

CONSULTATION DOCUMENT

VOLUME VI

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

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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 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 intended 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 from the supplier of the chemical in accordance with Point 6. 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 must 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. The first step is obligatory; the next two are dependent on the outcome of Step 1:

Step 1:

- (a) A comparison of the exposure scenario(s) communicated by the supplier for the intended use(s) with the exposure scenario(s) implemented by the downstream user;
- (b) A comparison of the exposure scenario(s) communicated by the supplier for the intended use(s) with the exposure scenario(s) communicated by the downstream user in relation to the intended uses further down the supply chain;

Step 2:

- (a) If necessary, a refinement of the exposure scenario(s) implemented by the downstream user or communicated by the downstream user in relation to the intended uses further down the supply chain; or
- (b) If necessary, a refinement of the hazard assessment;

Step 3: If necessary, a refinement of the risk characterisation.

In the last two steps, iterations may be made between on the one hand refining the 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 and using the format set out in Section 7 of Annex I. This format can be used independently of the amount of information available or the amount of information required.

If the conditions of Point 32 (2) are met for a particular use, then the downstream user can refer to the Chemical Safety Report supplied by the supplier. The relevant sections of the Chemical Safety Report produced by the supplier shall then apply for the downstream user.

If the conditions of Point 32 (2) are not met for a particular use, then the chemical safety assessment needs to be further developed by the downstream user. In such cases, a summary of the new information, which is used in the further development of the chemical safety assessment, shall be presented under the relevant heading of the Chemical Safety Report and reported in accordance with Point 33.

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 intended uses are communicated down the supply chain.

STEP 1: COMPARISON OF EXPOSURE SCENARIOS

The downstream user shall carry out a comparison of the exposure scenario(s) communicated by the supplier for the intended use(s) with the exposure scenario(s) implemented by the downstream user. The downstream user shall also carry out a comparison of the exposure scenario(s) communicated by the supplier for the intended use(s) with the exposure scenario(s) communicated by the downstream user in relation to the intended uses further down the supply chain.

The downstream users shall ensure that exposure scenario(s) have been developed for the life-cycle of the substance, from its receipt by the downstream user, for his own uses and for his intended uses.

If the conditions of Point 32 (2) are met for a particular use, then no further exposure scenario(s) need to be developed for that use. The relevant sections of the Chemical Safety Report produced by the supplier shall apply. The relevant sections of the Chemical Safety Report produced by the downstream user shall contain the sentence: *“Sections” (insert details of the relevant sections) “of the Chemical Safety Report supplied by my supplier are appropriate for this use. The risk management measures recommended for my use are implemented. The risk management measures recommended for intended uses are communicated down the supply chain.”* Specific reference shall be given to the supplier’s Chemical Safety Report where the exposure scenario(s) are described and the exposure assessment carried out.

STEP 2(A): DEVELOPMENT OF NEW EXPOSURE SCENARIOS

In cases where one or more of the exposure scenario(s) described in the supplier’s Chemical Safety Report and communicated to the downstream user does not cover relevant exposure situation of the downstream user and/or for a particular use, the downstream user shall develop appropriate exposure scenario(s) and carry out an exposure assessment as prescribed in Annex I. The new exposure scenarios shall cover the exposure situations not covered in the Chemical Safety Report supplied by the supplier. The exposure scenario(s) developed and the

exposure assessment carried out shall be presented under the relevant heading of the Chemical Safety Report using an appropriate short title describing the category of activity and the processes addressed by the scenario(s).

STEP 2(B): HAZARD ASSESSMENT AND PBT AND vPvB ASSESSMENT

If the assessments detailed in Sections 1-7 of part B of the Chemical Safety Report supplied by the supplier, are considered appropriate by the downstream user, then no further hazard assessment or PBT and vPvB assessment is necessary. The relevant sections of the Chemical Safety Report produced by the supplier shall apply. The relevant sections of the Chemical Safety Report produced by the downstream user shall contain the sentence “*Sections*” (*insert details of the relevant sections*) “*of the Chemical Safety Report supplied by my supplier are appropriate for this use.*” Specific reference (including the Registration number) shall be given to the suppliers Chemical Safety Report where the hazard assessment and the PBT and vPvB assessment are considered to be appropriate.

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 Point 33. 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 as appropriate.

STEP 3: RISK CHARACTERISATION

If the conditions of Point 32(2) are met for a particular use, then no further risk characterisation needs to be carried out. The relevant section of the Chemical Safety Report shall contain the sentence: “*Sections*” (*insert details of the relevant sections*) “*of the Chemical Safety Report supplied by my supplier cover the risk characterisation for the exposure scenario(s) for my own use and the intended uses. No further risk management measures, beyond those described in the exposure scenarios are necessary*” Specific reference shall be given to the supplier Chemical Safety Report where the risk characterisation is described.

In those cases where new exposure scenario(s) have been developed by the downstream user (due to either the identification of other and/or additional risk management measures and/or other further downstream use(s)) and a new exposure assessment has been carried out, a new risk characterisation shall be carried out for each new exposure scenario as prescribed in Annex I. The risk characterisation shall be presented under the relevant heading of the Chemical Safety Report.

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 environmental 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

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 Point 44(d)(ii) , a vPvB according to Point 44(e)(ii) , or a substance of equivalent concern according to Point 44(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.

A robust study summary shall be prepared and submitted with the dossier for information used in that dossier but not submitted to the Agency.

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 Points 11 and 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 an acceptable level 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 Point 50 (5) (a) , or in connection with a proposed restriction, as specified in Point 58(3)(b) .

The level of detail, scope and methodology 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.

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

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 Point 50(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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- ↓ 1976/769/EEC (adapted)
 - ₁ 85/467/EEC (adapted)
 - ₂ 89/677/EEC (adapted)
 - ₃ 97/64/EC art. 1 and annex (adapted)
 - ₄ 79/663/EEC (adapted)
 - ₅ 82/806/EEC (adapted)
 - ₆ 1999/77/EC art. 1 and annex (adapted)
 - ₇ 83/264/EEC (adapted)
 - ₈ corrigendum (OJ L 250, 23.09.1999, p. 14)
 - ₉ 98/101 art. 1, pt. 1 (adapted)
 - ₁₀ 2003/02/EC (adapted)
 - ₁₁ 2002/62/EC (adapted)
 - ₁₂ 1999/51/EC art. 1 and annex, pt. 2 (adapted)
 - ₁₃ 91/338/EEC (adapted)
 - ₁₄ 91/339/EEC (adapted)
 - ₁₅ 94/27/EC (adapted)
 - ₁₆ 97/10/EC art. 1 and annex (adapted)
 - ₁₇ 94/60/EC (adapted)
 - ₁₈ corrigendum (OJ L 216, 14.08.1999, p. 25)
 - ₁₉ 2001/90/EC art. 1 and annex (adapted)
 - ₂₀ 96/55/EC art. 1 and annex (adapted)
 - ₂₁ 94/48/EC (adapted)
 - ₂₂ 2001/91/EC art. 1 and annex
 - ₂₃ 2002/45/EC (adapted)
 - ₂₄ 2002/61/EC (adapted)
 - ₂₅ 2003/03/EC (adapted)
 - ₂₆ 2003/11/EC (adapted)

Designation of the substance, of the group of substances or of the preparation	Restrictions
<p>→₁ 1. Polychlorinated biphenyls (PCBs) except mono- and dichlorinated biphenyls</p> <p>1. Polychlorinated terphenyls (PCTs)</p> <p>- Preparations, including waste oils, with a PCB or PCT content higher than →₂ 0,005 % ← by weight. ←</p>	<p>⇒ Without prejudice to Council Directive 96/59/EC¹ on the disposal of polychlorinated biphenyls and polychlorinated terphenyls (PCB/PCT), the following shall apply : ⇨</p> <p>→₁ <input checked="" type="checkbox"/> 1. <input checked="" type="checkbox"/> Shall <input checked="" type="checkbox"/> May not be used. However, the following categories may be used under the following conditions : <input checked="" type="checkbox"/> 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: <input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/> (a) <input checked="" type="checkbox"/> 1. Until 30 June 1986 at the latest: closed-system electrical equipment transformers, resistors and inductors;</p> <p><input checked="" type="checkbox"/> (b) <input checked="" type="checkbox"/> 2. until 30 June 1986 at the latest : large condensers (≥ 1 kg total weight);</p> <p><input checked="" type="checkbox"/> (c) <input checked="" type="checkbox"/> 3. 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);</p> <p><input checked="" type="checkbox"/> (d) <input checked="" type="checkbox"/> 4. until 30 June 1986 at the latest: heat-transmitting fluids in closed-circuit heat-transfer installations;</p> <p><input checked="" type="checkbox"/> (e) <input checked="" type="checkbox"/> 5. 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</p> <p><input checked="" type="checkbox"/> 2. <input checked="" type="checkbox"/> Member States may, for reasons of protection of health and the environment, prohibit within their territory the use of such equipment, plant <input checked="" type="checkbox"/> installations <input checked="" type="checkbox"/> and fluids <input checked="" type="checkbox"/> covered by section 1 <input checked="" type="checkbox"/> before they are disposed of or reach the end of their service life.</p>

¹ OJ L 243, 24. 09. 1996, p. 31

	<p> 3. 3. - The placing on the second-hand market of such equipment, plant and fluids 3 covered by section 1 3 which are not intended for disposal shall be prohibited from 30 June 1986 onwards. </p> <p> 4. 4. - Where Member States consider that it is not possible for technical reasons to use substitute products 3 articles 3, 3 it 3 they may continue to authorize 3 permit 3 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 3 PCTs 3 in properly functioning existing 3 installations 3 plant purchased before 3 1 October 1985 3 - the entry into force of this Directive. </p> <p> 5 3 5 3 . 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 Member States may, provided prior notification stating the reasons is sent to the Commission, grant derogations from the ban on the 3 placing on the market 3 marketing and use of such primary and intermediate products 3 substances and preparations 3, in so far as they consider that these derogations have no deleterious effects on health and the environment. </p> <p> 6. 3 Without prejudice to the 3 implementation 3 provisions of other 3 Community provisions 3 Directives relating to the labelling of dangerous substances and preparations, Member states may require equipment and plant 3 installations 3 containing PCBs or PCTs 3 shall 3 also to display instructions concerning the disposal of PCBs and PCTs and the maintenance and use of equipment and plant 3 installations 3 containing them. These instructions shall be capable of being read horizontally when the object containing the PCBs or PCTs is installed in the normal way. The inscription shall stand out clearly from its background² Member States may require the inscription to 3 and shall 3 be in a language which is understood in the territory 3 where it is being used. 3 ← </p>
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<p>2. Chloro-1-ethylene; monomer vinyl chloride</p> <p><input checked="" type="checkbox"/> CAS No 75-01-4</p> <p>EINECS No 200-831-0 <input checked="" type="checkbox"/></p>	<p><input checked="" type="checkbox"/> Shall <input checked="" type="checkbox"/> May not be used as aerosol propellant for any use Whatsoever.</p>
<p>3. ➔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 substances³, as <input checked="" type="checkbox"/> last <input checked="" type="checkbox"/> adapted to technical progress by Commission Directive 93/21/EEC⁴ and 96/54/EC⁵ <input checked="" type="checkbox"/> 2001/59/EC⁶ and Directive 1999/45/EC⁷ of the European Parliament and of the Council on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous preparations, as amended by Commission Directive 2001/60/EC⁸. <input checked="" type="checkbox"/> ←</p>	<p>➔₃ 1. <input checked="" type="checkbox"/> Shall <input checked="" type="checkbox"/> May not be used in:</p> <ul style="list-style-type: none"> – 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, or any object intended to be used as such, even with ornamental aspects. <p>2. Without prejudice to <input checked="" type="checkbox"/> section 1 <input checked="" type="checkbox"/> the above, substances and preparations which:</p> <ul style="list-style-type: none"> – 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, <p><input checked="" type="checkbox"/> shall <input checked="" type="checkbox"/> may not contain a colouring agent, unless required for fiscal reasons, or perfume or both.</p> <p><input checked="" type="checkbox"/> 3. <input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> section 2 <input checked="" type="checkbox"/> , where intended for use in lamps, shall be marked legibly and indelibly as follows: “Keep lamps filled with this liquid out of the reach of children”. ←</p>

3 OJ L 196, 16. 8. 1967, p. 1
4 OJ L 110, 04.05.1993, p. 20
5 OJ L 248, 30.09.1996, p. 1
6 OJ L 225, 21.08.2001, p. 1
7 OJ L 200, 30.07.1999, p. 1
8 OJ L 226, 22.08.2001, p. 5

<p>→₄ 4. Tris (2,3-dibromopropyl) phosphate</p> <p>CAS No (Chemical Abstract Service Number) 126-72-7 ←</p>	<p>→₄ ☒ Shall ☒ May not be used in textile articles, such as garments, undergarments and linen, intended to come into contact with the skin. ←</p>
<p>→₅ 5. Benzene</p> <p>CAS No (Chemical Abstract Service Number) 71-43-2</p> <p>☒ EINECS No 200-753-785 ☒ ←</p>	<p>→₅ ☒ 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. ←</p> <p>→₂ ☒ 2 ☒ . May ☒ Shall ☒ not be used in concentrations equal to, or greater than, 0,1 % by mass in substances or preparations placed on the market.</p> <p>☒ 3 ☒ . However, this provision ☒ section 2 ☒ shall not apply to:</p> <p>(a) motor fuels which are covered by Directive 85/210/EC ☒ 98/70/EC ☒ ☒ of the European Parliament and of the Council⁹ on the quality of ☒ petrols and diesel ☒ fuels ☒ ;(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;</p> <p>(c) waste covered by ☒ Council ☒ Directive 75/442/EEC¹⁰ and ☒ Council Directive ☒ 78/319/EEC¹¹ 91/689/EEC¹². ←</p>

9 OJ L 350, 28.12.1998, p. 58

10 OJ L 194, 25.07.1975, p. 39. This Directive has been amended for the last time by Directive 96/350/EC(OJ L 350, 06.06.1996, p.32)

11 OJ L 84, 31.03.1978, p. 43

12 OJ L 377, 31.12.1991, p. 20. This Directive has been amended by Council Directive 94/31/EC (OJ L 168,02.07.1994, p. 28)

<p>→₆ 6. Asbestos fibres:</p> <p>6.1 (a) Crocidolite</p> <p>CAS No 12001-28-4</p> <p>(b) Amosite</p> <p>CAS No 12172-73-5</p> <p>(c) Anthophyllite <u>asbestos</u></p> <p>CAS No 77536-67-5</p> <p>(d) Actinolite <u>asbestos</u></p> <p>CAS No 77536-66-4</p> <p>(e) Tremolite <u>asbestos</u></p> <p>CAS No 77536-68-6</p> <p>6.2 (f) Chrysotile¹³</p> <p>CAS No 12001-29-5</p> <p>(x) CAS No 132207-32-0 (x) ←</p>	<p>→₆ 6.1 1. (x) The placing on the market and use of these fibres and of products (x) articles (x) containing these fibres added intentionally shall be prohibited.</p> <p>6.2 The placing on the market and use of this fibre and of products containing this fibre added intentionally shall be prohibited.</p> <p>However, Member States may except (x) the placing on the market and use of (x) diaphragms (x) containing chrysotile (point 6(f)) (x) 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.</p> <p>(x) 2. (x) The use of (x) articles (x) products containing asbestos fibres referred to in points (x) section 1 above (x) 6.1 and 6.2 which were already installed and/or in service before (x) 1 January 2005 (x) the implementation date of Directive 1999/77/EC by the Member State concerned shall continue to be authorised (x) permitted (x) 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 (x) articles (x) before they are disposed of or reach the end of their service life.</p> <p>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.</p> <p>(x) 3. (x) 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 (x) articles (x) products containing these fibres, as authorised (x) permitted (x) according to the preceding derogations, (x) shall (x) may be permitted only if the (x) articles (x) products bear a label in accordance with the provisions of (x) Appendix 7 (x) Annex II to (x) this Regulation (x) Directive 76/769/EEC. ←</p>
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13 chrysotile has two CAS Nos, confirmed by ECB

<p>→₇ ☒ 7 ☒ 8. Tris(aziridinyl)-phosphin oxide</p> <p>CAS No 5455-55-1</p> <p>☒ 8 ☒ 9. ☒ Polybromobiphenyls ☒ ; Polybrominatedbiphenyls (PBB)</p> <p>CAS No 59536-65-1 ←</p>	<p>→₇ ☒ Shall ☒ May not be used in textile articles, such as garments, undergarments and linen, intended to come into contact with the skin. ←</p>
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<p>→₇ ☒ 09 ☒ 10. Soap bark powder (<i>Quillaja saponaria</i>) and its derivatives containing saponines</p> <p>Powder of the roots of <i>Helleborus viridis</i> and <i>Helleborus niger</i></p> <p>Powder of the roots of <i>Veratrum album</i> and <i>Veratrum nigrum</i></p> <p>Benzidine and/or its derivatives</p> <p>☒ CAS No 92-87-5 EINECS No: 202-199-1 ☒</p> <p><i>o</i>-Nitrobenzaldehyde</p> <p>CAS No 552-89-6</p> <p>Wood powder</p> <p>11 ☒ 10 ☒ . Ammonium sulphide</p> <p>CAS No 12135-76-1</p> <p>And Ammonium hydrogen sulphideCAS No 12124-99-1</p> <p>Ammonium polysulphideCAS No 12259-92-6</p> <p>☒ CAS No 9080-17-5 ☒ ☒ EINECS No 232-989-1 ☒</p> <p>12 ☒ 11 ☒ . Volatile esters of bromacetic acids:</p> <p>Methyl bromoacetate</p> <p>CAS No 96-32-2 ☒ EINECS No 202-499-2 ☒</p> <p>Ethyl bromoacetate</p> <p>CAS No 105-36-2 ☒ EINECS No 203-290-9 ☒</p> <p>Propyl bromoacetate</p> <p>☒ CAS No 35223-80-4 ☒</p> <p>Butyl bromoacetate ←</p>	<p>→₇ ☒ Shall ☒ May 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.</p> <p>⇒ However section 1 does not apply to Member State may tolerate on their territory stink bombs containing 1,5 ml or less of liquid . ⇐ ←</p>
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<p>→₂ 13 <input checked="" type="checkbox"/> 12 <input checked="" type="checkbox"/> . 2-Naphthylamine CAS No 91-59-8 <input checked="" type="checkbox"/> EINECS No 202-080-4 <input checked="" type="checkbox"/> and its salts</p> <p>14 <input checked="" type="checkbox"/> 13 <input checked="" type="checkbox"/> . Benzidine CAS No 92-87-5 <input checked="" type="checkbox"/> EINECS No 202-199-1 <input checked="" type="checkbox"/> and its salts</p> <p>15 <input checked="" type="checkbox"/> 14 <input checked="" type="checkbox"/> . 4-Nitrobiphenyl CAS No 92-93-3 <input checked="" type="checkbox"/> EINECS No 202-204-7 <input checked="" type="checkbox"/></p> <p>16 <input checked="" type="checkbox"/> 15 <input checked="" type="checkbox"/> . 4-Aminobiphenyl; <input checked="" type="checkbox"/> xenylamine <input checked="" type="checkbox"/> CAS No 92-67-1 <input checked="" type="checkbox"/> EINECS No 202-177-1 <input checked="" type="checkbox"/> and its salts ←</p>	<p>→₂ <input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> . <input checked="" type="checkbox"/> Shall <input checked="" type="checkbox"/> May not be used in concentrations equal to or greater than 0,1 % by weight in substances and preparations placed on the market.</p> <p>However, this provision shall not apply to waste containing one or more of these substances and covered by <input checked="" type="checkbox"/> Council <input checked="" type="checkbox"/> Directives 75/442/EEC and 78/319/EEC <input checked="" type="checkbox"/> 91/689/EEC <input checked="" type="checkbox"/> .</p> <p><input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> Such substances and preparations <input checked="" type="checkbox"/> shall <input checked="" type="checkbox"/> may not be sold to the general public.</p> <p><input checked="" type="checkbox"/> 3 <input checked="" type="checkbox"/> 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 legible and indelibly marked as follows: 'Restricted to professional users'. ←</p>
<p>→₂ 17 <input checked="" type="checkbox"/> 16 <input checked="" type="checkbox"/> . Lead carbons: <input checked="" type="checkbox"/> (a) <input checked="" type="checkbox"/> Neutral anhydrous carbonate (PbCO₃) CAS No 598-63-0 <input checked="" type="checkbox"/> EINECS No 209-943-4 <input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/> (b) <input checked="" type="checkbox"/> →₈ Trilead-bis(carbonate)-dihydroxide ← 2 PbCO₃-Pb(OH)₂ CAS No 1319-46-6 <input checked="" type="checkbox"/> EINECS No 215-290-6 <input checked="" type="checkbox"/></p> <p>18 <input checked="" type="checkbox"/> 17 <input checked="" type="checkbox"/> . Lead sulphates: <input checked="" type="checkbox"/> (a) <input checked="" type="checkbox"/> Pb SO₄ (1:1) CAS No 7446-14-2 <input checked="" type="checkbox"/> EINECS No 231-198-9 <input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/> (b) <input checked="" type="checkbox"/> Pb_xSO₄ CAS No 15739-80-7 <input checked="" type="checkbox"/> EINECS No 239-831-0 <input checked="" type="checkbox"/> ←</p>	<p>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 permit this on their territory, in accordance with the provisions of ILO Convention 13 on the use of white lead in paint.</p> <p>→₂ <input checked="" type="checkbox"/> Shall <input checked="" type="checkbox"/> 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 <input checked="" type="checkbox"/> permit <input checked="" type="checkbox"/> authorise 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. ←</p>

