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HAZARD EVALUATION OF SUBSTANCES TRANSPORTED BY SHIPS

**Report of the forty-eighth session of the GESAMP/EHS Working Group
On the Evaluation of the Hazards of Harmful
Substances Carried by Ships**

The report of the forty-eighth session of the GESAMP/EHS Working Group on the Evaluation of the Hazards of Harmful Substances Carried by Ships held from 11 to 15 April 2011 (EHS 48/9) is attached for information.

Any comments would be welcome and should be addressed to:

Technical Secretary of the GESAMP/EHS Working Group
Marine Environment Division
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WORKING GROUP ON THE EVALUATION
OF THE HAZARDS OF HARMFUL
SUBSTANCES CARRIED BY SHIPS
48th session
Agenda item 9

EHS 48/9
15 April 2011
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REPORT OF THE FORTY-EIGHTH SESSION

1 INTRODUCTION

1.1 The forty-eighth session of the GESAMP/EHS Working Group on the Evaluation of the Hazards of Harmful Substances Carried by Ships was held at IMO Headquarters, London, from 11 to 15 April 2011 under the chairmanship of Dr. C.T. Bowmer. The list of members attending the forty-eighth session is shown in annex 1 and the approved agenda is shown in annex 2.

Matters arising from IMO

1.2 The Group noted that the following meetings had taken place since the last session of the GESAMP/EHS Working Group:

- .1 the sixteenth intersessional meeting of the Working Group on the Evaluation of Safety and Pollution Hazards of Chemicals (ESPH 16) met from 18 to 22 October 2010;
- .2 the Evaluation of Safety and Pollution Hazards (ESPH) Working Group also met from 7 to 10 February 2011 during BLG 15;
- .3 the Sub-Committee on Bulk Liquids and Gases held its fifteenth session from 7 to 11 February 2011; and
- .4 the Marine Environment Protection Committee met for its sixty-first session from 27 September to 1 October 2010.

Matters discussed at these meetings which are of relevance to the work of GESAMP/EHS are summarized in annex 3.

Actions arising

1.3 From these issues, the Group concurred that the C3 rating for Microsilica slurry had been assigned as 0 and agreed that the NI entry was an error and that the hazard profile should be amended accordingly.

1.4 The Group also noted the comments on product nomenclature as expressed in relation to Calcium long-chain alkaryl sulphonate (C11-C50) and Magnesium lignosulphonate solution and agreed to consider these points further but in the broader context of general nomenclature/editorial inconsistencies between EHS Composite List names and TRN (IBC Code) Product names (see item 7).

1.5 The Group further agreed to check available data with respect to confirming flashpoint values for materials identified as having missing information in column i of their IBC Code entries and to advise the ESPH Working Group accordingly.

Activities of GESAMP

1.6 The Group received a report from Dr. Bowmer (as Chairman of GESAMP) on a number of recent activities and initiatives which had been undertaken by GESAMP. The key points addressed are summarized in annex 4.

1.7 With regard to the EHS Working Group, which has been active since 1974, GESAMP peer reviews and approves any substantive changes to the working methods of the Group but it does not however, approve the hazard profiles assigned.

1.8 GESAMP will meet from 9 to 13 May in Monaco for its 38th session, hosted by the International Atomic Energy Agency. The Chairman of the EHS Working Group will report on the outcome of the EHS' 47th and 48th sessions to GESAMP.

2 EVALUATION OF NEW PRODUCTS

2.1 The Group considered the following new substances which had been submitted for evaluation by industry:

- .1 Soybean oil fatty acid methyl ester
- .2 Tall oil soap, crude
- .3 Piperazine, 68% aqueous
- .4 Phosphoric acid, butyl esters
- .5 2-propenoic acid polymer with 2,5-furandione
- .6 Aziridine polymer with methyloxirane
- .7 Di-(2-ethylhexyl) terephthalate.

2.2 The resultant hazard profiles for these products are set out in annex 5.

2.3 In considering the various products, the Group made the following observations and comments:

- .1 **Soybean oil fatty acid methyl ester** – the Group noted that new information had been provided for this substance in order to establish a specific hazard profile and to distinguish this therefore from the generic entry in the composite list for Fatty Acid Methyl Esters (FAME). After carefully reviewing the new data, the Group concluded that different ratings as compared to the generic FAME hazard profile should be assigned for columns C2, C3, D1 and D2;
- .2 **Tall oil soap, crude** – the Group observed that there was an existing entry in the Composite List for Tall Oil Soap (disproportionate solution) but noted that whilst there were similarities for the fatty acid components in the two products, there were distinct differences for the rosin acids present due to the application of oxidative or reductive stabilization processes to produce the

latter material. Most of the documents supplied for the new product were based on an analogy to crude tall oil. Whilst the Group could base some parts of the evaluation on these data, other parts needed specific data on the soap. As the product is formed in pulping processes via phase separation techniques, impurities could vary which heavily influences its hazardous properties. No criterion to qualify products could be identified that would differentiate between the least and the most dangerous products. Hazard ratings therefore, are based on the corrosive product. Oxidised crude tall oil products also have sensitizing properties and although it is acknowledged that some products are protected against oxidation, not all are protected and all will oxidise once products are discharged into the environment;

- .3 **Piperazine, 68% aqueous** – the Group noted that a very comprehensive human health dataset was available for this material. Whilst some differences in the respiratory sensitization status of the product in different regulatory regions had been highlighted in the submission, it was concluded from the review that this material should be classified as a respiratory sensitizer and rated accordingly. The product was also noted to be a neurotoxic material. Reprotoxic effects were judged to be likely but it was recognized that these properties could be confounded by the inherent neurotoxicity of the substance;
- .4 **Phosphoric acid, butyl esters** – the Group decided that as this product was essentially a mixture of butyl phosphate and dibutyl phosphate, that the product name should be amended to reflect this accordingly. It was agreed therefore that the entry for the Composite List should be "butyl phosphate/dibutyl phosphate mixture";
- .5 **2-propenoic acid polymer with 2,5-furandione** – the Group noted that this substance was a 65% solution in 2-butoxyethanol and agreed that the product name needed to reflect this in the Composite List entry;
- .6 **Aziridine polymer with methyloxirane** - the Group noted that this substance was a 78% solution in diethylene glycol monoethyl ether and agreed that the product name needed to reflect this in the Composite List entry;
- .7 **Di-(2-ethylhexyl) terephthalate** – the Group concluded that the name for the composite list substance entry should be 1,4-di-(2-ethylhexyl) phthalate.

3 **CORRESPONDENCE WITH THE INDUSTRY AND CONSIDERATION OF QUERIES RELATED TO EVALUATIONS**

3.1 The GESAMP hazard profiles were completely revised between 1998 and 2006 according to the new 14 column procedure described in GESAMP Reports & Studies No. 64. The GESAMP/EHS Group continually updates its nearly 900 hazard profiles through two processes:

- the chemical industry submits queries regarding hazard profiles to the EHS Working Group at the rate of about ten per session. These may include new data or insights into the hazards of substances and are discussed during the working group meetings. The results are included in the report of the meeting and where appropriate, changes may be made to the hazard profile in question; and

- the Group with the help of its consultant, reviews the files for completeness and consistency on an ongoing basis and draws such matters to the attention of IMO. Since completion of the revision of Annex II in 2006, ca. 30% of the hazard profiles have been reviewed in this way. Often such a review enables the group to locate and evaluate missing data.

In this way, the hazard profiles are maintained in the best condition possible by the Group. This is understood to be the only peer reviewed and regularly maintained hazard evaluation system in international use.

3.2 Discrepancies may appear to arise when a revised GESAMP hazard profile is compared to the BLG reporting form which also contains hazard information. It is the case, however, that GESAMP will have already reviewed this input but will have made its judgment based on all of the information at its disposal – for many chemicals, this may be more extensive than that reported by the manufacturer.

Industry Correspondence

3.3 The Group noted that additional information on the following products had been received with a request that this be taken into account for the evaluation of these substances. The results of this exercise are set out at annex 6.

Dibutyl terephthalate

3.4 The group decided that the appropriate composite list entry for this material should be 1,4-di-n-butyl phthalate. The working group was requested by industry to reconsider the column B1 rating of 4 assigned to this substance. Whilst longer chain dialkyl phthalates may be so insoluble in water as to present no acute toxicity within the limits of their solubility, 1,4-di-n-butyl phthalate was recognized to present a different case. The water solubility was variously measured by the manufacturer as: 0.0045 mg/L (slow stirring), 0.06 mg/L (shake flask) and 0.11 mg/L (slow stirring) and a further value of 0.95 mg/L was given by DeFoe *et al.* (1990). The group felt that, in line with the logKow values for this substance of 4.61 (KowWIN) and 5.53 (measured, Hansch *et al.* 1995), the 0.06 and 0.11 mg/L values best reflected the likely solubility of this material.

3.5 Hydrophobic substances should not show any acute toxicity above their solubility limits in order to be rated as 0 in column B1. It is known that *Daphnia magna* may be physically hampered by test substance micelles/particles in the test water (i.e. not dissolved) and indeed, in the test reported by the manufacturer the highest concentration of 0.41 mg/L did show immobilization. On its own, the group might have chosen to disregard this, however, a fish study for which only a summary was available also reported the LOEC to be 0.058 mg/L, implying effect at higher concentrations. Geiger, D.L., D.J. Call, and L.T. Brooke, (1988) further reported an LC50 for this substance of 0.59 mg/L which, even if above the solubility limit, still caused effect in *Pimephales promelas* (fathead minnow). Finally, in the reported micro-alga test, 14% inhibition was reported at 0.011 mg/L and the group therefore decided to retain the 4 rating in column B1 as reported at the EHS 47 meeting.

Ethanoltriazine (aqueous solution)

3.6 New test study results in relation to inhalation toxicity, skin and eye irritation and sensitization effects for ethanoltriazine (aqueous solution) were provided for evaluation. After full consideration of the new input, the Group concluded that ratings in the GESAMP Hazard Profile should be revised as follows:

C3 amended to 4

D1 amended to 0

D2 amended to 2

D3 amended to S

E3 amended to 3

Acrylic acid/dimethyldiallylammonium chloride copolymer, partial sodium salt (MWt 1500-4000, aqueous solution)

3.7 A new interpretation of the existing data on eye irritation properties based on assessment weighting considerations had been proposed by industry for the Group to evaluate. The Group accordingly fully assessed this proposal and agreed that the rating for column D2 should be revised to 0, together with consequent changes to C3 and E3 ratings.

Acrylic acid/ethenesulfonic acid copolymer with phosphonate groups, sodium salt (aqueous solution)

3.8 A proposal for revising eye irritation effects (D2 ratings) in the hazard profile and consequently, influencing the estimated inhalation toxicity value (C3 rating) which had been assigned was reviewed by the Group. Revision of the D2 rating was accepted by the Group setting D2 = 0 together with consequent changes to C3 and E3 ratings.

Methanol

3.9 Detailed documents including official risk assessment reports were submitted by industry for a re-evaluation of methanol. The toxicity of methanol to humans needs special consideration because of a difference in metabolism between humans and laboratory animals including some primates. The Group evaluated data from cases of severe and fatal poisonings looking at the concentration of methanol in the blood of the victims and primates. From these concentrations, ingested and inhaled doses could be extrapolated that could lead to severe human poisoning. As there were not enough data for the dermal absorption of methanol, the lethal dose was estimated based on inhalation and oral toxicity. Methanol exposure produces optic nerve neuropathy and severe discomfort (e.g., nausea) at exposures below the lethal concentrations in air/oral doses. This specific toxic effect in humans qualifies for a T rating in column D3. However, toxic effects in pregnancy and for the foetus were judged not to be classified reprotoxic ("R" in column D3) as the applied doses were in the range of maternal toxicity. Following a full consideration of the new input, the Group concluded that ratings in the GESAMP Hazard Profile should be revised as follows:

C1 amended to (2)

C2 amended to (2)

C3 amended to (2)

Calcium carbonate slurry

3.10 A new interpretation of the existing study results for eye irritation was proposed to the Group for their evaluation. The Group accordingly fully assessed this proposal and concluded that a rating of 0 for column D2 was appropriate. Corresponding amendments to the ratings for columns C3 (to (0)) and E3 (to 0) were also agreed.

Trixylenyl phosphate

3.11 Following the availability of new information relating to Long-term health effects (column D3), the Group concluded that reprotoxicity effects had been clearly established and that this should accordingly now be reflected in the hazard profile. In turn, this also reflected on

the E3 rating and this was revised to be 3. Additionally, consideration was given to the C3 rating for this substance, initially assigned as (2) utilizing the estimation methodology for inhalation toxicity and it was concluded that this should be revised to a rating of (0) by analogy to the data available for tricresyl phosphate.

Further amendments

3.12 In response to the request made by the ESPH Working Group in relation to Microsilica slurry, the C3 rating was revised to 0 as reflected in the updated Composite List presented in annex 6.

3.13 Following a review of inhalation toxicity ratings (C3 values) as part of the work to develop a publication on the estimation methodology which may be used for C3 (see item 6), three substances were identified where ratings needed to be revised in view of updated experimental data now held on file. These products and the revisions which were agreed by the Group are as follows:

Caprolactam	C3 amended to 2
Sodium carbonate solution	C3 amended to 2
Methylbutynol	C3 amended to 0

These changes have been incorporated into the updated GESAMP/EHS Composite List as presented in annex 6.

3.14 Having reviewed crude tall oil in relation to the soap product described in section 2, the Group noted that the current assignment for column E3 in the hazard profile was incorrect. It was agreed that this rating should be set at 3 (in line with that for the soap) and that the hazard profile should be amended as shown in annex 6.

4 CONSOLIDATION OF DATA

Miscellaneous amendments

4.1 During an ongoing review of the GESAMP/EHS files which had been undertaken by the Secretariat, some issues with specific ratings in hazard profiles (compared to information contained in the files) had been observed for a number of substances. These observations were presented to the Group for their consideration and 53 substances had ratings checked with 31 products requiring additions or amendments to be made to their hazard profiles as indicated below. The changes implemented have been incorporated into the updated GESAMP/EHS Composite List as presented in annex 6.

Cyclopentene (EHS 547)	:	A2=(R)
Decyl acrylate (EHS 559)	:	A2=(R)
Diisobutylamine (EHS 576)	:	A1a=(2), A1=(2), A2=(R), B1=(3)
Alpha-Pinene (EHS 40)	:	A2=R
Beta-Pinene (EHS 41)	:	A2=(R), D3=S
Benzene sulphonyl chloride (EHS 320)	:	B1=3, D3=S
Calcium bromide (solutions) (EHS 427)	:	A1b=NI, B1=0
Diisobutyl phthalate (EHS 581)	:	B1=(4)
Sym-Dichloroethyl ether (EHS 588)	:	D3=blank (M deleted)

2,4-Dichlorophenol (EHS 596)	:	A2=NR
2,4-Dichlorophenoxyacetic acid, diethanolamine salt (EHS 599)	:	B1=2
1,2-Dichloropropane (EHS 606)	:	B2=0
Dichloropropane and dichloropropene, mixtures (EHS 608)	:	A1a=(2), A1b=(1), A1=(1), A2=(NR), B1=(4), B2=(1)
Di-(2-ethylbutyl) phthalate (EHS 625)	:	D2=(1)
Diethyl sulphate (EHS 649)	:	A2=R
Diheptyl phthalate (EHS 655)	:	D3=blank, (R deleted)
Dimethyl adipate (EHS 659)	:	A2=(R)
Dimethyl glutarate (EHS 670)	:	D1=2
Isophorone diisocyanate (EHS 881)	:	C3=3
<i>o</i> -Chlorotoluene (EHS 480)	:	C1=0, C3=0, E3=1
<i>m</i> -Chlorotoluene (EHS 481)	:	C3=(2)
Cresols (mixed isomers) (EHS 527)	:	C3=4
Diphenyl (EHS 694)	:	C3=(1), D1=0, E3=1
Diisopropyl ether (EHS 711)	:	D2=2
Ethylcyclohexane (EHS 751)	:	D1=(1)
Ethylene glycol monoacetate (EHS 762)	:	D3=blank, (R deleted)
Ethylene glycol monoethyl ether (EHS 766)	:	E2=D
Ethylene glycol methyl ether acetate (EHS 773)	:	C1=0, C3=(0), D1=(1)
2-Ethylhexanoic acid (EHS 776)	:	D3=blank (R deleted)
Ethylene vinyl acetate copolymer (emulsion) (EHS 779)	:	E3=2
Linear alkyl (C12-C16) propoxyamine ethoxylate	:	A1=3

4.2 Although a number of further questions on other substances remain to be checked, these products could not be addressed at this session due to time constraints. Accordingly, these issues will be carried forward to the next meeting as part of the ongoing exercise to consolidate data records and hazard ratings.

