Chloroethyl)-6(2-methoxyethoxy)-2,5,7,10-tetraoxa-6-silaundecane; etacelasil	014-014-00-X	253-704-7	37894-46-5	
		🡻 2003/36/EC Art. 1		
Flusilazole (ISO); bis(4-fluorophenyl)-(methyl)-(1H-1,2,4-triazol-1-ylmethyl)-silane	014-017-00-6	—	85509-19-9	E
A mixture of: 4-[[bis-(4-fluorophenyl)-methylsilyl]methyl]-4H-1,2,4-triazole; 1-[[bis-(4-fluorophenyl)methyl-silyl]methyl]-1H-1,2,4-triazole	014-019-00-7	403-250-2	—	E
		🡻 97/56/EC Art. 1 point 2 (adapted)		
Nickel tetracarbonyl	028-001-00-1	236-669-2	13463-39-3	
		🡻 2003/34/EC Art. 1		
Cadmium fluoride	048-006-00-2	232-222-0	7790-79-6	
Cadmium chloride	048-008-00-3	233-296-7	10108-64-2	

			↓ 97/56/EC Art. 1 point 2 (adapted)	
Benzo[a]pyrene; benzo[d,e,f]chrysene	601-032-00-3	200-028-5	50-32-8	
2-Methoxyethanol; ethylene glycol monomethyl ether ; ⌦ methylglycol ⌫	603-011-00-4	203-713-7	109-86-4	
2-Ethoxyethanol; ethylene glycol monoethyl ether ; ⌦ ethylglycol ⌫	603-012-00-X	203-804-1	110-80-5	
			↓ 2003/34/EC Art. 1	
2,3-Epoxypropan-1-ol; glycidol	603-063-00-8	209-128-3	556-52-5	
			↓ 2003/34/EC Art. 1	
2-Methoxypropanol	603-106-00-0	216-455-5	1589-47-5	
			↓ 2003/36/EC Art. 1	
Bis(2-methoxyethyl) ether	603-139-00-0	203-924-4	111-96-6	
R-2,3-epoxy-1-propanol	603-143-002	404-660-4	57044-25-4	E
			↓ 2003/34/EC Art. 1	
4,4'-isobutylethylidenediphenol; 2,2-bis (4'-hydroxyphenyl)-4-methylpentane	604-024-00-8	401-720-1	6807-17-6	

		↓ 97/56/EC Art. 1 point 2 (adapted)		
2-Methoxyethyl acetate; ⌦ ethylene glycol monomethyl ether acetate ; ⌫ methylglycol acetate	607-036-00-1	203-772-9	110-49-6	
2-Ethoxyethyl acetate; ⌦ ethylene glycol monoethyl ether acetate ; ⌫ ethylglycol acetate	607-037-00-7	203-839-2	111-15-9	
2-Ethylhexyl 3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl methyl thio acetate	607-203-00-9	279-452-8	80387-97-9	
		↓ 1999/43/EC Art. 1		
Bis(2-Methoxyethyl) phthalate	607-228-00-5	204-212-6	117-82-8	
		↓ 2003/34/EC Art. 1		
2-Methoxypropyl acetate	607-251-00-0	274-724-2	70657-70-4	
		↓ 2003/36/EC Art. 1		
Fluazifop-butyl (ISO); butyl (RS)-2-[4-(5-trifluoromethyl-2-pyridyloxy)phenoxy]propionate	607-304-00-8	274-125-6	69806-50-4	
Vinclozolin (ISO); N-3,5-Dichlorophenyl-5-methyl-5-vinyl-1,3-oxazolidine-2,4-dione	607-307-00-4	256-599-6	50471-44-8	

Methoxyacetic acid	607-312-00-1	210-894-6	625-45-6	E
Bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP	607-317-00-9	204-211-0	117-81-7	
Dibutyl phthalate; DBP	607-318-00-4	201-557-4	84-74-2	
(+/-) tetrahydrofurfuryl (R)-2-[4-(6-chloroquinoxalin-2-yloxy)phenyloxy]propionate	607-373-00-4	414-200-4	119738-06-6	E

↓ 97/56/EC Art. 1 point 2

Binapacryl (ISO); 2-sec-butyl-4,6-dinitrophenyl-3-methylcrotonate	609-024-00-1	207-612-9	485-31-4	
Dinoseb; 6-sec-butyl-2,4-dinitrophenol	609-025-00-7	201-861-7	88-85-7	
Salts and esters of dinoseb, with the exception of those specified elsewhere in this Annex	609-026-00-2			
Dinoterb; 2-tert-butyl-4,6-dinitrophenol	609-030-00-4	215-813-8	1420-07-1	
Salts and esters of dinoterb	609-031-00-X			
Nitrofen (ISO); 2,4 dichlorophenyl 4-nitrophenyl ether	609-040-00-9	217-406-0	1836-75-5	
Methyl-ONN-azoxymethyl acetate; methyl azoxy methyl acetate	611-004-00-2	209-765-7	592-62-1	

↓ 2003/34/EC Art. 1

Tridemorph (ISO); 2,6-dimethyl-4-tridecylmorpholine	613-020-00-5	246-347-3	24602-86-6	

↓ 97/56/EC Art. 1 point 2

Ethylene thiourea; imidazolidine-2-thione; 2-imidazoline-2-thiol	613-039-00-9	202-506-9	96-45-7	

↓ 2003/34/EC Art. 1

Cycloheximide	613-140-00-8	200-636-0	66-81-9	

↓ 2003/36/EC Art. 1

Flumioxazin (ISO); N-(7-Fluoro-3,4-dihydro-3-oxo-4-prop-2-ynyl-2H-1,4-benzoxazin-6-yl)cyclohex-1-ene-1,2-dicarboxamide	613-166-00-X	—	103361-09-7	
(2RS,3RS)-3-(2-Chlorophenyl)-2-(4-fluorophenyl)-[(1H-1,2,4-triazol-1-yl)-methyl]oxirane	613-175-00-9	406-850-2	106325-08-0	

↓ 97/56/EC Art. 1 point 2

N,N-dimethylformamide; dimethyl formamide	616-001-00-X	200-679-5	68-12-2	

↓ 2003/36/EC Art. 1

N, N-Dimethylacetamide	616-011-00-4	204-826-4	127-19-5	E
Formamide	616-052-00-8	200-842-0	75-12-7	
N-methylacetamide	616-053-00-3	201-182-6	79-16-3	
N-methylformamide	616-056-00-X	204-624-6	123-39-7	E

↓ 83/478/EEC Art. 3 (new)
→1 85/467/EEC Art. 1(2) first indent

~~ANNEX II~~ ⌦ Appendix 7 ⌫

→1 ~~A.~~ ← Special provisions on the labelling of ~~products~~ ⌦ articles ⌫ containing asbestos

1. All ~~products~~ ⌦ articles ⌫ containing asbestos or the packaging thereof ~~shall~~ ⌦ must ⌫ bear the label defined as follows:

   (a) the label conforming to the specimen below shall be at least 5 cm high (H) and 2,5 cm wide;

   (b) it shall consist of two parts:

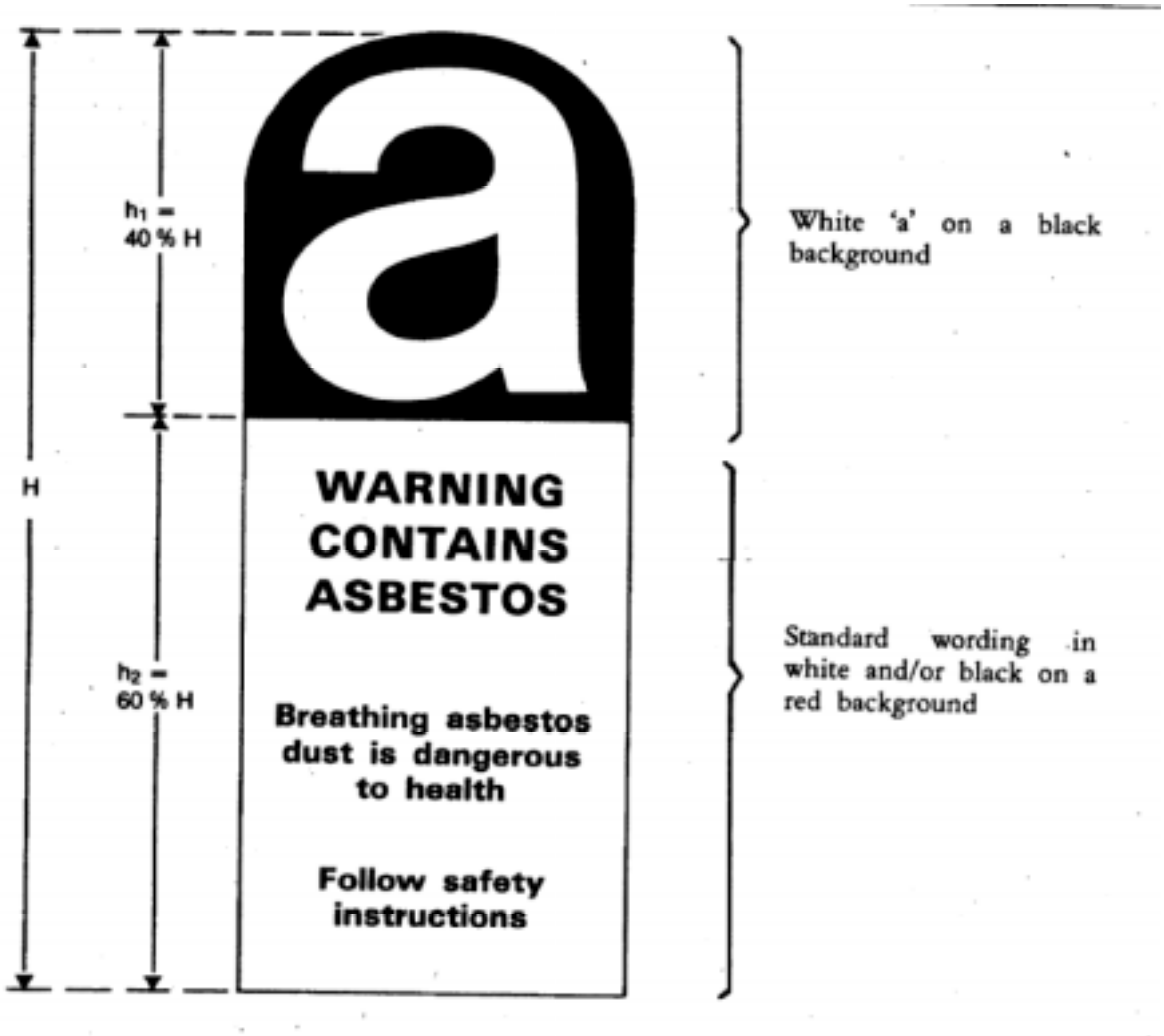
– the top part (h_1 = 40 % H) shall include the letter «a» in white, on a black background,

– the bottom part (h_2= 60 % H) shall include the standard wording in white and/or black, on a red background, and shall be clearly legible;

   (c) if the ~~product~~ ⌦ article ⌫ contains crocidolite, the words «contains asbestos» used in the standard wording shall be replaced by «contains crocidolite/blue asbestos».

   Member States may exclude from the provision of the first subparagraph hereof ⌦ article ⌫ ~~products~~ intended to be placed on the market in their territory. The labelling of these ⌦ article ⌫ ~~products~~ must however bear the wording “contains asbestos”

   (d) if labelling takes the form of direct printing on the ~~products~~ ⌦ articles ⌫ , a single colour contrasting with the background colour is sufficient.



2. The label mentioned in this Annex shall be affixed in accordance with the following rules:

(a) on each of the smallest units supplied;

(b) if ~~a product~~ ⌦ an article ⌫ has asbestos-based components, it is sufficient for these components only to bear the label. The labelling may be dispensed with if smallness of size or unsuitability of packaging make it impossible for a label to be affixed to the component.

3. Labelling of packaged ~~products~~ ⌦ articles ⌫ containing asbestos

3.1. The following particulars shall appear on clearly legible and indelible labelling on the packaging of packaged ~~products~~ ⌦ articles ⌫ containing asbestos:

(a) the symbol and relevant indications of danger in accordance with this Annex;

(b) safety instructions which must be selected in accordance with the particulars in this Annex, inasmuch as they are relevant for the particular ~~product~~ ⌦ article ⌫ .

Where additional safety information is provided on the packaging, this shall not weaken or contradict the particulars given in accordance with (a) and (b).

3.2. Labelling in accordance with 3.1 shall be effected by means of:

– a label firmly affixed to the packaging, or

– a (tie-on) label securely attached to the package, or

– direct printing of the packaging.

3.3. ~~Products~~ ⌦ Articles ⌫ containing asbestos and which are packaged only in loose plastic wrapping or the like shall be regarded as packaged ~~products~~ ⌦ articles ⌫ and shall be labelled in accordance with 3.2. If ~~products~~ ⌦ articles ⌫ are separated from such packages and placed on the market unpackaged, each of the smallest units supplied shall be accompanied by labelling particulars in accordance with 3.1.

4. Labelling of unpackaged ~~products~~ ⌦ articles ⌫ containing asbestos

For unpackaged ~~products~~ ⌦ articles ⌫ containing asbestos, labelling in accordance with 3.1 shall be effected by means of:

– a label firmly affixed to the ~~product~~ ⌦ article ⌫ containing asbestos,

– a (tie-on) label securely attached to such ~~product~~ ⌦ an article ⌫ ,

– direct printing on the ~~products~~ ⌦ articles ⌫,

or, if the abovementioned is not reasonably practicable as in the case of, for example, smallness of size of the ~~product~~ ⌦ article ⌫ , the unsuitable nature of the ~~product's~~ ⌦ article's ⌫ properties or certain technical difficulties by means of a hand-out with labelling in accordance with 3.1.

5. Without prejudice to Community provisions on safety and hygiene at work, the label affixed to the ~~product~~ ⌦ article ⌫ which may, in the context of its use, be processed or finished, ~~should~~ ⌦ shall ⌫ be accompanied by any safety instructions which may be appropriate for the ~~product~~ ⌦ article ⌫ concerned, and in particular by the following:

– operate if possible out of doors or in a well-ventilated place,

– preferably use hand tools or low-speed tools equipped, if necessary, with an appropriate dust-extraction facility. If high-speed tools are used, they should always be equipped with such a facility,

– if possible, dampen before cutting or drilling,

– dampen dust and place it in a properly closed receptacle and dispose of it safely.

6. The labelling of any ~~product~~ ⌦ article ⌫ intended for domestic use which is not covered by 5 and which is likely, during use, to release asbestos fibres ~~should~~ ⌦ shall ⌫ , if necessary, contain the following safety instruction: «replace when worn».

7. ~~Member States may make the placing on the market in their territory of products~~ ⌦ The labelling of articles ⌫ containing asbestos ~~subject to the use of their~~

⌦ shall be in the ⌫ official language or languages ~~on the labelling~~ ⌦ of the Member State(s) where the article is placed on the market ⌫ .