<p>→₂ 19 ☒ 18 ☒ . Mercury compounds ←</p>	<p>→₂ ☒ 1. Shall ☒ May not be used as substances and constituents of preparations intended for use:</p> <ul style="list-style-type: none"> (a) to prevent the fouling by micro-organisms, plants or animals of: <ul style="list-style-type: none"> – 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. ← <p>→₉ ☒ 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 the batteries 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. ←</p>
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<p>→₁₀ 20 ☒ 19 ☒ . Arsenic compounds ←</p>	<p>→₁₀ 1. ☒ Shall ☒ May not be used as substances and constituents of preparations intended for use:</p> <p>a) To prevent the fouling by micro-organisms, plants or animals of:</p> <ul style="list-style-type: none"> – 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; <p>b) in the preservation of wood. Furthermore, wood so treated may ☒ shall ☒ not be placed on the market.</p> <p>c) However, by way of derogation:</p> <p>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 ☒ shall ☒ may not be placed on the market before fixation of the preservative is completed.</p> <p>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:</p> <ul style="list-style-type: none"> – 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.
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	<p>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".</p> <p>iii) Treated wood referred to under points (i) and (ii) may <input checked="" type="checkbox"/> shall <input checked="" type="checkbox"/> not be used:</p> <ul style="list-style-type: none"> – 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 <input checked="" type="checkbox"/> articles <input checked="" type="checkbox"/> intended for human and/or animal consumption. <p>2. May <input checked="" type="checkbox"/> Shall <input checked="" type="checkbox"/> not be used as substances and constituents of preparations intended for use in the treatment of industrial waters, irrespective of their use." ←</p>
<p>→₁₁ 21 <input checked="" type="checkbox"/> 20 <input checked="" type="checkbox"/> . Organostannic compounds¹⁴ ←</p>	<p>→₁₁ 1. May <input checked="" type="checkbox"/> Shall <input checked="" type="checkbox"/> not be placed on the market for use as substances and constituents of preparations when acting as biocides in free association paint.</p> <p>2. <input checked="" type="checkbox"/> Shall <input checked="" type="checkbox"/> May 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:</p> <ul style="list-style-type: none"> (a) tall 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 of partly submerged appliance or equipment. <p>3. <input checked="" type="checkbox"/> Shall <input checked="" type="checkbox"/> May not be used as substances and constituents of preparations for use in the treatment of industrial waters. ←</p>

<p>→₂ <u>22</u> ☒ 21 ☒ . Di-μ-oxo-di-n-butylstanniohydroxyborane; ☒ dibutyltin hydrogen borate ☒ C₈H₁₉BO₃S_n(DBB)</p> <p>CAS No 75113-37-0</p> <p>☒ ELINCS No 401-040-5 ☒ ←</p>	<p>→₂ 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 concentration equal to or greater than 0,1%. ←</p>
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<p>→₁₂ 22 ☒ 22 ☒ . Pentachlorophenol</p> <p>CAS No 87-86-5;</p> <p>☒ EINECS No 201-778-6 ☒</p> <p>and its salts and esters ←</p>	<p>→₁₂ ☒ 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.</p> <p>☒ 2. Transitional provisions ☒ :</p> <p>By way of derogation until 31 December 2008 France, Ireland, Portugal, Spain and the United Kingdom may choose not to apply this provision to substances and preparations intended for use in industrial installations not permitting the emission and/or discharge of pentachlorophenyl (PCP) in quantities greater than those prescribed by existing legislation ☒ after that date ☒ :</p> <p>(a) in the treatment of wood.</p> <p>However, treated wood may ☒ shall ☒ not be used:</p> <ul style="list-style-type: none"> – inside buildings whether for decorative purposes or not, whatever their purpose (residence, employment, leisure), – for the manufacture and re-treatment of: <ul style="list-style-type: none"> (i) containers intended for growing purposes; (ii) packaging that may come into contact with raw materials, intermediate or finished ☒ articles ☒ products destined for human and/or animal consumption; (iii) other materials that may contaminate the products ☒ articles ☒ mentioned in (i) and (ii); <p>(b) in the impregnation of fibres and heavy-duty textiles not intended in any case for clothing or for decorative furnishings;</p> <p>(c) by way of special exception, Member States may on a case-by case basis, ☒ permit ☒ authorise on their territory specialised professionals to carry out <i>in situ</i> and for buildings of cultural, artistic and historical interest, or in emergencies, a remedial treatment of timber and masonry infected by dry rot fungus (<i>Serpula lacrymans</i>) and cubic rot fungi.</p> <p>In any case:</p> <p>(a) Pentachlorophenol used alone or as a component of preparations employed within the framework of the above exceptions shall have a total hexachlorodibenzoparadioxin (HCDD) content of not more than two parts per million (ppm);</p> <p>(b) These substances and preparations ☒ shall ☒ may not:</p> <ul style="list-style-type: none"> – be placed on the market except in packages of 20 litres or more; – be sold to the general public.
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	<p> <input checked="" type="checkbox"/> 3. <input checked="" type="checkbox"/> Without prejudice to the implementation of other Community provisions concerning the classification, packaging and labelling of dangerous substances and preparations, the packaging of such <input checked="" type="checkbox"/> substances and <input checked="" type="checkbox"/> preparations <input checked="" type="checkbox"/> covered by sections 1 and 2 shall <input checked="" type="checkbox"/> should be marked clearly and indelibly: 'Reserved for industrial and professional use'. </p> <p> In addition, This provision shall not apply to waste covered by <input checked="" type="checkbox"/> Council <input checked="" type="checkbox"/> Directives 75/442/EEC¹⁵ and 91/689/EEC¹⁶. ← </p>
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15 OJ L 194, 25.07.1975, p. 39

16 OJ L 377, 31.12.1991, p. 20

→₁₃ ~~24~~ ☒ 23 ☒ . Cadmium

CAS No 7440-43-9;

☒ EINECS No:231-152-8 ☒

and its compounds ←

→₁₃ 1. ☒ Shall ☒ ~~May~~ not be used to give colour to finished ~~products~~ ☒ articles ☒ manufactured from the substances and preparations listed below¹⁷:

☒ (a) ☒

- Polyvinyl chloride (PVC) [390410] [390421] [390422]
- Polyurethane (PUR) [390950]
- Low-density polyethylene (ld PE), with the exception of low-density polyethylene used for the production of coloured masterbatch [390110]
- Cellulose acetate (CA) [391211] [391212]
- Cellulose acetate butyrate (CAB) [391211] [391212]
- Epoxy resins [390730]

~~1.2 Section 1.1 also applies from 31 December 1995 for:~~

~~(a) finished products manufactured from the following substances and preparations~~

- Melamine — formaldehyde (MF) resins [390920]
- Urea — formaldehyde (UF) resins [390910]
- Unsaturated polyesters (UP) [390791]
- Polyethylene terephthalate (PET) [390760]
- Polybutylene terephthalate (PBT)
- Transparent/general-purpose polystyrene [390311] [390319]
- Acrylonitrile methylmethacrylate (AMMA)
- Cross-linked polyethylene (VPE)
- High-impact polystyrene
- Polypropylene (PP) [390210]

(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.

☒ 2 ☒ ~~1.3~~ However, sections ~~1.1 and 1.2~~

☒ 1 ☒ does not apply to ~~products~~ ☒ articles ☒ to be coloured for safety reasons.

☒ 3 ☒ ~~2.1~~ ☒ Shall ☒ ~~May~~ not be used to stabilize the finished ~~products~~ ☒ articles ☒ listed below¹⁸ manufactured from polymers or copolymers of vinyl chloride:

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- 17 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 N° 2176/2002(OJ L 331, 07/12/2002, p.3)
- 18 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 N° 2176/2002 (OJ L 331, 07/12/2002, p.3).

	<ul style="list-style-type: none"> – packaging materials (bags, containers, bottles, lids) [39232910] [392041] [392042] – office or school supplies [392610] – fittings for furniture, coachwork or the like [392630] – articles of apparel and clothing accessories (including gloves) [392620] – floor and wall coverings [391810] – impregnated, coated, covered or laminated textile fabrics [590310] – imitation leather [4202] – gramophone records [852410] – tubes and pipes and their fittings [391723] – swing doors – vehicles for road transport (interior, exterior, underbody) – coating of steel sheet used in construction or in industry – insulation for electrical wiring <p>In any case, whatever their use or intended final purpose, the placing on the market of the above finished products <input checked="" type="checkbox"/> articles <input checked="" type="checkbox"/> or components of products <input checked="" type="checkbox"/> articles <input checked="" type="checkbox"/> manufactured from polymers or copolymers of vinyl chloride, stabilized by substances containing cadmium shall be prohibited, if their cadmium content (expressed as Cd metal) exceeds 0,01 % by mass of the polymer.</p> <p>These provisions enter into force on 30 June 1994.</p> <p><input checked="" type="checkbox"/> 4 <input checked="" type="checkbox"/> 2.2 However, section 2.1 <input checked="" type="checkbox"/> 3 <input checked="" type="checkbox"/> does not apply to finished products <input checked="" type="checkbox"/> articles <input checked="" type="checkbox"/> using cadmium-based stabilizers for safety reasons.</p> <p><input checked="" type="checkbox"/> 5 <input checked="" type="checkbox"/> 3 Within the meaning of this Directive <input checked="" type="checkbox"/> Regulation <input checked="" type="checkbox"/> , «cadmium plating» means any deposit or coating of metallic cadmium on a metallic surface.</p> <p>3.1 Shall not be used for cadmium plating metallic articles or components of the articles used in the sectors/applications listed below¹⁹:</p> <p>(a) Equipment and machinery for:</p> <ul style="list-style-type: none"> – food production: [8210] [841720] [841981] [842111] [842122] [8422] [8435] [8437] [8438] [847611] – agriculture [841931] [842481] [8432] [8433] [8434] [8436] – cooling and freezing [8418] – printing and book-binding [8440] [8442] [8443]
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19 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 N° 2176/2002 (OJ L 331, 07/12/2002, p.3).

(b) Equipment and machinery for the production of:

- household goods [7321] [842112] [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 ☒ shall be ☒ ~~is~~ prohibited.

☒ 6 ☒ ~~3.2~~. The provisions referred to in ~~Section 3.1~~ ☒ section 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) below²⁰:

(a) Equipment and machinery for the production of:

- paper and board [841932] [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]

☒ 7. ☒ ~~3.3~~. However, ~~points 3.1 and 3.2~~ ☒ the restrictions in sections 5 and 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.

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



<p>→₁₄ 25 ☒ 24 ☒ . Monomethyl-tetrachlorodiphenyl methane</p> <p>Trade name: Ugilec 141</p> <p>CAS No 76253-60-6 ←</p>	<p>→₁₄ ⇒ Without prejudice to Council Directive 96/59/EC, following shall apply : ⇐</p> <p>☒ 1. ☒ As from 18 June 1994 The marketing and use of this substance and of preparations and products☒ articles ☒ containing it shall be prohibited.</p> <p>☒ 2 ☒ By way of exception this provision☒ section 1 ☒ shall not apply:</p> <p>☒ a) ☒ 1 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.</p> <p>☒ b) ☒ 2 in the case of the maintenance of plant and machinery already in service within a Member State on 18 June 1994</p> <p>☒ 3 ☒ . As from 18 June 1994 The placing on the second hand market of this substance, preparations containing this substance and plant/machinery containing this substance, shall be prohibited. ←</p>
<p>→₁₄ 26 ☒ 25 ☒ . Monomethyl-dichloro-diphenyl methane</p> <p>Trade name: Ugilec 121, Ugilec 21</p> <p>CAS No- unknown ←</p>	<p>→₁₄ The marketing and use of this substance and of preparations and products☒ articles ☒ containing it shall be prohibited. ←²¹</p>
<p>→₁₄ 26. Monomethyl-dibromo-diphenyl methane; ☒ bromobenzylbromotoluene, mixture of isomers ☒ ;</p> <p>Trade name: DBBT</p> <p>CAS No 99688-47-8 ←</p>	<p>→₁₄ The marketing and use of this substance and of preparations and products☒ articles ☒ containing it shall be prohibited. ←²²</p>

20 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 N° 2176/2002 (OJ L 331, 07/12/2002, p.3).

21 Point 25 & 26 have been merged into one entry in the table

22 Point 25 & 26 have been merged into one entry in the table

<p>→₁₅ 28 27 . Nickel</p> <p>CAS No 7440-0-20 EINECS No 2311114</p> <p>and its compounds ←</p>	<p>→₁₅ 1 . Shall May not be used:</p> <p>a) 1 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 %;</p> <p>b) 2 in products articles intended to come into direct and prolonged contact with the skin such as:</p> <ul style="list-style-type: none"> – 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, <p>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/cm²/week;</p> <p>c) 3 in products articles such as those listed in point 2 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 articles coming into direct and prolonged contact with the skin will not exceed 0,5 µg/cm²/week for a period of at least two years of normal use of the article product.</p> <p>2 Furthermore, Articles Products which are the subject of points 1, 2 and 3 section 1(a) to 1(c) shall may not be placed on the market unless they conform to the requirements set out in those points. ←</p> <p>The standards adopted by the European Committee for Standardization (CEN) shall be used as the test methods for demonstrating the conformity of articles to sections 1 and 2²³. ←</p>
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<p>→₁₆→₁₇ 29 ☒ 28 ☒ . Substances which appear in Annex I to ☒ Council ☒ Directive 67/548/EEC 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 R 49: «May cause cancer by inhalation», and listed as follows:</p> <p>Carcinogen category 1 See List 1 in the Appendix ☒ listed in Appendix 1. ☒</p> <p>Carcinogen category 2 See List 2 in the Appendix ☒ listed in Appendix 2. ◀◀</p>	<p>→₁₇→₁₆ Without prejudice to the other ☒ parts ☒ points of ☒ this ☒ Annex I to Directive 76/769/EEC, ☒ the following shall apply: ☒</p> <p>☒ 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:</p> <ul style="list-style-type: none"> – either the ☒ relevant ☒ concentration specified in Annex I to Council Directive 67/548/EEC²⁴, or – the ☒ relevant ☒ concentration specified in point 6, Table VI, of Annex I to Council Directive 88/379/EEC, where no concentration limit appears in Annex I to directive 67/548/EEC Directive 1999/45/EC of the European Parliament and of the Council²⁵. <p>☒ 2 ☒ By way of derogation, ☒ Section 1 ☒ this provision shall not apply to:</p> <ul style="list-style-type: none"> (a) medicinal or veterinary products as defined by Council Directive 65/65/EEC²⁶ as last amended by ☒ Council ☒ Directive 93/39/EEC²⁷; (b) cosmetic products as defined by Council Directive 76/768/EEC²⁸ as last amended by ☒ Council ☒ Directive 93/35/EEC²⁹ (c) →₁₈ <ul style="list-style-type: none"> – motor fuels which are covered by Directive 85/210 ☒ 98/70/EC ☒³⁰ – 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 ☒ 1999/45/EC³¹ of the European Parliament and of the Council ☒ 88/379/EEC ◀◀
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24 OJ P 196, 16.08.1967, p. 1.

25 The paragraph “without prejudice to the implementation of other community provisions...” has been Taken out because it repeats the requirement for S 53 in 67/548 and 99/45 for Cat 1 and 2 CMRs.

26 OJ P 22, 09.02.1965, p. 369

27 OJ L 214, 24.08.1993, p. 22

28 OJ L 262, 27.09.1976, p. 169

29 OJ L 151, 23.06.1993, p. 32

30 OJ L350, 28.12.1988, p. 58.

31 OJ L200, 30.07.1999, p. 1.

→¹⁶ →¹⁷ ~~30~~ ☒ 29 ☒ . Substances which appear in Annex I to ☒ Council ☒ 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 ☒ ← ←

→¹⁶ →¹⁷ ~~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.~~

~~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)~~

~~— motor fuels which are covered by Council Directive 85/210/EEC³²;~~

~~— 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. ← ←~~

<p>→₁₆ →₁₇ 31 ☒ 30 ☒ Substances which appear in Annex I to ☒ Council ☒ 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:</p> <p>Toxic to reproduction category 1 See List 5 in the Appendix ☒ listed in Appendix 5. ☒</p> <p>Toxic to reproduction category 2 See List 6 in the Appendix ☒ listed in Appendix 6. ☒ ← ←</p>	<p>→₁₆ →₁₇ Without prejudice to the other points of Annex I to Directive 76/769/EEC</p> <p>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:</p> <p>— either the concentration specified in Annex I to Directive 67/548/EEC;</p> <p>— 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.</p> <p>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».</p> <p>By way of derogation, this provision shall not apply to:</p> <p>(a) medicinal or veterinary products as defined by Directive 65/65/EEC;</p> <p>(b) cosmetic products as defined by Directive 76/768/EEC;</p> <p>(c)</p> <p>— motor fuels which are covered by Council Directive 85/210/EEC³³;</p> <p>— mineral oil products intended for use as fuel in mobile or fixed combustion plants;</p> <p>— fuels sold in closed systems (e.g. liquid gas bottles);</p> <p>(d) artists' paints covered by Directive 88/379/EEC. ← ←</p>
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<p>→¹⁹ 32 ☒ 31 ☒ . Substances and preparations containing one or more of the following substances:</p> <p>(a) Creosote; ☒ wash oil ☒ CAS No 8001-58-9 EINECS No 232-287-5</p> <p>(b) Creosote oil; ☒ wash oil ☒ CAS No 61789-28-4 EINECS No 263-047-8</p> <p>(c) Distillates (coal tar), naphthalene oils; ☒ naphthalene oil ☒ CAS No 84650-04-4 EINECS No 283-484-8</p> <p>(d) Creosote oil, acenaphthene fraction; ☒ wash oil ☒ CAS No 90640-84-9 EINECS No 292-605-3</p> <p>(e) Distillates (coal tar), upper; ☒ heavy anthracene oil ☒ CAS No 65996-91-0 EINECS No 266-026-1</p> <p>(f) Anthracene oil CAS No 90640-80-5 EINECS No 292-602-7</p> <p>(g) Tar acids, coal, crude; ☒ crude phenols ☒ CAS No 65996-85-2 EINECS No 266-019-3</p> <p>(h) Creosote, wood CAS No 8021-39-4 EINECS No 232-419-1</p> <p>(i) Low temperature tar oil, alkaline; ☒ extract residues (coal), low temperature coal tar alkaline ☒ CAS No 122384-78-5 EINECS No 310-191-5 ←</p>	<p>→¹⁹ 1. ☒ Shall ☒ May not be used ☒ as substances or in preparations ☒ in the treatment of wood. Furthermore, wood so treated ☒ shall ☒ may not be placed on the market.</p> <p>2. However by way of derogation:</p> <p>(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 <i>in situ</i> retreatment only if they contain:</p> <p>(a) benzo[a]pyrene at a concentration of less than 0,005 % by mass, and</p> <p>(b) and water extractable phenols at a concentration of less than 3 % by mass.</p> <p>Such substances and preparations for use in wood treatment in industrial installations or by professionals:</p> <ul style="list-style-type: none"> – may be placed on the market only in packaging of a capacity equal to or greater than 20 litres, – ☒ shall ☒ may not be sold to consumers. <p>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’.</p> <p>(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 <i>in situ</i>: 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.</p> <p>(iii) ☒ The prohibition in section 1 on the placing on the market shall not apply ☒ Relating to wood ☒ which had ☒ having 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 and where this is placed on the second-hand market for re-use.</p>
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<p>→₂₀ 33 ☒ 32 ☒ . Chloroform³⁴</p> <p>CAS No 67-66-3</p> <p>☒ EINECS No 200-663-8 ☒</p> <p>34 ☒ 33 ☒ . Carbon tetrachloride –</p> <p>☒ tetrachloromethane ☒</p> <p>CAS No 56-23-5</p> <p>☒ EINECS No 200-262-8 ☒</p> <p>35 ☒ 34 ☒ 1,1,2-Trichloroethane</p> <p>CAS No 79-00-5</p> <p>☒ EINECS No 201-166-9 ☒</p> <p>36 ☒ 35 ☒ . 1,1,2,2-Tetrachloroethane</p> <p>CAS No 79-34-5</p> <p>☒ EINECS No 201-197-8 ☒</p> <p>37 ☒ 36 ☒ . 1,1,1,2-Tetrachloroethane</p> <p>CAS No 630-20-6</p> <p>38 ☒ 37 ☒ . Pentachloroethane</p> <p>CAS No 76-01-7</p> <p>☒ EINECS No 200-925-1 ☒</p> <p>39 ☒ 38 ☒ 1,1-Dichloroethylene</p> <p>CAS No 75-35-4</p> <p>☒ EINECS No 200-864-0 ☒</p> <p>40 ☒ 39 ☒ . 1,1,1-Trichloroethane; ☒ methyl chloroform ☒</p> <p>CAS No 71-55-6</p> <p>☒ EINECS No 200-756-3 ☒ ←</p>	<p>3. However, treated wood referred to under ☒ sections ☒ point 2(ii) and (iii) ☒ shall ☒ may not be used:</p> <ul style="list-style-type: none"> – 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: <ul style="list-style-type: none"> – containers intended for growing purposes, – packaging that 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 articles mentioned above. ← <p>→₂₀ ☒ 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.</p> <p>☒ 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’.</p> <p>By way of derogation, this provision shall not apply to:</p> <p>(a) medicinal or veterinary products as defined by ☒ Council ☒ Directive 65/65/EEC³⁵, as last amended by ☒ Council ☒ Directive 93/39/EEC³⁶</p> <p>(b) cosmetic products as defined by ☒ Council ☒ Directive 76/768/EEC³⁷, as last amended by ☒ Council ☒ Directive 93/35/EEC³⁸. ←</p>
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34 [last amendments : point 33 of Dir 94/60/CEE and Dir 96/55/CEE]