5 FLASHPOINT DATA FOR PRODUCTS IN THE IBC CODE WITH MISSING INFORMATION

5.1 In response to the request made by the ESPH Working Group with respect to confirming flashpoint values for materials identified as having this information missing in column i of their IBC Code entries, the Group reviewed the list of materials provided and cross-checked this with EHS database values and other information sources.

5.2 The results of this exercise are presented in annex 7.

6 COMMUNICATION AND PUBLICATION

Acute inhalation toxicity review

6.1 The Group recalled that at an earlier meeting it had agreed to focus publications activity on promoting the methodology developed for the estimation of inhalation toxicity in the context of bulk maritime transport. A scientific paper had been developed in the intersessional period which included details of a validation study undertaken in support of the methodology now used. The paper had been submitted to a journal and feedback had been received from its referees which provided a number of comments of relevance to the work of the Group.

- The Group was encouraged to develop a more mechanistic as opposed to a pragmatic approach. It was not felt, however, that the data on file at IMO could ever support the accurate modelling of toxic mechanisms as it was never designed to do so. The Group noted that the strength of the estimation method is in its simplicity and in the way it covers uncertainty by over-estimating (with manufacturers always having the option to test);
- the estimation method tends to overestimate the inhalation toxicity in a majority of cases. This could be investigated further by the Group and refinement of the methodology considered in order to make it less conservative and more realistic;
- even for non-toxic or low toxicity chemicals, given the cargo sizes involved in the maritime transport of bulk liquid chemicals, inhalation testing may be justified. The group will consider recommending a shortlist of substances for which testing would be desirable in order to replace estimated values – this would generally apply to the more toxic materials; and
- the dataset used for developing the estimation method is considered to be of great interest to the academic world and the Group was encouraged to publish this. Bearing in mind the proprietary nature of much of the data held on file, this could only be accomplished in the form of the hazard profile notation.

Update of GESAMP Reports and Studies No. 64

6.2 The Group recalled its discussions on the need for updating and re-issuing GESAMP Reports and Studies No. 64 (The Revised GESAMP Hazard Evaluation Procedure for Chemical Substances Carried by Ships). The report was now out of print but there was nevertheless ongoing interest in this document. The revised procedure was prepared between 1995 and 1998 ahead of the finalization of the Globally Harmonized System (GHS) which has also now since been revised twice. Whilst it was not the intention to change the basis of the GESAMP hazard profile or the rating procedures, it was recognized that some additional guidance and interpretation would now be beneficial in relation to certain aspects of the GHS.

6.3 In preparing a second edition of Reports & Studies No. 64, it was agreed that the following editorial updates and improvements needed to be addressed:

- .1 incorporation of the addenda into R&S No. 64 as a whole;
- .2 inclusion of the rationale for the estimation of inhalation toxicity in the text for column C3;
- .3 the provision of additional guidance on the interpretation of the long-term toxicity criteria under Column D3, in particular for; carcinogenicity (C), target

organ systemic toxicity (T) as well as sensitization (S), including respiratory sensitization (in the light of recent requests from industry for clarification on this point);

- .4 consolidation of the text and Annex VI on Column E2 (floaters & sinkers), including a review of the examples used; and
- .5 an update of Annex IV on suitable biodegradation tests in the light of recent developments and publications.

6.4 The group examined in detail the scope of the proposed amendments, allocated various work task assignments amongst the membership and agreed to prepare a draft for consideration and endorsement in 2012.

6.5 With regard to Column D3 on long-term toxic effects, the group noted that the UN Globally Harmonized System for the classification of chemicals had changed since R&S No. 64 was first issued and that some of the criteria would need to be more closely considered.

The following was accordingly proposed by the group with regard to column D3:

- sensitizers will be re-evaluated with a view to separating dermal (skin) sensitizers from respiratory sensitizers. One reason for initiating this is that emergency response crews may be better protected if information is available on whether a substance is a respiratory sensitizer or not. Additionally, the IBC Code does require information on respiratory sensitization for some carriage requirements and it was felt by the Group that an improvement in data transparency and quality may facilitate risk management in the future;
- while this takes place, the S notation would be retained in the hazard profiles and it is expected that this action would have no impact on IMO's assignment of carriage conditions;
- after (re)evaluation and pending confirmation of the IMO databases ability to handle the new notation, they would be allocated the ratings S^d (dermal), S^r (respiratory), or S^{dr} (dermal and respiratory);
- the updated Column D3 profiles would be published following the issue of the second edition of R&S No. 64 (late 2012);
- if there are queries from manufacturers in the meantime on sensitizer classification, this information can be retrieved by the Secretariat from the IMO database in order to provide advice as appropriate;
- the notation Sp (photosensitizer) in Table 12 and the associated paragraph on page 52 would be deleted, as this had never been implemented;
- the rating L for lung injury will be deleted on the grounds that it is covered by the rating T (target organ systemic toxicity) and since it has never been used by the Group in any assignments;
- The rating T under the GHS already includes the N (neurotoxic) and I (immunotoxic) ratings. Since, however, IMO uses both N and I on their own for assigning carriage conditions, the group proposed to redraft the criteria for the T rating without disturbing the N or the I conditions; and

- With respect to the rating C, it was confirmed that only substances with proven carcinogenicity (rather than suspect carcinogens) would be assigned this rating. A similar position would also be adopted for the ratings M and R.

Promotion of column E information (Interference effects)

6.6 The Group was informed that a draft publication dealing with "Hazardous and Noxious Substances (HNS) spills: the behaviour of styrene in sea water" had been prepared by Cedre (Centre de documentation, de recherche et d'expérimentations sur les pollutions accidentelles des eaux). The Group were approached to provide a suitable link in the text to the activities of GESAMP/EHS, specifically in relation to their assignment of E ratings within the hazard profile (describing interference effects). The Group fully endorsed this and agreed that it would be beneficial to reflect the value of GESAMP Hazard profiles when used in incident situations. It was proposed that this might demonstrate not only how to utilize the ratings but could also identify any limitations and possibly highlight any need for new information to be incorporated into the hazard profiles.

7 ANY OTHER BUSINESS

Nomenclature/editorial inconsistencies

7.1 The Group were advised that it had been observed during a data transfer exercise that for a number of products, there were some editorial inconsistencies with respect to EHS and IBC Code product names. It had been noted that, in most cases, it would generally only require a small amendment to be made to create identical names but that for some examples, more significant changes may be needed in order to achieve an alignment.

7.2 In considering this issue, the Group decided that this matter should also be put to the ESPH Working Group for their consideration since if any rationalization was to take place, whilst EHS name changes could be introduced by GESAMP, the Group could not amend Product Names (TRN). It was noted that more recently, Product Names had tended to be aligned with the EHS name whenever substances were formally reviewed but it was recognized that existing anomalies within the system might nevertheless cause some concerns.

7.3 The Group agreed that in the first instance, any tradename references which might be utilized in the EHS name should be removed and that this should form part of the ongoing exercise to review GESAMP/EHS files.

GHS Classification of floating substances

7.4 The Group recalled that it had debated if the classification employed by GESAMP/EHS for defining the characteristics of floating substances should be brought to the attention of the GHS Sub-Committee. This was considered to be important as this approach was now embodied in many national and European regulations. With the planned update for GESAMP Reports and Studies No. 64, however, it was agreed to postpone any decision on this issue pending the development of any text revisions.

Membership issues

7.5 The Group noted that as yet, it had not been possible to recruit a senior toxicologist in order to sustain expertise levels in this field. Attempts were still being made to involve experts from developing countries and it was agreed that this should be pursued further over the coming year. Efforts would be made via GESAMP to attract suitable candidates to register with the GESAMP Pool of Experts.

Funding arrangements

7.6 The Group recalled that charges had now been introduced for the evaluation of new substances in line with the earlier decision taken by MEPC. The mechanism employed treats the evaluation of products to be carried in bulk, products used as a component in a bulk mixture and components used in cleaning additives in an identical manner and is based on a fixed fee/user pays principle. As part of these arrangements, it had been agreed that the fixed fee must be paid each time an evaluation is carried out on a product since this provides a clear incentive to provide the complete range of data necessary for the Working Group to carry out an evaluation in one session. It was noted, however, that the application of further fees was not intended to apply in cases where some follow-up action was needed on a specific issue in order just to clarify study methodology details or question particular test results.

7.7 In the current session, seven product submissions had been processed at the fixed fee rate of US\$6,500. The Group were advised that, in accordance with MEPC/BLG guidance, the income available will continue to be used to maintain the expertise levels required for EHS Working Group meetings and to support the activities and objectives of the Group in line with the Terms of Reference set by GESAMP.

8 FUTURE WORK PROGRAMME AND DATE OF THE NEXT SESSION

8.1 The Group agreed to a draft work programme for its next session which is set out in annex 8.

8.2 The Group agreed that the next regular meeting would be tentatively held from 16 to 20 April 2012.

8.3 **Submissions for this session should reach the *Technical Secretary of the GESAMP/EHS Working Group not later than Friday, 9 March 2012.**

9 CONSIDERATION AND ADOPTION OF THE REPORT

9.1 The Group adopted the report and, having thanked members for the considerable amount of effort, including extensive preparatory work, *inter alia*, the collection, collation and evaluation of data to generate Hazard Profiles, the Chairman closed the session on Friday, 15 April 2011 at 12.35hrs.

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ANNEX 1

**LIST OF MEMBERS ATTENDING THE FORTY-EIGHTH SESSION
OF THE GESAMP/EHS WORKING GROUP**

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ANNEX 2

AGENDA FOR THE FORTY-EIGHTH SESSION OF THE GESAMP/EHS WORKING GROUP

- 1 Adoption of the agenda
 - Matters arising from IMO and other Organizations relevant to the activities of the Working Group
- 2 Evaluation of new products
 - New submissions
- 3 Correspondence with industry/consideration of issues related to evaluations
 - Industry correspondence
- 4 Consolidation of data files
 - Miscellaneous amendments
- 5 Flashpoint data for products in the IBC Code with missing information
- 6 Communication and publication
 - Acute inhalation toxicity review
 - Update of GESAMP Reports and Studies No. 64
 - Promotion of GHP column E information (Interference effects)
- 7 Any other business
 - Nomenclature/editorial inconsistencies
 - GHS Classification of floating substances
 - Membership issues
 - Review of funding arrangements
- 8 Future work programme and date of the following session
- 9 Consideration and adoption of the report

ANNEX 3

MATTERS ARISING FROM IMO

1.1 At the sixteenth intersessional meeting of the Working Group on the Evaluation of Safety and Pollution Hazards of Chemicals, the ESPH Group had:

- .1 noted that whilst reviewing Calcium long-chain alkaryl sulphonate (C11-C50), it had been questioned if, in particular, the rating of the product as a sensitizer in column D of the hazard profile was valid for product which may be manufactured by other suppliers if such material did not have sensitization properties. As such material would normally have to be shipped under this prevailing entry, it was proposed that until this was resolved, any future tripartites utilizing this material should not be necessarily bound by this rating. In considering this point, the Group concluded that the principle utilized in evaluating products was that the current GESAMP hazard profile should be employed. If industry required a new entry in the GESAMP composite list in order to differentiate from a given profile based on different product properties, this should be presented to GESAMP/EHS for evaluation in the normal way. It was noted that as the current profile imposes an S rating for column D3, this ensured that any shipments undertaken would be on the safe side until such time as any new developments arose. In terms of revising carriage requirement details, the Group agreed that in the product name, the term "long-chain" should be deleted since the relevant alkyl chain length is already clearly specified;
- .2 observed during a review of Microsilica slurry that in the GESAMP hazard profile for this product, the C3 entry was recorded as NI. The Chairman of GESAMP/EHS had advised that this was an oversight in the profile that needed to be corrected but that, in view of the low level of hazard presented by this material, the rating should be read as 0. When assigning the pollution category of the product, the Group recognized that some clarification of the terms set out in rule 13 of Appendix 1 to MARPOL Annex II (defining other substances) was required in relation to the condition "not Fp, F or S (if not organic)". It was confirmed that "if not organic" means "unless inorganic" and that accordingly, in this instance, this condition was satisfied and the substance was consequently rated OS;
- .3 agreed when reviewing Magnesium lignosulphonate solution that, for consistency with a similar entry, the product name should be ligninsulphonic acid, magnesium salt solution but that magnesium lignasulphonate solution should be added as a synonym in chapter 19 of the IBC Code;
- .4 processed 114 cleaning additives for evaluation through the revised tank cleaning additives guidance note and reporting form as issued under MEPC.1/Circ.590. Of these, only 64 cleaning additives were found to meet the necessary criteria, with a number of products being rejected because they contained more than 1% of either unassessed components or had non-readily biodegradable components of pollution category X;
- .5 recalled that the Marine Environment Protection Committee, at its fifty-sixth session, had agreed that cleaning additives in annex 10 of the MEPC.2/Circular, identified as being evaluated only through the old standard

- of MEPC/Circ.363 would cease to be valid from 1 August 2010. To maintain such products in annex 10, a re-evaluation of the cleaning additives concerned following the guidelines of MEPC.1/Circ.590 was necessary, as emphasized and reflected in circular BLG.1/Circ.24 (Re-submission of data for cleaning additives for re-evaluation under the revised MARPOL Annex II);
- .6 noted that when reviewing MEPC.2/Circular List 2 entries (Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO), a number of the mixtures listed specify substances in the "Contains" name that have Safety Hazards based on their latest GESAMP/EHS profiles. Unless it was clear therefore that the mixture does not have resultant safety concerns, it was proposed that such products may need to be reassigned to List 3 and it was agreed therefore that Administrations should be encouraged to re-visit their submissions and to effect any changes accordingly;
- .7 agreed that, since the last set of revisions to the IBC Code had taken effect on 1 January 2009, the need to formalize further revisions should be brought to the attention of the BLG Sub-Committee for their consideration;
- .8 considered the report and the outcome of the previous session of the GESAMP/EHS Working Group;
- .9 noted from the report that, aside from the assignment of hazard profiles for twenty-one new products, amendments to a number of existing hazard profiles had been introduced and also that generic profiles for diesel and gasoline had been assigned;
- .10 noted that GESAMP/EHS is still looking to expand its resource base and is, in particular, pursuing opportunities to involve scientific experts from developing countries in its activities. In this context, it was recognized that the income now available from the evaluation fees charged can be used to support and maintain the expertise requirements of the EHS Working Group team;
- .11 further considered options with regard to addressing inconsistencies in carriage requirements noted for a number of entries in the IBC Code. It was recalled that any revision process should not be performed in a piecemeal fashion and that accordingly, any changes which might result from GHP updates should be noted but not acted upon unless a full product review was undertaken. Based on an overview of all of the products listed in the IBC Code using the current GHP profiles, it was proposed that around 18% of the entries may need amendment (with approximately 13% requiring more stringent carriage requirements; and 5% of products needing less onerous conditions). The main reasons for an increase in carriage requirements are due to acute mammalian toxicity (C1, C2 and C3 ratings) and long-term health effects (D3 ratings);
- .12 in the context of this issue, it was decided to try to identify more fully the nature of any inconsistencies for products listed in the IBC Code with regards to current carriage requirements and updated requirements based on the latest GESAMP Hazard Profiles. Whilst proposing that the current GESAMP/EHS composite list of products, as contained in BLG.1/Circ.30 should be used for the purpose of identifying carriage requirements, some delegations however, were of the opinion that GESAMP/EHS ratings which had been estimated could be excessively strict and advised that additional

information may therefore need to be obtained. It was also noted that it may become appropriate to re-examine the justification for the current criteria laid down in chapter 21 of the IBC Code for the assignment of certain carriage conditions;

- .13 agreed that it would be useful to record and circulate the various interpretations used by the Group when translating GESAMP Hazard Profile ratings into carriage requirements in order to assist with the process of evaluating of new products. This would consolidate, in one document, key decisions previously taken by the Group and could serve then as a basis for regular review by the Group with a view to updating the circular as required;
- .14 concurred with proposed ratings for column i (Electrical Equipment) in the IBC Code for substances for which there had been incomplete data but noted that there were still products where information was missing.