↓ 2003/3/EC Art. 1 and Annex, second indent (adapted)

⌦ Appendix 8 ⌫

Point 43 — Azocolourants

List of aromatic amines

	CAS number	Index number	EC number	Substances
1	92-67-1	612-072-00-6	202-177-1	biphenyl-4-ylamine 4-aminobiphenyl xenylamine
2	92-87-5	612-042-00-2	202-199-1	benzidine
3	95-69-2		202-441-6	4-chloro-o-toluidine
4	91-59-8	612-022-00-3	202-080-4	2-naphthylamine
5	97-56-3	611-006-00-3	202-591-2	o-aminoazotoluene 4-amino-2',3-dimethylazobenzene 4-o-tolylazo-o-toluidine
6	99-55-8		202-765-8	5-nitro-o-toluidine
7	106-47-8	612-137-00-9	203-401-0	4-chloroaniline
8	615-05-4		210-406-1	4-methoxy-m-phenylenediamine
9	101-77-9	612-051-00-1	202-974-4	4,4'-methylenedianiline 4,4'-diaminodiphenylmethane
10	91-94-1	612-068-00-4	202-109-0	3,3'-dichlorobenzidine 3,3'-dichlorobiphenyl-4,4'-ylenediamine
11	119-90-4	612-036-00-X	204-355-4	3,3'-dimethoxybenzidine o-dianisidine
12	119-93-7	612-041-00-7	204-358-0	3,3'-dimethylbenzidine

				4,4'-bi-o-toluidine
13	838-88-0	612-085-00-7	212-658-8	4,4'-methylenedi-o-toluidine
14	120-71-8		204-419-1	6-methoxy-m-toluidine p-cresidine
15	101-14-4	612-078-00-9	202-918-9	4,4'-methylene-bis-(2-chloro-aniline) 2,2'-dichloro-4,4'-methylene-dianiline
16	101-80-4		202-977-0	4,4'-oxydianiline
17	139-65-1		205-370-9	4,4'-thiodianiline
18	95-53-4	612-091-00-X	202-429-0	o-toluidine 2-aminotoluene
19	95-80-7	612-099-00-3	202-453-1	4-methyl-m-phenylenediamine
20	137-17-7		205-282-0	2,4,5-trimethylaniline
21	90-04-0	612-035-00-4	201-963-1	o-anisidine 2-methoxyaniline
22	60-09-3	611-008-00-4	200-453-6	4-amino azobenzene

⌦ Appendix 9

Point 43 — Azocolourants ⌫

List of azodyes

	CAS number	Index number	EC number	Substances
1	Not allocated Component 1: CAS-No: 118685-33-9 $C_{39}H_{23}ClCrN_7O_{12}S.2Na$ Component 2: $C_{46}H_{30}CrN_{10}O_{20}S_2.3Na$	611-070-00-2	405-665-4	A mixture of: disodium (6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naphtholato)(1-(5-chloro-2-oxidophenylazo)-2-naphtholato)chromate(1-); trisodium bis(6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naphtholato)chromate(1-)

ANNEX XVII

PERSISTENT ORGANIC POLLUTANTS (POPS)

SUBSTANCE (CAS No)	CONDITIONS OF RESTRICTIONS
1. Aldrin CAS No: 309-00-2 Einecs No: 206-215-8 2. Chlordane CAS No: 57-74-9 Einecs No: 200-349-0 3. Dieldrin CAS No: 60-57-1 Einecs No: 200-484-5 4. Endrin CAS No: 72-20-8 Einecs No: 204-079-4 5. Heptachlor CAS No: 76-44-8 Einecs No: 200-962-3 6. Hexachlorobenzene CAS No: 118-74-1 Einecs No: 204-273-9 7. Mirex CAS No: 2385-85-5 Einecs No: 219-196-6 8. Toxaphene CAS No: 8001-35-2 Einecs No: 232-283-3 9. DDT (1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane) CAS No: 50-29-3 Einecs No: 200-024-3 10. Chlordecone CAS No: 143-50-0 11. Hexabromobiphenyl CAS No: 36355-01-8	Shall not be manufactured, placed on the market or used on their own, in preparations or in articles.
12. Polychlorinated Biphenyls (PCBs)	Shall not be manufactured, placed on the market or used on their own, in preparations or in articles. By way of derogation and without prejudice to Council Directive 96/59/EC, articles containing or consisting of these substances that are already in use at the time of entry into force of this regulation may continue to be used.

13. HCH CAS No: 608-73-1, including lindane (CAS No: 58-89-9)	1. Technical HCH shall not be used except as an intermediate in chemical manufacturing. 2. Articles in which at least 99% of the HCH isomer is in the gamma form (lindane) shall not be used except as public health and veterinary topical insecticide. 3. By way of derogation from paragraphs a and b, the following uses are allowed until [1.1.2006]: a) professional remedial and industrial treatment of lumber, timber and logs; b) Indoor, industrial and residential applications.

LEGISLATIVE FINANCIAL STATEMENT

Policy area(s): 02 – ENTERPRISE

Activit(y/ies): 04 – GETTING STILL MORE FROM THE INTERNAL MARKET

TITLE OF ACTION: 04 – FUTURE CHEMICALS LEGISLATION (REACH) AND THE CREATION OF A CHEMICALS AGENCY

1. BUDGET LINE(S) + HEADING(S)

New line – Future chemicals legislation (REACH) and creation of a Chemicals Agency

2. OVERALL FIGURES

2.1. Total allocation for action (Part B): € million for commitment

Over the 11 years period of the action, the EC contribution in the form of a balancing subsidy is estimated at € 78.8 million or about 22% of the total budget of the Agency (Annex 1, 2).

2.2. Period of application:

The duration of the action is 11 years (2006 – 2016). The bulk of the work envisaged in the future chemicals legislation (REACH) for the Agency is the registration of so-called "phase-in" (or "existing") substances. This should be finalised within 11 years of entry into force of the legislation. Thereafter the Agency will continue to carry out its functions (with a smaller staff) with regard to the registration of new substances and providing technical and scientific guidance to the Commission, Member States and industry.

The indicative timetable (assuming that the Regulation enters into force in 2006) is as follows:

Year	Title	Description
2003 – 2005	Interim period	During this period, starting after Commission adoption and continuing until the Regulation enters into force, different preparatory actions will take place in order to be able to effectively and efficiently administer the new chemicals legislation immediately when it enters into force.
2006 - 2007	Transition period (up to 18 months)	The proposed Regulation (Article 131) foresees that the Commission shall fulfil the functions of the Agency during the period following the entry into force of the Regulation until these functions are transferred to the Agency. Within two months of receipt of a notification from the Executive Director of the Agency stating that the Agency is ready to assume its functions under this Regulation, or within 18 months after the entry of this Regulation (whichever is the earlier), the Commission transfers these functions to the Agency.

2008 – 2016-7	Agency fully operational	According to Article 73 of the Regulation the Agency will be at the centre of running the REACH system.

2.3. Overall multiannual estimate of expenditure:

(a) Schedule of commitment appropriations/payment appropriations (financial intervention) (see point 6.1.1)

€ million (to three decimal places)

	2004 *	2005 *	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Commit-ments	0	0	11.697	15.061	0	0	0	0	0	4.042	28.185	19.881	0
Payments	0	0	11.697	15.061	0	0	0	0	0	4.042	28.185	19.881	0
	Preparatory Action		**Transition Period**										

(b) Technical and administrative assistance and support expenditure *(see point 6.1.2)*

Commit-ments	3,000	4,000	0	0	0	0	0	0	0	0	0	0	0
Payments	3,000	4,000	0	0	0	0	0	0	0	0	0	0	0
Subtotal a+b													
Commit-ments	3,000	4,000	11.697	15.061	0	0	0	0	0	4.042	28.185	19.881	0
Payments	3,000	4,000	11.697	15.061	0	0	0	0	0	4.042	28.185	19.881	0

(c) Overall financial impact of human resources and other administrative expenditure *(see points 7.2 and 7.3)*

Commit-ments	0.050	0.050	0	0	0	0	0	0	0	0	0	0	0
Payments	0.050	0.050	0	0	0	0	0	0	0	0	0	0	0
TOTAL a+b+c													
Commit-ments	3.050	4.050	11.697	15.061	0	0	0	0	0	4.042	28.185	19.881	0
Payments	3.050	4.050	11.697	15.061	0	0	0	0	0	4.042	28.185	19.881	0

* 2004 and 2005 are only considered for information purposes, since the Regulation will enter into force the earliest by January 2006. However, a number of preparatory actions are required to ensure that the new Chemicals Agency is operational on that date.