35 OJ P 22, 09.02.1965, p. 369

36 OJ L 214, 24.08.1993, p. 22

37 OJ L 262, 27.09.1976, p. 169

38 OJ L 151, 23.06.1993, p. 32

<p>→₂₁ <input checked="" type="checkbox"/> 40 <input checked="" type="checkbox"/> . Substances either</p> <p>— appearing in Annex I to Directive 67/548/EEC which are classified as flammable [highly flammable] or extremely flammable and labelled as such, or</p> <p>— 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 <input checked="" type="checkbox"/> 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. <input checked="" type="checkbox"/> ←</p>	<p>→₂₁ 1. <input checked="" type="checkbox"/> Shall <input checked="" type="checkbox"/> May not be used <input checked="" type="checkbox"/> on their own <input checked="" type="checkbox"/> as such or in the form of preparations in aerosol generators marketed and intended for sale <input checked="" type="checkbox"/> that are placed on the market for <input checked="" type="checkbox"/> to the general public for entertainment and decorative purposes such as the following:</p> <ul style="list-style-type: none"> — metallic glitter intended mainly for decorations, — artificial snow and frost, — ‘whoopie’ cushions, — silly string aerosols, — imitation excrement, — horns for parties, — decorative flakes and foams, — artificial cobwebs, — stink bombs, — etc. <p>2. Without prejudice to the application of other Community provisions on the classification, packaging and labelling of dangerous substances, the following words shall appear legibly and indelibly on the packaging of aerosol generators referred to above: ‘For professional users only’.</p> <p>3. By way of derogation, paragraphs <input checked="" type="checkbox"/> sections <input checked="" type="checkbox"/> 1 and 2 shall not apply to the aerosol generators referred to in Article 9a of <input checked="" type="checkbox"/> Council <input checked="" type="checkbox"/> Directive 75/324/EEC <input checked="" type="checkbox"/> ³⁹ <input checked="" type="checkbox"/> .</p> <p>4. The products <input checked="" type="checkbox"/> articles <input checked="" type="checkbox"/> referred to <input checked="" type="checkbox"/> sections 1 and 2 <input checked="" type="checkbox"/> above <input checked="" type="checkbox"/> shall <input checked="" type="checkbox"/> may not be placed on the market unless they conform to the requirements indicated. ←</p>
<p>→₂₂ 41 Hexachloroethane</p> <p>CAS No 67-72-1</p> <p>EINECS No 200-6664 ←</p>	<p>→₂₂ May <input checked="" type="checkbox"/> Shall <input checked="" type="checkbox"/> not be used in the manufacturing or processing of non-ferrous metals. ←</p>

39 Ö OJ L 147, 09.06.1975, p. 40 as last amended by Commission Directive 94/1/EC (OJ L 23, 28.01.1994, p. 28) Ö

<p>➔₂₃ 42. Alkanes, C₁₀-C₁₃, chloro;short-chain chlorinated paraffins (SCCPs)</p> <p>☒ EINECS No 287-476-5 ☒ ←</p>	<p>➔₂₃ 1. From 6 January 2004 May ☒ Shall ☒ not be placed on the market for use as substances or as constituents of other substances or preparation in concentrations higher than 1 %:</p> <ul style="list-style-type: none"> - in metalworking; - for fat liquoring of leather. <p>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.</p> <p>The European Parliament will be informed of the outcome of this review. ←</p>
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<p>→₂₄ 43. Azo colourants ←</p>	<p>→₂₄ 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 <input checked="" type="checkbox"/> 8 to this Regulation, <input checked="" type="checkbox"/> 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 2a of this Directive <input checked="" type="checkbox"/> 113 (3) of this Regulation <input checked="" type="checkbox"/> may <input checked="" type="checkbox"/> shall <input checked="" type="checkbox"/> 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:</p> <ul style="list-style-type: none"> – 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 the final consumer. <p>2. Furthermore, the textile and leather articles referred to in point <input checked="" type="checkbox"/> section <input checked="" type="checkbox"/> 1 above <input checked="" type="checkbox"/> shall <input checked="" type="checkbox"/> may not be placed on the market unless they conform to the requirements set out in that <input checked="" type="checkbox"/> section <input checked="" type="checkbox"/> point.</p> <p>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.</p> <p>→₂₅ 3. Azodyes, which are contained in the <input checked="" type="checkbox"/> Appendix 9 called <input checked="" type="checkbox"/> “List of azodyes” <input checked="" type="checkbox"/> of this Regulation <input checked="" type="checkbox"/> that is hereby added to the appendix, may <input checked="" type="checkbox"/> shall <input checked="" type="checkbox"/> 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. ←</p> <p><input checked="" type="checkbox"/> 4 <input checked="" type="checkbox"/> 2. Not later than 11 September 2005, the Commission shall, in the light of new scientific knowledge, review the provisions on azocolourants. ←</p>
<p>→₂₆ XX <input checked="" type="checkbox"/> 44 <input checked="" type="checkbox"/> diphenylether, pentabromo derivative C₁₂H₅Br₅O ←</p>	<p>→₂₆ 1. May Shall not be placed on the market or used as a substance or as a constituent of preparations in concentrations higher than 0.1 % by mass.</p> <p>2. Articles may not be placed on the market if they, or flameretarded parts thereof, contain this substance in concentrations higher than 0.1% by mass. ←</p>

<p>→₂₆ XXa ☒ 45 ☒ diphenylether, octabromo derivative C₁₂H₂Br₈O ←</p>	<p>→₂₆ 1. May Shall not be placed on the market or used as a substance or as a constituent of preparations in concentrations higher than 0.1 % by mass.</p> <p>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. ←</p>
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↓ 97/56 art. 1, pt. 2 and annex
(adapted)

☒ Appendices 1 to 6⁴⁰ ☒

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 referred 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.

~~EE~~ ☒ 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.

40 Substances of twenty-third Amendment of Directive 76/769/EEC marked as *; substances of twenty-fifth Amendment of Directive 76/769/EEC marked as ** (both Directives are currently still under consideration); substances of draft 29th ATP of Dir 67/548/EEC (classification's provisions still under consideration) marked as ***

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 art. 1, pt. 2 and annex

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).

↓ 97/56 art. 1, pt. 2 and annex

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 art. 1, pt. 1

Note R:

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

↓ 97/56 art. 1, pt. 2 and annex
(adapted)
→₁ 1999/43 art. 1 and annex I
→₂ 2001/41 art. 1, pt. 2 and annex

Appendix ☒ 1 ☒

Point ~~29~~ ☒ 28 ☒ – Carcinogens: category 1

☒ Point 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	
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	☒ 553-00-4 [1] 612-52-2	

		[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 and aromatic nitrogen bases.)	648-082-00-2	266-024-0	65996-89-6	
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 derivatives, heteroaromatics and one-	648-145-00-4	309-885-0	101316-83-0	

and two-ring phenols boiling in the range of approximately 150 °C to 360 °C (302 °F to 680 °F .)				
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 $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ ($19 \text{ cSt at } 40^\circ\text{C}$) . It contains a relatively large proportion of saturated aliphatic hydrocarbons normally present in this distillation range of crude oil.)	649-050-00-0	265-051-5	64741-50-0	
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 $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ ($19 \text{ cSt at } 40^\circ\text{C}$) . 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	649-052-00-1	265-053-6	64741-52-2	

<p>refined base oil</p> <p>(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 C₁₅ through C₃₀, and produces a finished oil with a viscosity of less than $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 400 \text{ SUS at } 100^\circ\text{F}$ (19 cSt at 40 °C). It contains relatively few normal paraffins.)</p>				
<p>Distillates (petroleum), heavy naphthenic; Unrefined or mildly refined base oil</p> <p>(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 C₂₀ through C₅₀, and produces a finished oil with a viscosity of at least $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 400 \text{ SUS at } 100^\circ\text{F}$ (19 cSt at 40 °C). It contains relatively few normal paraffins.)</p>	649-053-00-7	265-054-1	64741-53-3	
<p>Distillates (petroleum), acid-treated heavy naphthenic; Unrefined or mildly refined base oil</p> <p>(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 C₂₀ through C₅₀, and produces a finished oil with a viscosity of at least $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 400 \text{ SUS at } 100^\circ\text{F}$ (19 cSt at 40 °C). It contains relatively few normal paraffins.)</p>	649-054-00-2	265-117-3	64742-18-3	
<p>Distillates (petroleum), acid-treated light naphthenic; Unrefined or mildly refined base oil</p>	649-055-00-8	265-118-9	64742-19-4	

<p>(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 C₁₅ through C₃₀, and produces a finished oil with a viscosity of less than $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C. $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ (19 cSt at 40 °C)It contains relatively few normal paraffins.)</p>				
<p>Distillates (petroleum), acid-treated heavy paraffinic; Unrefined or mildly refined base oil</p> <p>(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 C₂₀ through C₅₀, and produces a finished oil with a viscosity of at least $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ (19 cSt at 40 °C)</p>	649-056-00-3	265-119-4	64742-20-7	
<p>Distillates (petroleum), acid-treated light paraffinic; Unrefined or mildly refined base oil</p> <p>(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 C₁₅ through C₃₀ and produces a finished oil having a viscosity of less than $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ (19 cSt at 40 °C)</p>	649-057-00-9	265-121-5	64742-21-8	
<p>Distillates (petroleum), chemically neutralized heavy paraffinic; Unrefined or mildly refined base oil</p> <p>(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 C₂₀</p>	649-058-00-4	265-127-8	64742-27-4	

through C ₅₀ , and produces a finished oil with a viscosity of at least $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C. $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ ($19 \text{ cSt at } 40^\circ\text{C}$) It contains a relatively large proportion of aliphatic hydrocarbons.)				
<p>Distillates (petroleum), chemically neutralized light paraffinic; Unrefined or mildly refined base oil</p> <p>(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 C₁₅ through C₃₀, and produces a finished oil with a viscosity of at least $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C. $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ ($19 \text{ cSt at } 40^\circ\text{C}$))</p>	649-059-00-X	265-128-3	64742-28-5	
<p>Distillates (petroleum), chemically neutralized heavy naphthenic; Unrefined or mildly refined base oil</p> <p>(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 C₂₀ through C₅₀, and produces a finished oil with a viscosity of at least $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ ($19 \text{ cSt at } 40^\circ\text{C}$). It contains relatively few normal paraffins.)</p>	649-060-00-5	265-135-1	64742-34-3	
<p>Distillates (petroleum), chemically neutralized light naphthenic; Unrefined or mildly refined base oil</p> <p>(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 C₁₅ through C₃₀, and produces a finished oil with a viscosity of at least $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ ($19 \text{ cSt at } 40^\circ\text{C}$) It contains relatively few normal</p>	649-061-00-0	265-136-7	64742-35-4	

paraffins.)				
erionite	650-012-00-0		12510-42-8	
asbestos	650-013-00-6		<div>☒ 12001-29-5 ☒</div> <div>12001-28-4</div> <div>132207-32-0</div> <div>12172-73-5</div> <div>77536-66-4</div> <div>77536-68-6</div> <div>77536-67-5</div>	

☒ Appendix 2 ☒

Point ~~29~~ ☒ 28 ☒ – Carcinogens: category 2

☒ Point 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			
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	
➡ ₁ Potassium dichromate ←	➡ ₁ 024-002-00-6 ←	➡ ₁ 231-906-6 ←	➡ ₁ 7778-50-9 ←	
➡ ₁ Ammonium	➡ ₁ 024-003-	➡ ₁ 232-	➡ ₁ 7789-	

dichromate anhydrate ←	00-1 ←	143-1 ←	09-5 ←	
→ ₁ Sodium dichromate ←	→ ₁ 024-004-00-7 ←	→ ₁ 234-190-3 ←	→ ₁ 10588-01-9 ←	
→ ₁ Sodium dichromate, dihydrate ←	→ ₁ 024-004-01-4 ←	→ ₁ 234-190-3 ←	→ ₁ 7789-12-0 ←	
→ ₁ Chromyl dichloride; chromic oxychloride ←	→ ₁ 024-005-00-2 ←	→ ₁ 239-056-8 ←	→ ₁ 14977-61-8 ←	
→ ₁ Potassium chromate ←	→ ₁ 024-006-00-8 ←	→ ₁ 232-140-5 ←	→ ₁ 7789-00-6 ←	
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	
→ ₁ Chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in Annex I to Directive 67/548/EEC ←	→ ₁ 024-017-00-8 ←	→ ₁ — ←	→ ₁ — ←	
potassium bromate	035-003-00-6	231-829-8	7758-01-2	
cadmium oxide	048-002-00-0	215-146-2	1306-19-0	
cadmium chloride	048-008-00-3	233-296-7	10108-64-2	
cadmium sulphate	048-009-00-9	233-331-6	10124-36-4	
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] 200-857-2 [2]	106-97-8 [1] 75-28-5 [2]	
1,3-Butadiene; Buta-1,3-diene	601-013-00-X	203-450-8	106-99-0	
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	
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	
➡ ₁ Bromoethylene ⬅	➡ ₁ 602-024-00-2 ⬅	➡ ₁ 209-800-6 ⬅	➡ ₁ 593-60-2 ⬅	
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	
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	
styrene oxide; (epoxyethyl)benzene; phenyloxirane	603-084-00-2	202-476-7	96-09-3	
4-amino-3-fluorophenol	604-028-00-X	402-230-0	399-95-1	
➡ ₁ 5-Allyl-1,3-benzodioxole; safrole ⬅	➡ ₁ 605-020-00-9 ⬅	➡ ₁ 202-345-4 ⬅	➡ ₁ 94-59-7 ⬅	
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	

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	
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	
➔ ₁ Benzidine based azo dyes; 4,4'-diarylazobiphenyl dyes, with the exception of those specified elsewhere in Annex I to Directive 67/548/EEC ⬅	➔ ₁ 611-024-00-1 ⬅	➔ ₁ — ⬅	➔ ₁ — ⬅	
➔ ₁ Disodium 4-amino 3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate; C.I. Direct Black 38 ⬅	➔ ₁ 611-025-00-7 ⬅	➔ ₁ 217-710-3 ⬅	➔ ₁ 1937-37-7 ⬅	
➔ ₁ Tetrasodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis[5-amino-4-hydroxynaphthalene-2,7-disulphonate]; C.I. Direct Blue 6 ⬅	➔ ₁ 611-026-00-2 ⬅	➔ ₁ 220-012-1 ⬅	➔ ₁ 2602-46-2 ⬅	
➔ ₁ Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis[4-aminonaphthalene-1-sulphonate]; C.I. Direct Red 28 ⬅	➔ ₁ 611-027-00-8 ⬅	➔ ₁ 209-358-4 ⬅	➔ ₁ 573-58-0 ⬅	
2-Methoxyaniline; o-anisidine	612-035-00-4	201-963-1	90-04-0	
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	
➔ ₁ Toluene-2,4-diammonium sulphate ⬅	➔ ₁ 612-126-00-9 ⬅	➔ ₁ 265-697-8 ⬅	➔ ₁ 65321-67-7 ⬅	
➔ ₂ 4-chloraniline ⬅	➔ ₂ 612-137-00-9 ⬅	➔ ₂ 203-401-0 ⬅	➔ ₂ 106-47-8 ⬅	
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-(methoxycarbonylhydrazonomethyl)quinoxaline 1,4-dioxide	613-050-00-9	229-879-0	6804-07-5	
acrylamide	616-003-00-0	201-173-7	79-06-1	
thioacetamide	616-026-00-6	200-541-4	62-55-5	
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).	648-003-00-1	266-023-5	65996-88-5	J

Composed primarily of C ₄ to C ₆ aliphatic hydrocarbons.)				
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 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	648-012-00-0	295-281-1	91995-20-9	J

8 through C ₉ and boiling in the range of approximately 120 °C to 215 °C (248 °F 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., acid 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 to 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 residues, low boiling (The first fraction from the distillation of aromatic hydrocarbons, coumarone, naphthalene and indene rich prefractionator bottoms or washed	648-017-00-8	292-625-2	90641-02-4	J

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 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.)	648-021-00-X	309-971-8	101794-90-5	J

<p>Distillates (coal tar), light oils, acid exts.; Light oil extract residues, high boiling</p> <p>(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))</p>	648-022-00-5	292-609-5	90640-87-2	J
<p>Distillates (coal tar), light oils; Carbolic oil</p> <p>(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))</p>	648-023-00-0	283-483-2	84650-03-3	J
<p>Tar oils, coal; Carbolic oil</p> <p>(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.)</p>	648-024-00-6	266-016-7	65996-82-9	J
<p>Extract residues (coal), light oil alk., acid ext.; Carbolic oil extract residue</p> <p>(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.)</p>	648-026-00-7	292-624-7	90641-01-3	J
<p>Extract residues (coal), tar oil alk.; Carbolic oil extract residue</p> <p>(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</p>	648-027-00-2	266-021-4	65996-87-4	J

aromatic nitrogen bases.)				
<p>Extract oils (coal), light oil; Acid Extract</p> <p>(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.)</p>	648-028-00-8	292-622-6	90640-99-6	J
<p>Pyridine, alkyl derivs.; Crude tar bases</p> <p>(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.)</p>	648-029-00-3	269-929-9	68391-11-7	J
<p>Tar bases, coal, picoline fraction; Distillate bases</p> <p>(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.)</p>	648-030-00-9	295-548-2	92062-33-4	J
<p>Tar bases, coal, lutidine fraction; Distillate bases</p>	648-031-00-4	293-766-2	91082-52-9	J
<p>Extract oils (coal), tar base, collidine fraction; Distillate bases</p> <p>(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, toluidines, lutidines, xyloidines.)</p>	648-032-00-X	273-077-3	68937-63-3	J
<p>Tar bases, coal, collidine fraction; Distillate bases</p> <p>(The destillation fraction boiling in</p>	648-033-00-5	295-543-5	92062-28-7	J

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.)				
Tar Bases, coal, aniline fraction; Distillate bases (The destillation 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-alkylene 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 (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	648-037-00-7	295-295-8	91995-35-6	J

aromatics.)				
<p>Extract oils (coal), coal tar-residual pyrolysis oils, naphthalene oil, redistillate; Redistillates</p> <p>(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.)</p>	648-038-00-2	295-329-1	91995-66-3	J
<p>Extract oils (coal), coal tar-residual pyrolysis oils, naphthalene oils; Redistillates</p> <p>(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.)</p>	648-039-00-8	310-170-0	122070-79-5	J
<p>Extract oils (coal), coal tar residual pyrolysis oils, naphthalene oil, distn. residues; Redistillates</p> <p>(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.)</p>	648-040-00-3	310-171-6	122070-80-8	J
<p>Absorption oils, bicyclo arom. and heterocyclic hydrocarbon fraction; Wash oil redistillate</p> <p>(A complex combination of hydrocarbons obtained as a redistillate from the distillation of wash oil. It consists predominantly of 2-ringed</p>	648-041-00-9	309-851-5	101316-45-4	M

aromatic and heterocyclic hydrocarbons boiling in the range of approximately 260 °C to 290 °C(500°F to 554°F)				
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(617°F to 689°F). It contains predominantly anthracene and phenanthrene and their alkyl derivatives.)	648-046-00-6	295-274-3	91995-14-1	M
Distillates (coal tar); Heavy anthracene oil	648-047-00-1	266-027-7	65996-92-1	M

(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.)				
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	648-051-00-3	295-313-4	91995-52-7	M