1.2 The ESPH Working Group also met during BLG 15 and during this session, the ESPH Group had:

- .1 finalized the summary of various interpretations used by the Group when translating GESAMP Hazard Profile ratings into carriage requirements in order to assist with the process of evaluating of new products;
- .2 evaluated a further 110 cleaning additives in line with the criteria set out in MEPC.1/Circ.590 with 86 products being approved as meeting the requirements;
- .3 noted that for some mixture products, supporting toxicity and ecotoxicity data as provided in the BLG Product Data Reporting Form were not always fully consistent with the GESAMP Hazard profile assigned for the mixture concerned (with the GHP ratings being more constrained). The Group were advised that this might reflect that additional information to that submitted by a company had been employed by GESAMP/EHS in their review or that a more precautionary interpretation of the data made available had been invoked by the EHS Group;
- .4 finalized draft guidelines for the carriage of blends of petroleum oil and bio-fuels with a view to submitting these to MEPC 62 for approval to issue them as an MEPC circular;
- .5 agreed to attempt to identify flashpoint data for products in the IBC Code where this information was still missing. To this end, it was proposed that GESAMP/EHS should be asked to look at these products, checking their database entries and also identifying additional information sources as appropriate;
- .6 developed a timeline for the preparation of draft amendments to chapters 17, 18 and 19 of the IBC Code for approval and adoption by MEPC and MSC. This indicated that the earliest entry into force data for such amendments would be mid-year 2014 following the normal procedures;
- .7 considered the results of a re-assessment exercise of a small number of representative products in chapters 17 and 18 of the IBC Code. In debating this work, the Group identified a number of options as possible means of

progressing the issue of inconsistencies including undertaking a full review of the carriage assignments presented in the IBC Code utilizing either current GHP ratings or updated GHP ratings (after allowing a period for industry to provide new data to GESAMP/EHS for evaluation and the revision of profile ratings as appropriate). The delegation of CEFIC had advised that the data available had already been provided for these products for the last review activities and that it was unlikely therefore that there would be much by way of any new data which could be put forward. Further discussions on this topic, noting the potential implications of any actions to the industry, will be held at the next meeting.

1.3 In BLG 15, the Sub-Committee approved the reports of the ESPH Working Group and:

- .1 endorsed the proposals made by the Group and concurred with actions taken; and
- .2 proposed to invite MSC 89 and MEPC 62 to approve the holding of an intersessional meeting of the ESPH Working Group in 2012.

1.4 The Marine Environment Protection Committee (MEPC) had held its sixty-first session and during this meeting, MEPC had:

- .1 approved the report of BLG 14 in general;
- .2 approved the work programme for the intersessional meeting of the ESPH Working Group in 2010;
- .3 approved, noting MSC 87's concurrent decision, the holding of an intersessional meeting of the ESPH Working Group in 2011; and
- .4 considered, in the context of a review of MARPOL Annex V, a proposal that pollution categories and subsequent discharge standards should be developed for solid cargo residues for inclusion in the International Maritime Solid Bulk Cargoes Code (the IMSBC Code). This should address the issue of cleaning additives commonly present in deck washing water and might call upon GESAMP to provide advice in developing an approval scheme for the use of cleaning agents for tank and deck washing of solid bulk cargoes. It was agreed to instruct the DSC Sub-Committee to consider the matter further, including the convenience of using GESAMP or GHS environmental criteria and to report back to the Committee at a future session.

ANNEX 4

REVIEW OF GESAMP ACTIVITIES

GESAMP, The Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection, an interagency body of the UN system, currently has six active working groups on the following topics:

- WG 1: EHS – Evaluation of the hazard of chemical substances carried by ships (IMO)
- WG 34: BWWG – Review of applications for 'Active Substances' to be used in ballast water management systems (IMO)
- WG 37: Metals in the marine environment (mercury, lead and cadmium; UNEP)
- WG 38: Atmospheric deposition of chemicals (nutrients) to the oceans (WMO)
- WG 39: Global trends in pollution of coastal ecosystems: retrospective ecosystem assessment, (radio-chronology; IAEA)
- Standing Task Team: on the UN General Assembly, Regular Process '*for global reporting and assessment of the state of the marine environment, including socio-economic aspects*' as well as the UNEP/IOC/GEF Trans-boundary Waters Assessment Process (TWAP)

Additionally, it's New and Emerging Issues programme is currently preparing reviews on the following topics:

- The impact of (micro-)plastics in the oceans
- The biological effects of hypoxia in the oceans, in particular endocrine disruption
- The biomagnification of persistent toxic substances in top predators, including ecological and human health effects
- The potential impact of disinfection by-products in the marine environment
- Environmental Quality Standards (EQS)

GESAMP held a workshop in Paris in June 2010 hosted by the Inter-Governmental Oceanographic Commission (IOC) of UNESCO, regarding the effects of micro-plastics in the oceans, the report of which has been published as GESAMP R&S 82.

The Ballast Water Working group (BWWG) held its 3rd Stocktaking meeting at IMO in London from the 4th to the 6th of April, 2011 to further develop its 'human exposure scenario' for assessing the risks of exposure of the crew and shore workers to active substances and disinfection by-products on board ships. It also completed its environmental exposure procedures which are embedded in a specially adapted version of the MAMPEC model for estimating the risks of treated ballast water discharges.

WG 38 met in Malta in March 2011 to consider the atmospheric input of Fe to the oceans and its relation to primary production and the potential draw-down of CO₂ from the atmosphere; they will report on P, N, S and Fe inputs in 2011.

WG 39 held its first meeting in Monaco from 4 to 6 April 2011, back to back with IAEA-Environment Laboratories 50th Anniversary Symposium.

ANNEX 5 - NEW SUBSTANCES SUBMITTED FOR EVALUATION (GESAMP Hazard Profiles)

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EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3	
Aziridine polymer with methyloxirane (78% in diethylene glycol monoethyl ether)	2436	0	NI	0	NR	2	0	0	0	0	1	0			Fp	2	
Aziridine polymer with methyloxirane (78% in diethylene glycol monoethyl ether)	3751		RTECS No						CAS No								
Butyl phosphate/dibutyl phosphate mixture	2434	2	NI	2	R	1	0	0	(0)	(3)	2	3			D	3	
Butyl phosphate/dibutyl phosphate mixture	3749		RTECS No						CAS No								
1,4-di-(2-ethylhexyl) phthalate	2437	0	3	3	R	0	0	0	0	(1)	1	1			Fp	2	
1,4-di-(2-ethylhexyl) phthalate	3752		RTECS No						CAS No								
Piperazine, 68% Aqueous	2433	0	NI	0	NR	2	NI	0	0	2	3A	3	SN		SD	3	
Piperazine, 68% Aqueous	3748		RTECS No						CAS No								
2-Propenoic acid polymer with furandione (65% in 2-butoxyethanol)	2435	0	NI	0	NR	2	(0)	1	0	0	2	2			Fp	2	
2-Propenoic acid polymer with furandione (65% in 2-butoxyethanol)	3750		RTECS No						CAS No								
Soybean oil fatty acids, methyl esters	2431	0	NI	0	R	2	NI	0	0	0	0	0			Fp	2	
Soybean oil fatty acids, methyl esters	3737		RTECS No						CAS No								
Tall oil soap, crude	2432	0	NI	0	R	2	0	(0)	(0)	(3)	(3)	(3)	S		Fp	3	
Tall oil soap, crude	3735		RTECS No						CAS No								

ANNEX 6

UPDATED COMPOSITE LIST

Notes:

In the Composite List, both EHS and TRN (shipping) names as registered in the database are now shown for each product.

Entries marked * represent cleaning additive components which have had only a partial hazard profile assigned. These profiles cannot be used for mixture calculations in relation to bulk shipments.

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GESAMP Hazard Profiles

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EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Acetic acid	13	0	0	0	R	1	NI	1	1	1	3C	3			D	3
Acetic acid	64		RTECS No		AF1225000				CAS No		64-19-7					
Acetic anhydride	12	0	0	0	R	1	NI	1	0	2	3	3	A		D	3
Acetic anhydride	65		RTECS No		AK1925000				CAS No		108-24-7					
Acetochlor (ISO)	2047	3	2	2	NR	4	NI	1	0	(1)	0	0			S	2
Acetochlor	66		RTECS No		AB5457000				CAS No		34256-82-1					
Acetone	15	0	0	0	R	0	0	0	0	0	1	2		NT	DE	2
Acetone	67		RTECS No		AL3150000				CAS No		67-64-1					
Acetone cyanohydrin	14	0	0	0	R	4	NI	3	4	3	(3)	(3)			D	3
Acetone cyanohydrin	68		RTECS No		OD9275000				CAS No		75-86-5					
Acetonitrile	16	0	0	0	R	1	NI	1	1	2	1	2			D	2
Acetonitrile	69		RTECS No		AL7700000				CAS No		75-05-8					
Acetonitrile (Low purity grade)	2333	0	NI	0	R	3	NI	1	1	2	1	2			D	2
Acetonitrile (Low purity grade)	2876		RTECS No						CAS No							
Acid mixtures (nitrating acid)	289	Inorg	NI	0	Inorg	(2)	NI	3	3	4	3C	3			D	3
Nitrating acid (mixture of sulphuric and nitric acids)	497		RTECS No						CAS No							
Acrylamide	23	0	0	0	R	2	0	2	2	(2)	1	2	CMNS		D	3
Acrylamide solution (50% or less)	70		RTECS No		AS3325000				CAS No		79-06-1					
Acrylic acid	24	0	0	0	R	4	NI	2	2	2	3C	3			D	3
Acrylic acid	71		RTECS No		AS4375000				CAS No		79-10-7					
Acrylic acid / dimethyldiallylammonium chloride copolymer, partial sodium salt (MWt 1500-4000, aqueous solution)	2406	0	NI	0	R	0	0	0	0	(0)	0	0			D	0
Acrylic acid/dadmac polymer	3682		RTECS No						CAS No							
Acrylic acid/ethenesulfonic acid copolymer with phosphonate groups, sodium salt (aqueous solution)	2417	0	NI	0	NR	0	NI	0	(0)	(0)	0	0			D	0
Acrylic acid / ethenesulfonic acid copolymer containing carboxylate, phosphonate and sulfonate groups, sodium salt.	3693		RTECS No						CAS No							
Acrylonitrile	25	0	2	2	NR	3	0	2	3	3	2	2	CSM	NT	DE	3
Acrylonitrile	72		RTECS No		AT5250000				CAS No		107-13-1					
Acrylonitrile-styrene copolymer dispersion in polyether polyol (LOA)	1432	NI	0	0	NI	1	NI	0	(0)	(0)	0	(0)			S	0
Acrylonitrile-Styrene copolymer dispersion in polyether polyol	73		RTECS No						CAS No							
ACTACLEAR 1700 Carrier Fluid (TN)	2188	0	NI	0	NR	0	NI	0	0	(2)	2	2			FD	2

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EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Alkyl (C9-C15) phenyl propoxylate	2430															
			RTECS No						CAS No							
Adiponitrile	26	0	0	0	R	1	NI	3	(3)	3	3	(3)			FD	3
Adiponitrile	74		RTECS No		AV2625000				CAS No		111-69-3					
Alachlor (ISO)	1488	3	3	3	NI	4	1	1	0	(2)	1	0	CS		S	3
Alachlor technical (90% or more)	75		RTECS No		AE1225000				CAS No		15972-60-8					
Alcoholic beverages	293	0	0	0	R	0	0	0	0	0	0	1			D	1
Alcoholic beverages, n.o.s.	85		RTECS No						CAS No							
Alcoholic silicasol	2198	0	0	0	R	0	0	0	0	0	1	2			DE	2
Tetraethyl silicate monomer/oligomer (20% in ethanol)	2475		RTECS No						CAS No							
Alcohol(C12-C16) poly(20 and above)ethoxylates	1482	4	(3)	(3)	R	2	0	(0)	(0)	(2)	2	1			D	2
Alcohol (C12-C16) poly(20+)ethoxylates	78		RTECS No						CAS No							
Alcohol(C6-C17)(secondary) poly(3-6)ethoxylate	722	4	3	3	R	4	2	0	(0)	(3)	3	2			D	3
Alcohol (C6-C17) (secondary) poly(3-6)ethoxylates	81		RTECS No						CAS No							
Alcohol(C6-C17)(secondary) poly(7-12)ethoxylate	295	3	3	3	R	4	1	1	0	(3)	3	3			D	3
Alcohol (C6-C17) (secondary) poly(7-12)ethoxylates	80		RTECS No						CAS No							
Alcohol(C8-C11) poly(2.5-9)ethoxylates	2094	3	3	3	R	3	NI	1	0	(2)	(2)	(2)			D	2
Alcohol (C9-C11) poly (2.5-9) ethoxylate	2209		RTECS No						CAS No							
Alcohol(C12-C16) poly(1-6)ethoxylates	294	5	3	3	R	4	1	0	0	(2)	2	2			FD	2
Alcohol (C12-C16) poly(1-6)ethoxylates	77		RTECS No						CAS No							
Alcohol(C12-C16) poly(7-19)ethoxylates	1481	4	3	3	R	4	1	1	0	(3)	3	3			D	3
Alcohol (C12-C16) poly(7-19)ethoxylates	79		RTECS No						CAS No							
Alcohol(C12 – C14)poly(2)ethoxylate sulfate, sodium salt*	2419	2	NI	2	R	3	NI	NI	NI	NI	NI	NI			NI	NI
	3695		RTECS No						CAS No							
Alcohols (C8-C11)	2279	5	2	2	(R)	(3)	(1)	(0)	(0)	(2)	(2)	(2)			Fp	2
Alcohols (C8-C11), primary, linear and essentially linear	2887		RTECS No						CAS No							
Alcohols, C13 and above as individuals and mixtures	2039	5	2	2	R	4	1	0	0	0	(1)	(1)			Fp	2
Alcohols (C13+)	86		RTECS No						CAS No							
Alcohols (C12-C13), linear	2294	5	2	2	R	4	(1)	0	0	(1)	1	1			Fp	2
Alcohols (C12-C13), primary, linear and essentially linear	2950		RTECS No						CAS No							
Alcohols (C14-C18), linear	2293	5	2	2	R	0	1	0	0	(1)	1	1			Fp	2

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EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Alcohols (C14-C18), primary, linear and essentially linear	2951		RTECS No						CAS No							
Alcohols, linear (C10-C14)	2365	(5)	(2)	(2)	(R)	(4)	(1)	0	0	(2)	(2)	(2)			Fp	2
Decyl/Dodecyl/Tetradecyl alcohol mixture	3128		RTECS No						CAS No							
Alkanes (C6-C9)	2202	(5)	NI	(5)	(R)	(4)	NI	(0)	(0)	(1)	(2)	(2)	N		FE	2
Alkanes (C6-C9)	88		RTECS No						CAS No							
Iso- and cyclo-alkanes (C10-C11)	2203	(5)	NI	(5)	NI	(0)	(0)	(0)	(0)	(1)	(1)	(0)			F	1
Iso- and cyclo-alkanes (C10-C11)	393		RTECS No						CAS No							
Iso-and cyclo-alkanes (C12+)	2204	(5)	NI	(5)	NI	(0)	NI	0	0	(1)	NI	NI			NI	1
Iso- and cyclo-alkanes (C12+)	394		RTECS No						CAS No							
Alkanes(C10 -C26), linear and branched	2392	0	NI	0	R	0	NI	0	0	(1)	1	1	A		F	3
Alkanes(C10-C26), linear and branched	3562		RTECS No						CAS No				90622-53-0			
n-Alkanes (C10-C20)	296	(5)	NI	(5)	(R)	(0)	(0)	(0)	(0)	(1)	(1)	(0)	A		F	3
n-Alkanes (C10+)	471		RTECS No						CAS No							
Alkane (C14-C17) sulphonic acid, sodium salt	334	2	2	2	R	3	1	0	0	(2)	2	2			D	2
Sodium alkyl (C14-C17) sulphonates (60-65% solution)	1153		RTECS No						CAS No							
Alkaryl polyether (C9-C20) (LOA)	1974	4	NI	4	NR	3	NI	0	0	(3)	2	3			S	2
Alkaryl polyethers (C9-C20)	90		RTECS No						CAS No							
Alkenylamide, long chain, more than C10	1858	3	NI	3	(NR)	4	NI	0	(0)	(1)	0	1			Fp	2
Alkenyl (C11+) amide	838		RTECS No						CAS No							
Alkenyl succinic anhydride	298	0	0	0	NR	1	NI	0	0	(2)	2	(2)	S		FD	2
Alkenyl (C16-C20) succinic anhydride	2336		RTECS No						CAS No							
Alkyl acrylate/Vinyl pyridine copolymer in toluene	299	2	2	2	R	2	0	0	0	(2)	2	2	RNA		F/Fp	3
Alkyl acrylate-vinylpyridine copolymer in toluene	94		RTECS No						CAS No							
Alkyl amine, alkenyl acid ester, mixture	1433	NI	NI	NI	NI	1	NI	(0)	(0)	NI	NI	NI	S		Fp	3
Alkyl(C8+)amine, Alkenyl (C12+) acid ester mixture	98		RTECS No						CAS No							
Alkylaryl phosphate mixtures (more than 40% Diphenyl tolyl phosphate, less than 0.02% ortho-isomers)	2267	4	4	4	R	4	4	0	0	(1)	1	0			S	1
Alkylaryl phosphate mixtures (more than 40% Diphenyl tolyl phosphate, less than 0.02% ortho-isomers)	280		RTECS No						CAS No							
Alkylated phenols (C4-C9)	2273	0	2	0	NR	1	0	1	0	(2)	1	1			Fp	2
Alkylated (C4-C9) hindered phenols	2575		RTECS No						CAS No							
Alkyl benzene distillation bottoms	300	0	2	2	NR	0	(3)	0	0	1	1	1			Fp	2