2.4. Compatibility with financial programming and financial perspective

[X] Proposal will entail reprogramming of the relevant heading in the financial perspective.

2.5. Financial impact on revenue:

[X]* Proposal has no financial implications (involves technical aspects regarding implementation of a measure)

There is no impact on the revenue side of the Community budget. The Agency's budget foresees its own revenues consisting of the fees paid by industry for registration and authorisation, which the Agency is authorised to collect by virtue of the tasks entrusted to it, and a balancing subsidy from the Community budget.

Because of the concern regarding the variation in fee income and consequently the required EC balancing subsidy, the Agency should be allowed, in accordance with Article 185 of the Commission Financial Regulation[1] to foresee, after Commission's prior consent, in its own financial regulation the creation of a reserve fund made up of excess fee income.

3. BUDGET CHARACTERISTICS

Type of expenditure		New	EFTA contribution	Contributions from applicant countries	Heading in financial perspective
Non-comp	Diff	Yes	No	No	**No** [3]

4. LEGAL BASIS

Article 95 of the Treaty is the appropriate legal basis because of the need to ensure a level playing field for all economic actors in the Internal Market while at the same time ensuring a high level of protection of health and the environment.

5. DESCRIPTION AND GROUNDS

5.1. Need for Community intervention

REACH

On 27 February 2001 the Commission issued a White Paper2 on a Strategy for a future Chemicals Policy.

The need for a new strategy arose from wide acceptance that the existing legislation was not capable of responding adequately to public concern in Europe about the potential impact of chemicals on health and the environment, and would be increasingly unable to meet expectations in the future.

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1 COM (2002) 1605 of 25 June 2002

2 COM(2001) 88 Final

The existing legislation, while introducing a considerable number of risk reduction measures for certain dangerous substances, was seen as unsuited to the requirements of the new century. In particular, it did not make sufficient information available about the properties of "existing" chemicals (first marketed before 1981), which dominate the Community market, it was failing to deliver risk assessments and subsequent restrictions needed within a reasonable timeframe, and it placed too much onus on public authorities to provide proof of risk. The fact that the requirements for putting new chemicals on the market were much stricter than those applied to "existing" chemicals was a further important argument in favour of modernising the system.

Agency

The Agency will be an independent authority for the management of the new REACH system and will be a key player in ensuring that the system has credibility with all stakeholders and the public. In the interests of efficiency, continuity and optimum use of available resources, it has been assumed that Ispra, Italy (present site of the European Chemicals Bureau) will be the most appropriate site for the Agency.

The added value of Community involvement through the new chemicals Agency will be achieved through the centralised gathering of information on chemicals [not existing to date]. This information will provide a sound basis for decisions to be taken by the Commission and non-confidential data will be made available to all interested stakeholders on request or on a database. In addition, the Agency will serve as a central point for the exchange of information among the Competent Authorities (CAs) of the Member States and ensure that best practices are shared.

The Commission will have the power to take all decisions in relation to authorisation and restriction of dangerous substances by means of the Commitology procedure based on opinions prepared by the Agency. The Commission shall also take decisions on proposals for further testing (if Member States cannot reach an agreement), the inclusion of substances into the authorisation system, as well as on harmonisation of classification and labelling.

5.1.1. Objectives pursued

REACH objectives

The Commission's strategy for a future chemicals policy is part of its wider sustainable development strategy. Its overriding goal is therefore to respect sustainable development by ensuring both a high level of protection of human health and the environment and the competitiveness of the chemicals industry, within the framework of the Single Market. The specific objectives of REACH are:

- protection of human health and the environment;
- maintenance and enhancement of the competitiveness of the EU chemical industry;
- prevent fragmentation of the internal market;
- increased transparency;
- integration with international efforts;
- promotion of non-animal testing;

– conformity with EU international obligations under the WTO.

Agency's objectives

The Agency shall co-ordinate the resources of Member States competent authorities under the Reach system. This co-ordination role, as opposed to giving the Agency a role as a pan-European regulator, is consistent with the principle of subsidiarity.

The Agency will submit opinions to the Commission prior to decisions being taken. In order to ensure that complete dossiers can be submitted to the Member States, the Agency will be entrusted with the power to request additional information.

Furthermore, the concerned parties will be informed about opinions to be issued and will be allowed to comment on them. The comments will be forwarded to the Commission along with the opinions, thus safeguarding the parties' rights of defence.

Indicators

Due to a lack of data, a comprehensive quantitative assessment of the impacts of chemicals on the environment and human health is not possible. Indeed, much of this information will only be available after the chemicals on the market today have been registered in line with the requirements of REACH. Accordingly, the benefits of REACH will occur over a longer time frame.

The impact assessment carried out for the proposed chemicals strategy demonstrates that the Commission's legislative proposal represents a balanced approach. It will:

i) contribute to improved health for the citizens of the EU and greater protection of the environment

ii) bring added benefits to worker safety and

iii) improve the conditions for innovation, by making it easier and cheaper to develop new and safer substances; and, also by limiting costs help to maintain the competitiveness of the chemicals industry.

It will be necessary to keep all the different impacts resulting from the new Policy (see the Impact Assessment document) under close review in order to make sure that the implementation of the new legislation will result in a balanced outcome as required by the sustainable development approach. In order to do so a set of indicators have been identified and anticipated in the Impact Assessment:

Objective	**Indicators for the policy**
Protection of human health and the environment	• Member States' reports on the dossier evaluations of testing proposals conducted over the previous year[3] • Number of animal tests conducted following dossier

3 Article 51 of the Regulation stipulates ' Obligations for Member States to report to the Agency - In the interests of ensuring that the burden is fairly shared, every Member States shall prepare a report annually on the dossier evaluations of testing proposals conducted over the previous year'.

	evaluation • Number of proposals for animal tests rejected after dossier evaluation • Member States' reports on enforcement activities[4] • Number of PBTs[5], vPvBs[6] and CMRs[7] identified
Harmonisation of evaluation system	• Number of draft evaluation decisions referred to the Member State Committee in the Agency
Maintenance and enhancement of the competitiveness of the EU chemical industry	• Number of companies active in the chemicals sector (including share of SMEs) • Development of exports/imports of the European chemicals industry • GDP contribution of the chemicals sector and value added • Level of employment in the chemicals sector
Promotion of innovation	• Number of new substances registered • Number of PPORDs[8] applied for
Prevent fragmentation of the internal market	• Number of Article 95 cases
Increased transparency	• Number of searches on the databases • Numbers of request for information for non-confidential data
Promotion of non-animal testing	• Availability of valid QSARs[9] • Number of in-vitro test methods developed • Number of vertebrate test animals used in relation to number of tests performed
Conformity with EU international obligations under the WTO	• Number of TBT[10] cases

4 Article 123 of the Regulation stipulates 'Report - This requires Member States to report on their enforcement activities and the sanctions imposed for non-compliance over the previous calendar year. This information will be useful to the Forum in identifying any action that might usefully be taken at Community level'.

5 Persistent, bioaccumulative and toxic substances

6 very persistent and very bioaccumulative substances

7 Carcinogenic, mutagenic and reprotoxic substances

8 Product and Process Oriented Development

9 Qualitative structure activity relationships (alternative testing method)

10 Technical barriers to trade

Timely introduction of risk reduction measures	• Number of authorisation/restriction cases dealt with • Time from receiving a complete dossier to appropriate risk reduction measures being agreed
Cost-effectiveness of centralised registration process	• Number of registration dossiers received from industry • Number of refused registration dossiers (completeness check)
Accuracy of Agency decision making	• Number of appeals received • Number of appeals uphold

Before REACH comes into force a 'base-line' study will be conducted to identify

- Incidence and type of chemical induced ill-health in relation to
  - consumers (public)
  - workers (general)
  - workers (chemical industry)
- Incidence and type of environmental damage caused by chemicals

This base-line study will also identify relevant social and economic factors that may impact on them. The same indicators and methodology will be used every n-years to identify changes in these incidents as well as the social and economic factors identified in the base-line study.