°C (716°F to 770°F) . Composed primarily of tri- and polynuclear aromatic hydrocarbons and heterocyclic compounds.)				
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 hydrocarbons.)	648-055-00-5	266-028-2	65996-93-2	
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	648-056-00-0	310-162-7	121575-60-8	M

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.)				
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 Torage vessels. Consists predominantly of carbon and contains a small quantity of hetero compounds as well as ash components.)	648-059-00-7	295-535-1	92062-20-9	M
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

<p>Tar, coal, high-temp., residues; Coal tar solids residue</p> <p>(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.)</p>	648-061-00-8	309-726-5	100684-51-3	M
<p>Tar, coal, high-temp., high-solids; Coal tar solids residue</p> <p>(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.)</p>	648-062-00-3	273-615-7	68990-61-4	M
<p>Waste solids, coal-tar pitch coking; Coal tar solids residue</p> <p>(The combination of wastes formed by the coking of bituminous coal tar pitch. It consists predominantly of carbon.)</p>	648-063-00-9	295-549-8	92062-34-5	M
<p>Extract residues (coal), brown; Coal tar extract</p> <p>(The residue from extraction of dried coal.)</p>	648-064-00-4	294-285-0	91697-23-3	M
<p>Paraffin waxes (coal), brown-coal-high-temp. tar; Coal tar extract</p> <p>(A complex combination of hydrocarbons obtained from lignite 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 C₁₂.)</p>	648-065-00-X	295-454-1	92045-71-1	M
<p>Paraffin waxes (coal), brown-coal-high-temp. tar, hydrotreated; Coal tar</p>	648-066-00-5	295-455-7	92045-72-2	M

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 .)				
Paraffin waxes (coal), brown-coal high-temp tar, silicic acid-treated; Coal tar extract (A complex combination of hydrocabons 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 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.)	648-069-00-1	292-651-4	90669-57-1	M
Pitch, coal tar, low-temp., oxidized; Pitch residue, oxidised	648-070-00-7	292-654-0	90669-59-3	M

(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.)				
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-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.)	648-073-00-3	309-956-6	101794-74-5	M
Aromatic hydrocarbons, C ₂₀₋₂₈ , polycyclic, mixed coal-tar pitch-polyethylene pyrolysis-derived;	648-074-00-9	309-957-1	101794-75-6	M

<p>Pyrolysis products</p> <p>(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 C₂₀ through C₂₈ and having a softening point of 100 °C to 220 °C (212 °F to 428 °F) according to DIN 52025.)</p>				
<p>Aromatic hydrocarbons, C₂₀₋₂₈, polycyclic, mixed coal-tar pitch-polystyrene pyrolysis-derived; Pyrolysis products</p> <p>(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 C₂₀ through C₂₈ and having a softening point of 100 °C to 220 °C (212 °F to 428 °F) according to DIN 52025.)</p>	648-075-00-4	309-958-7	101794-76-7	M
<p>Pitch, coal tar-petroleum; Pitch residues</p> <p>(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 hydrocarbons.)</p>	648-076-00-X	269-109-0	68187-57-5	M
<p>Phenanthrene, distn. residues; Heavy anthracene oil redistillate</p> <p>(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.)</p>	648-077-00-5	310-169-5	122070-78-4	M
<p>Distillates (coal tar), upper, fluorene-</p>	648-078-00-0	284-899-7	84989-10-6	M

<p>free; Wash oil redistillate</p> <p>(A complex combination of hydrocarbons obtained by the crystallization of tar oil. It consists of aromatic polycyclic hydrocarbons, primarily diphenyl, dibenzofuran and acenaphthene.)</p>				
<p>Residues (coal tar), creosote oil distn.; Wash oil redistillate</p> <p>(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.)</p>	648-080-00-1	295-506-3	92061-93-3	M
<p>Distillates (coal), coke-oven light oil, naphthalene cut; Naphthalene oil</p> <p>(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))</p>	648-084-00-3	285-076-5	85029-51-2	J, M
<p>Distillates (coal tar), naphthalene oils, naphthalene-low; Naphthalene oil redistillate</p> <p>(A complex combination of hydrocarbons obtained by crystallization of naphthalene oil. Composed primarily of naphthalene, alkyl naphthalenes and phenolic compounds.)</p>	648-086-00-4	284-898-1	84989-09-3	J, M
<p>Distillates (coal tar), naphthalene oil crystn. mother liquor; Naphthalene oil redistillate</p> <p>(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</p>	648-087-00-X	295-310-8	91995-49-2	J, M

and alkyl naphthalenes.)				
<p>Extract residues (coal), naphthalene oil, alk.; Naphthalene oil extract residue</p> <p>(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.)</p>	648-088-00-5	310-166-9	121620-47-1	J, M
<p>Extract residues (coal), naphthalene oil, alk., naphthalene-low; Naphthalene oil extract residue</p> <p>(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.)</p>	648-089-00-0	310-167-4	121620-48-2	J, M
<p>Distillates (coal tar), naphthalene oils, naphthalene-free, alk. exts.; Naphthalene oil extract residue</p> <p>(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.)</p>	648-090-00-6	292-612-1	90640-90-7	J, M
<p>Extract residues (coal), naphthalene oil alk., distn. overheads; Naphthalene oil extract residue</p> <p>(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.)</p>	648-091-00-1	292-627-3	90641-04-6	J, M
<p>Distillates (coal tar), naphthalene oils, methylnaphthalene fraction; Methylnaphthalene oil</p> <p>(A distillate from the fractional distillation of high temperature coal</p>	648-092-00-7	309-985-4	101896-27-9	J, M

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)				
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.; Methylnaphthalene 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 220 °C to 300 °C (428 °F to 572 °F). Composed primarily of naphthalene, alkylnaphthalenes and aromatic nitrogen bases.)	648-095-00-3	292-628-9	90641-05-7	J, M
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	648-096-00-9	284-901-6	84989-12-8	J, M

after distillation to remove tar bases. Composed primarily of alkylnaphthalenes.)				
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 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.)	648-102-00-X	310-189-4	122384-77-4	J, M
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	648-103-00-5	292-603-2	90640-81-6	J, M

phenanthrene.)				
<p>Anthracene oil, anthracene-low; Anthracene oil fraction</p> <p>(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.)</p>	648-104-00-0	292-604-8	90640-82-7	J, M
<p>Residues (coal tar), anthracene oil distn.; Anthracene oil fraction</p> <p>(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.)</p>	648-105-00-6	295-505-8	92061-92-2	J, M
<p>Anthracene oil, anthracene paste, anthracene fraction; Anthracene oil fraction</p> <p>(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.)</p>	648-106-00-1	295-275-9	91995-15-2	J, M
<p>Anthracene oil, anthracene paste, carbazole fraction; Anthracene oil fraction</p> <p>(A complex combination of hydrocarbons from the distillation of anthracene obtained by crystallization of anthracene 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.)</p>	648-107-00-7	295-276-4	91995-16-3	J, M
Anthracene oil, anthracene paste,	648-108-00-2	295-278-5	91995-17-4	J, M

<p>distn. lights; Anthracene oil fraction</p> <p>(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.)</p>				
<p>Tar oils, coal, low-temp.; Tar oil, high boiling</p> <p>(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))</p>	648-109-00-8	309-889-2	101316-87-4	J, M
<p>Phenols, ammonia liquor ext.; Alkaline extract</p> <p>(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.)</p>	648-111-00-9	284-881-9	84988-93-2	J, M
<p>Distillates (coal tar), light oils, alk. exts.; Alkaline extract</p> <p>(The aqueous extract from carbolic oil produced by an alkaline wash such as aqueous sodium hydroxide. Composed primarily of the alkali salts of various phenolic compounds.)</p>	648-112-00-4	292-610-0	90640-88-3	J, M
<p>Extracts, coal tar oil alk.; Alkaline extract</p> <p>(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.)</p>	648-113-00-X	266-017-2	65996-83-0	J, M

<p>Distillates (coal tar), naphthalene oils, alk. exts.; Alkaline extract</p> <p>(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.)</p>	648-114-00-5	292-611-6	90640-89-4	J, M
<p>Extract residues (coal), tar oil alk., carbonated, limed; Crude phenols</p> <p>(The product obtained by treatment of coal tar oil alkaline extract with CO₂ and CaO. Composed primarily of CaCO₃, Ca(OH)₂, Na₂CO₃ and other organic and inorganic impurities.)</p>	648-115-00-0	292-629-4	90641-06-8	J, M
<p>Tar acids, brown-coal, crude; Crude phenols</p> <p>(An acidified alkaline extract of brown coal tar distillate. Composed primarily of phenol and phenol homologs.)</p>	648-117-00-1	309-888-7	101316-86-3	J, M
<p>Tar acids, brown-coal gasification; Crude phenols</p> <p>(A complex combination of organic compounds obtained from brown coal gasification. Composed primarily of C₆₋₁₀ hydroxy aromatic phenols and their homologs.)</p>	648-118-00-7	295-536-7	92062-22-1	J, M
<p>Tar acids, distn. residues; Distillate phenols</p> <p>(A residue from the distillation of crude phenol from coal. It consists predominantly of phenols having carbon numbers in the range of C₈ through C₁₀ with a softening point of 60 °C to 80 °C (140 °F to 176 °F))</p>	648-119-00-2	306-251-5	96690-55-0	J, M
<p>Tar acids, methylphenol fraction; Distillate phenols</p> <p>(The fraction of tar acid rich in 3- and 4-methylphenol, recovered by distillation of low-temperature coal tar</p>	648-120-00-8	284-892-9	84989-04-8	J, M

crude tar acids.)				
<p>Tar acids, polyalkylphenol fraction; Distillate phenols</p> <p>(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.)</p>	648-121-00-3	284-893-4	84989-05-9	J, M
<p>Tar acids, xylenol fraction; Distillate phenols</p> <p>(The fraction of tar acids, rich in 2,4- and 2,5-dimethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.)</p>	648-122-00-9	284-895-5	84989-06-0	J, M
<p>Tar acids, ethylphenol fraction; Distillate phenols</p> <p>(The fraction of tar acids, rich in 3- and 4-ethylphenol, recovered by distillation of low-temperature coal tar crude tar acids.)</p>	648-123-00-4	284-891-3	84989-03-7	J, M
<p>Tar acids, 3,5-xylenol fraction; Distillate phenols</p> <p>(The fraction of tar acids, rich in 3,5-dimethylphenol, recovered by distillation of low-temperature coal tar acids.)</p>	648-124-00-X	284-896-0	84989-07-1	J, M
<p>Tar acids, residues, distillates, first-cut; Distillate phenols</p> <p>(The residue from the distillation in the range of 235 °C to 355 °C (481 °F to 697 °F) of light carbolic oil.)</p>	648-125-00-5	270-713-1	68477-23-6	J, M
<p>Tar acids, cresylic, residues; Distillate phenols</p> <p>(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</p>	648-126-00-0	271-418-0	68555-24-8	J, M

polyalkylphenols, resin gums, and inorganic salts.)				
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.)	648-132-00-9	274-544-0	92062-29-8	J, M

<p>Hydrocarbon oils, arom., mixed with polyethylene and polypropylene, pyrolyzed, light oil fraction; Heat treatment products</p> <p>(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))</p>	648-134-00-4	309-745-9	100801-63-6	J, M
<p>Hydrocarbon oils, arom., mixed with polyethylene, pyrolyzed, light oil fraction; Heat treatment products</p> <p>(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))</p>	648-135-00-X	309-748-5	100801-65-8	J, M
<p>Hydrocarbon oils, arom., mixed with polystyrene, pyrolyzed, light oil fraction; Heat treatment products</p> <p>(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))</p>	648-136-00-5	309-749-0	100801-66-9	J, M
<p>Extract residues (coal), tar oil alk., naphthalene distn. residues; Naphthalene oil extract residue</p> <p>(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.)</p>	648-137-00-0	277-567-8	736665-18-6	J, M
<p>Creosote oil, low-boiling distillate; Wash oil</p>	648-138-00-6	274-566-4	70321-80-1	J, M

(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))				
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 and their alkyl derivatives.)	648-141-00-2	266-018-8	65996-84-1	J, M
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	648-143-00-3	302-682-8	94114-47-3	M

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.)				
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.,	648-149-00-6	302-689-6	94114-53-1	J

<p>hydrocracked;</p> <p>(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 C₄ through C₁₄. Nitrogen, sulfur and oxygen-containing aromatic and hydrogenated aromatic compounds are also present.)</p>				
<p>Naphtha (coal), solvent extn., hydrocracked;</p> <p>(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 C₄ to C₉. Nitrogen, sulfur and oxygen-containing aromatic and hydrogenated aromatic compounds are also present.)</p>	648-150-00-1	302-690-1	94114-54-2	J
<p>Gasoline, coal solvent extn., hydrocracked naphtha;</p> <p>(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</p>	648-151-00-7	302-691-7	94114-55-3	J

numbers in the range of C ₄ through C ₉ .)				
<p>Distillates (coal), solvent extn., hydrocracked middle;</p> <p>(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 C₉ through C₁₄. Nitrogen, sulfur and oxygen-containing compounds are also present.)</p>	648-152-00-2	302-692-2	94114-56-4	J
<p>Distillates (coal), solvent extn., hydrocracked hydrogenated middle;</p> <p>(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 hydrogenated two-ring carbon compounds and their alkyl derivatives having carbon numbers predominantly in the range of C₉ through C₁₄.)</p>	648-153-00-8	302-693-8	94114-57-5	J
<p>Light oil (coal), semi-coking process; Fresh oil</p> <p>(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 C₆₋₁₀ hydrocarbons.)</p>	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	649-002-00-9	265-103-7	64742-04-7	■

distillate solvent				
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 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.)	649-009-00-7	265-058-3	64741-57-7	
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	649-010-00-2	265-063-0	64741-61-3	

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.)				
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 boiling above approximately 350 °C (662 °F))	649-012-00-3	265-076-1	64741-75-9	
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	649-014-00-4	265-082-4	64741-81-7	

(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 of 4- to 6-membered condensed ring aromatic hydrocarbons.)				
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	649-017-00-0	265-189-6	64742-86-5	

(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.)				
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	649-020-00-7	269-782-0	68333-26-6	

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.)				
Distillates (petroleum), hydrosulfurized 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), hydrosulfurized heavy catalytic cracked; Heavy fuel oil (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.)	649-022-00-8	269-784-1	68333-28-8	
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	649-024-00-9	270-675-6	68476-33-5	

composition is complex and varies with the source of the crude oil.)				
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 (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))	649-027-00-5	270-983-0	68512-61-8	
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	649-029-00-6	271-013-9	68513-69-9	

(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))				
Fuel oil, No 6; Heavy fuel oil (A distillate oil having a minimum viscosity of 900 SUS at 37,7 °C (100 °F) to a maximum of 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 gasoline cut, kerosene cut and gas oil cut have been removed.)	649-031-00-7	271-763-7	68607-30-7	
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	649-033-00-8	272-187-9	68783-13-1	

<p>°C (662 °F). This stream is likely to contain 5 wt. % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.)</p>				
<p>Distillates (petroleum), petroleum residues vacuum; Heavy fuel oil</p> <p>(A complex combination of hydrocarbons produced by the vacuum distillation of the residuum from the atmospheric distillation of crude oil.)</p>	649-034-00-3	273-263-4	68955-27-1	
<p>Residues (petroleum), steam-cracked, resinous; Heavy fuel oil</p> <p>(A complex residuum from the distillation of steam-cracked petroleum residues.)</p>	649-035-00-9	273-272-3	68955-36-2	
<p>Distillates (petroleum), intermediate vacuum; Heavy fuel oil</p> <p>(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 C₁₄ through C₄₂ 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.)</p>	649-036-00-4	274-683-0	70592-76-6	
<p>Distillates (petroleum), light vacuum; Heavy fuel oil</p> <p>(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 C₁₁ through C₃₅ and boiling in the range of approximately 250 °C to 545 °C (482 °F to 1013 °F))</p>	649-037-00-X	247-684-6	70592-77-7	
<p>Distillates (petroleum), vacuum; Heavy fuel oil</p>	649-038-00-5	274-685-1	70592-78-8	

<p>(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 C₁₅ through C₅₀ 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.)</p>				
<p>Gas oils (petroleum), hydrodesulphurized coker heavy vacuum; Heavy fuel oil</p> <p>(A complex combination of hydrocarbons obtained by hydrodesulphurization of heavy coker distillate stocks. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range C₁₈ to C₄₄ and boiling in the range of approximately 304 °C to 548 °C (579 °F to 1018 °F). Likely to contain 5 % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.)</p>	649-039-00-0	285-555-9	85117-03-9	
<p>Residues (petroleum), steam-cracked, distillates; Heavy fuel oil</p> <p>(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.)</p>	649-040-00-6	292-657-7	90669-75-3	
<p>Residues (petroleum), vacuum, light; Heavy fuel oil</p> <p>(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 C₂₄ and boiling above approximately 390</p>	649-041-00-1	292-658-2	90669-76-4	

°C(734°F))				
<p>Fuel oil, heavy, high-sulphur; Heavy fuel oil</p> <p>(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 C₂₅ and boiling above approximately 400 °C(752°F))</p>	649-042-00-7	295-396-7	92045-14-2	
<p>Residues (petroleum), catalytic cracking; Heavy fuel oil</p> <p>(A complex combination of hydrocarbons produced as the residual fraction from the distillation of the products from a catalytic cracking process. It consists predominantly of hydrocarbons having carbon numbers predominantly greater than C₁₁ and boiling above approximately 200 °C(392°F))</p>	649-043-00-2	295-511-0	92061-97-7	
<p>Distillates (petroleum), intermediate catalytic cracked, thermally degraded; Heavy fuel oil</p> <p>(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.)</p>	649-044-00-8	295-990-6	92201-59-7	
<p>Residual oils (petroleum); Heavy fuel oil</p> <p>(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</p>	649-045-00-3	298-754-0	93821-66-0	

viscosity above $\Rightarrow 2 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 100 °C ($\Leftarrow 2 \text{ cSt at } 100^\circ\text{C}$)				
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 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))	649-047-00-4	309-863-0	101316-57-8	
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	649-049-00-5	232-298-5	8002-05-9	

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.)				
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 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 .)	649-062-00-6	270-755-0	68477-73-6	K
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;	649-065-00-2	270-758-7	68477-76-9	K

<p>Petroleum gas</p> <p>(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 C₂ through C₆, predominantly C₂ through C₄.)</p>				
<p>Gases (petroleum), catalytic reformer, C₁₋₄-rich; Petroleum gas</p> <p>(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 C₁ through C₆, predominantly C₁ through C₄.)</p>	649-066-00-8	270-760-8	68477-79-2	K
<p>Gases (petroleum), C₃₋₅olefinic-paraffinic alkylation feed; Petroleum gas</p> <p>(A complex combination of olefinic and paraffinic hydrocarbons having carbon numbers in the range of C₃ through C₅ which are used as alkylation feed. Ambient temperatures normally exceed the critical temperature of these combinations.)</p>	649-067-00-3	270-765-5	68477-83-8	K
<p>Gases (petroleum), C₄-rich; Petroleum gas</p> <p>(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 C₃ through C₅, predominantly C₄.)</p>	649-068-00-9	270-767-6	68477-85-0	K
<p>Gases (petroleum), deethanizer overheads; Petroleum gas</p> <p>(A complex combination of hydrocarbons produced from distillation of the gas and gasoline fractions from the catalytic cracking process. It contains predominantly</p>	649-069-00-4	270-768-1	68477-86-1	K

ethane and ethylene.)				
<p>Gases (petroleum), deisobutanizer tower overheads; Petroleum gas</p> <p>(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 C₃ through C₄.)</p>	649-070-00-X	270-769-7	68477-87-2	K
<p>Gases (petroleum), depropanizer dry, propene-rich; Petroleum gas</p> <p>(A complex combination of hydrocarbons produced by the distillation of products from the gas and gasoline fractions of a catalytic cracking process. It consists predominantly of propylene with some ethane and propane.)</p>	649-071-00-5	270-772-3	68477-90-7	K
<p>Gases (petroleum), depropanizer overheads; Petroleum gas</p> <p>(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 C₂ through C₄.)</p>	649-072-00-0	270-773-9	68477-91-8	K
<p>Gases (petroleum), gas recovery plant depropanizer overheads; Petroleum gas</p> <p>(A complex combination of hydrocarbons obtained by fractionation of miscellaneous hydrocarbon streams. It consists predominantly of hydrocarbons having carbon numbers in the range of C₁ through C₄, predominantly propane.)</p>	649-073-00-6	270-777-0	68477-94-1	K
Gases (petroleum), Girbatol unit feed; Petroleum gas	649-074-00-1	270-778-6	68477-95-2	K