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EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Alkyl benzene distillation bottoms	3106		RTECS No						CAS No							
Alkyl (C12-C15) benzene/indane/indene mixture	1872	0	4	4	NR	0	NI	0	0	0	0	2			FE	2
Alkylbenzene, alkylindane, alkylindene mixture (each C12-C17)	103		RTECS No						CAS No							
Alkylbenzene mixtures (containing at least 50% of toluene)	2303	(2)	(2)	(2)	(R)	(3)	(0)	0	0	(2)	2	2	ACMNR		FE	3
Alkylbenzene mixtures (containing at least 50% of toluene)	2909		RTECS No						CAS No							
Alkyl (C3-C4) benzenes	2206	(3)	NI	(3)	R	4	NI	0	0	(2)	(2)	(1)			FE	2
Alkyl (C3-C4) benzenes	91		RTECS No						CAS No							
Alkyl (C5-C8) benzenes	2207	5	4	4	(NR)	4	NI	0	0	(2)	(2)	(1)			F	2
Alkyl (C5-C8) benzenes	92		RTECS No						CAS No							
Alkyl benzenes, C9-C17 (straight or branched)	1783	0	4	4	NR	1	NI	0	(0)	(1)	(1)	(1)			F	1
Alkyl(C9+)benzenes	100		RTECS No						CAS No							
Alkylbenzenes mixture (containing less than 1% naphthalene)	2423	3	3	3	NR	4	NI	0	0	(2)	2	1	AC		F	3
Alkylbenzenes mixture (containing less than 1% naphthalene)	3600		RTECS No						CAS No							
Alkylbenzenes mixtures (containing naphthalene)	2424	(3)	(3)	(3)	(NR)	(4)	NI	0	0	(1)	1	1	AC		F	3
Alkylbenzenes mixture (containing naphthalene)	3698		RTECS No						CAS No							
Alkyl(C11-C13)benzenesulphonates, straight chain	301	3	3	3	R	3	1	1	(1)	(3)	2	3			FD	3
Alkylbenzene sulphonic acid, sodium salt solution	102		RTECS No		DB4370000				CAS No		42615-29-2					
Alkyl dithiocarbamate (C19-C35)	2236	0	NI	0	NI	1	NI	0	0	(0)	0	0			S	0
Alkyl dithiocarbamate (C19-C35)	2538		RTECS No						CAS No							
Alkyl dithio thiadiazole (C6-C24) (LOA)	1981	5	NI	5	NR	1	NI	0	0	(0)	0	0			S	2
Alkyldithiothiadiazole (C6-C24)	104		RTECS No						CAS No							
Alkyl(C4-C20) ester copolymer (LOA)	1986	NI	0	0	NR	0	NI	0	0	(0)	0	0			Fp	2
Alkyl ester copolymer (C4-C20)	2202		RTECS No						CAS No							
Alkyl naphthalenes, crude (containing less than 1% naphthalene)	2425	4	4	4	R	4	NI	0	0	(1)	1	1	AC		F	3
Alkyl naphthalenes (containing less than 1% naphthalene), crude	3601		RTECS No						CAS No							
Alkyl naphthalenes, crude (containing naphthalene)	2426	(4)	(4)	(4)	(R)	(4)	NI	0	0	(1)	1	1	AC		F	3
Alkyl naphthalenes (containing naphthalenes), crude	3699		RTECS No						CAS No							
Alkyl (C7-C9) nitrates	8	4	NI	4	NR	3	NI	0	0	(3)	2	(3)	S		F	3
Alkyl (C7-C9) nitrates	93		RTECS No						CAS No							
Alkyl(C8-C40)phenol sulphide (LOA)	1985	0	NI	0	NR	0	NI	0	0	(1)	1	1			FD	1

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Alkyl (C8-C40) phenol sulphide	2253		RTECS No						CAS No							
Alkyl(C8-C9)phenylamine, in aromatic solvent (LOA)	2096	2	NI	2	NR	3	NI	(0)	(0)	(2)	2	2			S	2
Alkyl (C8-C9) phenylamine in aromatic solvents	2200		RTECS No						CAS No							
Alkyl[(C8-C10)/(C12-C14)]:(<40%/>60%)polyglucoside mixture solution (max 55% active material)	2134	3	NI	3	R	3	0	0	0	(3)	2	3			D	3
Alkyl (C8-C10)/(C12-C14):(40% or less/60% or more) polyglucoside solution (55% or less)	2248		RTECS No						CAS No				141464-42-8			
Alkyl[(C8-C10)/(C12-C14)]:(>60%/<40%)polyglucoside mixture solution (max 55% active material)	2135	3	NI	3	R	2	0	0	0	(2)	2	2			D	2
Alkyl (C8-C10)/(C12-C14):(60% or more/40% or less) polyglucoside solution(55% or less)	2246		RTECS No						CAS No				141464-42-8			
Alkyl(C8-C10)polyglucoside solution (max 65% active material)	2136	1	NI	1	R	2	0	0	0	(2)	2	2			D	2
Alkyl (C8-C10) polyglucoside solution (65% or less)	2245		RTECS No						CAS No				68515-73-1			
Alkyl (C8-C10)/(C12-C14):(50%/50%) polyglucoside solution (55% or less)	2133	3	NI	3	R	2	0	0	0	(3)	2	(3)			D	3
Alkyl (C8-C10)/(C12-C14):(50%/50%) polyglucoside solution (55% or less)	2247		RTECS No						CAS No							
Alkyl(C12-C14)polyglucoside solution (max 55% active material)	2137	3	NI	3	R	3	0	0	0	(3)	2	3			D	3
Alkyl (C12-C14) polyglucoside solution (55% or less)	2249		RTECS No						CAS No				110615-47-9			
Alkyl(C12-C14)polyglucoside solution (max 55% active material)	2137	3	NI	3	R	3	0	0	0	(3)	2	3			D	3
Lauryl polyglucose (50% or less)	416		RTECS No						CAS No				110615-47-9			
Alkylsulphonic acid ester of phenol (MESAMOLL)	1878	5	NI	5	NR	0	NI	0	(0)	(0)	0	0			S	0
Alkyl sulphonic acid ester of phenol	1701		RTECS No						CAS No				91082-17-6			
Alkyltoluenes	2374	0	2	2	NR	0	NI	0	(0)	(1)	0	1			Fp	2
Alkyl (C18+) toluenes	3148		RTECS No						CAS No							
Alkyl(C18-C28)toluenesulfonic acid (>90% in mineral oil)	2429	0	4	4	NR	3	NI	0	0	(3)	2	3	S		Fp	3
Alkyltoluenesulfonic acid (in mineral oil)	3658		RTECS No						CAS No							
Alkyl(C18-C28)toluenesulfonic acid, calcium salts, borated (up to 70% in mineral oil)	2404	0	4	4	NR	0	NI	(0)	(0)	(1)	(1)	(1)	S		S	2
Alkyl(C18-C28)toluenesulfonic acid, calcium salts, borated (<70% in mineral oil)	3661		RTECS No						CAS No							
Alkyl(C18-C28)toluenesulfonic acid, calcium salts, high overbase (up to 70% in mineral oil)	2373	(0)	(4)	(4)	(NR)	(0)	NI	0	0	(0)	0	0	S		S	2
Alkyl (C18-C28) toluenesulphonic acid, calcium salts, high overbase	3149		RTECS No						CAS No							
Alkyl(C18-C28)toluenesulfonic acid, calcium salts, low overbase (up to 60% in mineral oil)	2409	0	4	4	NR	0	NI	0	0	(2)	2	0	S		Fp	3
Alkyl (C18-C28) toluenesulfonic acid, calcium salts, low overbase	3685		RTECS No						CAS No							
Allyl alcohol	28	0	0	0	R	4	NI	2	3	4	2	3	A		D	3
Allyl alcohol	105		RTECS No		BA5075000				CAS No				107-18-6			
Aluminium chloride/hydrogen chloride solution	336	Inorg	NI	2	Inorg	3	1	1	(0)	3	(3C)	3			D	3

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Aluminium chloride (30% or less)/Hydrochloric acid (20% or less) solution	110		RTECS No						CAS No							
Aluminium sulphate solution	2205	Inorg	Inorg	2	Inorg	3	1	1	(0)	(3)	(2)	(3)			D	3
Aluminium sulphate solution	111		RTECS No						CAS No							
2-(2-Aminoethoxy) ethanol	75	0	0	0	NR	1	0	0	1	(3)	3	3			D	3
2-(2-Aminoethoxy) ethanol	37		RTECS No		KJ6125000				CAS No		929-06-6					
Aminoethylethanolamine	68	0	0	0	NR	1	0	0	0	(3)	3B	2	S		D	3
Aminoethyl ethanolamine	112		RTECS No		KJ6300000				CAS No		111-41-1					
Aminoethylethanolamine/Aminoethyldiethanolamine solution	74	Inorg	0	0	NR	1	0	(2)	(1)	(3)	(3B)	(2)	S		D	3
Aminoethyldiethanolamine/Aminoethylethanolamine solution	113		RTECS No						CAS No							
N-Aminoethylpiperazine	88	0	0	0	NR	1	NI	0	2	(3)	3	3	S		D	3
N-Aminoethylpiperazine	472		RTECS No		TK8050000				CAS No		140-31-8					
2-Amino-2-(hydroxymethyl)-1,3-propanediol solution(40% or less)	89	0	NI	0	NI	1	NI	0	0	NI	NI	NI			D	NI
2-Amino-2-hydroxymethyl-1,3-propanediol solution (40% or less)	38		RTECS No		TY2900000				CAS No		77-86-1					
2-Amino-2-methyl-1-propanol	90	0	0	0	NR	1	NI	0	0	(3)	3	3			DE	3
2-Amino-2-methyl-1-propanol	39		RTECS No		UA5950000				CAS No		124-68-5					
Ammonia (anhydrous and aqueous, 28% or less)	91	0	0	0	R	3	2	1	(2)	3	3	3			DE	3
Ammonia aqueous (28% or less)	114		RTECS No		BO0875000				CAS No		7664-41-7					
Ammonium bisulphite solution, greater than 15%	1730	NI	NI	NI	NI	1	NI	NI	NI	NI	2	2			D	2
Ammonium bisulphite solution (70% or less)	115		RTECS No		WT3595000				CAS No		10192-30-0					
Ammonium chloride solution (less than 25%)	2388	0	NI	0	Inorg	1	0	0	(0)	(2)	2	2			D	2
Ammonium chloride solution (less than 25%) (*)	3411		RTECS No		BP4550000				CAS No		12125-02-9					
Ammonium lignosulphonate (46% solution in water)	2086	0	NI	0	NR	0	NI	0	(0)	(0)	0	0			D	0
Ammonium lignosulphonate solutions	118		RTECS No						CAS No		8061-53-0					
Ammonium nitrate solutions	1912	Inorg	0	0	Inorg	1	NI	0	0	(2)	1	2			D	2
Ammonium nitrate solution (93% or less)	119		RTECS No						CAS No							
Ammonium polyphosphate solution	1764	Inorg	0	0	Inorg	1	NI	0	0	0	1	0			D	1
Ammonium polyphosphate solution	120		RTECS No						CAS No		10-34-0					
Ammonium sulphate	99	0	0	0	Inorg	1	(0)	0	(0)	(0)	0	0			D	0
Ammonium sulphate solution	121		RTECS No		BS4500000				CAS No		7783-20-2					
Ammonium sulphide soln.(45% or less)	310	Inorg	0	0	Inorg	3	NI	1	0	(2)	2	2	N		D	2

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Ammonium sulphide solution (45% or less)	122		RTECS No		BS4900000			CAS No		12124-99-1						
Ammonium thiocyanate/ Ammonium thiosulphate solution	1732	Inorg	0	0	Inorg	1	NI	1	NI	NI	NI	NI			D	NI
Ammonium thiocyanate (25% or less)/Ammonium thiosulphate (20% or less) solution	123		RTECS No					CAS No								
Ammonium thiosulphate solution (60% or less)	312	Inorg	0	0	Inorg	1	NI	0	(0)	(1)	(1)	(1)			D	1
Ammonium thiosulphate solution (60% or less)	124		RTECS No		XN6465000			CAS No		7783-18-8						
Amyl acetate	255	2	2	2	NR	2	NI	0	(0)	0	1	1	S	NT	FED	2
Amyl acetate (all isomers)	125		RTECS No		AJ1925000			CAS No		628-63-7						
tert-Amyl ethyl ether	2428	3	NI	3	NR	1	NI	0	(0)	0	2	2			E	2
tert-Amyl ethyl ether (TAEE)	3623		RTECS No					CAS No								
tert-Amyl methyl ether	2141	1	NI	1	NI	4	NI	1	0	(2)	0	1			ED	2
tert-Amyl methyl ether	2210		RTECS No					CAS No								
Amyl propionate	1484	2	NI	2	R	2	NI	0	0	(2)	2	1			F	2
n-Pentyl propionate	484		RTECS No					CAS No		624-54-4						
Aniline	261	0	0	0	R	3	2	2	2	3	1	3	CTS	NT	FD	3
Aniline	127		RTECS No		BW6650000			CAS No		62-53-3						
Apple juice	275	0	NI	0	R	0	0	0	0	0	0	0			D	0
Apple juice	130		RTECS No					CAS No								
Aryl polyolefin (C11-C50) (LOA)	1979	NI	NI	0	NR	0	NI	0	0	0	0	0			Fp	2
Aryl polyolefins (C11-C50)	131		RTECS No					CAS No								
L-Aspartic acid, homopolymer, sodium salt (aqueous solution)	2421	0	0	0	NR	0	NI	0	(0)	0	0	0			D	0
L-Aspartic acid, homopolymer, sodium salt.	3697		RTECS No					CAS No								
Aviation alkylates (C8 paraffins and iso-paraffins BPT 95-120 Celcius)	286	(5)	NI	(5)	(R)	(4)	NI	0	0	(0)	(0)	(0)			FE	2
Aviation alkylates (C8 paraffins and iso-paraffins BPT 95 - 120°C)	132		RTECS No					CAS No								
Aziridine polymer with methyloxirane (78% in diethylene glycol monoethyl ether)	2436	0	NI	0	NR	2	0	0	0	0	1	0			Fp	2
Aziridine polymer with methyloxirane (78% in diethylene glycol monoethyl ether)	3751		RTECS No					CAS No								
Barium long chain alkaryl sulphonate (C11-C50) (LOA)	1978	4	NI	4	NR	3	NI	2	0	(2)	0	0			S	2
Barium long chain (C11-C50) alkaryl sulphonate	2370		RTECS No					CAS No								
Benzene	324	2	1	1	R	2	NI	1	0	0	2	2	CTM	NT	E	3
Benzene and mixtures having 10% benzene or more (i)	133		RTECS No		CY1400000			CAS No		71-43-2						
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl), 4-hydroxy-C7-C9 alcohols branched and linear	2378	0	3	3	NR	3	0	0	0	(0)	0	0			Fp	2

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3,5-bis(1,1-dimethylethyl)-4-hydroxybenzenepropanoic acid, (C7-C9)-branched alkyl esters	3405															
			RTECS No						CAS No							
Benzene sulphonyl chloride	320	1	1	1	R	3	NI	1	(2)	(3)	3	3	S		SD	3
Benzene sulphonyl chloride	134		RTECS No		DB8750000				CAS No		98-09-9					
1,2,4-Benzene tricarboxylic acid, trioctyl ester	1733	0	0	0	NR	0	NI	0	(0)	2	1	1			Fp	2
Benzenetricarboxylic acid, trioctyl ester	136		RTECS No						CAS No							
Benzyl acetate	348	1	NI	1	R	3	1	1	0	2	1	1			SD	2
Benzyl acetate	138		RTECS No		AF5075000				CAS No		140-11-4					
Benzyl alcohol	349	1	NI	1	R	2	NI	1	1	2	2	2			SD	2
Benzyl alcohol	139		RTECS No		DN3150000				CAS No		100-51-6					
Benzyl chloride	352	NI	1	1	R	3	1	1	(2)	3	3	3	CSA		S	3
Benzyl chloride	140		RTECS No		XS8925000				CAS No		100-44-7					
N,N-Bis(2-hydroxyethyl)oleamide (LOA)	2110	5	NI	5	NR	NI	NI	0	0	(2)	2	2			Fp	2
N,N-bis(2-hydroxyethyl) oleamide	2201		RTECS No						CAS No							
Borax, anhydrous or hydrated, crude or refined	359	Inorg	0	0	Inorg	1	0	0	0	(1)	1	1	R		S	3
Borax	143		RTECS No		VZ2275000				CAS No		1303-96-4					
Boric acid	360	Inorg	0	0	Inorg	1	0	0	(0)	(1)	1	1	R		S	3
Boric acid	2254		RTECS No		ED4550000				CAS No		10043-35-3					
Bromochloromethane	2084	1	1	1	NR	1	NI	0	0	0	1	0			SD	1
Bromochloromethane	145		RTECS No		PA5250000				CAS No		74-97-5					
1-Bromopropane	2229	2	NI	2	NI	NI	NI	0	(0)	0	(2)	(2)			SD	2
1-Bromopropane	2696		RTECS No						CAS No							
Butanol	381	0	(0)	0	R	0	NI	0	0	0	2	3		NT	D	3
Butyl alcohol (all isomers)	2216		RTECS No		EO1400000				CAS No		71-36-3					
Butanol	381	0	(0)	0	R	0	NI	0	0	0	2	3		NT	D	3
n-Butyl alcohol	474		RTECS No		EO1400000				CAS No		71-36-3					
sec-Butanol	383	0	(0)	0	R	0	NI	0	0	0	0	2		NT	D	2
sec-Butyl alcohol	638		RTECS No		EO1750000				CAS No		78-92-2					
tert-Butanol	384	0	0	0	NR	1	NI	0	0	0	1	3		NT	D	3
tert-Butyl alcohol	686		RTECS No		EO1925000				CAS No		75-65-0					
2-Butanone	385	0	NI	0	R	1	0	0	0	1	2	2			DE	2