5.1.2. Measures taken in connection with ex ante evaluation

The proposed legislation is a more comprehensive approach involving many added features but does in several areas have strong similarities to previous Community policies. Therefore, for the purpose of this exercise it is possible to draw on experiences of the past and particularly upon the knowledge and skills held within the ECB such as the time needed to perform different tasks and the identification of when further testing is necessary. It is the intention to harness this experience within the preparatory phases for REACH (see section 5.2.) so that when the new legislation is in place the appropriate Agency tasks can begin immediately.

REACH

Different studies have supported the Commission in developing a cost-effective and balanced strategy. These studies are available on the Commission website[11].

Stakeholders have been consulted continuously from the early stages of the development of the legislation.

Even before the White Paper was adopted, an initial brainstorming meeting was held in February 1999 with more than 150 stakeholders - regulators, scientists, industry, environmental and consumer NGOs as well as representatives from applicant countries. –This helped to provide the Commission with an overall view of the problems with the current system and potential solutions.

[11] http://europa.eu.int/comm/enterprise/chemicals/chempol/bia/index.htm

Subsequent to the publication of the White Paper, there followed a period of considerable public discussion, including hundreds of written comments from stakeholders on a range of issues linked to the proposed new system. This exchange of views took place in the course of conferences, stakeholder working groups and bilateral contacts between the services and stakeholders. Specific studies, notably in relation to the likely impact of the system proposed, were also initiated.

Both the Council of Ministers and the Parliament adopted conclusions on the White Paper and, in addition, several Member States and certain third countries, such as the United States, made known their views separately.

In May 2003, the Commission decided to launch an Internet consultation to consider the workability of the draft legislation, including the technical requirements. The consultation took place between 15 May and 10 July 2003. More than 6000 contributions were received. More information on the Internet consultation and the other stakeholder consultations is available on the Commission website[12].

Agency

Two options were considered for the establishment of a new "Entity" to administer REACH. One option is the setting up an independent Agency, the other is to enlarge the European Chemicals Bureau (ECB). In order to evaluate both alternatives, a study was carried out[13]. Having fully considered the available options the Commission has come to the conclusion that setting up an independent Agency is the preferred option.

The main advantages are:

full support for an Agency by all stakeholders and more assured commitment therefore to making the new strategy work;

funding: an independent agency can use fee income to fund staff posts whereas an enlarged ECB could not. The ECB would have to receive the fees into a dedicated line in part B of the Community budget;

external transparency: greater confidence by stakeholders in Agency as instrument of greater transparency;

long-term continuity;

administrative efficiency: the ECB has essentially a scientific background and mandate and is therefore not best suited to carry out largely administrative responsibilities;

more active involvement of Member States in terms of resources, commitment, and harmonisation of controls.

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12 http://europa.eu.int/comm/enterprise/chemicals/chempol/whitepaper/whitepaper.htm

13 See 'Feasibility study on resource requirements for a Central Entity', Commission financed study carried-out by Deloitte & Touche (final report June 2002). In the White Paper on the strategy of a future chemicals policy, the Commission proposed a feasibility study on this entity. This study considered two main options: an enlarged European Chemicals Bureau (ECB) within the Commission's Joint Research Centre and an independent central agency.

5.1.3. Measures taken following ex-post evaluation

The proposed legislation is a new piece of legislation and does only partially replace existing legislation. Therefore, an ex-post evaluation of previous legislation/programmes is not possible and can not be applied.

5.2. Actions envisaged and budget intervention arrangements

5.2.1 Objectives

Interim period

In the so-called "interim period", starting when the shape of the new Agency has been defined by the proposed Regulation (assumed end 2003) and continuing throughout 2004 and 2005, different preparatory actions will be required to be able to effectively and efficiently administer the new chemicals legislation when it enters into force.

Transition period

After the adoption of the legislative package, the Agency will be in the so-called 'transition period', during which the Commission will fulfil the role of the Agency. This option has been chosen to ensure that the Agency can be operational and is in a position to hire staff and take decisions.[14]

Agency fully operational

Article 73 of the Regulation stipulates that the Agency shall advise the Member States and the Community within the context of the Reach System.

5.2.2 Tasks

Interim period

The key tasks for the task force during the interim period relate to a sound preparation of an (IT) infrastructure for the Agency and the preparation of technical guidance documents for the parties involved. Due to the large number of expected registrations (for about 30,000 substances), a semi-automated registration system is envisioned, largely relying on state-of-the-art IT infrastructure.

It will furthermore be necessary to draft detailed guidance documents for industry and the Competent Authorities of the Member States to ensure that correct and complete files are submitted when the legislation comes into force. In addition, information sessions as part of the educational process will be required for the stakeholders (industry and CAs).

All tasks (including preparing tools for industry to facilitate the registration process and tools developed for Member States to perform their tasks) will be identified in close co-operation and on the basis of a yearly work programme between DGs Environment, Enterprise and the JRC. In addition, the European Chemicals Bureau (ECB) of the JRC will continue to provide scientific and technical support to DG ENV for the implementation of the current legislation, until this legislation is revoked by REACH. The ECB support to current legislation and the support for the preparation of the new legislation for the period 2004-2006 will be provided to the extent allowed by available resources. The

[14] Past experiences of creating other Agencies have shown that without a transitional period it is very difficult to hire staff and to become operational before an Executive Director is in place.

work will be re-prioritised, in order to increasingly free up resources for carrying out the preparatory work for REACH. When the new legislation is in place these activities will cease, releasing these posts to be used in other areas of the JRC work programme.

Transition period

The proposed Regulation foresees that the Commission shall fulfil the functions of the Agency during the period following the entry into force of the Regulation until these functions are transferred to the Agency. Given the importance of continuity in chemicals regulation the Commission proposes that the Agency should have its seat in the same location as the present European Chemicals Bureau (ISPRA). In order to perform these functions a core of experienced staff will have to be recruited. The preliminary draft budget of the Agency is based on a total staff level of 95 in year 1 to an average of 200 for the remaining years (Annex 4), except for year 11[15] (where there will be an exceptionally high workload). In order to ensure that this amount of staff can be hired, a mix of different contract types is anticipated: seconded officials, contract agents, newly recruited officials.

An analysis of the profile requirements has been carried out. It is anticipated that during the transition period officials will be seconded by the involved Commission Services to carry out overhead tasks (e.g. HR, Finance/Audit, etc.). For tasks of a more technical nature related to the core (scientific) tasks of the Agency it is anticipated to work with contract agents and newly recruited officials (EPSO is preparing a scientific councours for 2004 which whould yield a reserve list in 2005).

5.3. Methods of implementation

The proposal contains the establishment of an Agency for an initial period of 11 years. The Agency will have a legal personality.

The Agency will be established in accordance with the guidelines contained in the Commission's Communication for Regulatory Agencies[16].

The Agency will comprise the following elements:

- A Management Board of 15 members;
- An Executive Director, reporting to the Management Board;
- A Committee on risk assessment, a Committee on socio-economic analysis and a Member State Committee. These Committees may be asked to provide opinions under the evaluation, authorisation and restriction procedures.
- A Forum for exchange of information on enforcement activities. This Forum implements the White Paper proposal to create a formal network of enforcement authorities. The tasks of the Forum are essentially a continuation of those previously undertaken by an informal network of Member States authorities. Work in this area would benefit from operating in a more formal framework. Each Member State shall nominate a member to the Forum.