(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 .)				
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 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 .)	649-076-00-2	270-802-5	68478-21-7	K
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	649-078-00-3	270-804-6	68478-24-0	K

through C ₅ .)				
<p>Tail gas (petroleum), catalytic reformed naphtha fractionation stabilizer; Petroleum gas</p> <p>(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 C₁ through C₄.)</p>	649-079-00-9	270-806-7	68478-26-2	K
<p>Tail gas (petroleum), saturate gas plant mixed stream, C₄-rich; Petroleum gas</p> <p>(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 C₃ through C₆, predominantly butane and isobutane.)</p>	649-080-00-4	270-813-5	68478-32-0	K
<p>Tail gas (petroleum), saturate gas recovery plant, C₁₋₂-rich; Petroleum gas</p> <p>(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 C₁ through C₅, predominantly methane and ethane.)</p>	649-081-00-X	270-814-0	68478-33-1	K
<p>Tail gas (petroleum), vacuum residues thermal cracker; Petroleum gas</p> <p>(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 C₁ through C₅.)</p>	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 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 .)	649-084-00-6	271-000-8	68513-15-5	K
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	649-087-00-2	271-010-2	68513-66-6	K

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))				
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 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))	649-089-00-3	271-038-5	68514-36-3	K
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	649-095-00-6	271-737-5	68606-27-9	K

(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 .)				
<p>Gases (petroleum), depropanizer bottoms fractionation off; Petroleum gas</p> <p>(A complex combination of hydrocarbons obtained from the fractionation of depropanizer bottoms. It consists predominantly of butane, isobutane and butadiene.)</p>	649-096-00-1	271-742-2	68606-34-8	K
<p>Gases (petroleum), refinery blend; Petroleum gas</p> <p>(A complex combination obtained from various processes. It consists of hydrogen, hydrogen sulfide and hydrocarbons having carbon numbers predominantly in the range of C₁ through C₅.)</p>	649-097-00-7	272-183-7	68783-07-3	K
<p>Gases (petroleum), catalytic cracking; Petroleum gas</p> <p>(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 C₃ through C₅.)</p>	649-098-00-2	272-203-4	68783-64-2	K
<p>Gases (petroleum), C₂₋₄, sweetened; Petroleum gas</p> <p>(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 C₂ through C₄ and boiling in the range of approximately – 51 °C to</p>	649-099-00-8	272-205-5	68783-65-3	K

– 34 °C(– 60 °F to – 30 °F))				
<p>Gases (petroleum), crude oil fractionation off; Petroleum gas</p> <p>(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 C₁ through C₅.)</p>	649-100-00-1	272-871-7	68918-99-0	K
<p>Gases (petroleum), dehexanizer off; Petroleum gas</p> <p>(A complex combination of hydrocarbons obtained by the fractionation of combined naphtha streams. It consists of saturated aliphatic hydrocarbons having carbon numbers predominantly in the range of C₁ through C₅.)</p>	649-101-00-7	272-872-2	68919-00-6	K
<p>Gases (petroleum), light straight run gasoline fractionation stabilizer off; Petroleum gas</p> <p>(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 C₁ through C₅.)</p>	649-102-00-2	272-878-5	68919-05-1	K
<p>Gases (petroleum), naphtha unifiner desulfurization stripper off; Petroleum gas</p> <p>(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 C₁ through C₄.)</p>	649-103-00-8	272-879-0	68919-06-2	K
<p>Gases (petroleum), straight-run naphtha catalytic reforming off; Petroleum gas</p>	649-104-00-3	272-882-7	68919-09-5	K

(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.)				
<p>Gases (petroleum), fluidized catalytic cracker splitter overheads; Petroleum gas</p> <p>(A complex combination of hydrocarbons produced by the fractionation of the charge to the C₃-C₄ splitter. It consists predominantly of C₃ hydrocarbons.)</p>	649-105-00-9	272-893-7	68919-20-0	K
<p>Gases (petroleum), straight-run stabilizer off; Petroleum gas</p> <p>(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 C₁ through C₄.)</p>	649-106-00-4	272-883-2	68919-10-8	K
<p>Gases (petroleum), catalytic cracked naphtha debutanizer; Petroleum gas</p> <p>(A complex combination of hydrocarbons obtained from fractionation of catalytic cracked naphtha. It consists of hydrocarbons having carbon numbers predominantly in the range of C₁ through C₄.)</p>	649-107-00-X	273-169-3	68952-76-1	K
<p>Tail gas (petroleum), catalytic cracked distillate and naphtha stabilizer; Petroleum gas</p> <p>(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 C₁ through C₄.)</p>	649-108-00-5	273-170-9	68952-77-2	K

<p>Tail gas (petroleum), thermal-cracked distillate, gas oil and naphtha absorber; Petroleum gas</p> <p>(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 C₁ through C₆.)</p>	649-109-00-0	273-175-6	68952-81-8	K
<p>Tail gas (petroleum), thermal cracked hydrocarbon fractionation stabilizer, petroleum coking; Petroleum gas</p> <p>(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 C₁ through C₆.)</p>	649-110-00-6	273-176-1	68952-82-9	K
<p>Gases (petroleum, light steam-cracked, butadiene conc.; Petroleum gas</p> <p>(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 C₄.)</p>	649-111-00-1	273-265-5	68955-28-2	K
<p>Gases (petroleum), straight-run naphtha catalytic reformer stabilizer overhead; Petroleum gas</p> <p>(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 C₂ through C₄.)</p>	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 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))	649-116-00-9	295-405-4	92045-23-3	K
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	649-199-00-5	307-769-4	97722-19-5	K
Gases (petroleum), amine system feed; Refinery gas	649-120-00-0	270-746-1	68477-65-6	K

(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.)				
Gases (petroleum), benzene unit hydrodesulphurizer off; Refinery gas (Off gases produced by the benzene unit. It consists primarily of hydrogen. Carbon monoxide and hydrocarbons having carbon numbers predominantly in the range of C ₁ through C ₆ , including benzene, may also be present.)	649-121-00-6	270-747-7	68477-66-7	K
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	649-124-00-2	270-759-2	68477-77-0	K

naphtha. It consists of hydrogen and saturated hydrocarbons having carbon numbers predominantly in the range of C ₁ through C ₄ .)				
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 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 .)	649-125-00-8	270-761-3	68477-80-5	K
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	649-129-00-X	270-774-4	68477-92-9	K

(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 .)				
Gases (petroleum), gas concn. reabsorber distn.; Refinery gas (A complex combination of hydrocarbons produced by distillation of products from combined gas 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 .)	649-130-00-5	270-776-5	68477-93-0	K
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	649-133-00-1	270-781-2	68477-98-5	K

of C ₁ through C ₅ .)				
<p>Gases (petroleum), recycle, hydrogen-rich; Refinery gas</p> <p>(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 C₁ through C₅.)</p>	649-134-00-7	270-783-3	68478-00-2	K
<p>Gases (petroleum), reformer make-up, hydrogen-rich; Refinery gas</p> <p>(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 C₁ through C₅.)</p>	649-135-00-2	270-784-9	68478-01-3	K
<p>Gases (petroleum), reforming hydrotreater; Refinery gas</p> <p>(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 C₃ through C₅.)</p>	649-136-00-8	270-785-4	68478-02-4	K
<p>Gases (petroleum), reforming hydrotreater, hydrogen-methane-rich; Refinery gas</p> <p>(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 C₂ through C₅.)</p>	649-137-00-3	270-787-5	68478-03-5	K

<p>Gases (petroleum), reforming hydrotreater make-up, hydrogen-rich; Refinery gas</p> <p>(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 C₁ through C₅.)</p>	649-138-00-9	270-788-0	68478-04-6	K
<p>Gases (petroleum), thermal cracking distn.; Refinery gas</p> <p>(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 C₁ through C₆.)</p>	649-139-00-4	270-789-6	68478-05-7	K
<p>Tail gas (petroleum), catalytic cracker refractionation absorber; Refinery gas</p> <p>(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 C₁ through C₃.)</p>	649-140-00-X	270-805-1	68478-25-1	K
<p>Tail gas (petroleum), catalytic reformed naphtha separator; Refinery gas</p> <p>(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 C₁ through C₆.)</p>	649-141-00-5	270-807-2	68478-27-3	K
<p>Tail gas (petroleum), catalytic reformed naphtha stabilizer; Refinery gas</p>	649-142-00-0	270-808-8	68478-28-4	K

(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 .)				
<p>Tail gas (petroleum), cracked distillate hydrotreater separator; Refinery gas</p> <p>(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 C₁ through C₅.)</p>	649-143-00-6	270-809-3	68478-29-5	K
<p>Tail gas (petroleum), hydrodesulphurized straight-run naphtha separator; Refinery gas</p> <p>(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 C₁ through C₆.)</p>	649-144-00-1	270-810-9	68478-30-8	K
<p>Gases (petroleum), catalytic reformed straight-run naphtha stabilizer overheads; Refinery gas</p> <p>(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.)</p>	649-145-00-7	270-999-8	68513-14-4	K
<p>Gases (petroleum), reformer effluent high-pressure flash drum off; Refinery gas</p> <p>(A complex combination produced by the high-pressure flashing of the effluent from the reforming reactor. It consists primarily of hydrogen with</p>	649-146-00-2	271-003-4	68513-18-8	K

various small amounts of methane, ethane, and propane.)				
<p>Gases (petroleum), reformer effluent low-pressure flash drum off; Refinery gas</p> <p>(A complex combination produced by low-pressure flashing of the effluent from the reforming reactor. It consists primarily of hydrogen with various small amounts of methane, ethane, and propane.)</p>	649-147-00-8	271-005-5	68513-19-9	K
<p>Gases (petroleum), oil refinery gas distn. off; Refinery gas</p> <p>(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 C₁ through C₆ or obtained by cracking ethane and propane. It consists of hydrocarbons having carbon numbers predominantly in the range of C₁ through C₂, hydrogen, nitrogen, and carbon monoxide.)</p>	649-148-00-3	271-258-1	68527-15-1	K
<p>Gases (petroleum), benzene unit hydrotreater depentanizer overheads; Refinery gas</p> <p>(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 C₁ through C₆. It may contain trace amounts of benzene.)</p>	649-149-00-9	271-623-5	68602-82-4	K
<p>Gases (petroleum), secondary absorber off, fluidized catalytic cracker overheads fractionator; Refinery gas</p> <p>(A complex combination produced by</p>	649-150-00-4	271-625-6	68602-84-6	K

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 .)				
Petroleum products, refinery gases; Refinery gas (A complex combination which consists primarily of hydrogen with various small amounts of methane, ethane and propane.)	649-151-0-X	271-750-6	68607-11-4	K
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	649-155-00-1	272-775-5	68911-58-0	K

(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 predominantly in the range of C ₄ through C ₅ .)				
<p>Gases (petroleum), hydrotreated sour kerosine flash drum; Refinery gas</p> <p>(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 C₂ through C₅.)</p>	649-156-00-7	272-776-0	68911-59-1	K
<p>Gases (petroleum), distillate unifiner desulphurization stripper off; Refinery gas</p> <p>(A complex combination stripped from the liquid product of the unifiner desulphurization process. It consists of hydrogen sulphide, methane, ethane, and propane.)</p>	649-157-00-2	272-873-8	68919-01-7	K
<p>Gases (petroleum), fluidized catalytic cracker fractionation off; Refinery gas</p> <p>(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 C₁ through C₅.)</p>	649-158-00-8	272-874-3	68919-02-8	K
<p>Gases (petroleum), fluidized catalytic cracker scrubbing secondary absorber off; Refinery gas</p> <p>(A complex combination produced by</p>	649-159-00-3	272-875-9	68919-03-9	K

scrubbing the overhead gas from the fluidized catalytic cracker. It consists of hydrogen, nitrogen, methane, ethane and propane.)				
Gases (petroleum), heavy distillate hydrotreater desulphurization stripper off; Refinery gas (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 .)	649-160-00-9	272-876-4	68919-04-0	K
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	649-164-00-0	272-885-3	68919-12-0	K

(A combination of hydrogen and methane obtained by fractionation of the products from the unifier unit.)				
<p>Tail gas (petroleum), catalytic hydrodesulphurized naphtha separator; Refinery gas</p> <p>(A complex combination of hydrocarbons obtained from the hydrodesulphurization of naphtha. It consists of hydrogen, methane, ethane, and propane.)</p>	649-165-00-6	273-173-5	68952-79-4	K
<p>Tail gas (petroleum), straight-run naphtha hydrodesulphurizer; Refinery gas</p> <p>(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 C₁ through C₅.)</p>	649-166-00-1	273-174-0	68952-80-7	K
<p>Gases (petroleum), sponge absorber off, fluidized catalytic cracker and gas oil desulphurizer overhead fractionation; Refinery gas</p> <p>(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 C₁ through C₄.)</p>	649-167-00-7	273-269-7	68955-33-9	K
<p>Gases (petroleum), crude distn. and catalytic cracking; Refinery gas</p> <p>(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 C₁ through C₆.)</p>	649-168-00-2	273-563-5	68989-88-8	K
Gases (petroleum), gas oil diethanolamine scrubber off; Refinery	649-169-00-8	295-397-2	92045-15-3	K

gas (A complex combination produced by desulphurization of gas oils with diethanolamine. It consists 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	649-173-00-X	295-401-2	92045-19-7	K

portions from the product of a naphtha steam cracking process as well as residual gases obtained during the preparation of subsequent 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.)				
<p>Gases (petroleum), residue visbaking off; Refinery gas</p> <p>(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 C₁ through C₅.)</p>	649-174-00-5	295-402-8	92045-20-0	K
<p>Foots oil (petroleum), acid-treated; Foots oil</p> <p>(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 C₂₀ through C₅₀.)</p>	649-175-00-0	300-225-7	93924-31-3	L
<p>Foots oil (petroleum), clay-treated; Foots oil</p> <p>(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 C₂₀ through C₅₀.)</p>	649-176-00-6	300-226-2	93924-32-4	L
<p>Gases (petroleum), C₃₋₄; Petroleum gas</p> <p>(A complex combination of</p>	649-177-00-1	268-629-5	68131-75-9	K

hydrocarbons produced by distillation of products from the cracking of crude oil. It consists of hydrocarbons having carbon numbers in the range 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	649-181-00-3	269-620-9	68308-01-0	K

(A complex combination of hydrocarbons obtained by treating 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 .)				
<p>Tail gas (petroleum), straight-run distillate hydrodesulphurizer, hydrogen sulphide-free; Petroleum gas</p> <p>(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 C₁ through C₄.)</p>	649-182-00-9	269-630-3	68308-10-1	K
<p>Tail gas (petroleum), gas oil catalytic cracking absorber; Petroleum gas</p> <p>(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 C₁ through C₅.)</p>	649-183-00-4	269-623-5	68308-03-2	K
<p>Tail gas (petroleum), gas recovery plant; Petroleum gas</p> <p>(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 C₁ through C₅.)</p>	649-184-00-X	269-624-0	68308-04-3	K
<p>Tail gas (petroleum), gas recovery plant deethanizer; Petroleum gas</p> <p>(A complex combination of hydrocarbons from the distillation of</p>	649-185-00-5	269-625-6	68308-05-4	K

products from miscellaneous hydrocarbon streams. It consists of hydrocarbon having carbon numbers predominantly in the range of C ₁ through C ₄ .)				
<p>Tail gas (petroleum), hydrodesulphurized distillate and hydrodesulphurized naphtha fractionator, acid-free; Petroleum gas</p> <p>(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 C₁ through C₅.)</p>	649-186-00-0	269-626-1	68308-06-5	K
<p>Tail gas (petroleum), hydrodesulphurized vacuum gas oil stripper, hydrogen sulphide-free; Petroleum gas</p> <p>(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 C₁ through C₆.)</p>	649-187-00-6	269-627-7	68308-07-6	K
<p>Tail gas (petroleum), light straight-run naphtha stabilizer, hydrogen sulphide-free; Petroleum gas</p> <p>(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 C₁ through C₅.)</p>	649-188-00-1	269-629-8	68308-09-8	K
Tail gas (petroleum), propane-	649-189-00-7	269-631-9	68308-11-2	K

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 .)				
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 hydrocarbons.)	649-197-00-0	270-667-2	68476-26-6	K

<p>Fuel gases, crude oil of distillates; Petroleum gas</p> <p>(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 C₁ through C₄ and boiling in the range of approximately – 217 °C to – 12 °C (– 423 °F to 10 °F))</p>	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
<p>Petroleum gases, liquefied; Petroleum gas</p> <p>(A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C₃ through C₇ and boiling in the range of approximately –40 °C to 80 °C)</p>	649-202-00-6	270-704-2	68476-85-7	K
<p>Petroleum gases, liquefied, sweetened; Petroleum gas</p> <p>(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 C₃ through C₇ and boiling in the range of approximately –40 °C to 80 °C)</p>	649-203-00-1	270-705-8	68476-86-8	K
<p>Gases (petroleum), C₃₋₄, isobutane-rich; Petroleum gas</p> <p>(A complex combination of hydrocarbons from the distillation of saturated and unsaturated hydrocarbons usually ranging in</p>	649-204-00-7	270-724-1	68477-33-8	K

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 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 ,	649-208-00-9	270-752-4	68477-71-4	K

predominantly C ₄ .)				
<p>Gases (petroleum), catalytic-cracked naphtha debutanizer bottoms, C₃₋₅-rich; Petroleum gas</p> <p>(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 C₃ through C₅.)</p>	649-209-00-4	270-754-5	68477-72-5	K
<p>Tail gas (petroleum), isomerized naphtha fractionation stabilizer; Petroleum gas</p> <p>(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 C₁ through C₄.)</p>	649-210-00-X	269-628-2	68308-08-7	K
<p>Foots oil (petroleum), carbon-treated; Foot's oil</p> <p>(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 C₁₂.)</p>	649-211-00-5	308-126-0	97862-76-5	L
<p>Distillates (petroleum), sweetened middle; Gas oil — unspecified</p> <p>(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 of hydrocarbons having carbon numbers predominantly in the range of C₉ through C₂₀ and boiling in the range of approximately 150 °C to 345 °C (302 °F to 653 °F))</p>	649-212-00-0	265-088-7	64741-86-2	N

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 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))	649-216-00-2	265-113-1	64742-13-8	N
Distillates (petroleum), acid-treated	649-217-00-8	265-114-7	64742-14-9	N

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))				
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 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))	649-220-00-4	265-139-3	64742-38-7	N
Distillates (petroleum), hydrotreated	649-221-00-X	265-148-2	64742-46-7	N

<p>middle; Gas oil — unspecified</p> <p>(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 C₁₁ through C₂₅ and boiling in the range of approximately 205 °C to 400 °C(401 °F to 752 °F))</p>				
<p>Gas oils (petroleum), hydrodesuphurized; Gas oil — unspecified</p> <p>(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 C₁₃ through C₂₅ and boiling in the range of approximately 230 °C to 400 °C(446 °F to 752 °F))</p>	649-222-00-5	265-182-8	64742-79-6	N
<p>Distillates (petroleum), hydrodesulphurized middle; Gas oil — unspecified</p> <p>(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 C₁₁ through C₂₅ and boiling in the range of approximately 205 °C to 400 °C(401 °F to 752 °F))</p>	649-223-00-0	265-183-3	64742-80-9	N
<p>Distillates (petroleum), catalytic reformer fractionator residue, high-boiling; Gas oil — unspecified</p> <p>(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))</p>	649-228-00-8	270-719-4	68477-29-2	N

<p>Distillates (petroleum), catalytic reformer fractionator residue, intermediate-boiling; Gas oil — unspecified</p> <p>(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))</p>	649-229-00-3	270-721-5	68477-30-5	N
<p>Distillates (petroleum), catalytic reformer fractionator residue, low-boiling; Gas oil — unspecified</p> <p>(The complex combination of hydrocarbons from the distillation of catalytic reformer fractionator residue. It boils approximately below 288 °C (550 °F))</p>	649-230-00-9	270-722-0	68477-31-6	N
<p>Distillates (petroleum), highly refined middle; Gas oil — unspecified</p> <p>(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 C₁₀ through C₂₀.)</p>	649-231-00-4	292-615-8	90640-93-0	N
<p>Distillates (petroleum) catalytic reformer, heavy arom. conc.; Gas oil — unspecified</p> <p>(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 C₁₀ through C₁₆ and boiling in the range of approximately 200 °C to 300 °C (392 °F to 572 °F))</p>	649-232-00-X	295-294-2	91995-34-5	N

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 $\Rightarrow 2 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 100 °C $\Leftarrow 2 \text{ cSt at } 100^\circ\text{C}$ (212 °F))	649-235-00-6	307-659-6	97675-85-9	N
Hydrocarbons, C ₁₂₋₂₀ , hydrotreated paraffinic, distn. lights; Gas oil — unspecified (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	649-236-00-1	307-660-1	97675-86-0	N

viscosity \Rightarrow of $2 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 100°C \Rightarrow 2 cSt at 100°C (212°F)				
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 $\Rightarrow 2.2 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40°C \Rightarrow 2.2 cSt at 40°C (104°F) . 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 (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} .)	649-239-00-8	309-667-5	100683-97-4	N
Distillates (petroleum), intermediate paraffinic, carbon-treated; Gas oil — unspecified	649-240-00-3	309-668-0	100683-98-5	N