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Methyl ethyl ketone	446		RTECS No	EL6475000				CAS No	78-93-3							
Butene oligomer	386	0	NI	0	NR	(4)	0	0	0	0	0	1			FE	2
Butene oligomer	146		RTECS No					CAS No								
Butyl acetate	387	1	NI	1	R	2	NI	0	0	2	0	1			FED	2
Butyl acetate (all isomers)	147		RTECS No	AF7350000				CAS No	123-86-4							
Butyl acrylate	390	2	NI	2	R	3	NI	1	1	1	2	2	SA		FED	2
Butyl acrylate (all isomers)	148		RTECS No	UD3150000				CAS No	141-32-2							
Butylamine	392	0	NI	0	R	2	NI	2	2	3	3C	3			DE	3
Butylamine (all isomers)	154		RTECS No	EO2975000				CAS No	109-73-9							
Butyl benzene	1774	4	NI	4	NI	4	1	0	0	(2)	2	1			Fp	2
Butylbenzene (all isomers)	155		RTECS No	CY9070000				CAS No	104-51-8							
Butyl benzyl phthalate	398	4	4	4	R	4	2	0	0	(0)	(0)	(0)	R		S	3
Butyl benzyl phthalate	149		RTECS No	TH9990000				CAS No	85-68-7							
Butyl butyrate	399	2	NI	2	(R)	2	NI	0	0	(1)	1	NI			FE	2
Butyl butyrate (all isomers)	150		RTECS No	ES8120000				CAS No	109-21-7							
Butyl/Decyl/Cetyl/Eicosyl methacrylate mixture	2295	(5)	NI	(5)	(R)	(3)	NI	0	0	0	2	2	S		FE	2
Butyl/Decyl/Cetyl/Eicosyl methacrylate mixture	153		RTECS No					CAS No								
Butylene glycol(s)	402	0	NI	0	R	1	NI	1	0	0	0	0			D	1
Butylene glycol	156		RTECS No	EK0525000				CAS No	110-63-4							
Butylene glycol methyl ether acetate	953	1	1	1	R	3	NI	0	(0)	(1)	1	1			FED	1
3-Methoxybutyl acetate	58		RTECS No	EL4725000				CAS No	4435-53-4							
Butylene glycol monomethyl ether	952	0	NI	0	R	(1)	NI	0	0	(1)	0	1			D	1
3-Methoxy-1-butanol	57		RTECS No					CAS No	2517-43-3							
1,2-Butylene oxide	403	0	NI	0	NR	2	NI	1	1	2	1	1	C		DE	3
1,2-Butylene oxide	8		RTECS No	EK3675000				CAS No	106-88-7							
Butyl methacrylate	409	2	NI	2	NR	1	NI	0	0	0	2	2	S		FE	2
Butyl methacrylate	151		RTECS No	OZ3675000				CAS No	97-88-1							
Butyl octyl phthalate	410	5	NI	5	(R)	0	2	0	(0)	(1)	(1)	(1)			Fp	2
Butyl octyl phthalate	2749		RTECS No					CAS No	84-78-6							
Butyl phosphate/dibutyl phosphate mixture	2434	2	NI	2	R	1	0	0	(0)	(3)	2	3			D	3

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Butyl phosphate/dibutyl phosphate mixture	3749	RTECS No						CAS No									
Butyl propionate	1483	2	NI	2	R	2	NI	0	0	0	1	1			FED	2	
n-Butyl propionate	476	RTECS No UE8245000						CAS No 590-01-2									
Butyl stearate	413	0	NI	0	(R)	0	NI	0	NI	NI	2	NI			Fp	2	
Butyl stearate	152	RTECS No WI2900000						CAS No 123-95-5									
Butyraldehyde	416	1	NI	1	R	2	0	0	1	0	3	3			DE	3	
Butyraldehyde (all isomers)	157	RTECS No ES2275000						CAS No 123-72-8									
Butyric acid	418	0	NI	0	R	2	0	0	0	0	3A	3			D	3	
Butyric acid	158	RTECS No ES5425000						CAS No 107-92-6									
Butyrolactone	420	0	NI	0	R	(3)	NI	1	(0)	0	0	1	C		D	3	
gamma-Butyrolactone	360	RTECS No LU3500000						CAS No 96-48-0									
Calcium alkyl (long chain) salicylate (overbased) in mineral oil (LOA)	70	0	NI	0	NR	2	NI	0	0	(1)	(1)	(1)	S		Fp	3	
Calcium long-chain alkyl salicylate (C13+)	166	RTECS No						CAS No									
Calcium alkyl phenol sulphide,polyolefin phosphorusulphide mixture (LOA)	1435	NI	NI	NI	NR	4	NI	0	0	(0)	NI	NI			NI	NI	
Calcium alkyl (C9) phenol sulphide/Polyolefin phosphorusulphide mixture	160	RTECS No						CAS No									
Calcium alkyl salicylate	2015	3	NI	3	NR	2	NI	0	0	(2)	2	2			Fp	2	
Calcium alkyl (C10-C28) salicylate	3152	RTECS No						CAS No									
Calcium bromide (solutions)	427	Inorg	NI	0	Inorg	0	0	(0)	(0)	(2)	(1)	(2)			D	2	
Drilling brines, including:calcium bromide solution, calcium chloride solution and sodium chloride solution	308	RTECS No EV9328000						CAS No 7789-41-5									
Calcium carbonate slurry	2016	Inorg	0	0	Inorg	0	NI	0	(0)	(0)	0	0			S	0	
Calcium carbonate slurry	161	RTECS No FF9335000						CAS No 471-34-1									
Calcium hydroxide	431	Inorg	0	0	Inorg	2	NI	0	(0)	(2)	1	2			S	2	
Calcium hydroxide slurry	162	RTECS No EW2800000						CAS No 1305-62-0									
Calcium hypochlorite solutions containing 15% Ca(OCl)2 or more	432	Inorg	0	0	Inorg	5	NI	1	0	2	3A	3			D	3	
Calcium hypochlorite solution (more than 15%)	164	RTECS No NH3485000						CAS No 7778-54-3									
Calcium hypochlorite solutions containing less than 15% but more than 1.5% Ca(OCl)2	2073	Inorg	0	0	Inorg	(4)	NI	1	0	2	3A	3			D	3	
Calcium hypochlorite solution (15% or less)	163	RTECS No NH3485000						CAS No 7778-54-3									
Calcium lignosulphonate (52% solution in water)	2087	0	NI	0	NR	0	NI	0	(0)	(0)	0	0			D	0	
Calcium lignosulphonate solutions	165	RTECS No						CAS No 8061-52-7									
Calcium long chain alkaryl sulphonate (C11-C50) (LOA)	1973	NI	0	0	NR	0	NI	0	0	(1)	1	1	S		FD	2	

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Calcium alkaryl sulphonate (C11-C50)	169		RTECS No						CAS No							
Calcium long chain alkyl (C5-C10) phenate (LOA)	2106	0	NI	0	NR	2	NI	0	0	(0)	0	0			FD	1
Calcium long-chain alkyl(C5-C10) phenate	168		RTECS No						CAS No							
Calcium long chain alkyl (C11-C40) phenate (LOA)	2097	0	NI	0	NR	0	NI	0	0	(1)	1	1			Fp	2
Calcium long-chain alkyl(C11-C40) phenate	167		RTECS No						CAS No							
Calcium long chain alkyl phenate sulphide (C8-C40) (LOA)	1756	0	NI	0	NR	1	NI	0	0	(1)	1	1			Fp	2
Calcium long-chain alkyl phenate sulphide (C8-C40)	170		RTECS No						CAS No							
Calcium long-chain alkyl (C18-C28) salicylate	2383	0	NI	0	NR	0	NI	0	0	(1)	1	0	S		Fp	3
Calcium long-chain alkyl (C18-C28) salicylate	3426		RTECS No						CAS No							
Calcium nitrate	1803	Inorg	0	0	Inorg	0	NI	0	(0)	(1)	1	1			D	1
Calcium nitrate solutions (50% or less)	172		RTECS No		EW2985000				CAS No		10124-37-5					
Calcium nitrate/ Magnesium nitrate/Potassium chloride solution	1734	Inorg	0	0	Inorg	1	0	0	(0)	(1)	(1)	1			D	1
Calcium nitrate/Magnesium nitrate/Potassium chloride solution	173		RTECS No						CAS No							
Camphor oil, white	1897	NI	NI	NI	NI	NI	NI	2	NI	(2)	1	NI		(T)	FE	2
Camphor oil	174		RTECS No		EX1490000				CAS No		8008-51-3					
Caprolactam	436	0	NI	0	R	1	0	1	1	2	1	2			D	3
epsilon-Caprolactam (molten or aqueous solutions)	310		RTECS No		CM3675000				CAS No		105-60-2					
Carbolic oil	437	(3)	3	(3)	(NR)	(3)	(1)	2	2	3	3	3	ATNCM		FED	3
Carbolic oil	176		RTECS No						CAS No							
Carbon disulphide	439	2	1	1	NR	3	NI	2	(3)	4	3A	3	RN		SD	3
Carbon disulphide	177		RTECS No		FF6650000				CAS No		75-15-0					
Cashew nut shell oil (untreated)	443	0	NI	0	R	0	NI	(0)	(0)	(2)	2	(2)	S		Fp	3
Cashew nut shell oil (untreated)	179		RTECS No						CAS No							
Castor oil (containing less than 10% free fatty acids)	2314	0	NI	0	R	(2)	NI	0	0	(1)	1	1			Fp	2
Castor oil	3044		RTECS No						CAS No							
Cesium Formate, drilling brines	2384	0	3	3	Inorg	2	NI	1	0	(2)	2	2			D	2
Cesium formate solution (*)	3421		RTECS No						CAS No		3495-36-1					
Cetyl/Eicosyl methacrylate (mixture)	445	0	NI	0	(NR)	(0)	NI	0	(0)	(1)	(1)	(1)			Fp	2
Cetyl/Eicosyl methacrylate mixture	180		RTECS No						CAS No							
Chlorinated paraffins (C18 and above) with any level of chlorine	2024	0	4	4	NR	0	2	0	0	(1)	(1)	(1)	C		S	3

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Chlorinated paraffins (C18+) with any level of chlorine	183		RTECS No						CAS No							
Chlorinated paraffins (C10-C13) with 60% chlorine or more	2021	5	5	5	NR	5	2	0	0	(1)	1	1	C		S	3
Chlorinated paraffins (C10-C13)	181		RTECS No						CAS No							
Chlorinated paraffins (C10- C13) with less than 60% chlorine	2020	5	5	5	NR	5	3	(0)	(0)	(1)	(1)	(1)	C		S	3
Chlorinated paraffins (C10-C13) (60% chlorine or less)	2832		RTECS No						CAS No							
Chlorinated paraffins (C14-C17) with less than 1% shorter chain length	2112	5	4	4	NR	6	3	0	0	(2)	2	2	C		S	3
Chlorinated paraffins (C14-C17) (with 50% chlorine or more, and less than 1% C13 or shorter chains)	182		RTECS No						CAS No							
Chloroacetic acid	450	0	NI	0	R	2	0	2	3	(4)	3C	3	A		D	3
Chloroacetic acid (80% or less)	184		RTECS No		AF8575000				CAS No		79-11-8					
Chlorobenzene	456	2	2	2	NR	3	0	1	0	2	2	0			S	2
Chlorobenzene	185		RTECS No		CZ0175000				CAS No		108-90-7					
Chlorohydrins	463	0	NI	0	R	0	NI	(2)	(2)	(3)	(3A)	3	CS		D	3
Chlorohydrins (crude)	187		RTECS No		TY4025000				CAS No		96-24-2					
N-(3-Chloro-2-hydroxypropyl) trimethylammonium chloride solution (75% or less)	2286	0	0	0	NR	1	NI	0	0	(2)	0	(2)	SC		D	3
N-(3-Chloro-2-hydroxypropyl)trimethyl ammonium chloride solution (75% or less)	2579		RTECS No						CAS No							
Chloronitrobenzenes	467	2	2	2	NR	3	NI	2	2	2	1	1			S	2
o-Chloronitrobenzene	533		RTECS No		CZ0855000				CAS No		25167-93-5					
1-(4-Chlorophenyl)-4,4-dimethyl-3-pentanone	1772	3	3	3	NR	3	NI	0	0	(1)	1	0			S	1
1-(4-Chlorophenyl)-4,4- dimethyl-pentan-3-one	21		RTECS No						CAS No							
2-Chloropropionic acid	474	0	NI	0	R	1	NI	1	(3)	2	3A	3			D	3
2- or 3-Chloropropionic acid	36		RTECS No		UE8570000				CAS No		598-78-7					
3-Chloropropylene	478	1	1	1	R	3	NI	1	0	2	1	3	T		E	3
Allyl chloride	106		RTECS No		UC7350000				CAS No		107-05-1					
Chlorosulphonic acid	479	Inorg	0	0	Inorg	2	NI	(2)	(3)	4	3C	3			D	3
Chlorosulphonic acid	188		RTECS No		FX5730000				CAS No		7790-94-5					
m-Chlorotoluene	481	3	NI	3	NR	2	NI	2	0	(2)	1	1			S	2
m-Chlorotoluene	426		RTECS No		XS8990000				CAS No		108-41-8					
o-Chlorotoluene	480	3	3	3	NR	3	1	0	0	0	1	1			S	1
Chlorotoluenes (mixed isomers)	189		RTECS No		XS9000000				CAS No		95-49-8					
o-Chlorotoluene	480	3	3	3	NR	3	1	0	0	0	1	1			S	1

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o-Chlorotoluene	534		RTECS No		XS9000000				CAS No		95-49-8					
p-Chlorotoluene	482	3	3	3	NR	3	0	0	0	2	1	1			S	2
p-Chlorotoluene	551		RTECS No		XS9010000				CAS No		106-43-4					
Choline chloride, solutions	485	0	NI	0	R	1	NI	0	(0)	(0)	0	0			D	0
Choline chloride solutions	190		RTECS No		KH2975000				CAS No		67-48-1					
Citric acid	493	0	NI	0	R	1	0	0	(0)	(3)	1	3			D	3
Citric acid (70% or less)	748		RTECS No		GE7350000				CAS No		77-92-9					
Citric juices	494	0	0	0	Inorg	0	0	0	0	0	0	0			D	0
Water	740		RTECS No						CAS No							
Clay	495	Inorg	0	0	Inorg	0	0	0	0	0	0	0			S	0
Clay slurry	191		RTECS No						CAS No							
Coal slurry	498	Inorg	0	0	Inorg	0	0	0	0	0	0	0			S	0
Coal slurry	192		RTECS No						CAS No							
Coal tar	499	(4)	4	4	NR	3	1	0	0	0	2	2	CMR	(T)	S	3
Coal tar	193		RTECS No		GF8600000				CAS No		8007-45-2					
Coal tar naphtha	500	3	NI	3	NR	3	NI	0	0	(1)	1	1	C	(T)	FE	3
Coal tar naphtha solvent	194		RTECS No		DE3030000				CAS No		8030-30-6					
Coal tar pitch (molten)	491	3	(3)	(3)	NR	(4)	(2)	0	0	(1)	1	0	CM		S	3
Coal tar pitch (molten)	195		RTECS No		GF8655000				CAS No		65996-93-2					
Cobalt naphthenate in solvent naphtha	501	NI	NI	NI	NR	3	NI	0	(0)	(1)	NI	1	C		FE	3
Cobalt naphthenate in solvent naphtha	196		RTECS No						CAS No							
Cocoa butter	2342	0	NI	0	R	0	NI	(0)	(0)	(1)	(0)	(1)			Fp	2
Cocoa butter	3096		RTECS No						CAS No							
Coconut acid oil	2370	0	0	0	R	3	NI	(0)	(0)	(1)	(1)	(1)			Fp	2
Coconut acid oil	3139		RTECS No						CAS No							
Coconut fatty acid distillate	2366	0	NI	0	R	(3)	NI	0	(0)	(1)	(1)	(1)			Fp	2
Coconut fatty acid distillate	3130		RTECS No						CAS No							
Coconut oil	503	0	NI	0	R	1	NI	0	(0)	(1)	0	(1)			Fp	2
Coconut oil	2772		RTECS No		GG6040000				CAS No		8001-31-8					
Coconut oil fatty acid	505	0	0	0	(R)	(3)	NI	0	(0)	(1)	(1)	(1)			Fp	2