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15 In year 11 the staff requirements peak due to an additional ~170 of C grades, who will be required to up-load registration dossiers into the system. This work can be carried out by interim staff since it requires very little qualifications (hence very short training required) and is limited in time.

16 COM(2002) 718 Final

– A Secretariat that will provide technical and administrative support for the Committees. It will also undertake a number of tasks without reference to the Committees. These are essentially administrative tasks, requiring limited technical knowledge. Involving the Committees would overburden them and would provide no added value.

– A Board of Appeal that will consider any appeals against the decisions of the Agency.

The budget procedure will be detailed in the following Articles concerning the Agency:

Articles 74, 79, 80, 93, 94, 97, 115.

6. FINANCIAL IMPACT

The Agency budget comprises its own revenues, consisting of all fees, which the Agency is authorised to collect by virtue of the tasks entrusted to it, and a balancing subsidy from the Community budget. The provisional budget (Annex 1,2) for the new chemicals Agency assumes that the first two years (2006 and 2007) will be almost entirely financed by the Community budget. Since the Agency's own revenues in the two first years are insignificant, a substantial balancing subsidy is indispensable in order to ensure that the Agency becomes operational as soon as possible after entry into force of the new chemicals legislation (Article 130). Over the 11 years period, the EC contribution in the form of a balancing subsidy is assumed to cover about 22% of the total budget of the Agency (see Annex 1).

As regards the Agency's own revenues, the provisional budget is based on different assumptions (Annex 3) concerning the:

– number of registrations, evaluations and authorisations required under the new legislation;

– repartition over the 11 years period of the registrations, evaluations and authorisations;

– workload for the Agency per single registration, evaluation (to a small extent only, the majority of the work will be carried-out by Member States) and authorisation;

– fee levels per registration, evaluation and authorisation dossier.

For the purpose of the provisional budget, proposals are hereby made with regard to the different fee levels. Once the Commission has transferred the functions foreseen under this Regulation to the Agency, and in order to evaluate the adequacy of future funding, the Management Board will decide on fee levels (Article 95). The estimated fee levels are:

– Registration of substances below 100t => € 400

– Registration of substances above 100t => € 8000

– Dossier evaluation of substances above 100t => the Agency will reimburse up to € 5000 of the registration fee received to Competent Authorities (CA) of Member States that will carry out the evaluations (note: substance evaluations are not reimbursed).

Authorisation fee of € 50.000

6.1. Total financial impact on Part B - (over the entire programming period)

6.1.1. Financial intervention

Commitments (in € million to three decimal places)

	2004 *	2005 *	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Action 1 Community Contribution to new Chemicals Agency	0	0	11.697	15.061	0	0	0	0	0	4.042	28.185	19.881	0
TOTAL	0	0	11.697	15.061	0	0	0	0	0	4.042	28.185	19.881	0

6.1.2. Technical and administrative assistance, support expenditure and IT expenditure (commitment appropriations)

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
1) Technical & administrative assistance	1,050	1,000	0	0	0	0	0	0	0	0	0	0	0
a) Technical assistance offices	0	0	0	0	0	0	0	0	0	0	0	0	0
b) Other technical and administrative assistance: - intra muros: - extra muros: *of which for IT contracts (development)*	1,050		0	0	0	0	0	0	0	0	0	0	0
Subtotal 1	1,050	1,000	0	0	0	0	0	0	0	0	0	0	0
2) Support expenditure *of which drafting of technical guidance documents* *of which IT hardware*	1,550 . . 0,100	2,500	0	0	0	0	0	0	0	0	0	0	0
a) Studies	0	0	0	0	0	0	0	0	0	0	0	0	0
b) Meetings of experts	0,220	0,350	0	0	0	0	0	0	0	0	0	0	0
c) Information and publications	0,080	0,150	0	0	0	0	0	0	0	0	0	0	0

Subtotal 2	1,950	3,000	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3,000	4,000	0	0	0	0	0	0	0	0	0	0	0

7. IMPACT ON STAFF AND ADMINISTRATIVE EXPENDITURE

7.1. Impact on human resources

Types of post		Staff to be assigned to management of the action using existing and/or additional resources		Total	Description of tasks deriving from the action
		Number of permanent posts **	Number of temporary posts		
Officials or temporary staff	A B C				
Other human resources					
Total					

After the entry into force of the new legislation, one of the major tasks of the Agency will be the preparation of opinions, which will then be adopted through the Commitology procedure. It is anticipated, that the number of opinions to be expected will create an extra burden on DG ENTR and ENV. Current estimates are that 4 desk officers (A-grades) will be required (3 in DG ENTR and 1 in DG ENV). These resources will have to be covered through internal redeployment in DG ENV and ENTR. In addition, a financial officer (B-grade) will be required to follow up and monitor the activities of the new Chemicals Agency. Also this resource will have to be covered through internal redeployment.

7.2. Overall financial impact of human resources

Type of human resources	Amount (€)	Method of calculation *
<u>Officials</u> A- Grades B-Grades Temporary staff	. . 0	No direct financial impact through prioritisation of work in DG ENTR and DG ENV
Other human resources (specify budget line)	0	

Total	0	

7.3. Other administrative expenditure deriving from the action

Budget line (number and heading)	Amount €	Method of calculation
Overall allocation (Title A7) A0701 – Missions A07030 – Meetings A07031 – Compulsory committees [1] A07032 – Non-compulsory committees[1] A07040 – Conferences A0705 – Studies and consultations Other expenditure (specify)	50.000	. It is assumed that during the preparatory phase (2004 – 2005), each year 2 stakeholder conferences with a cost of € 25.000 each need to be organized. (5 speakers @ € 1.000 each + facility/lunch @ 20.000)
Information systems (A-5001/A-4300)		
Other expenditure – Part A (specify)		
Total	€50.000	

The amounts are total expenditure for twelve months.

[1] Specify the type of committee and the group to which it belongs.

I.	Annual total (7.2 + 7.3)
II.	Duration of action
III.	Total cost of action (I x II)

8. FOLLOW-UP AND EVALUATION

8.1. Follow-up arrangements

It will be necessary to keep all the different impacts resulting from the new Policy (see for all details the Impact Assessment document) under close review in order to make sure that the implementation of the new legislation will result in a balanced outcome as required by the sustainable development approach. It will be important to monitor how the chemicals industry in particular fulfil the new requirements and it should be ensured that there is full cooperation with industry and SMEs in particular in facilitating an understanding the practical application of the requirements of REACH. The Commission will closely observe the industry's competitiveness, its environmental performance and any variations in employment over time.

Similarly, it will be necessary also to maintain close consultation with other stakeholders, such as environmental NGOs and consumer representatives, which will require the Commission to ensure that REACH is effectively implemented and delivers the anticipated gains to health and the environment.

In order to facilitate evidence-based evaluation of the effectiveness of the new legislation and the chemicals agency a monitoring system of the outputs and the results, as well as inputs used will be developed (building further on paragraph 5.1.1). The monitoring system will be developed by a steering committee consisting of DG Enterprise, Environment and JRC officials during the interim period and will be operational immediately after the entry into force of the legislation.

Depending on the indicators to be monitored, the initial responsibilities will rest with either the Agency[17], the Commission or the Member States[18].

8.2. Arrangements and schedule for the planned evaluation

In order to evaluate the implementation and effect of the new policy, the indicators as laid out in 5.1.1. will be gathered and monitored, mostly on an annual basis.

In this respect it should be recalled (see chapter 5) that the new policy is part of the Commission's wider sustainable development strategy. Its overriding goal is therefore to respect sustainable development by ensuring both a high level of protection of human health and the environment and the competitiveness of industry, within the framework of the Single Market.