(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 .)				
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	649-245-00-0	292-659-8	90669-77-5	N

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 .)				
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; 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 .)	649-248-00-7	295-524-1	92062-10-7	N
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	649-249-00-2	295-525-7	92062-11-8	N

saturated straight and branched chain hydrocarbons having carbon numbers predominantly greater than C ₁₂ .)				
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, 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 .)	649-252-00-9	308-158-5	97863-06-4	N
Slack wax (petroleum), carbon-treated; Slack wax (A complex combination of hydrocarbons obtained by treatment of petroleum slack wax with activated	649-253-00-4	309-723-9	100684-49-9	N

charcoal for the removal of trace polar constituents and impurities.)				
<p>Petrolatum; Petrolatum</p> <p>(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 C₂₅.)</p>	649-254-00-X	232-373-2	8009-03-8	N
<p>Petrolatum (petroleum), oxidized; Petrolatum</p> <p>(A complex combination of organic compounds, predominantly high molecular weight carboxylic acids, obtained by the air oxidation of petrolatum.)</p>	649-255-00-5	265-206-7	64743-01-7	N
<p>Petrolatum (petroleum), alumina-treated; Petrolatum</p> <p>(A complex combination of hydrocarbons obtained when petrolatum is treated with Al₂ O₃ to remove polar components and impurities. It consists predominantly of saturated, crystalline, and liquid hydrocarbons having carbon numbers predominantly greater than C₂₅.)</p>	649-256-00-0	285-098-5	85029-74-9	N
<p>Petrolatum (petroleum), hydrotreated; Petrolatum</p> <p>(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 C₂₀.)</p>	649-257-00-6	295-459-9	92045-77-7	N
<p>Petrolatum (petroleum), carbon-treated; Petrolatum</p> <p>(A complex combination of hydrocarbons obtained by the</p>	649-258-00-1	308-149-6	97862-97-0	N

treatment of petroleum petrolatum with activated carbon for the removal of trace polar constituents and impurities. It consists predominantly of saturated hydrocarbons having carbon numbers predominantly greater than C ₂₀ .)				
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	649-262-00-3	232-443-2	8030-30-6	P

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))				
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 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))	649-265-00-X	265-042-6	64741-42-0	P
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

<p>Solvent naphtha (petroleum), light aliph.; Low boiling point naphtha</p> <p>(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 C₅ through C₁₀ and boiling in the range of approximately 35 °C to 160 °C(95 °F to 320 °F))</p>	649-267-00-0	265-192-2	64742-89-8	P
<p>Distillates (petroleum), straight-run light; Low boiling point naphtha</p> <p>(A complex combination of hydrocarbons produced by the distillation of crude oil. It consists of hydrocarbons having carbon numbers predominantly in the range of C₂ through C₇ and boiling in the range of approximately –88 °C to 99 °C(–127 °F to 210 °F))</p>	649-268-00-6	270-077-5	68410-05-9	P
<p>Gasoline, vapour-recovery; Low boiling point naphtha</p> <p>(A complex combination of hydrocarbons separated from the gases from vapour recovery systems by cooling. It consists of hydrocarbons having carbon numbers predominantly in the range of C₄ through C₁₁ and boiling in the range of approximately –20 °C to 196 °C(–4 °F to 384 °F))</p>	649-269-00-1	271-025-4	68514-15-8	P
<p>Gasoline, straight-run, topping-plant; Low boiling point naphtha</p> <p>(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))</p>	649-270-00-7	271-727-0	68606-11-1	P
<p>Naphtha (petroleum), unsweetened; Low boiling point naphtha</p> <p>(A complex combination of</p>	649-271-00-2	272-186-3	68783-12-0	P

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))				
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 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(302 °F to 428 °F))	649-274-00-9	265-066-7	64741-64-6	P
Naphtha (petroleum), heavy alkylate; Low boiling point modified naphtha	649-275-00-4	265-067-2	64741-65-7	P

(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))				
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 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.)	649-277-00-5	265-073-5	64741-70-4	P
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	649-278-00-0	265-086-6	64741-84-0	P

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))				
<p>Naphtha (petroleum), solvent-refined heavy; Low boiling point modified naphtha</p> <p>(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 C₇ through C₁₂ and boiling in the range of approximately 90 °C to 230 °C (194 °F to 446 °F))</p>	649-279-00-6	265-095-5	64741-92-0	P
<p>Raffinates (petroleum), catalytic reformer ethylene glycol-water countercurrent exts.; Low boiling point modified naphtha</p> <p>(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 C₆ through C₉.)</p>	649-280-00-1	270-088-5	68410-71-9	P
<p>Raffinates (petroleum), reformer, Lurgi unit-sepd.; Low boiling point modified naphtha</p> <p>(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 C₆ through C₈.)</p>	649-281-00-7	270-349-3	68425-35-4	P
<p>Naphtha (petroleum), full-range alkylate, butane-contg.; Low boiling point modified naphtha</p> <p>(A complex combination of hydrocarbons produced by the</p>	649-282-00-2	271-267-0	68527-27-5	P

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)				
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 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))	649-284-00-3	295-430-0	92045-49-3	P
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	649-286-00-4	295-440-5	92045-58-4	P

<p>modified naphtha</p> <p>(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))</p>				
<p>Hydrocarbons, C₆₋₇, naphtha-cracking, solvent-refined; Low boiling point modified naphtha</p> <p>(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 C₆ through C₇ and boiling in the range of approximately 70 °C to 100 °C(158 °F to 212 °F))</p>	649-287-00-X	295-446-8	92045-64-2	P
<p>Hydrocarbons, C₆-rich, hydrotreated light naphtha distillates, solvent-refined; Low boiling point modified naphtha</p> <p>(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))</p>	649-288-00-5	309-871-4	101316-67-0	P
<p>Naphtha (petroleum), heavy catalytic cracked; Low boiling point cat-cracked naphtha</p> <p>(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</p>	649-289-00-0	265-055-7	64741-54-4	P

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.)				
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 numbers predominantly in the range of C ₃ through C ₁₁ and boiling in a range approximately up to 204 °C (400 °F))	649-291-00-1	270-686-6	68476-46-0	P
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.	649-293-00-2	295-311-3	91995-50-5	P

(A complex combination of hydrocarbons obtained by treating a light distillate from steam-cracked naphtha. It consists predominantly of aromatic hydrocarbons.)				
<p>Naphtha (petroleum), heavy catalytic cracked, sweetened; Low boiling point cat-cracked naphtha</p> <p>(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 C₆ through C₁₂ and boiling in the range of approximately 60 °C to 200 °C (140 °F to 392 °F))</p>	649-294-00-8	295-431-6	92045-50-6	P
<p>Naphtha (petroleum), light catalytic cracked sweetened; Low boiling point cat-cracked naphtha</p> <p>(A complex combination of hydrocarbons obtained by subjecting naphtha from a catalytic cracking 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 (195 °F to 410 °F))</p>	649-295-00-3	295-441-0	92045-59-5	P
<p>Hydrocarbons, C₈₋₁₂, catalytic-cracking, chem. neutralized; Low boiling point cat-cracked naphtha</p> <p>(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 C₈ through C₁₂ and boiling in the range of approximately 130 °C to 210 °C (266 °F to 410 °F))</p>	649-296-00-9	295-794-0	92128-94-4	P

<p>Hydrocarbons, C₈₋₁₂, catalytic cracker distillates; Low boiling point cat-cracked naphtha</p> <p>(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 C₈ through C₁₂ and boiling in the range of approximately 140 °C to 210 °C (284 °F to 410 °F))</p>	649-297-00-4	309-974-4	101794-97-2	P
<p>Hydrocarbons, C₈₋₁₂, catalytic cracking, chem. neutralized, sweetened; Low boiling point cat-cracked naphtha</p>	649-298-00-X	309-987-5	101896-28-0	P
<p>Naphtha (petroleum), light catalytic reformed; Low boiling point cat-reformed naphtha</p> <p>(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 C₅ through C₁₁ and boiling in 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.)</p>	649-299-00-5	265-065-1	64741-63-5	P
<p>Naphtha (petroleum), heavy catalytic reformed; Low boiling point cat-reformed naphtha</p> <p>(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 C₇ through C₁₂ and boiling in the range of approximately 90 °C to 230 °C (194 °F to 446 °F))</p>	649-300-00-9	265-070-9	64741-68-0	P

<p>Distillates (petroleum), catalytic reformed depentanizer; Low boiling point cat-reformed naphtha</p> <p>(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 C₃ through C₆ and boiling in the range of approximately -49 °C to 63 °C (-57 °F to 145 °F))</p>	649-301-00-4	270-660-4	68475-79-6	P
<p>Hydrocarbons, C₂₋₆, C₆₋₈ catalytic reformer; Low boiling point cat-reformed naphtha</p>	649-302-00-X	270-687-1	68476-47-1	P
<p>Residues (petroleum), C₆₋₈catalytic reformer; Low boiling point cat-reformed naphtha</p> <p>(A complex residuum from the catalytic reforming of C₆₋₈ feed. It consists of hydrocarbons having carbon numbers predominantly in the range of C₂ through C₆.)</p>	649-303-00-5	270-794-3	68478-15-9	P
<p>Naphtha (petroleum), light catalytic reformed, arom.-free; Low boiling point cat-reformed naphtha</p> <p>(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 C₅ through C₈ 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.)</p>	649-304-00-0	270-993-5	68513-03-1	P
<p>Distillates (petroleum), catalytic reformed straight-run naphtha overheads; Low boiling point cat-reformed naphtha</p> <p>(A complex combination of hydrocarbons obtained by the</p>	649-305-00-6	271-008-1	68513-63-3	P

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 .)				
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 the range of approximately 35 °C to 230 °C (95 °F to 446 °F))	649-307-00-7	272-895-8	68919-37-9	P
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-	649-309-00-8	285-509-8	85116-58-1	P

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))				
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 hydrocarbons, both boiling in the range of approximately 130 °C to 200 °C (266 °F to 392 °F))	649-311-00-9	297-401-8	93571-75-6	P
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	649-313-00-X	297-465-7	93572-35-1	P

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.)				
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-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 .)	649-315-00-0	308-127-6	97862-77-6	L
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	649-317-00-1	265-085-0	64741-83-9	P

<p>cracked; Low boiling point thermally cracked naphtha</p> <p>(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 C₆ through C₁₂ and boiling in the range of approximately 65 °C to 220 °C(148 °F to 428 °F))</p>				
<p>Distillates (petroleum), heavy arom.; Low boiling point thermally cracked naphtha</p> <p>(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 C₅-C₇ aromatic hydrocarbons with some unsaturated aliphatic hydrocarbons having a carbon number predominantly of C₅. This stream may contain benzene.)</p>	649-318-00-7	267-563-4	67891-79-6	P
<p>Distillates (petroleum), light arom.; Low boiling point thermally cracked naphtha</p> <p>(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 C₅-C₇ aromatic hydrocarbons with some unsaturated aliphatic hydrocarbons having a carbon number predominantly of C₅. This stream may contain benzene.)</p>	649-319-00-2	267-565-5	67891-80-9	P
<p>Distillates (petroleum), naphtha-raffinate pyrolyzate-derived, gasoline-blending; Low boiling point thermally cracked naphtha</p> <p>(The complex combination of hydrocarbons obtained by the pyrolysis fractionation at 816 °C(1500 °F)) of naphtha and raffinate. It</p>	649-320-00-8	270-344-6	68425-29-6	P

consists predominantly of hydrocarbons having a carbon number of C ₉ and boiling at approximately 204 °C(400 °F)				
<p>Aromatic hydrocarbons, C₆₋₈, naphtha-raffinate pyrolyzate-derived; Low boiling point thermally cracked naphtha</p> <p>(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 C₆ through C₈, including benzene.)</p>	649-321-00-3	270-658-3	68475-70-7	P
<p>Distillates (petroleum), thermal cracked naphtha and gas oil; Low boiling point thermally cracked naphtha</p> <p>(A complex combination of hydrocarbons produced by distillation of thermally cracked naphtha and/or gas oil. It consists predominantly of olefinic hydrocarbons having a carbon number of C₅ and boiling in the range of approximately 33 °C to 60 °C(91 °F to 140 °F))</p>	649-322-00-9	271-631-9	68603-00-9	P
<p>Distillates (petroleum), thermal cracked naphtha and gas oil, C₅-dimer-contg.; Low boiling point thermally cracked naphtha</p> <p>(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 C₅ with some dimerized C₅ olefins and boiling in the range of approximately 33 °C to 184 °C(91 °F to 140 °F))</p>	649-323-00-4	271-632-4	68603-01-0	P
Distillates (petroleum), thermal cracked naphtha and gas oil, extractive; Low boiling point	649-324-00-X	271-634-5	68603-03-2	P

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))				
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	649-327-00-6	265-150-3	64742-48-9	P

°C(149 °F to 446 °F))				
<p>Naphtha (petroleum), hydrotreated light; Low boiling point hydrogen treated naphtha</p> <p>(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 C₄ through C₁₁ and boiling in the range of approximately –20 °C to 190 °C(4 °F to 374 °F))</p>	649-328-00-1	265-151-9	64742-49-0	P
<p>Naphtha (petroleum), hydrodesulphurized light; Low boiling point hydrogen treated naphtha</p> <p>(A complex combination of hydrocarbons obtained from a catalytic hydrodesulphurization process. It consists of hydrocarbons having carbon numbers predominantly in the range of C₄ through C₁₁ and boiling in the range of approximately –20 °C to 190 °C(4 °F to 374 °F))</p>	649-329-00-7	265-178-6	64742-73-0	P
<p>Naphtha (petroleum), hydrodesulphurized heavy; Low boiling point hydrogen treated naphtha</p> <p>(A complex combination of hydrocarbons obtained from a catalytic hydrodesulphurization process. It consists of hydrocarbons having carbon numbers predominantly in the range of C₇ through C₁₂ and boiling in the range of approximately 90 °C to 230 °C(194 °F to 446 °F))</p>	649-330-00-2	265-185-4	64742-82-1	P
<p>Distillates (petroleum), hydrotreated middle, intermediate boiling; Low boiling point hydrogen treated naphtha</p> <p>(A complex combination of hydrocarbons obtained by the distillation of products from a middle distillate hydrotreating process. It</p>	649-331-00-8	270-092-7	68410-96-8	P

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))				
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),	649-335-00-X	285-511-9	85116-60-5	P

<p>hydrodesulphurized thermal cracked light; Low boiling point hydrogen treated naphtha</p> <p>(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 C₅ to C₁₁ and boiling in the range of approximately 23 °C to 195 °C(73 °F to 383 °F))</p>				
<p>Naphtha (petroleum), hydrotreated light, cycloalkane-contg.; Low boiling point hydrogen treated naphtha</p> <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))</p>	649-336-00-5	285-512-4	85116-61-6	P
<p>Naphtha (petroleum), heavy steam-cracked, hydrogenated; Low boiling point hydrogen treated naphtha</p>	649-337-00-0	295-432-1	92045-51-7	P
<p>Naphtha (petroleum), hydrodesulphurized full-range; Low boiling point hydrogen treated naphtha</p> <p>(A complex combination of hydrocarbons obtained from a catalytic hydrodesulphurization process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C₄ through C₁₁ and boiling in the range of approximately 30 °C to 250 °C(86 °F to 482 °F))</p>	649-338-00-6	295-433-7	92045-52-8	P
<p>Naphtha (petroleum), hydrotreated light steam-cracked; Low boiling point hydrogen treated naphtha</p> <p>(A complex combination of hydrocarbons obtained by treating a petroleum fraction, derived from a</p>	649-339-00-1	295-438-4	92045-57-3	P

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))				
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 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))	649-340-00-7	295-443-1	92045-61-9	P
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,	649-342-00-8	296-942-7	93165-55-0	P

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.)				
Hydrocarbons, C ₆₋₁₁ , 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.)	649-343-00-3	297-852-0	93763-33-8	P
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 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	649-346-00-X	265-047-3	64741-47-5	P

range of C ₂ to C ₂₀ . It is a liquid at atmospheric temperature and pressure.)				
<p>Natural gas (petroleum), raw liq. mix; Low boiling point naphtha — unspecified</p> <p>(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 C₂ through C₈.)</p>	649-347-00-5	265-048-9	64741-48-6	P
<p>Naphtha (petroleum), light hydrocracked; Low boiling point naphtha — unspecified</p> <p>(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 C₄ through C₁₀, and boiling in the range of approximately -20 °C to 180 °C (4 °F to 356 °F))</p>	649-348-00-0	265-071-4	64741-69-1	P
<p>Naphtha (petroleum) heavy hydrocracked; Low boiling point naphtha — unspecified</p> <p>(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 C₆ through C₁₂, and boiling in the range of approximately 65 °C to 230 °C (148 °F to 446 °F))</p>	649-349-00-6	265-079-8	64741-78-2	P
<p>Naphtha (petroleum), sweetened; Low boiling point naphtha — unspecified</p> <p>(A complex combination of hydrocarbons obtained by subjecting a petroleum naphtha to a sweetening process to convert mercaptans or to</p>	649-350-00-1	265-089-2	64741-87-3	P

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)				
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 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))	649-351-00-7	265-115-2	64742-15-0	P
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	649-354-00-3	265-170-2	64742-66-1	P

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))				
Naphtha (petroleum), light steam-cracked; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons obtained by the distillation of the products from a 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.)	649-355-00-9	265-187-5	64742-83-2	P
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	649-358-00-5	270-725-7	68477-34-9	P

saturated and unsaturated hydrocarbons having carbon numbers in the range of C ₃ through C ₅ , predominantly 2-methyl-2-butene.)				
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 consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C ₅ through C ₁₂ .)	649-359-00-0	270-735-1	68477-50-9	P
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

<p>Distillates (petroleum), depentanizer overheads; Low boiling point naphtha — unspecified</p> <p>(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 C₄ through C₆.)</p>	649-363-00-2	270-771-8	68477-894-4	P
<p>Residues (petroleum), butane splitter bottoms; Low boiling point naphtha — unspecified</p> <p>(A complex residuum from the distillation of butane stream. It consists of aliphatic hydrocarbons having carbon numbers predominantly in the range of C₄ through C₆.)</p>	649-364-00-8	270-791-7	68478-12-6	P
<p>Residual oils (petroleum), deisobutanizer tower; Low boiling point naphtha — unspecified</p> <p>(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 C₄ through C₆.)</p>	649-365-00-3	270-795-9	68478-16-0	P
<p>Naphtha (petroleum), full-range coker; Low boiling point naphtha — unspecified</p> <p>(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 C₄ through C₁₅ and boiling in the range of approximately 43 °C to 250 °C (110 °F to 500 °F))</p>	649-366-00-9	270-991-4	68513-02-0	P
<p>Naphtha (petroleum), steam-cracked middle arom.; Low boiling point naphtha — unspecified</p> <p>(A complex combination of hydrocarbons produced by the</p>	649-367-00-4	271-138-9	68516-20-1	P

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))				
<p>Naphtha (petroleum), clay-treated full-range straight-run; Low boiling point naphtha — unspecified</p> <p>(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 C₄ through C₁₁ and boiling in the range of approximately –20 °C to 220 °C(4 °F to 429 °F))</p>	649-368-00-X	271-262-3	68527-21-9	P
<p>Naphtha (petroleum), clay-treated light straight-run; Low boiling point naphtha — unspecified</p> <p>(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 C₇ through C₁₀ and boiling in the range of approximately 93 °C to 180 °C(200 °F to 356 °F))</p>	649-369-00-5	271-263-9	68527-22-0	P
<p>Naphtha (petroleum), light steam-cracked arom.; Low boiling point naphtha — unspecified</p> <p>(A complex combination of hydrocarbons produced by distillation of products from a steam-cracking process. It consists predominantly of aromatic hydrocarbons having carbon</p>	649-370-00-0	271-264-4	68527-23-1	P

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))				
Naphtha (petroleum), light steam-cracked, debenzenized; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons produced by distillation 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))	649-371-00-6	271-266-5	68527-26-4	P
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	649-375-00-8	272-896-3	68919-39-1	J

(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 predominantly in the range of C ₂ through C ₈ .)				
Distillates (petroleum), naphtha unrefined; Low boiling point naphtha — unspecified (A complex combination of hydrocarbons produced by stripping the products from the naphtha unrefined. 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 , depentanizer lights, arom. hydrotreater; Low boiling point naphtha — unspecified (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))	649-380-00-5	295-298-4	91995-38-9	P
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	649-383-00-1	295-434-2	92045-53-9	P