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Coconut oil fatty acid	197	RTECS No						CAS No			61788-47-4							
Coconut oil fatty acid methyl ester	506	5	0	0	R	0	NI	(0)	(0)	(0)	(0)	(1)				Fp	2	
Coconut oil fatty acid methyl ester	198	RTECS No						CAS No			61788-59-8							
Copper salt of long chain(>C17) alkanolic acid (LOA)	2111	0	NI	0	(R)	2	NI	0	0	(0)	0	0				Fp	2	
Copper salt of long chain (C17+) alkanolic acid	2214	RTECS No						CAS No										
Corn oil	521	0	NI	0	R	(2)	NI	0	(0)	(1)	1	1				Fp	2	
Corn Oil	2781	RTECS No			GM4800000			CAS No			8001-30-7							
Cotton seed oil	523	0	NI	0	R	(2)	NI	(0)	(0)	(1)	0	1				Fp	2	
Cotton seed oil	2783	RTECS No			GN2815000			CAS No			8001-29-4							
Creosote (coal tar)	524	(4)	(4)	(4)	NR	4	(2)	1	0	2	2	1	CM	(T)	S	3		
Creosote (coal tar)	199	RTECS No			GF8615000			CAS No			8001-58-9							
Creosote (wood tar)	525	NI	NI	NI	NR	5	NI	1	0	2	2	1	CM	(T)	SD	3		
Creosote (wood)	200	RTECS No			GO5870000			CAS No			8021-39-4							
Cresols (mixed isomers)	527	2	2	2	R	3	0	2	2	4	3A	3				T	SD	3
Cresols (all isomers)	201	RTECS No			GO5950000			CAS No			1319-77-3							
Cresylic acids, dephenolized	1875	2	2	2	R	3	0	(2)	(2)	(3)	(3A)	(3)				(T)	S	3
Cresylic acid, dephenolized	202	RTECS No						CAS No										
Cresylic acid, sodium salt solution	1914	(2)	(2)	(2)	(R)	(3)	(0)	1	(1)	(3)	3	3	TCM	(T)	D	3		
Cresylic acid, sodium salt solution	203	RTECS No						CAS No										
Crotonaldehyde	528	0	NI	0	NR	4	1	2	4	4	2	3	S				D	3
Crotonaldehyde	204	RTECS No			GP9499000			CAS No			4170-30-3							
Crude Piperazine	2331	0	NI	0	R	2	NI	(1)	(2)	(3)	3	3	S				D	3
Crude Piperazine	2810	RTECS No						CAS No										
Crude Tall Oil	2357	4	NI	4	R	2	0	0	0	(0)	0	0	S				Fp	3
Tall oil, crude	3118	RTECS No						CAS No										
1,5,9-Cyclododecatriene	534	5	5	5	NR	4	NI	0	0	1	2	1	SA				F	3
1,5,9-Cyclododecatriene	17	RTECS No			GU2308000			CAS No			4904-61-4							
Cycloheptane	535	4	NI	4	(NR)	4	NI	(0)	0	(1)	(0)	(1)				FE	2	
Cycloheptane	205	RTECS No			GU3140000			CAS No			291-64-5							
Cyclohexane	536	3	3	3	NR	3	NI	0	0	1	0	1				E	2	

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Cyclohexane	206		RTECS No		GU6300000				CAS No		110-82-7					
Cyclohexanol	537	1	NI	1	R	2	NI	0	0	0	2	2			Fp	2
Cyclohexanol	207		RTECS No		GV7875000				CAS No		108-93-0					
Cyclohexanone	539	0	1	1	R	1	0	1	1	1	2	2			FE	2
Cyclohexanone	208		RTECS No		GW1050000				CAS No		108-94-1					
Cyclohexanone/Cyclohexanol mixture	1436	1	1	1	R	2	NI	1	1	1	2	2			FED	2
Cyclohexanone, Cyclohexanol mixture	209		RTECS No						CAS No							
Cyclohexyl acetate	541	2	NI	2	(R)	(2)	NI	0	0	(2)	2	1			FED	2
Cyclohexyl acetate	210		RTECS No		AG5075000				CAS No		622-45-7					
Cyclohexylamine	542	1	NI	1	R	2	NI	2	2	3	3	3	S		D	3
Cyclohexylamine	211		RTECS No		GX0700000				CAS No		108-91-8					
1,3-Cyclopentadiene dimer (molten)	545	3	3	3	NR	3	NI	2	0	3	2	2			Fp	2
1,3-Cyclopentadiene dimer (molten)	11		RTECS No		PC1050000				CAS No		77-73-6					
Cyclopentane	546	3	NI	3	NR	3	NI	(0)	(0)	0	1	(1)			E	2
Cyclopentane	212		RTECS No		GY2390000				CAS No		287-92-3					
Cyclopentene	547	2	NI	2	(R)	3	NI	1	1	0	NI	NI			E	2
Cyclopentene	213		RTECS No		GY5950000				CAS No		142-29-0					
Decahydronaphthalene	551	4	4	4	NR	3	NI	0	0	2	2	1			F	1
Decahydronaphthalene	214		RTECS No		QJ3150000				CAS No		91-17-8					
Decane	554	5	NI	5	R	0	0	0	0	0	1	0			F	1
Decane	2620		RTECS No		HD6550000				CAS No		124-18-5					
Decanoic acid	555	4	NI	4	R	4	1	0	0	(2)	2	2			Fp	2
Decanoic acid	215		RTECS No		HD9100000				CAS No		334-48-5					
1-Decene	558	5	NI	5	R	4	2	0	0	0	2	0	A		F	3
Decene	216		RTECS No						CAS No		872-05-9					
Decyl acetate	1767	4	NI	4	NI	NI	NI	0	0	(1)	(1)	(1)			F	1
Decyl acetate	217		RTECS No						CAS No		112-17-4					
Decyl acrylate	559	5	NI	5	(R)	5	NI	0	0	(2)	2	1			Fp	2
Decyl acrylate	218		RTECS No		AS7400000				CAS No		2156-96-9					
Decyloxytetrahydrothiophene dioxide	1859	3	NI	3	NR	4	NI	0	0	(1)	1	0			Fp	2

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Decyloxytetrahydrothiophene dioxide	220		RTECS No						CAS No							
Dextrose solution	562	0	0	0	R	0	NI	0	0	0	0	(0)			D	0
Glucose solution	361		RTECS No		LZ6600000				CAS No		50-99-7					
Dextrose solution	562	0	0	0	R	0	NI	0	0	0	0	(0)			D	0
Dextrose solution	221		RTECS No		LZ6600000				CAS No		50-99-7					
Diacetone alcohol	563	0	NI	0	R	1	0	0	0	(2)	2	2			D	2
Diacetone alcohol	226		RTECS No		SA9100000				CAS No		123-42-2					
Dialkyldiphenylamines (LOA)	1852	5	NI	5	NR	1	0	0	0	(0)	0	0			FD	0
Dialkyl (C8-C9) diphenylamines	2255		RTECS No						CAS No							
Dialkyl (C9 - C10) phthalates	2359	(0)	(0)	(0)	(R)	(0)	(0)	(0)	(0)	(1)	(1)	(1)			Fp	2
Dialkyl (C9 - C10) phthalates	3121		RTECS No						CAS No							
Dialkyl phthalates C9-C13	566	(0)	(4)	(4)	(NR)	(0)	(2)	(0)	(0)	(1)	(1)	(1)	R		Fp	3
Dialkyl (C7-C13) phthalates	227		RTECS No						CAS No							
Diammonium hydrogen phosphate	98	0	0	0	Inorg	1	NI	0	0	(0)	(1)	(1)			D	1
Ammonium hydrogen phosphate solution	117		RTECS No						CAS No		7783-28-0					
Dibromomethane	574	1	NI	1	NR	(2)	NI	1	0	0	NI	NI			SD	1
Dibromomethane	228		RTECS No		PA7350000				CAS No		74-95-3					
Di-n-butylamine	577	2	NI	2	R	3	NI	2	2	3	3	3			FD	3
Dibutylamine	231		RTECS No		HR7780000				CAS No		111-92-2					
Di-butyl ether	578	3	3	3	NR	2	NI	0	0	0	1	1			FE	2
n-Butyl ether	475		RTECS No		EK5425000				CAS No		142-96-1					
Dibutyl hydrogen phosphonate	1857	1	NI	1	NI	2	NI	0	0	(3)	3	3			F	3
Dibutyl hydrogen phosphonate	229		RTECS No						CAS No		1809-19-4					
2,4-Di-tert-butyl phenol	2083	5	4	4	NR	4	NI	NI	NI	NI	NI	NI			NI	NI
2,4-Di-tert-butylphenol	2339		RTECS No		SK8260000				CAS No		96-76-4					
2,6-Di-tert-butyl phenol	2082	4	NI	4	NR	4	NI	0	0	(1)	1	1			Fp	2
2,6-Di-tert-butylphenol	2250		RTECS No		SK8265000				CAS No		128-39-2					
1,4-di-n-butyl phthalate	2430	5	(3)	(3)	R	4	2	0	0	(0)	0	0			S	0
Dibutyl Terephthalate	3596		RTECS No						CAS No							
Di-n-butyl phthalate	582	4	4	4	R	4	1	0	0	1	0	1	R		S	3

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Dibutyl phthalate	230		RTECS No		TI0875000				CAS No		84-74-2					
Dichlorobenzene (all isomers)	333	3	4	4	NR	3	1	1	0	1	(2)	2	CMR	T	S	3
Dichlorobenzene (all isomers)	232		RTECS No						CAS No							
3,4-Dichlorobut-1-ene	2079	2	2	2	NR	3	NI	1	0	2	2	3			S	3
3,4-Dichloro-1-butene	56		RTECS No		EM4740000				CAS No		760-23-6					
1,1-Dichloroethane	590	1	NI	1	NR	1	NI	1	(1)	0	2	2			SD	2
1,1-Dichloroethane	4		RTECS No		KI0175000				CAS No		75-34-3					
1,2-Dichloroethane	591	1	1	1	NR	2	0	1	0	2	1	2	C		SD	3
Ethylene dichloride	330		RTECS No		KI0525000				CAS No		107-06-2					
1,6-Dichlorohexane	593	3	NI	3	NR	3	NI	0	(0)	(0)	0	0			S	0
1,6-Dichlorohexane	19		RTECS No						CAS No		2163-00-0					
Dichloromethane	594	1	2	2	NR	1	0	1	0	0	2	2	C		SD	3
Dichloromethane	234		RTECS No		PA8050000				CAS No		75-09-2					
2,4-Dichlorophenol	596	3	2	2	NR	3	2	3	2	3	3	3		T	S	3
2,4-Dichlorophenol	30		RTECS No		SK8575000				CAS No		120-83-2					
2,4-Dichlorophenoxyacetic acid, diethanolamine salt, solution	599	0	1	1	R	2	NI	1	0	(3)	1	3		(T)	D	3
2,4-Dichlorophenoxyacetic acid, diethanolamine salt solution	32		RTECS No						CAS No							
2,4-Dichlorophenoxyacetic acid, dimethylamine salt, 70 % or less solution	600	0	1	1	R	3	NI	1	0	(3)	1	3		(T)	D	3
2,4-Dichlorophenoxyacetic acid, dimethylamine salt solution (70% or less)	33		RTECS No						CAS No							
2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt soln.	602	0	NI	0	R	2	NI	1	0	(3)	(1)	3		(T)	D	3
2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt solution	34		RTECS No						CAS No							
1,1-Dichloropropane	605	2	1	1	NR	2	1	0	0	1	1	1			SD	1
1,1-Dichloropropane	5		RTECS No		TX9450000				CAS No		78-99-9					
1,2-Dichloropropane	606	2	1	1	NR	2	0	1	0	2	2	2			SD	2
1,2-Dichloropropane	9		RTECS No		TX9625000				CAS No		78-87-5					
1,3-Dichloropropane	607	2	1	1	NR	2	1	0	NI	NI	NI	NI			SD	NI
1,3-Dichloropropane	12		RTECS No		TX9660000				CAS No		142-28-9					
Dichloropropane and dichloropropene, mixture	608	(2)	(1)	(1)	(NR)	(4)	(1)	2	1	2	3	3	CS		SD	3
Dichloropropene/Dichloropropane mixtures	235		RTECS No		TX9800000				CAS No		8003-19-8					
1,3-Dichloropropene	612	1	NI	1	NR	4	1	2	1	2	3	3	CS		SD	3

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1,3-Dichloropropene	13		RTECS No		UC8310000				CAS No		542-75-6					
2,2-Dichloropropionic acid	609	2	2	2	NR	2	NI	1	0	(3)	3	3			D	3
2,2-Dichloropropionic acid	28		RTECS No		UF0690000				CAS No		75-99-0					
Di-(2-chloro-iso-propyl) ether	615	2	2	2	NR	2	NI	2	0	2	0	2			SD	2
2,2'-Dichloroisopropyl ether	25		RTECS No		KN1750000				CAS No		108-60-1					
Dicyclopentadiene(80-90%)/Co-dimers(10-20%), mixtures	2389	2	3	3	NR	3	0	2	0	3	2	2	AR		FED	3
Dicyclopentadiene, Resin Grade, 81-89%	3559		RTECS No						CAS No							
Diethanolamine	620	0	NI	0	R	1	0	1	0	0	2	3	T		D	3
Diethanolamine	236		RTECS No		KL2975000				CAS No		111-42-2					
Diethylamine	621	0	NI	0	R	2	NI	1	2	3	3C	3			DE	3
Diethylamine	240		RTECS No		HZ8750000				CAS No		109-89-7					
2,6-Diethylaniline	1437	3	3	3	NR	2	NI	1	1	(2)	1	2			FD	2
2,6-Diethylaniline	35		RTECS No		BX3500000				CAS No		579-66-8					
Diethyl benzene (mixed isomers)	624	4	4	4	NR	3	NI	0	(0)	(2)	2	1			F	2
Diethylbenzene	242		RTECS No		CZ5600000				CAS No		25340-17-4					
Di-(2-ethylbutyl) phthalate	625	5	NI	5	R	0	2	0	0	(1)	1	(1)	R		Fp	3
Di-(2-ethylbutyl) phthalate	2750		RTECS No		TI1100000				CAS No		84-75-3					
Diethylene glycol	628	0	NI	0	R	0	0	1	0	2	1	1			D	2
Diethylene glycol	243		RTECS No		ID5950000				CAS No		111-46-6					
Diethylene glycol di-n-butyl ether	629	2	NI	2	NI	1	NI	0	0	(1)	1	1			FD	1
Diethylene glycol dibutyl ether	244		RTECS No		KN0350000				CAS No		112-73-2					
Diethylene glycol diethyl ether	630	0	NI	0	NR	0	NI	1	0	(2)	(2)	2			D	2
Diethylene glycol diethyl ether	245		RTECS No		KN3160000				CAS No		112-36-7					
Diethylene glycol initiated polyoxypropylene diamine	2353	0	NI	0	NR	2	NI	0	0	(3)	3B	(3)			D	3
Diethylene glycol initiated polyoxypropylene diamine	3113		RTECS No						CAS No							
Diethylene glycol initiated polyoxypropylene diamine	2353	0	NI	0	NR	2	NI	0	0	(3)	3B	(3)			D	3
Polyetheramine	2946		RTECS No						CAS No							
Diethylene glycol phthalate	1438	2	NI	2	NR	1	NI	0	0	(2)	(1)	2			S	2
Diethylene glycol phthalate	247		RTECS No						CAS No							
Diethylene triamine	638	0	1	1	(R)	2	NI	1	3	3	3A	3	S		FD	3