Therefore, one of the key questions that needs to be addressed in this respect is the way REACH will contribute to meeting the objective of Action 04 "Getting still more from the Internal Market". One indicator to measure the degree of harmonisation in the chemicals area is the level of the integrity of the internal market for chemicals. This can be measured by identifying the number of national measures introduced or requested on this area and the number of internal trade conflicts which should reduce. This will be considered in detail during the yearly monitoring process and the evaluation of REACH.

In addition, the Regulation stipulates the following in Article 144 (Reporting)

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17 Normal operational and financial indicators will be monitored and reported by the Agency

18 The Commission will carry responsibility for evaluating the indicators related to the impact assessment and Member States will produce their reports as indicated in 8.2.

Every ten years, Member States shall submit to the Commission a report on the operation of this Regulation in their respective territories, including sections on evaluation and enforcement in the format specified by Article 108. However, the first report shall be submitted five years after the entry into force of this Regulation.

Every ten years, the Agency shall submit to the Commission a report on the operation of this Regulation. However, the first report shall be submitted five years after the date of the notification required in Article 130 (2).

Every ten years, the Commission shall publish a general report on the experience acquired with the operation of this regulation, including the information referred to in paragraphs 1 and 2. However, the first report shall be published six years after the date of the notification required in Article 130 (2).

9. ANTI-FRAUD MEASURES

In order to combat fraud, corruption and other unlawful activities, the provisions of Regulation (EC) No 1037/1999 shall apply without restrictions to this Agency.

The Agency shall accede to the Interinstitutional Agreement of May 25, 1999 concerning internal investigations by OLAF and shall issue, without delay, the appropriate provisions applicable to all of its staff.

The decisions concerning funding and the implementing agreements and instruments resulting from them shall explicitly stipulate that the Court of Auditors and OLAF may carry out, if necessary, on-the-spot checks of the recipients of the Agency's funding and the agents responsible for allocating it.

ANNEX 1 - Commitment appropriations

Financial Model for new Chemicals Agency

Cost item, all amounts in '000 Euro:	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Total	in %
Bodies of Agency													
Management Board	146	232	232	232	232	232	232	232	232	232	232	2.467	0,7%
Costs for rapporteurs	-	-	2.300	2.950	3.400	3.850	4.050	4.050	4.050	4.050	4.050	32.750	9,1%
Member State Committee	50	50	425	575	475	450	525	525	450	425	900	4.850	1,3%
Forum	200	200	200	200	200	200	200	200	200	200	200	2.200	0,6%
Appeal Body	200	200	200	200	200	200	200	200	200	200	200	2.200	0,6%
Total Cost Bodies of Agency	*596*	*682*	*4.447*	*5.587*	*6.097*	*6.752*	*7.137*	*7.137*	*7.062*	*7.037*	*7.512*	*60.047*	*16,7%*
Personnel Costs for REACH operations													
Registration	196	913	2.980	931	4.362	2.752	1.183	1.188	1.210	1.347	13.761	30.823	8,6%
Evaluation	265	553	934	1.237	982	992	1.108	1.121	979	925	1.985	11.082	3,1%
Assessment	393	785	1.696	1.707	1.717	1.727	1.727	1.727	1.727	1.727	1.727	16.661	4,6%
Authorisation	179	359	526	796	973	1.150	1.243	1.243	1.243	1.243	1.243	10.197	2,8%
Committees	62	124	1.608	2.055	2.290	2.526	2.736	2.736	2.736	2.736	2.736	22.347	6,2%
Product and Process Oriented Research and	473	946	946	946	946	946	946	946	946	946	946	9.935	2,8%
Evaluation decission	144	289	289	289	289	289	289	289	289	289	289	3.033	0,8%
REACH - IT	400	800	800	800	800	800	800	800	800	800	800	8.404	2,3%
Other Functions	510	1.072	2.140	2.036	2.390	2.272	2.157	2.159	2.147	2.155	3.503	22.541	6,3%
Total Personnel costs for REACH operations	*2.622*	*5.841*	*11.920*	*10.797*	*14.749*	*13.454*	*12.190*	*12.209*	*12.078*	*12.170*	*26.991*	*135.022*	*37,6%*
Support functions related directly to REACH													
Help desk, scientific and technical advise	711	1.222	1.988	2.070	2.070	2.070	2.070	2.070	2.070	2.070	2.070	20.483	5,7%
Support of Bodies of Agency	441	882	882	882	882	882	882	882	882	882	882	9.263	2,6%
Total Support functions related to REACH	*1.152*	*2.105*	*2.870*	*2.952*	*2.952*	*2.952*	*2.952*	*2.952*	*2.952*	*2.952*	*2.952*	*29.747*	*8,3%*
General costs													
Human Resources, Legal support, Finance	1.294	2.679	4.248	3.550	4.084	3.508	3.449	3.592	3.588	3.603	5.653	39.249	10,9%
Publication and documentation Cost	1.323	1.946	3.110	4.110	4.110	4.110	4.110	4.110	4.110	4.110	4.110	39.260	10,9%
Meeting and travel cost	656	749	997	1.015	1.098	1.068	1.061	1.061	1.057	1.057	1.278	11.097	3,1%
IT	1.367	465	777	498	1.222	440	437	498	1.100	503	1.149	8.454	2,4%
Rent, utilities & building cost	2.786	1.553	1.787	1.507	1.680	2.176	1.447	1.508	1.508	2.313	2.779	21.045	5,9%
Total Administrative costs	*7.426*	*7.391*	*10.920*	*10.680*	*12.194*	*11.302*	*10.504*	*10.770*	*11.363*	*11.586*	*14.968*	*119.105*	*33,1%*
TOTAL	*11.797*	*16.019*	*30.157*	*30.017*	*35.993*	*34.461*	*32.784*	*33.068*	*33.455*	*33.745*	*52.423*	*343.921*	*95,7%*

Evaluation fees to competent authorities	168	235	1.144	1.946	1.306	1.297	1.622	1.653	1.299	1.163	3.629	15.461	4,3%
Total Budget of Agency	***11.964***	***16.254***	***31.301***	***31.963***	***37.299***	***35.758***	***34.406***	***34.722***	***34.755***	***34.907***	***56.053***	***359.381***	***100,0%***
Covered by Agency fees	267	1.192	91.617	5.414	7.922	81.945	6.778	7.730	6.570	15.026	60.665	285.127	79,3%
Available surplus from previous year(s)	-	-		60.316	33.768	4.390	50.577	22.949	-	-	-		
To be covered by EC contribution	***11.697***	***15.062***	***-***	***-***	***-***	***-***	***-***	***4.042***	***28.185***	***19.881***	***-***	***78.867***	***21,9%***
Surplus of income fee used for following year(s)	-	-	60.316	33.768	4.390	50.577	22.949	-	-	-	4.613		

ANNEX 2

PROVISIONAL BUDGET FOR NEW CHEMICALS AGENCY BY TITLES

Commitment apropriations
(in '000 Euros)