<p>naphtha — unspecified</p> <p>(A complex combination of hydrocarbons obtained by distillation of hydrosulphurized and dearomatized light petroleum fractions. It consists predominantly of C₇ paraffins and cycloparaffins boiling in a range of approximately 90 °C to 100 °C (194 °F to 212 °F))</p>				
<p>Naphtha (petroleum), light, C₅-rich, sweetened; low boiling point naphtha — unspecified</p> <p>(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 C₄ through C₅, predominantly C₅, and boiling in the range of approximately –10 °C to 35 °C (14 °F to 95 °F))</p>	649-384-00-7	295-442-6	92045-60-8	P
<p>Hydrocarbons, C₈₋₁₁, naphtha-cracking, toluene cut; low boiling point naphtha — unspecified</p> <p>(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 C₈ through C₁₁ and boiling in the range of approximately 130 °C to 205 °C (266 °F to 401 °F))</p>	649-385-00-2	295-444-7	92045-62-0	P
<p>Hydrocarbons, C₄₋₁₁, naphtha-cracking; arom.-free; low boiling point naphtha — unspecified</p> <p>(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</p>	649-386-00-8	295-445-2	92045-63-1	P

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)				
<p>Naphtha (petroleum), light heat-soaked, steam-cracked; low boiling point naphtha — unspecified</p> <p>(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 C₄ through C₆ and boiling in the range of approximately 0 °C to 80 °C(32 °F to 176 °F))</p>	649-387-00-3	296-028-8	92201-97-3	P
<p>Distillates (petroleum), C₆-rich; low boiling point naphtha — unspecified</p> <p>(A complex combination of hydrocarbons obtained from the distillation of a petroleum feedstock. It consists predominantly of hydrocarbons having carbon numbers of C₅ through C₇, rich in C₆, and boiling in the range of approximately 60 °C to 70 °C(140 °F to 158 °F))</p>	649-388-00-9	296-903-4	93165-19-6	P
<p>Gasoline, pyrolysis, hydrogenated; low boiling point naphtha — unspecified</p> <p>(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))</p>	649-389-00-4	302-639-3	94114-03-1	P
<p>Distillates (petroleum), steam-cracked, C₈₋₁₂fraction, polymd., distn. lights; low boiling point naphtha — unspecified</p> <p>(A complex combination of hydrocarbons obtained by distillation of the polymerized C₈ through C₁₂ fraction from steam-cracked petroleum distillates. It consists predominantly of aromatic</p>	649-390-00-X	305-750-5	95009-23-7	P

hydrocarbons having carbon numbers predominantly in the range of C ₈ through C ₁₂ .)				
<p>Extracts (petroleum); heavy naphtha solvent, clay-treated; low boiling point naphtha — unspecified</p> <p>(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 C₆ through C₁₈, and boiling in the range of approximately 80 °C to 180 °C (175 °F to 356 °F))</p>	649-391-00-5	308-261-5	97926-43-7	P
<p>Naphtha (petroleum), light steam-cracked, debenzenized, thermally treated; low boiling point naphtha — unspecified</p> <p>(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 C₇ through C₁₂ and boiling in the range of approximately 95 °C to 200 °C (203 °F to 392 °F))</p>	649-392-00-0	308-713-1	98219-46-6	P
<p>Naphtha (petroleum), light steam-cracked, thermally treated; low boiling point naphtha — unspecified</p> <p>(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 C₅ through C₆ and boiling in the range of approximately 35 °C to 80 °C (95 °F to 176 °F))</p>	649-393-00-6	308-714-7	98219-47-7	P
Distillates (petroleum), C ₇₋₉ , C ₈ -rich, hydrodesulphurized dearomatized;	649-394-00-1	309-862-5	101316-56-7	P

<p>low boiling point naphtha — unspecified</p> <p>(A complex combination of hydrocarbons obtained by the distillation of petroleum light fraction, hydrodesulphurized and dearomatized. It consists predominantly of hydrocarbons having carbon numbers in the range of C₇ through C₉, predominantly C₈ paraffins and cycloparaffins, boiling in the range of approximately 120 °C to 130 °C (248 °F to 266 °F))</p>				
<p>Hydrocarbons, C₆₋₈, hydrogenated sorption-dearomatized, toluene raffination; low boiling point naphtha — unspecified</p> <p>(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 C₆ through C₈ and boiling in the range of approximately 80 °C to 135 °C (176 °F to 275 °F))</p>	649-395-00-7	309-870-9	101316-66-9	P
<p>Naphtha (petroleum), hydrodesulphurized full-range coker; low boiling point naphtha — unspecified</p> <p>(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 C₅ to C₁₁ and boiling in the range of approximately 23 °C to 196 °C (73 °F to 385 °F))</p>	649-396-00-2	309-879-8	101316-76-1	P
<p>Naphtha (petroleum), sweetened light; low boiling point naphtha — unspecified</p>	649-397-00-8	309-976-5	101795-01-1	P

<p>(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 predominantly of hydrocarbons having carbon numbers predominantly in the range of C₅ through C₈ and boiling in the range of approximately 20 °C to 130 °C (68 °F to 266 °F))</p>				
<p>Hydrocarbons, C₃₋₆, C₅-rich, steam-cracked naphtha; low boiling point naphtha — unspecified</p> <p>(A complex combination of hydrocarbons obtained by distillation of steam-cracked naphtha. It consists predominantly of hydrocarbons having carbon numbers in the range of C₃ through C₆, predominantly C₅.)</p>	649-398-00-3	310-012-0	102110-14-5	P
<p>Hydrocarbons, C₅-rich, dicyclopentadiene-contg.; low boiling point naphtha — unspecified</p> <p>(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 C₅ and dicyclopentadiene and boiling in the range of approximately 30 °C to 170 °C (86 °F to 338 °F))</p>	649-399-00-9	310-013-6	102110-15-6	P
<p>Residues (petroleum), steam-cracked light, arom.; low boiling point naphtha — unspecified</p> <p>(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 C₅. It consists predominantly of aromatic hydrocarbons having carbon numbers greater than C₅ and boiling above approximately 40 °C (104 °F))</p>	649-400-00-2	310-057-6	102110-55-4	P

Hydrocarbons, C ₅ , C ₅₋₆ -rich; low boiling point naphtha — unspecified	649-401-00-8	270-690-8	68476-50-6	P
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	

<p>Distillates (petroleum), hydrosulphurized light catalytic cracked; Cracked gas oil</p> <p>(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 C₉ through C₂₅ 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.)</p>	649-439-00-5	269-781-5	68333-25-5	
<p>Distillates (petroleum), light steam-cracked naphtha; Cracked gas oil</p> <p>(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 C₁₀ through C₁₈.)</p>	649-440-00-0	270-662-5	68475-80-9	
<p>Distillates (petroleum), cracked steam-cracked petroleum distillates; Cracked gas oil</p> <p>(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 C₁₀ to low molecular weight polymers.)</p>	649-441-00-6	270-727-8	68477-38-3	
<p>Gas oils (petroleum), steam-cracked; Cracked gas oil</p> <p>(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 C₉ and boiling in the range of from approximately 205 °C</p>	649-442-00-1	271-260-2	68527-18-4	

to 400 °C (400 °F to 752 °F))				
<p>Distillates (petroleum), hydrodesulphurized thermal cracked middle; Cracked gas oil</p> <p>(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 C₁₁ to C₂₅ and boiling in the range of from approximately 205 °C to 400 °C (401 °F to 752 °F))</p>	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	
<p>Residues (petroleum), hydrogenated steam-cracked naphtha; Cracked gas oil</p> <p>(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 (392 °F to 662 °F))</p>	649-445-00-8	295-514-7	92062-00-5	
<p>Residues (petroleum), steam-cracked naphtha distn.; Cracked gas oil</p> <p>(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 $\Rightarrow 18 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 50 °C.) $\Leftarrow 18 \text{ cSt at } 50 \text{ °C}$</p>	649-446-00-3	295-517-3	92062-04-9	
<p>Distillates (petroleum), light catalytic cracked, thermally degraded; Cracked gas oil</p> <p>(A complex combination of hydrocarbons produced by the</p>	649-447-00-9	295-991-1	92201-60-0	

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-cracked; Cracked gas oil (A complex combination of hydrocarbons obtained by distillation	649-452-00-6	309-939-3	101631-14-5	

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)				
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 $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C \Leftarrow) 100 SUS at 100 °F (19 cSt 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 $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C \Leftarrow) 100 SUS at 100 °F (19 cSt at 40 °C)	649-455-00-2	265-091-3	64741-89-5	L
Residual oils (petroleum), solvent deasphalted; Base oil — unspecified	649-456-00-8	265-096-0	64741-95-3	L

(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))				
<p>Distillates (petroleum), solvent-refined heavy naphthenic; Base oil — unspecified</p> <p>(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 C₂₀ through C₅₀ and produces a finished oil with a viscosity of at least $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 400 \text{ SUS at } 100 \text{ °F}$ (19 cSt at 40 °C). It contains relatively few normal paraffins.</p>	649-457-00-3	265-097-6	64741-96-4	L
<p>Distillates (petroleum), solvent-refined light naphthenic; Base oil — unspecified</p> <p>(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 C₁₅ through C₃₀ and produces a finished oil with a viscosity of less than $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 400 \text{ SUS at } 100 \text{ °F}$ (19 cSt at 40 °C). It contains relatively few normal paraffins.)</p>	649-458-00-9	265-098-1	64741-97-5	L
<p>Residual oils (petroleum), solvent-refined; Base oil — unspecified</p> <p>(A complex combination of hydrocarbons obtained as the solvent insoluble fraction from solvent refining of a residuum using a polar organic solvent such as phenol or furfural. It consists of hydrocarbons having carbon numbers predominantly</p>	649-459-00-4	265-101-6	64742-01-4	L

greater than C ₂₅ and boiling above approximately 400 °C(752 °F)				
<p>Distillates (petroleum), clay-treated paraffinic; Base oil — unspecified</p> <p>(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 C₂₀ through C₅₀ and produces a finished oil with a viscosity of at least $\Rightarrow 1910^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 400 \text{ SUS at } 100^{\circ}\text{F}$ (19 cSt at 40 °C). It contains a relatively large proportion of saturated hydrocarbons.)</p>	649-460-00-X	265-137-2	64742-36-5	L
<p>Distillates (petroleum), clay-treated light paraffinic; Base oil — unspecified</p> <p>(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 C₁₅ through C₃₀ and produces a finished oil with a viscosity of less than $\Rightarrow 1910^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 400 \text{ SUS at } 100^{\circ}\text{F}$ (19 cSt at 40 °C). It contains a relatively large proportion of saturated hydrocarbons.)</p>	649-461-00-5	265-138-8	64742-37-6	L
<p>Residual oils (petroleum), clay-treated; Base oil — unspecified</p> <p>(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</p>	649-462-00-0	265-143-5	64742-41-2	L

consists of hydrocarbons having carbon numbers predominantly greater than C ₂₅ and boiling above approximately 400 °C (752 °F)				
<p>Distillates (petroleum), clay-treated heavy naphthenic; Base oil — unspecified</p> <p>(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 C₂₀ through C₅₀ and produces a finished oil with a viscosity of at least $\Rightarrow 19 \times 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C \Leftarrow 100 SUS at 100 °F (19 cSt at 40 °C). It contains relatively few normal paraffins.)</p>	649-463-00-6	265-146-1	64742-44-5	L
<p>Distillates (petroleum), clay-treated light naphthenic; Base oil — unspecified</p> <p>(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 C₁₅ through C₃₀ and produces a finished oil with a viscosity of less than $\Rightarrow 19 \times 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C \Leftarrow 100 SUS at 100 °F (19 cSt at 40 °C). It contains relatively few normal paraffins.)</p>	649-464-00-1	265-147-7	64742-45-6	L
<p>Distillates (petroleum), hydrotreated heavy naphthenic; Base oil — unspecified</p> <p>(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</p>	649-465-00-7	265-155-0	64742-52-5	L

<p>numbers predominantly in the range of C₂₀ through C₅₀ and produces a finished oil with a viscosity of at least $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ (19 cSt at 40 °C). It contains relatively few normal paraffins.)</p>				
<p>Distillates (petroleum), hydrotreated light naphthenic; Base oil — unspecified</p> <p>(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 C₁₅ through C₃₀ and produces a finished oil with a viscosity of less than $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ (19 cSt at 40 °C). It contains relatively few normal paraffins.)</p>	649-466-00-2	265-156-6	64742-53-6	L
<p>Distillates (petroleum), hydrotreated heavy paraffinic; Base oil — unspecified</p> <p>(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 C₂₀ through C₅₀ and produces a finished oil of at least $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ (19 cSt at 40 °C). It contains a relatively large proportion of saturated hydrocarbons.)</p>	649-467-00-8	265-157-1	64742-54-7	L
<p>Distillates (petroleum), hydrotreated light paraffinic; Base oil — unspecified</p> <p>(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 C₁₅ through C₃₀ and produces a finished oil with a viscosity of less</p>	649-468-00-3	265-158-7	64742-55-8	L

than $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at $40^\circ \text{C} \Leftarrow 100 \text{ SUS at } 100^\circ \text{F}$ (19 cSt at 40°C). It contains a relatively large proportion of saturated hydrocarbons.)				
<p>Distillates (petroleum), solvent-dewaxed light paraffinic; Base oil — unspecified</p> <p>(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 $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at $40^\circ \text{C} \Leftarrow 100 \text{ SUS at } 100^\circ \text{F}$ (19 cSt at 40°C))</p>	649-469-00-9	265-159-2	64742-56-9	L
<p>Residual oils (petroleum), hydrotreated; Base oil — unspecified</p> <p>(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))</p>	649-470-00-4	265-160-8	64742-57-0	L
<p>Residual oils (petroleum), solvent-dewaxed; Base oil — unspecified</p> <p>(A complex combination of hydrocarbons obtained by removal of long, branched chain hydrocarbons 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))</p>	649-471-00-X	265-166-0	64742-62-7	L
<p>Distillates (petroleum), solvent-dewaxed heavy naphthenic; Base oil — unspecified</p> <p>(A complex combination of hydrocarbons obtained by removal of</p>	649-472-00-5	265-167-6	64742-63-8	L

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 $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ (19 cSt at 40 °C). It contains relatively few normal paraffins.)				
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 $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ (19 cSt 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 through C ₅₀ and produces a finished oil with a viscosity of not less than $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ (19 cSt at 40 °C))	649-474-00-6	265-169-7	64742-65-0	L
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	649-475-00-1	265-172-3	64742-68-3	L

in the range of C ₂₀ through C ₅₀ and produces a finished oil with a viscosity of at least $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ (19 cSt at 40 °C) . It contains relatively few normal paraffins.)				
<p>Naphthenic oils (petroleum), catalytic dewaxed light; Base oil — unspecified</p> <p>(A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists of hydrocarbons having carbon numbers predominantly in the range of C₁₅ through C₃₀ and produces a finished oil with a viscosity of less than $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ (19 cSt at 40 °C). It contains relatively few normal paraffins.)</p>	649-476-00-7	265-173-9	64742-69-4	L
<p>Paraffin oils (petroleum), catalytic dewaxed heavy; Base oil — unspecified</p> <p>(A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C₂₀ through C₅₀ and produces a finished oil with a viscosity of at least $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ (19 cSt at 40 °C))</p>	649-477-00-2	265-174-4	64742-70-7	L
<p>Paraffin oils (petroleum), catalytic dewaxed light; Base oil — unspecified</p> <p>(A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C₁₅ through C₃₀ and produces a finished oil with a viscosity of less than $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ (19 cSt at 40 °C))</p>	649-478-00-8	265-176-5	64742-71-8	L

at 40 °C))				
<p>Naphthenic oils (petroleum), complex dewaxed heavy; Base oil — unspecified</p> <p>(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 C₂₀ through C₅₀ and produces a finished oil with a viscosity of at least $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ (19 cSt at 40 °C). It contains relatively few normal paraffins.)</p>	649-479-00-3	265-179-1	64742-75-2	L
<p>Naphthenic oils (petroleum), complex dewaxed light; Base oil — unspecified</p> <p>(A complex combination of hydrocarbons obtained from a catalytic dewaxing process. It consists of hydrocarbons having carbon numbers predominantly in the range of C₁₅ through C₃₀ and produces a finished oil having a viscosity less than $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ (19 cSt at 40 °C). It contains relatively few normal paraffins.)</p>	649-480-00-9	265-180-7	64742-76-3	L
<p>Lubricating oils (petroleum), C₂₀₋₅₀, hydrotreated neutral oil-based high-viscosity; Base oil — unspecified</p> <p>(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 C₂₀ through C₅₀ and produces a finished oil having a viscosity of approximately $\Rightarrow 112$</p>	649-481-00-4	276-736-3	72623-85-9	L

m².s⁻¹ at 40 °C. ⇐ 112 cSt at 40 °C It contains a relatively large proportion of saturated hydrocarbons.)				
<p>Lubricating oils (petroleum), C₁₅₋₃₀, hydrotreated neutral oil-based; Base oil — unspecified</p> <p>(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 C₁₅ through C₃₀ and produces a finished oil having a viscosity of approximately ⇐ 15 m².s⁻¹ at 40 °C. ⇐ 15 cSt at 40 °C It contains a relatively large proportion of saturated hydrocarbons.)</p>	649-482-00-X	276-737-9	72623-86-0	L
<p>Lubricating oils (petroleum), C₂₀₋₅₀, hydrotreated neutral oil-based; Base oil — unspecified</p> <p>(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 C₂₀ through C₅₀ and produces a finished oil with a viscosity of approximately ⇐ 32 m².s⁻¹ at 40 °C ⇐ 32 cSt at 40 °C. It contains a relatively large proportion of saturated hydrocarbons.)</p>	649-483-00-5	276-738-4	72623-87-1	L
<p>Lubricating oils; Base oil — unspecified</p> <p>(A complex combination of hydrocarbons obtained from solvent extraction and dewaxing processes. It consists predominantly of saturated</p>	649-484-00-0	278-012-2	74869-22-0	L

hydrocarbons having carbon numbers in the range of C ₁₅ through C ₅₀ .)				
<p>Distillates (petroleum), complex dewaxed heavy paraffinic; Base oil — unspecified</p> <p>(A complex combination of hydrocarbons obtained by dewaxing heavy paraffinic distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C₂₀ through C₅₀ and produces a finished oil with a viscosity of equal to or greater than $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C \Leftarrow 100 SUS at 100 °F (19 cSt at 40 °C). It contains relatively few normal paraffins.)</p>	649-485-00-6	292-613-7	90640-91-8	L
<p>Distillates (petroleum), complex dewaxed light paraffinic; Base oil — unspecified</p> <p>(A complex combination of hydrocarbons obtained by dewaxing light paraffinic distillate. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C₁₂ through C₃₀ and produces a finished oil with a viscosity of less than $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C \Leftarrow 100 SUS at 100 °F (19 cSt at 40 °C). It contains relatively few normal paraffins.)</p>	649-486-00-1	292-614-2	90640-92-9	L
<p>Distillates (petroleum), solvent-dewaxed heavy paraffinic, clay-treated; Base oil — unspecified</p> <p>(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 C₂₀ through C₅₀.)</p>	649-487-00-7	292-616-3	90640-94-1	L
Hydrocarbons, C ₂₀₋₅₀ , solvent-dewaxed heavy paraffinic, hydrotreated; Base oil — unspecified	649-488-00-2	292-617-9	90640-95-2	L

(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 .)				
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 (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 .)	649-490-00-3	292-620-5	90640-97-4	L
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	649-493-00-X	295-300-3	91995-39-0	L

hydrocarbons having carbon numbers in the range of C ₂₅ through C ₃₉ and produces a finished oil with a viscosity of approximately $\Rightarrow 44 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 50 °C $\Leftarrow 44 \text{ cSt at } 50 \text{ }^\circ\text{C}$)				
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 $\Rightarrow 13 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 50 °C $\Leftarrow 13 \text{ cSt at } 50 \text{ }^\circ\text{C}$)	649-494-00-5	295-301-9	91995-40-3	L
Distillates (petroleum), hydrocracked solvent-refined, dewaxed; Base oil — unspecified (A complex combination of liquid hydrocarbons obtained by recrystallization of dewaxed hydrocracked solvent-refined petroleum distillates.)	649-495-00-0	295-306-6	91995-45-8	L
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 $\Rightarrow 13\text{-}15 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 13\text{-}15 \text{ cSt at } 40 \text{ }^\circ\text{C}$)	649-496-00-6	295-316-0	91995-54-9	L
Lubricating oils (petroleum) C ₁₇₋₃₅ , solvent-extd., dewaxed, hydrotreated;	649-497-00-1	295-423-2	92045-42-6	L

Base oil — unspecified				
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 refined deparaffinated lubricating oil with a viscosity of $\Rightarrow 65 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 50 °C $\Leftarrow 65 \text{ cSt at } 50^\circ\text{C}$)	649-500-00-6	295-810-6	92129-09-4	L
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 $\Rightarrow 23 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 120 \text{ SUS at } 100^\circ\text{F}$ ($23 \text{ cSt at } 40^\circ\text{C}$))	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-	649-504-00-8	305-588-5	94733-08-1	L

refined hydrotreated heavy; hydrogenated; Base oil — unspecified				
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 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))	649-506-00-9	305-594-8	94733-15-0	L
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;	649-508-00-X	305-971-7	95371-04-3	L