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Diethylenetriamine	248		RTECS No	IE1225000			CAS No	111-40-0								
Diethylenetriamine pentaacetic acid, pentasodium salt (40% solution in water)	2076	0	NI	0	NR	0	NI	0	(0)	(0)	0	0			D	0
Diethylenetriaminepentaacetic acid, pentasodium salt solution	249		RTECS No				CAS No									
Diethyl ethanolamine	622	0	NI	0	NR	3	NI	1	1	2	3	3			D	3
Diethylaminoethanol	241		RTECS No	KK5075000			CAS No	100-37-8								
Diethyl ether	640	0	1	1	NR	0	NI	1	0	0	1	1			DE	2
Diethyl ether	237		RTECS No	KI5775000			CAS No	60-29-7								
Di-(2-ethylhexyl) adipate	641	0	2	2	R	4	2	0	0	0	1	1	R		Fp	3
Di-(2-ethylhexyl) adipate	222		RTECS No	AU9700000			CAS No	103-23-1								
Di-(2-ethylhexyl) phosphoric acid	643	(2)	1	1	NR	2	NI	0	1	(2)	2	2			Fp	2
Di-(2-ethylhexyl) phosphoric acid	223		RTECS No	TB7875000			CAS No	298-07-7								
Di-(2-ethylhexyl) phthalate	642	0	4	4	R	0	0	0	0	1	1	1	R		Fp	3
Di-(2-ethylhexyl) phthalate	2751		RTECS No	TI0350000			CAS No	117-81-7								
1,4-di-(2-ethylhexyl) phthalate	2437	0	3	3	R	0	0	0	0	(1)	1	1			Fp	2
1,4-di-(2-ethylhexyl) phthalate	3752		RTECS No				CAS No									
Diethyl phthalate	648	3	3	3	R	2	0	0	0	(1)	1	1			S	1
Diethyl phthalate	238		RTECS No	TI1050000			CAS No	84-66-2								
Diethyl sulphate	649	1	NI	1	R	(2)	NI	1	2	3	2	3	CM		SD	3
Diethyl sulphate	239		RTECS No	WS7875000			CAS No	64-67-5								
Diglycidyl ether of Bisphenol A	653	3	NI	3	NR	4	NI	0	0	(2)	1	2	S		S	2
Diglycidyl ether of bisphenol A	250		RTECS No	TX3800000			CAS No	1675-54-3								
Diglycidyl ether of Bisphenol F	728	0	NI	0	NR	3	NI	0	(0)	(2)	1	(2)	SR		S	3
Diglycidyl ether of bisphenol F	251		RTECS No				CAS No	55492-52-9								
Diheptyl phthalate	655	0	(4)	(4)	R	0	NI	0	0	(1)	1	1			Fp	3
Diheptyl phthalate	252		RTECS No	TI1090000			CAS No	3648-21-3								
Di-n-hexyl adipate	656	5	NI	5	(NR)	5	0	0	0	(1)	0	1			FE	1
Di-n-hexyl adipate	224		RTECS No	AV1150000			CAS No	110-33-8								
Di-hexyl phthalate	2125	5	NI	5	R	0	2	0	0	(1)	1	1	R		Fp	3
Dihexyl phthalate	253		RTECS No	TI1100000			CAS No	84-75-3								
1,4-Dihydro-9,10-dihydroxy anthracene disodium salt (soln.)	657	1	NI	1	NI	1	NI	0	NI	NI	NI	NI			D	NI

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1,4-Dihydro-9,10-dihydroxyanthracene, disodium salt solution	15	RTECS No			CAS No												
Diisobutene	575	4	4	4	NR	3	NI	0	0	0	1	0			FE	2	
Diisobutylene	257	RTECS No			SB2715000			CAS No			11071-47-9						
Diisobutylamine	576	(2)	NI	(2)	(R)	(3)	NI	2	(2)	2	(3)	(3)			FED	3	
Diisobutylamine	256	RTECS No			TX1750000			CAS No			110-96-3						
Diisobutyl ketone	579	3	NI	3	R	2	NI	0	0	2	2	2			F	2	
Diisobutyl ketone	254	RTECS No			MJ5775000			CAS No			108-83-8						
Diisobutyl phthalate	581	4	(4)	4	R	(4)	1	0	0	1	0	0	R		S	3	
Diisobutyl phthalate	255	RTECS No			T11225000			CAS No			84-69-5						
Diisodecyl phthalate	619	0	0	0	(R)	0	(0)	0	0	(1)	0	1			Fp	2	
Diisodecyl phthalate	3119	RTECS No			T11270000			CAS No			26761-40-0						
Diisoheptyl phthalate	2391	0	(4)	(4)	R	0	0	0	0	(1)	1	1	R		Fp	3	
Diisoheptyl phthalate	3561	RTECS No			CAS No												
Diisononyl adipate	690	0	NI	0	R	0	0	0	0	(1)	1	1			Fp	2	
Diisononyl adipate	258	RTECS No			CAS No			33703-08-1									
Diisononyl phthalate	691	0	0	0	R	0	0	0	0	(0)	0	0			Fp	2	
Diisononyl phthalate	3120	RTECS No			CAS No												
Diisoctyl phthalate	693	0	4	4	(R)	0	0	0	0	(1)	1	0			Fp	2	
Diisoctyl phthalate	259	RTECS No			T11300000			CAS No			27554-26-3						
Diisopropanolamine	703	0	NI	0	NR	1	NI	0	0	0	2	3			FD	3	
Diisopropanolamine	260	RTECS No			UB6600000			CAS No			110-97-4						
Diisopropylamine	705	1	NI	1	NR	2	0	1	1	2	3	3			ED	3	
Diisopropylamine	261	RTECS No			IM4025000			CAS No			108-18-9						
Diisopropyl benzene (mixed isomers)	2220	5	4	4	NR	4	NI	0	0	2	2	1		(T)	F	2	
Diisopropylbenzene (all isomers)	262	RTECS No			CAS No												
1,3-Diisopropylbenzene	706	5	4	4	NR	4	NI	0	0	2	2	1			F	2	
1,3-Diisopropyl benzene	2626	RTECS No			CZ6330000			CAS No			25321-09-9						
Diisopropyl ether	711	1	NI	1	NR	2	NI	0	0	0	1	2			E	2	
Isopropyl ether	406	RTECS No			TZ5425000			CAS No			108-20-3						
Diisopropyl naphthalene, mixed isomers	712	5	4	4	NR	(3)	NI	0	0	(1)	1	1			Fp	2	

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Diisopropyl naphthalene	263		RTECS No		QJ1527000				CAS No		38640-62-9					
Dimethoxymethane	2405															
Methylal (>=85%)	3662		RTECS No						CAS No							
Dimethyl acetamide	658	0	NI	0	R	1	NI	0	0	2	1	2			D	2
N,N-Dimethylacetamide	2730		RTECS No		AB7700000				CAS No		127-19-5					
Dimethyl acetamide	658	0	NI	0	R	1	NI	0	0	2	1	2			D	2
N,N-Dimethylacetamide solution (40% or less)	466		RTECS No		AB7700000				CAS No		127-19-5					
Dimethyl adipate	659	1	NI	1	(R)	4	NI	0	0	2	1	1			SD	2
Dimethyl adipate	264		RTECS No		AV1645000				CAS No		627-93-0					
Dimethylamine (40-50% aq.sol.)	661	0	NI	0	R	3	0	2	0	2	3B	3	S	NT	DE	3
Dimethylamine solution (45% or less)	270		RTECS No		IP8750000				CAS No		124-40-3					
Dimethylamine (40-50% aq.sol.)	661	0	NI	0	R	3	0	2	0	2	3B	3	S	NT	DE	3
Dimethylamine solution (greater than 55% but not greater than 65%)	272		RTECS No		IP8750000				CAS No		124-40-3					
Dimethylamine (40-50% aq.sol.)	661	0	NI	0	R	3	0	2	0	2	3B	3	S	NT	DE	3
Dimethylamine solution (greater than 45% but not greater than 55%)	271		RTECS No		IP8750000				CAS No		124-40-3					
N,N-Dimethyl cyclohexylamine	665	2	NI	2	NR	2	NI	1	2	3	3C	3			FD	3
N,N-Dimethylcyclohexylamine	467		RTECS No		GX1198000				CAS No		98-94-2					
Dimethyl disulphide	1616	1	NI	1	NR	3	2	2	0	2	1	1			SD	2
Dimethyl disulphide	2504		RTECS No		JO1927500				CAS No		624-92-0					
N,N-Dimethyldodecylamine	2126	3	NI	3	R	4	NI	1	(1)	(3)	3	3			F	3
N,N-Dimethyldodecylamine	468		RTECS No		JR6600000				CAS No		112-18-5					
Dimethylethanolamine	667	0	NI	0	R	2	NI	1	1	2	3	3			D	3
Dimethylethanolamine	273		RTECS No		KK6125000				CAS No		108-01-0					
Dimethyl formamide	676	0	0	0	R	1	0	0	1	2	1	2	R		D	3
Dimethylformamide	274		RTECS No		LQ2100000				CAS No		68-12-2					
Dimethyl glutarate	670	0	NI	0	R	3	NI	0	0	2	2	2	A		SD	3
Dimethyl glutarate	265		RTECS No						CAS No		26717-67-9					
Dimethyl hydrogen phosphite	673	0	NI	0	NR	2	NI	1	0	0	1	1			D	1
Dimethyl hydrogen phosphite	266		RTECS No		SZ7710000				CAS No		868-89-9					
2,2-Dimethyloctanoic acid	675	3	NI	3	R	4	1	0	0	(2)	2	2			Fp	2

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Dimethyl octanoic acid	267		RTECS No						CAS No		29662-90-6					
Dimethyl phthalate	678	2	2	2	R	2	0	0	0	(1)	0	1			SD	1
Dimethyl phthalate	268		RTECS No		T11575000				CAS No		131-11-3					
2,2-Dimethylpropane-1,3-diol	679	0	0	0	NR	0	0	0	0	0	2	2			FD	2
2,2-Dimethylpropane-1,3-diol (molten or solution)	29		RTECS No		TY5775000				CAS No		126-30-7					
Dimethyl succinate	681	0	NI	0	NI	2	NI	0	0	0	0	2			SD	2
Dimethyl succinate	269		RTECS No		WM7675000				CAS No		106-65-0					
Dinitrotoluene	688	2	2	2	NR	4	2	2	(2)	(2)	1	0	CMR		S	3
Dinitrotoluene (molten)	276		RTECS No		XT1300000				CAS No		25321-14-6					
Dinonyl phthalate	689	0	NI	0	R	0	0	0	0	(1)	1	1			Fp	2
Dinonyl phthalate	2993		RTECS No		T11800000				CAS No		84-76-4					
Di-n-octyl phthalate	692	0	(4)	(4)	(R)	0	0	0	0	(1)	1	(1)			Fp	2
Diocetyl phthalate	277		RTECS No		T11925000				CAS No		117-84-0					
1,4-Dioxane	682	0	0	0	NR	0	0	0	0	0	0	2	C		D	3
1,4-Dioxane	16		RTECS No		JG8225000				CAS No		123-91-1					
Dipentene	686	4	NI	4	NR	2	NI	0	0	(2)	2	2	S		F	3
Dipentene	278		RTECS No		OS8100000				CAS No		138-86-3					
Diphenyl	694	3	4	4	R	4	1	0	0	(1)	0	1			S	1
Diphenyl	279		RTECS No		DU8050000				CAS No		92-52-4					
Diphenylamine (molten)	2186	3	3	3	NR	3	1	0	0	(1)	1	1			S	1
Diphenylamine (molten)	285		RTECS No						CAS No							
Diphenylamine, reaction product with 2,4,4-trimethylpentene	1500	NI	1	1	NR	3	NI	0	0	(1)	1	1	S		Fp	3
Diphenylamine, reaction product with 2,2,4-Trimethylpentene	286		RTECS No						CAS No							
Diphenylamines, alkylated	1770	5	NI	5	NR	(3)	NI	0	0	(1)	(1)	(1)	S		F	3
Diphenylamines, alkylated	287		RTECS No						CAS No							
Diphenyl/Diphenyl ether (mixtures)	698	NI	NI	4	NR	4	1	0	0	(1)	1	1		(T)	S	1
Diphenyl/Diphenyl ether mixtures	283		RTECS No		DV1500000				CAS No		8004-13-5					
Diphenyl ether	699	4	4	4	NR	4	NI	0	0	0	1	1		T	S	1
Diphenyl ether	281		RTECS No		KN8970000				CAS No		101-84-8					
Diphenyl ether/ Biphenyl phenyl ether mixtures	702	5	NI	5	NR	4	NI	0	0	0	1	1		(T)	S	1

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Diphenyl ether/Diphenyl phenyl ether mixture	282		RTECS No						CAS No							
Diphenylmethane-4,4'-diisocyanate	700	5	2	2	NR	0	0	0	0	4	2	2	S		S	3
Diphenylmethane diisocyanate	288		RTECS No		NQ9350000				CAS No		101-68-8					
Diphenylol propane-epichlorohydrin resins	2237	3	NI	3	NR	4	NI	0	0	(2)	1	2			S	2
Diphenylol propane-epichlorohydrin resins	290		RTECS No						CAS No							
Di-n-propylamine	704	1	NI	1	NR	3	NI	2	2	2	3C	3			FED	3
Di-n-propylamine	225		RTECS No		JL9200000				CAS No		142-84-7					
Dipropylene glycol	707	0	1	1	NR	0	NI	0	0	0	1	1			D	1
Dipropylene glycol	291		RTECS No		UB8785000				CAS No		110-98-5					
Dipropylene glycol dibenzoate	708	4	NI	4	R	NI	NI	0	(0)	NI	NI	NI			NI	NI
Dipropylene glycol dibenzoate	2431		RTECS No		UB8787500				CAS No		94-51-9					
Di-n-propyl phthalate	713	3	NI	3	(R)	3	NI	0	0	(1)	1	1	R		S	3
Di-n-propyl phthalate	2752		RTECS No		TI1940000				CAS No		131-16-8					
Distilled Resin Oil, DRO	2299	(3)	NI	(3)	(NR)	(3)	NI	0	0	(2)	2	1	MN		FE	3
Resin oil, distilled	2958		RTECS No						CAS No							
Dithiocarbamate ester (C7-C35)	2185	NI	2	2	NR	4	NI	0	0	(1)	1	1			S	1
Dithiocarbamate ester (C7-C35)	2371		RTECS No						CAS No							
Ditridecyl adipate	2351	0	NI	0	NR	0	NI	0	0	(2)	2	1	S		Fp	2
Ditridecyl adipate	293		RTECS No						CAS No							
Ditridecyl phthalate	714	0	(0)	0	NR	0	(0)	0	0	(1)	1	(1)			Fp	2
Ditridecyl phthalate	2994		RTECS No		TI1950000				CAS No		119-06-2					
Diundecyl phthalate	715	0	(0)	0	NR	0	0	0	0	(1)	1	1			Fp	2
Diundecyl phthalate	294		RTECS No		TI1980000				CAS No		3648-20-2					
Dodecane	718	5	NI	5	(R)	0	NI	0	0	(1)	(1)	(0)			Fp	2
Dodecane (all isomers)	295		RTECS No		JR2125000				CAS No		112-40-3					
tert-Dodecanethiol	2233	5	NI	5	NR	4	2	0	0	(2)	2	1	S		F	3
tert-Dodecanethiol	2418		RTECS No						CAS No							
1-Dodecanol	719	5	2	2	R	4	1	0	0	(1)	1	(1)			Fp	2
Dodecyl alcohol	298		RTECS No		JR5775000				CAS No		112-53-8					
Dodecene (all isomers)	720	5	NI	5	NR	4	NI	0	0	(2)	2	1	A		F	3

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Dodecene (all isomers)	296		RTECS No	UD1950000				CAS No	6842-15-5							
2-Dodecenyl succinic acid, dipotassium salt, solution	727	4	NI	4	NR	1	NI	(0)	(0)	NI	NI	NI			D	NI
Dodecenylsuccinic acid, dipotassium salt solution	297		RTECS No					CAS No	57195-28-5							
Dodecylamine/Tetradecylamine mixture	721	3	NI	3	R	4	NI	1	0	(3)	3	3			F	3
Dodecylamine/Tetradecylamine mixture	303		RTECS No					CAS No								
Dodecyl benzene	126	0	NI	0	NR	0	3	0	0	(2)	(2)	(1)			F	2
Dodecylbenzene	304		RTECS No	CZ9540000				CAS No	123-01-3							
Dodecyl benzene sulphonic acid (contains 1.5% Sulphuric acid)	1739	NI	NI	3	R	3	1	1	(1)	(2)	(1)	(1)			D	2
Alkyl (C11-C17) benzene sulphonic acid	101		RTECS No					CAS No								
Dodecyl diphenyl oxide disulphonate (solns.)	723	(5)	NI	5	NR	4	1	1	0	(3)	1	3			D	3
Dodecyl diphenyl ether disulphonate solution	299		RTECS No	JR8050000				CAS No								
Dodecyl hydroxypropyl sulphide (LOA)	1861	5	NI	5	NI	4	NI	0	0	(0)	0	0			FD	0
Dodecyl hydroxypropyl sulphide	2252		RTECS No					CAS No								
Dodecyl/octadecyl methacrylate (mixtures)	2116	(5)	NI	(5)	(NR)	(0)	NI	0	0	(1)	1	(1)			Fp	2
Dodecyl/Octadecyl methacrylate mixture	1717		RTECS No					CAS No								
Dodecyl/pentadecyl methacrylate (mixture)	724	(5)	NI	(5)	(NR)	(0)	NI	0	(0)	(1)	(1)	(1)			Fp	2
Dodecyl/Pentadecyl methacrylate mixture	302		RTECS No					CAS No								
Dodecyl phenol	725	0	4	4	NI	4	NI	0	0	(3)	3	2			Fp	3
Dodecyl phenol	301		RTECS No	SL3675000				CAS No	27193-86-8							
Dodecyl-, Tetradecyl-, Hexadecyl-dimethylamine mixture	2248	3	NI	3	R	5	2	1	(1)	(3)	3C	3			F	3
Alkyl (C12+) dimethylamine	2485		RTECS No					CAS No								
Dodecylxylene	1763	0	NI	0	NI	0	NI	0	0	(1)	1	1			Fp	2
Dodecyl Xylene	306		RTECS No					CAS No								
Epichlorohydrin	731	0	NI	0	R	3	1	2	2	3	3A	3	CS		D	3
Epichlorohydrin	309		RTECS No	TX4900000				CAS No	106-89-8							
EPTC (ISO)	2081	3	2	2	NI	3	NI	1	1	2	2	(2)	N		F	3
S-Ethyl dipropylthiocarbamate	2302		RTECS No					CAS No	759-94-4							
Ethanol	732	0	NI	0	R	0	NI	0	0	0	1	2			D	2
Ethyl alcohol	315		RTECS No	KQ6300000				CAS No	64-17-5							
Ethanolamine	733	0	NI	0	R	2	0	1	1	3	3A	3			D	3