	Budget Year 1	Budget Year 2	Budget Year 3	Budget Year 4	Budget Year 5	Budget Year 6	Budget Year 7	Budget Year 8	Budget Year 9	Budget Year 10	Budget Year 11	Budget Total
EXPENSES												
Title 1												
- Salaries & allocations	**4.618 ***	**10.429**	**17.721**	**16.681**	**20.633**	**19.338**	**18.073**	**18.093**	**17.961**	**18.053**	**32.874**	**194.474**
- Other personnel cost	**542 ***	**580**	**1.347**	**649**	**1.183**	**607**	**548**	**691**	**687**	**702**	**2.752**	**10.289 0**
Total Title 1	**5.161**	**11.008**	**19.069**	**17.330**	**21.816**	**19.945**	**18.621**	**18.784**	**18.649**	**18.755**	**35.626**	**204.763**
Title 2												**0**
- Infrastructure	**2.886**	**1.653**	**1.887**	**1.607**	**1.780**	**2.276**	**1.547**	**1.608**	**1.608**	**2.413**	**2.879**	**22.145**
- Informatique & Telecommunication	**1.684**	**700**	**929**	**650**	**1.374**	**592**	**589**	**650**	**1.252**	**655**	**1.301**	**10.376**
Total Title 2	**4.570**	**2.352**	**2.816**	**2.257**	**3.154**	**2.869**	**2.136**	**2.258**	**2.860**	**3.068**	**4.180**	**32.520**
Title 3												**0**
- Meetings	**1.166**	**1.259**	**2.972**	**3.480**	**3.623**	**3.798**	**3.976**	**3.976**	**3.897**	**3.872**	**4.568**	**36.587**
- Rapporteurs	**0**	**0**	**2.300**	**2.950**	**3.400**	**3.850**	**4.050**	**4.050**	**4.050**	**4.050**	**4.050**	**32.750**
- Translation	**500**	**1.000**	**2.000**	**3.000**	**3.000**	**3.000**	**3.000**	**3.000**	**3.000**	**3.000**	**3.000**	**27.500**
- Publications	**200**	**200**	**200**	**200**	**200**	**200**	**200**	**200**	**200**	**200**	**200**	**2.200**
- Consultations	**200**	**200**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**800**	**7.600**
- Evaluation fees to MS	**168**	**235**	**1.144**	**1.946**	**1.306**	**1.297**	**1.622**	**1.653**	**1.299**	**1.163**	**3.629**	**15.461 0**
Total Title 3	**2.234**	**2.893**	**9.416**	**12.376**	**12.329**	**12.945**	**13.648**	**13.680**	**13.246**	**13.084**	**16.247**	**122.097**
TOTAL	**11.964**	**16.254**	**31.301**	**31.963**	**37.299**	**35.758**	**34.406**	**34.722**	**34.755**	**34.907**	**56.053**	**359.381**

* In 2006 (budget year 1), in order to take into account the staggering of recruitment in the very first year of the life of the agency, salaries and other staff related costs are estimated to be 50% of the normal annual cost (an average of 6 months paid over the year).

INCOME												
- EC Contribution	**11.697**	**15.062**	**0**	**0**	**0**	**0**	**0**	**4.042**	**28.185**	**19.881**	**0**	**78.867**
- Fee income of agency	**267**	**1.192**	**91.617**	**5.414**	**7.922**	**81.945**	**6.778**	**7.730**	**6.570**	**15.026**	**60.665**	**285.127**
- Over income (to next year)	**0**	**0**	**-60.316**	**26.549**	**29.377**	**-46.187**	**27.628**	**22.949**	**0**	**0**	**-4.613**	**-4.613**
TOTAL	**11.964**	**16.254**	**31.301**	**31.963**	**37.299**	**35.758**	**34.406**	**34.722**	**34.755**	**34.907**	**56.053**	**359.381**

ANNEX 3

Applied methodology and main underlying assumptions for the financial model of the new chemicals agency

Applied staff costs (average per annum):

A-grade (1-4) € 172.087

A-grade (5-8) € 103.126

B-grade € 82.609

C-grade € 60.604

Bodies of Agency and their Support:

The cost for the Management Board contains amongst others the cost for the Executive Director plus an A-grade assistant.

For all bodies of the Agency, travel costs have been computed based on the assumed number of meetings. The number of meetings have either been estimated based on similar experiences in other Agencies (e.g. assumption that the Management Board meets 4 times per year), or based on the estimated number of dossiers a body has to deal with (e.g. in case of the Committees).

The number of meetings have been multiplied with the number of the members of the respective body and with the average travel/daily allowance costs (based on experiences of the European Chemicals Bureau (ECB) in Ispra).

In addition, staff costs have been added for some of the bodies, which will have a secretariat (Forum and Appeal Body).

In the case of the Committees, fees have also been added, which will be paid to the rapporteur of a dossier.

Personnel costs for REACH operations:

Due to the fact that the ECB is operating the current chemicals legislation, significant experience exists with regard to how long certain tasks take and what kind of qualifications are needed in order to carry them out (differentiation between A, B and C-grade).

Based on this experience, the ECB has developed a staff model for the operation of REACH. The output of the staff model is how many staff (split by grade) are required in a given year to fulfil the tasks of the agency.

The output of the staff model has been multiplied with the above-mentioned average cost per grade in order to derive the costs for operating the system.

Please note that he fluctuations in staff requirements are a result of the change in workload over time. The workload of the agency is directly related to the number of dossiers to be submitted by industry. Since reliable estimates exist for the total number of dossiers to be submitted during the 11 years, the number was broken down based on the deadlines introduced in the legislative text. ECB experience has shown that it is realistic to estimate that industry will submit the largest amount of dossiers shortly before a deadline expires. This explains why there are several peak-years

(especially year 11, here the legislation sets the deadline for industry to submit dossiers for substances produced between 1-10 tonnes, these substances are estimated to account for 66% of total dossiers ~20.000).

Support functions related directly to REACH:

These costs include training of Member State Authorities, a help desk for industry and staff to give technical and scientific advice to the Member States. In addition, it has been assumed that some cost will arise from ad-hoc studies to be carried out by the Agency in relation to REACH.

Administrative Costs:

These costs are mainly staff costs for the over-head functions. The required staff numbers have been maintained through a feasibility study for the Agency carried out by Deloitte & Touche and through comparisons with other Agencies. In addition, recent regulations with regard to Regulatory Agencies have been taken into consideration and translated into staff requirements (e.g. Audit function).

The cost estimate for publication and documentation cost contains amongst others also the estimated translation costs, which will not be negligible based on the fact that the Agency will have to work in all 20 official languages in some areas of the REACH system.

ANNEX 4

TABLEAU DES EFFECTIFS STATUTAIRES

EUR 25 (based on financial model version 19)

Categories by Grade per year	Permanent staff										
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
A (1-4)	0	0	0	0	0	0	0	0	0	0	0
A (5-8)	8	8	8	8	8	8	8	8	8	8	8
Total grade A	8	8	8	8	8	8	8	8	8	8	8
Total grade B	6	6	6	6	6	6	6	6	6	6	6
Total grade C	0	0	0	0	0	0	0	0	0	0	0
Total grade D	0	0	0	0	0	0	0	0	0	0	0
Total perm.	**14**	**14**	**14**	**14**	**14**	**14**	**14**	**14**	**14**	**14**	**14**
	Non permanent staff										
A (1-4)	6	6	8	8	8	8	8	8	8	8	8
A (5-8)	35	38	64	69	72	74	74	74	74	73	95
Total grade A	41	44	72	77	80	82	82	82	82	81	103
Total grade B	19	24	43	43	60	51	49	49	48	48	81
Total grade C	21	29	75	51	87	75	57	57	57	59	221
Total grade D	0	0	0	0	0	0	0	0	0	0	0
Total non perm.	81	97	190	171	227	208	188	188	187	188	405
Grand Total	**95**	**111**	**204**	**185**	**241**	**222**	**202**	**202**	**201**	**202**	**419**

Justification:

In the interest of continuity of operations and in order to ensure that a minimum of knowledge is contained within the chemicals agency, it is deemed necessary that a limited number of positions should be permanent posts in order to create a 'corporate memory'.

However, to avoid that a single individual is carrying out a certain position for an unlimited number of years, it should be included in the guidelines of the Agency that a rotation system of the permanent staff within the different departments has to be introduced.

It is therefore proposed to have the following staff functions as permanent posts:

A-grades (5-8):

1 A-grade per area of the REACH system (registration, evaluation, assessment, authorisation)

Finance department (1 staff)

HR department (1 staff)

Secretariat of the Forum (1 staff)

Secretariat of the Appeal Body (1 staff)

B-grades:

1 B-grade per area of the REACH system (registration, evaluation, assessment, authorisation)

Secretariat of the Forum (1 staff)

Secretariat of the Appeal Body (1 staff)