Base oil — unspecified				
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 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))	649-512-00-1	307-010-7	97488-73-8	L
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 —	649-515-00-8	307-661-7	97675-87-1	L

<p>unspecified</p> <p>(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 C₁₇ through C₃₀ 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 $\Rightarrow 4 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at approximately 100 °C $\Leftarrow 4 \text{ cSt at approximately } 100^\circ\text{C}$ (212 °F))</p>				
<p>Hydrocarbons, C₁₇₋₄₀, hydrotreated solvent-deasphalted distn. residue, vacuum distn. lights; Base oil — unspecified</p> <p>(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 $\Rightarrow 8 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ $\Leftarrow 8 \text{ cSt at approximately } 100^\circ\text{C}$ (212 °F) at approximately 100 °C. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C₁₇ through C₄₀ and boiling in the range of approximately 300 °C to 500 °C (592 °F to 932 °F))</p>	649-516-00-3	307-755-8	97722-06-0	L
<p>Hydrocarbons, C₁₃₋₂₇, solvent-extd. light naphthenic; Base oil — unspecified</p> <p>(A complex combination of hydrocarbons obtained by extraction of the aromatics from a light naphthenic distillate having a viscosity of $\Rightarrow 9.5 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 9.5 \text{ cSt at } 40^\circ\text{C}$ (104 °F) It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C₁₃</p>	649-517-00-9	307-758-4	97722-09-3	L

through C ₂₇ and boiling in the range of approximately 240 °C to 400 °C (464 °F to 752 °F))				
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 $\Rightarrow 16 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 16 \text{ cSt at } 40^\circ\text{C}$ (104 °F). 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; Base oil — unspecified	649-519-00-X	308-131-8	97862-81-2	L
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

<p>Residual oils (petroleum), clay-treated solvent-dewaxed; Base oil — unspecified</p> <p>(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.)</p>	649-526-00-8	309-711-3	100684-38-6	L
<p>Lubricating oils (petroleum) C₂₅, solvent-extd., deasphalted, dewaxed, hydrogenated; base oil — unspecified</p> <p>(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 than C₂₅ and produces a finished oil with a viscosity in the order of $\Rightarrow 32 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ to $37 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 100 °C $\Leftarrow 32 \text{ cSt to } 37 \text{ cSt at } 100^\circ \text{C (212 }^\circ \text{F)}$)</p>	649-527-00-3	309-874-0	101316-69-2	L
<p>Lubricating oils (petroleum) C₁₇₋₃₂, solvent-extd., dewaxed, hydrogenated; Base oil — unspecified</p> <p>(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 C₁₇ through C₃₂ and produces a finished oil with a viscosity in the order of $\Rightarrow 17 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ to $23 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 17 \text{ cSt to } 23 \text{ cSt at } 40^\circ \text{C (104 }^\circ \text{F)}$)</p>	649-528-00-9	309-875-6	101316-70-5	L
<p>Lubricating oils (petroleum) C₂₀₋₃₅, solvent-extd., dewaxed, hydrogenated; Base oil — unspecified</p> <p>(A complex combination of hydrocarbons obtained by solvent extraction and hydrogenation of</p>	649-529-00-4	309-876-1	101316-71-6	L

<p>atmospheric distillation residues. It consists predominantly of hydrocarbons having carbon numbers predominantly in the range of C₂₀ through C₃₅ and produces a finished oil with a viscosity in the order of $\Rightarrow 37 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ to $44 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C \Leftarrow 37 cSt to 44 cSt at 40 °C (104 °F)</p>				
<p>Lubricating oils (petroleum) C₂₄₋₅₀, solvent-extd., dewaxed, hydrogenated; Base oil — unspecified</p> <p>(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 C₂₄ through C₅₀ and produces a finished oil with a viscosity in the order of $\Rightarrow 16 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ to $75 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C \Leftarrow 16 cSt to 75 cSt at 40 °C (104 °F))</p>	649-530-00-X	309-877-7	101316-72-7	L
<p>Extracts (petroleum), heavy naphthenic distillate solvent, arom. conc.; Distillate aromatic extract (treated)</p> <p>(An aromatic concentrate produced by adding water to heavy naphthenic distillate solvent extract and extraction solvent.)</p>	649-531-00-5	272-175-3	68783-00-6	L
<p>Extracts (petroleum), solvent-refined heavy paraffinic distillate solvent; Distillate aromatic extract (treated)</p> <p>(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 C₂₀ through C₅₀.)</p>	649-532-00-0	272-180-0	68783-04-0	L
<p>Extracts (petroleum), heavy paraffinic distillates, solvent-deasphalted;</p>	649-533-00-6	272-342-0	68814-89-1	L

Distillate aromatic extract (treated) (A complex combination of hydrocarbons obtained as the extract from a solvent extraction of heavy paraffinic distillate.)				
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 $\Rightarrow 19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C $\Leftarrow 100 \text{ SUS at } 100^\circ\text{F}$ ($19 \text{ cSt at } 40^\circ\text{C}$))	649-534-00-1	292-631-5	90641-07-9	L
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	649-536-00-2	292-633-6	90641-09-1	L

°C(536 °F to 752 °F))				
<p>Extracts (petroleum), hydrotreated paraffinic light distillate solvent; Distillate aromatic extract (treated)</p> <p>(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 C₁₆ through C₃₆.)</p>	649-537-00-8	295-335-4	91995-73-2	L
<p>Extracts (petroleum), light naphthenic distillate solvent, hydrodesulphurized; Distillate aromatic extract (treated)</p> <p>(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 C₁₅ through C₃₀. This stream is likely to contain 5 wt. % or more of 4- to 6-membered condensed ring aromatic hydrocarbons.)</p>	649-538-00-3	295-338-0	91995-75-4	L
<p>Extracts (petroleum), light paraffinic distillate solvent, acid-treated; Distillate aromatic extract (treated)</p> <p>(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 C₁₆ through C₃₂.)</p>	649-539-00-9	295-339-6	91995-76-5	L
Extracts (petroleum), light paraffinic	649-540-00-4	295-340-1	91995-77-6	L

<p>distillate solvent, hydrodesulphurized; Distillate aromatic extract (treated)</p> <p>(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 C₁₅ through C₄₀ and produces a finished oil having a viscosity of greater than $\Rightarrow 10^{-5} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C \Leftarrow 10 cSt at 40 °C)</p>				
<p>Extracts (petroleum), light vacuum gas oil solvent, hydrotreated; Distillate aromatic extract (treated)</p> <p>(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 C₁₃ through C₃₀.)</p>	649-541-00-X	295-342-2	91995-79-8	L
<p>Extracts (petroleum), heavy paraffinic distillate solvent, clay-treated; Distillate aromatic extract (treated)</p> <p>(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 C₂₀ through C₅₀. This stream is likely to contain 5 wt. % or more 4-6 membered ring aromatic hydrocarbons.)</p>	649-542-00-5	296-437-1	92704-08-0	L
<p>Extracts (petroleum), heavy naphthenic distillate solvent,</p>	649-543-00-0	297-827-4	93763-10-1	L

<p>hydrodesulphurized; Distillate aromatic extract (treated)</p> <p>(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 C₁₅ through C₅₀ and produces a finished oil with a viscosity of greater than $19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C (100 SUS at 100 °F (19 cSt at 40 °C)))</p>				
<p>Extracts (petroleum), solvent-dewaxed heavy paraffinic distillate solvent, hydrodesulphurized; Distillate aromatic extract (treated)</p> <p>(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 C₁₅ through C₅₀ and produces a finished oil with a viscosity of greater than $19 \cdot 10^{-6} \text{ m}^2 \cdot \text{s}^{-1}$ at 40 °C (100 SUS at 100 °F (19 cSt at 40 °C)))</p>	649-544-00-6	297-829-5	93763-11-2	L
<p>Extracts (petroleum), light paraffinic distillate solvent, carbon-treated; Distillate aromatic extract (treated)</p> <p>(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 C₁₆ through C₃₂.)</p>	649-545-00-1	309-672-2	100684-02-4	L

<p>Extracts (petroleum), light paraffinic distillate solvent, clay-treated; Distillate aromatic extract (treated)</p> <p>(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 C₁₆ through C₃₂.)</p>	649-546-00-7	309-673-8	100684-03-5	L
<p>Extracts (petroleum), light vacuum, gas oil solvent, carbon-treated; Distillate aromatic extract (treated)</p> <p>(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 C₁₃ through C₃₀.)</p>	649-547-00-2	309-674-3	100684-04-6	L
<p>Extracts (petroleum), light vacuum, gas oil solvent, clay-treated; Distillate aromatic extract (treated)</p> <p>(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 C₁₃ through C₃₀.)</p>	649-548-00-8	309-675-9	100684-05-7	L
<p>Foots oil (petroleum); Foots oil</p> <p>(A complex combination of hydrocarbons obtained as the oil fraction from a solvent deoiling or a</p>	649-549-00-3	265-171-8	64742-67-2	L

wax sweating process. It consists predominantly of branched chain hydrocarbons having carbon numbers predominantly in the range of C ₂₀ through C ₅₀ .)				
Foots oil (petroleum), hydrotreated; Foots oil	649-550-00-9	295-394-6	92045-12-0	L
➔ 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 orientation with alkaline oxide and alkali earth oxide (Na ₂ O + K ₂ O + CaO + MgO + BaO) content less or equal to 18 % by weight] ←	➔ ₂ 650-017-00-8 ←			➔ ₂ R ←

Appendix 3

Point ~~30~~ 29 – Mutagens: category 1

☒ Appendix 4 ☒

~~Point 30~~ ☒ 29 ☒ – Mutagens: category 2

☒ Point 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	
➔ ₁ Potassium dichromate ←	➔ ₁ 024-002-00-6 ←	➔ ₁ 231-906-6 ←	➔ ₁ 7778-50-9 ←	
➔ ₁ Ammonium dichromate ☒ anhydrate ☒ ←	➔ ₁ 024-003-00-1 ←	➔ ₁ 232-143-1 ←	➔ ₁ 7789-09-5 ←	
➔ ₁ Sodium dichromate anhydrate ←	➔ ₁ 024-004-00-7 ←	➔ ₁ 234-190-3 ←	➔ ₁ 10588-01-9 ←	
➔ ₁ Sodium dichromate, dihydrate ←	➔ ₁ 024-004-01-4 ←	➔ ₁ 234-190-3 ←	➔ ₁ 7789-12-0 ←	
➔ ₁ Chromyl dichloride; chromic oxychloride ←	➔ ₁ 024-005-00-2 ←	➔ ₁ 239-056-8 ←	➔ ₁ 14977-61-8 ←	
➔ ₁ Potassium chromate ←	➔ ₁ 024-006-00-8 ←	➔ ₁ 232-140-5 ←	➔ ₁ 7789-00-6 ←	
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	
methyl acrylamidomethoxyacetate (containing ≥ 0,1 % acrylamid)	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	
ethyleneimine; aziridine	613-001-00-1	205-793-9	151-56-4	

➔ ₁ 1,3,5,- tris(oxiranylmethyl)-1,3,5- triazine-2,4,6(1H,3H,5H)- trione; TGIC ➔	➔ ₁ 615-021-00- 6 ➔	➔ ₁ 219-514- 3 ➔	➔ ₁ 2451-62- 9 ➔	
acrylamide	616-003-00-0	201-173-7	79-06-1	

☒ Appendix 5 ☒

Point 30 ☒ – Toxic to reproduction: category 1

☒ Point 30 – Toxic 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 Constitution 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	
➡ ₁ 1,2-Dibromo-3-chloropropane ◀	➡ ₁ 602-021-00-6 ◀	➡ ₁ 202-479-3 ◀	➡ ₁ 96-12-8 ◀	
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 ~~34~~ ☒ 30 ☒ – Toxic to reproduction: category 2

☒ Point 30 – Toxic to reproduction: category 2 ☒				
Substances	Index number	EC number	CAS number	Notes
➔ ₂ 6-(2-chloroethyl)-6(2-methoxyethoxy)-2,5,7,10-tetraoxa-6-silaundecane; etacelasil ⬅	➔ ₂ 014-014-00-X ⬅	➔ ₂ 253-704-7 ⬅	➔ ₂ 37894-46-5 ⬅	
nickel tetracarbonyl	028-001-00-1	236-669-2	13463-39-3	
benzo[a]pyrene; benzo[d,e,f]chrysene	601-032-00-3	200-028-5	50-32-8	
2-methoxyethanol; ethylene glycol monomethyl ether	603-011-00-4	203-713-7	109-86-4	
2-ethoxyethanol; ethylene glycol monoethyl ether	603-012-00-X	203-804-1	110-80-5	
2-methoxyethyl acetate; methylglycol acetate	607-036-00-1	203-772-9	110-49-6	
2-ethoxyethyl acetate; ethylglycol acetate	607-037-00-7	203-839-2	111-15-9	
2-ethylhexyl 3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl methyl thioacetate	607-203-00-9	279-452-8	80387-97-9	
➔ ₁ bis(2-Methoxyethyl) phthalate ⬅	➔ ₁ 607-228-00-5 ⬅	➔ ₁ 204-212-6 ⬅	➔ ₁ 117-82-8 ⬅	
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-	609-030-00-4	215-813-8	1420-07-1	

dinitrophenol				
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	
ethylene thiourea; imidazolidine-2-thione; 2- imidazoline-2-thiol	613-039-00-9	202-506-9	96-45-7	
N,N-dimethylformamide; dimethyl formamide	616-001-00-X	200-679-5	68-12-2	

↓ 83/478 (adapted)

☒ Appendix 7 ☒

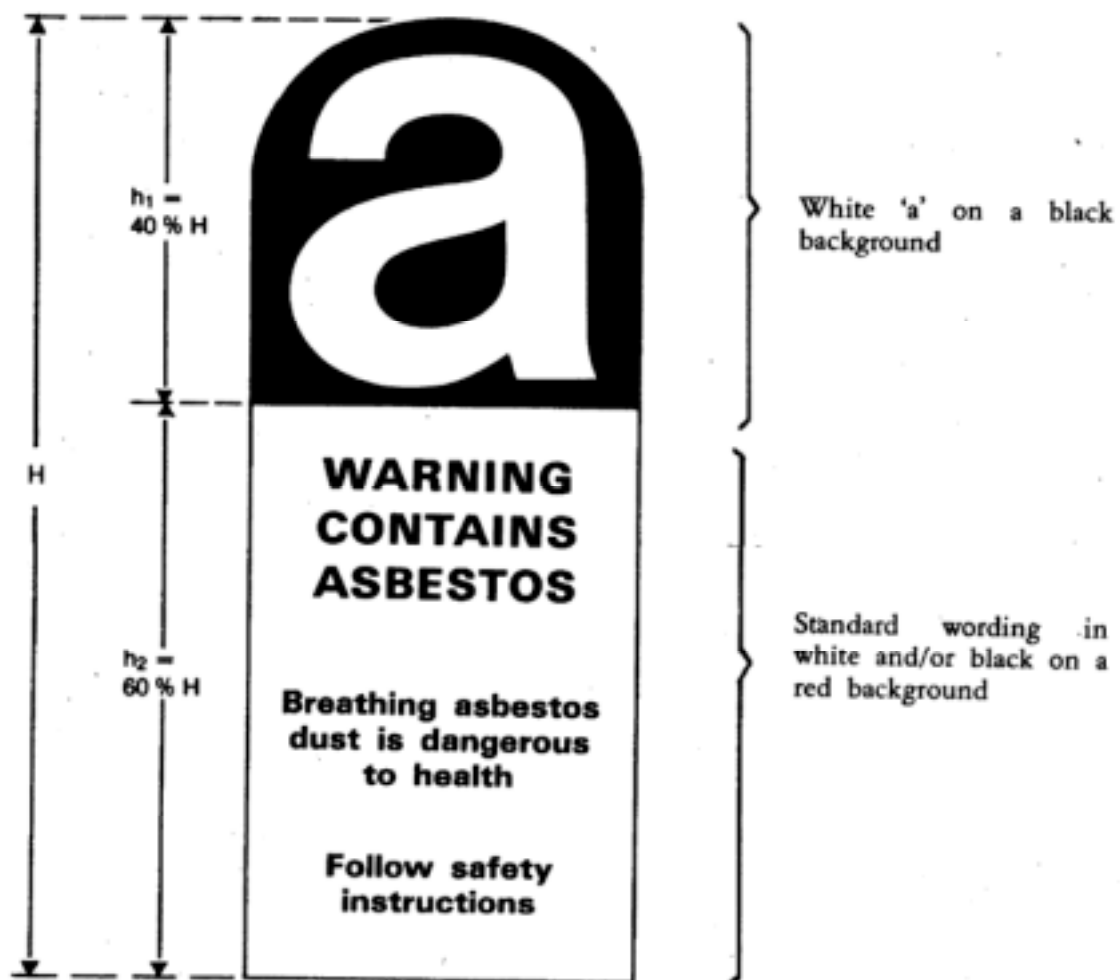
Special provisions on the labelling of ☒ articles ☒ ~~products~~ containing asbestos

1. All articles containing asbestos or the packaging thereof shall 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 products intended to be placed on the market in their territory. The labelling of these products must however bear the wording «contains asbestos»;~~

- (d) if labelling takes the form of direct printing on the 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 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 articles containing asbestos:

- (a) the symbol and relevant indications of danger in accordance with this Annex;
- (b) safety instructions which shall be selected in accordance with the particulars in this Annex, in as much as they are relevant for the particular 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. Articles containing asbestos and which are packaged only in loose plastic wrapping or the like shall be regarded as packaged articles and shall be labelled in accordance with 3.2. If 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 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 an article,
- direct printing on the ~~products~~ articles

or, if the above mentioned is not reasonably practicable as in the case of, for example, smallness of size of the 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.

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 article intended for domestic use which is not covered by 5 and which is likely, during use, to release asbestos fibres should, if necessary, contain the following safety instruction: «replace when worn».

~~7. Member States may make the placing on the market in their territory~~ The label of ~~products~~ articles containing asbestos ~~subject to~~ shall be ~~the use of~~ in the ~~their~~ official language or languages ~~on the labelling~~ of the Member State(s) where the article is placed on the market.

⊠ Appendix 8 ⊠

Point 43 Azocolourants
List of aromatic amines

	CAS No	Index number	EINECS No	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-dimethylazobenzen 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

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Appendix 9

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List of azodyes

	CAS number	Index number	EC number	Substances
1	<p>Not allocated</p> <p>Component 1: CAS-No:118685-33-9 $C_{39}H_{23}ClCrN_7O_{12}S_2Na$</p> <p>Component 2: $C_{46}H_{30}CrN_{10}O_{20}S_2 \cdot 3Na$</p>	611-070-00-2	405-665-4	<p>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-);</p> <p>trisodium bis(6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naphtholato)chromate(1-)"</p>

ANNEX XVII
PERSISTENT ORGANIC POLLUTANTS (POPS)

SUBSTANCE (CAS No)	CONDITIONS OF RESTRICTIONS
<p>1. Aldrin CAS No: 309-00-2 Einecs No: 206-215-8</p> <p>2. Chlordane CAS No: 57-74-9 Einecs No: 200-349-0</p> <p>3. Dieldrin CAS No: 60-57-1 Einecs No: 200-484-5</p> <p>4. Endrin CAS No: 72-20-8 Einecs No: 204-079-4</p> <p>5. Heptachlor CAS No: 76-44-8 Einecs No: 200-962-3</p> <p>6. Hexachlorobenzene CAS No: 118-74-1 Einecs No: 204-273-9</p> <p>7. Mirex CAS No: 2385-85-5 Einecs No: 219-196-6</p> <p>8. Toxaphene CAS No: 8001-35-2 Einecs No: 232-283-3</p> <p>9. DDT (1,1,1-trichloro-2,2-bis(4-chlorophenyl)ethane) CAS No: 50-29-3 Einecs No: 200-024-3</p> <p>10. Chlordecone CAS No: 143-50-0</p> <p>11. Hexabromobiphenyl CAS No: 36355-01-8</p>	<p>Shall not be manufactured, placed on the market or used on their own, in preparations or in articles.</p>
<p>12. Polychlorinated Biphenyls (PCBs)</p>	<p>Shall not be manufactured, placed on the market or used on their own, in preparations or in articles.</p> <p>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.</p>
<p>13. HCH</p>	<p>1. Technical HCH shall not be used except as an</p>

<p>CAS No: 608-73-1, including lindane (CAS No: 58-89-9)</p>	<p>intermediate in chemical manufacturing.</p> <p>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.</p> <p>3. By way of derogation from paragraphs a and b, the following uses are allowed until [1.1.2006]:</p> <p>a) professional remedial and industrial treatment of lumber, timber and logs;</p> <p>b) Indoor, industrial and residential applications.</p>
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