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Ethanolamine	311		RTECS No		KJ5775000				CAS No		141-43-5					
Ethanoltriazine (aqueous solution)	2411	(0)	NI	(0)	R	3	NI	1	0	4	0	2	S		D	3
1,3,5-Hexahydrotriethanol-1,3,5-triazine	3687		RTECS No						CAS No							
Ethoxylated long chain (>C16)alkyloxyalkanamine (LOA)	2103	5	NI	5	NR	1	NI	0	0	(3)	3	(3)			Fp	3
Ethoxylated long chain (C16+) alkyloxyalkylamine	2203		RTECS No						CAS No							
Ethoxylated tallow amine (>95%)	2313	0	NI	0	NR	4	NI	1	(1)	3	2	3	S		Fp	3
Ethoxylated tallow amine (> 95%)	2959		RTECS No						CAS No							
Ethoxylated tallow amine, glycol mixture	2252	2	NI	2	NR	6	NI	1	0	3	2	3	S		D	3
Ethoxylated tallow amine, glycol mixture	2476		RTECS No						CAS No							
Ethyl acetate	735	0	2	2	R	1	0	0	0	1	0	1			DE	2
Ethyl acetate	312		RTECS No		AH5425000				CAS No		141-78-6					
Ethyl acetoacetate	736	0	0	0	R	1	NI	0	0	(1)	1	1			D	1
Ethyl acetoacetate	313		RTECS No		AK5250000				CAS No		141-97-9					
Ethyl acrylate	734	1	NI	1	R	3	1	1	2	2	2	2	SC	T	ED	3
Ethyl acrylate	314		RTECS No		AT0700000				CAS No		140-88-5					
Ethylamine	1016	0	NI	0	R	2	NI	2	2	1	3	3			GD	3
Ethylamine	322		RTECS No		KH2100000				CAS No		75-04-7					
Ethylamine solutions (72% or less)	2219	NI	NI	0	R	2	NI	2	2	1	3	3			DE	3
Ethylamine solutions (72% or less)	323		RTECS No						CAS No							
Ethyl amyl ketone	1784	2	NI	2	NI	2	NI	0	0	(2)	2	NI			FD	2
Ethyl amyl ketone	316		RTECS No		RH1485000				CAS No		106-68-3					
Ethylbenzene	740	3	2	2	R	3	1	0	0	0	2	2	C		FE	3
Ethylbenzene	324		RTECS No		DA0700000				CAS No		100-41-4					
N-Ethyl butylamine	745	1	NI	1	NI	NI	NI	1	1	2	3	3			FED	3
N-Ethylbutylamine	477		RTECS No		EO4880000				CAS No		13360-63-9					
Ethyl tert-butyl ether	2085	1	NI	1	NI	2	NI	0	0	2	2	2			E	2
Ethyl tert-butyl ether	320		RTECS No		KN4730200				CAS No		637-92-3					
Ethyl butyrate	748	1	NI	1	NI	2	NI	0	0	(2)	2	NI			FED	2
Ethyl butyrate	317		RTECS No		ET1660000				CAS No		105-54-4					
Ethyl cyclohexane	751	4	4	4	NR	3	NI	(0)	(0)	(1)	(1)	(1)			FE	2

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Ethylcyclohexane	325		RTECS No	GV1140000				CAS No	1678-91-7							
N-Ethyl cyclohexylamine	752	2	NI	2	NI	(3)	NI	1	2	2	3	3			FED	3
N-Ethylcyclohexylamine	478		RTECS No	GX1225000				CAS No	5459-93-8							
Ethylene carbonate	755	0	NI	0	R	0	NI	0	0	(2)	1	2			SD	2
Ethylene carbonate	326		RTECS No	FF9550000				CAS No	96-49-1							
Ethylene chlorohydrin	756	0	0	0	R	3	NI	2	3	4	2	3			D	3
Ethylene chlorohydrin	327		RTECS No	KK0875000				CAS No	107-07-3							
Ethylene cyanohydrin	757	0	0	0	NI	2	NI	1	0	(2)	1	2			D	2
Ethylene cyanohydrin	328		RTECS No	MU5250000				CAS No	109-78-4							
Ethylene diamine	758	0	1	1	R	3	1	1	2	1	3	3	S		D	3
Ethylenediamine	343		RTECS No	KH8575000				CAS No	107-15-3							
Ethylene diamine, tetra acetic acid, di- and tetra-sodium salt	759	0	NI	0	NR	2	0	1	(1)	(2)	1	2			D	2
Ethylenediaminetetraacetic acid, tetrasodium salt solution	344		RTECS No	AH4375000				CAS No	#Error							
Ethylene dibromide	760	1	2	2	NR	3	NI	2	2	2	3	3	CRT		SD	3
Ethylene dibromide	329		RTECS No	KH9275000				CAS No	106-93-4							
Ethylene glycol	761	0	NI	0	R	0	0	1	(1)	(1)	0	0	R		D	3
Ethylene glycol	331		RTECS No	KW2975000				CAS No	107-21-1							
Ethylene glycol acrylate	869	0	NI	0	R	4	NI	1	3	3	3	3	SM		D	3
2-Hydroxyethyl acrylate	51		RTECS No	AT1750000				CAS No	818-61-1							
Ethylene glycol butyl ether acetate	764	1	NI	1	R	2	NI	0	1	(1)	1	1			FD	1
Ethylene glycol butyl ether acetate	334		RTECS No	KJ8925000				CAS No	112-07-2							
Ethylene glycol diacetate	765	0	NI	0	NI	2	NI	0	0	(1)	1	NI			D	1
Ethylene glycol diacetate	335		RTECS No	KW4025000				CAS No	111-55-7							
Ethylene glycol ethyl ether acetate	767	0	NI	0	R	2	0	1	0	1	1	2	R		D	3
2-Ethoxyethyl acetate	41		RTECS No	KK8225000				CAS No	111-15-9							
Ethylene glycol methyl butyl ether	772	1	NI	1	NI	1	NI	NI	NI	NI	NI	NI			D	NI
Ethylene glycol methyl butyl ether	336		RTECS No					CAS No	13343-98-1							
Ethylene glycol methyl ether acetate	773	0	NI	0	R	2	NI	0	0	(0)	(1)	1	R		D	3
Ethylene glycol methyl ether acetate	337		RTECS No	KL5950000				CAS No	110-49-6							
Ethylene glycol monoacetate	762	0	NI	0	R	2	NI	0	0	(3)	NI	(3)			D	3

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Ethylene glycol acetate	333		RTECS No		KW7175000			CAS No		542-59-6						
Ethylene glycol monoalkyl ethers	2268	0	NI	0	R	2	NI	1	2	2	1	2			D	2
Ethylene glycol monoalkyl ethers	338		RTECS No					CAS No								
Ethylene glycol monoethyl ether	766	0	NI	0	R	0	0	0	0	1	2	2	R		D	3
2-Ethoxyethanol	40		RTECS No		KK8050000			CAS No		110-80-5						
Ethylene glycol phenyl ether	775	1	NI	1	R	1	0	1	0	(2)	1	2			SD	2
Ethylene glycol phenyl ether	339		RTECS No		KM0350000			CAS No		122-99-6						
Ethylene glycol phenyl ether/Diethylene glycol phenyl ether, mixture	1740	NI	NI	1	R	1	NI	1	0	(2)	(2)	(2)			SD	2
Ethylene glycol phenyl ether/Diethylene glycol phenyl ether mixture	340		RTECS No					CAS No								
Ethylene oxide	77	NI	NI	NI	NI	NI	NI	1	(1)	3	3	3	CMRS		GD	3
Ethylene oxide	2744		RTECS No		KX2450000			CAS No		75-21-8						
Ethylene-propylene copolymer	1508	NI	NI	NI	NI	NI	NI	(0)	(0)	(0)	(0)	(0)			NI	0
Propylene-Butylene copolymer	633		RTECS No					CAS No								
Ethylene vinyl acetate copolymer (emulsion)	779	0	1	1	NR	0	0	0	(0)	(2)	2	0			S	2
Ethylene-vinyl acetate copolymer (emulsion)	342		RTECS No					CAS No								
Ethyl-3-ethoxypropionate	1439	1	NI	1	NR	2	NI	0	0	2	1	1			FD	2
Ethyl-3-ethoxypropionate	321		RTECS No		UF3325000			CAS No		763-69-9						
2-Ethylhexanoic acid	776	2	NI	2	R	2	NI	0	0	(2)	2	2			FD	3
2-Ethylhexanoic acid	45		RTECS No		MO7700000			CAS No		149-57-5						
2-Ethylhexyl acrylate	782	3	NI	3	R	2	NI	0	0	(2)	2	2	S		F	3
2-Ethylhexyl acrylate	46		RTECS No		AT0855000			CAS No		103-11-7						
2-Ethyl-2-(hydroxymethyl)propane-1,3-diol C8-C10 ester (LOA)	2054	0	NI	0	R	0	NI	0	(0)	(0)	0	(0)			Fp	2
2-Ethyl-2-(hydroxymethyl) propane-1,3-diol (C8-C10) ester	42		RTECS No					CAS No								
5-Ethylidene-2-norbornene	783	3	3	3	NR	3	0	0	0	2	1	2			FE	2
Ethylidene norbornene	345		RTECS No		RB9450000			CAS No		16219-75-3						
Ethyl isoamyl ketone	737	NI	NI	NI	NI	NI	NI	0	0	(1)	1	(2)			FD	2
Ethyl isoamyl ketone	2618		RTECS No		MJ7350000			CAS No		541-85-5						
Ethyl methacrylate	785	1	NI	1	R	2	NI	0	0	0	(2)	(2)	S		FE	2
Ethyl methacrylate	318		RTECS No		OZ4550000			CAS No		97-63-2						
N-Ethyl-2-methallylamine	2228	0	NI	0	NR	2	NI	3	2	2	3A	3			D	3

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N-Ethylmethylallylamine	2417		RTECS No						CAS No							
o-Ethyl phenol	788	2	NI	2	NI	(2)	NI	1	NI	NI	NI	NI			S	NI
o-Ethylphenol	535		RTECS No		SL4025000				CAS No		90-00-6					
Ethyl propionate	790	1	NI	1	NI	2	0	0	(1)	(2)	2	2			ED	2
Ethyl propionate	319		RTECS No		UF3675000				CAS No		105-37-3					
2-Ethyl-3-propylacrolein	791	2	NI	2	R	3	NI	0	0	1	3	3			FE	3
2-Ethyl-3-propylacrolein	43		RTECS No		MP6300000				CAS No		645-62-5					
Ethyl toluene (all isomers)	2297	3	NI	3	NI	(3)	NI	0	0	0	2	2			F	2
Ethyl toluene	346		RTECS No						CAS No							
Fatty acid methyl esters	2362	0	NI	0	R	2	NI	0	(0)	(2)	2	2			Fp	2
Fatty acid methyl esters (m)	3125		RTECS No						CAS No							
Fatty acids, essentially linear, C6-C18, 2-ethylhexyl ester	2253	0	NI	0	R	1	NI	0	0	(1)	1	0			Fp	2
Fatty acids, essentially linear (C6-C18) 2-ethylhexyl ester	1914		RTECS No						CAS No							
Fatty acids, essentially linear, C6-C18, 2-ethylhexyl ester	2253	0	NI	0	R	1	NI	0	0	(1)	1	0			Fp	2
Fatty acid (C8-C16) ethyl hexyl esters	2759		RTECS No						CAS No							
Fatty acids, linear, C8-C18 saturated with C18 unsaturated	2260	(4)	NI	(4)	R	(4)	(1)	(0)	(0)	(1)	(1)	(1)			Fp	3
Fatty acids, (C8-C18)	2779		RTECS No						CAS No							
Fatty acids, linear C12+ saturated with C12+ unsaturated	2261	5	0	0	(R)	0	NI	(0)	(0)	(1)	(1)	(1)			NI	2
Fatty acids, (C12+)	2780		RTECS No						CAS No							
Fatty acids saturated, C8-C10	2324	0	NI	0	R	4	NI	0	0	(3)	3C	3			NI	NI
Fatty acids, (C8-C10)	3079		RTECS No						CAS No							
Fatty acids, unsaturated, linear, C16+	2259	0	0	0	R	(0)	NI	0	0	(0)	0	0			Fp	2
Fatty acids, (C16+)	2778		RTECS No						CAS No							
Fatty alcohols, linear, (C12+)	2326	(5)	(2)	(2)	(R)	(4)	(1)	0	0	(1)	1	1			Fp	2
Alcohols (C12+), primary, linear	3081		RTECS No						CAS No							
Fatty alcohols, linear, (C16+)	2327	(5)	(2)	(2)	(R)	(0)	(1)	0	0	(1)	1	1			Fp	2
Alcohols, linear (C16+)	3082		RTECS No						CAS No							
Ferric chloride	339	Inorg	5	5	Inorg	2	0	1	(0)	(3)	2	3			D	3
Ferric chloride solutions	348		RTECS No		LJ9100000				CAS No		7705-08-0					
Ferric hydroxyethyl ethylene diamine triacetic acid, tri- sodium salt, solution	796	NI	NI	NI	NI	NI	NI	0	0	(1)	(0)	1			D	1

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Ferric hydroxyethylethylenediaminetriacetic acid, trisodium salt solution	349		RTECS No						CAS No							
Ferric nitrate/nitric acid solution	337	Inorg	5	5	Inorg	2	0	0	(0)	(3)	3	3			D	3
Ferric nitrate/Nitric acid solution	350		RTECS No						CAS No							
Fish oil (containing less than 10% free fatty acids)	2316	0	NI	0	R	2	NI	(0)	(0)	(1)	(0)	(1)			Fp	2
Fish oil	3046		RTECS No						CAS No							
Fish solubles	1509	NI	NI	NI	NI	NI	NI	(0)	(0)	(0)	(0)	(0)			NI	NI
Fish solubles (water-based fish meal extract)	351		RTECS No						CAS No							
Fluorosilicic acid	806	Inorg	0	0	Inorg	2	NI	2	(2)	4	3	3			D	3
Fluorosilicic acid	2716		RTECS No		VV8225000				CAS No		16961-83-4					
Fluorosilicic acid (20-30%) in water solution	2240	Inorg	0	0	Inorg	2	NI	(1)	(1)	4	3	3			D	3
Fluorosilicic acid (20-30%) in water solution	353		RTECS No						CAS No							
Formaldehyde (37%-50% solution)	807	0	NI	0	R	2	NI	2	2	3	3	3	CSM	NT	D	3
Formaldehyde solutions (45% or less)	354		RTECS No		LP8925000				CAS No		50-00-0					
Formaldehyde, polymer with isobutylenated phenol	2377	NI	NI	NI	NR	NI	NI	NI	NI	NI	NI	NI			Fp	NI
Formaldehyde, polymer with isobutylenated phenol	1203		RTECS No						CAS No							
Formamide	808	0	NI	0	NR	1	NI	0	0	1	1	2	R		D	3
Formamide	355		RTECS No		LQ0525000				CAS No		75-12-7					
Formic acid	809	0	NI	0	R	2	NI	1	(1)	2	3C	3			D	3
Formic acid	356		RTECS No		LQ4900000				CAS No		64-18-6					
Formic acid mixture (containing up to 18% propionic acid and up to 25% sodium formate)	2408	0	NI	0	R	1	NI	(0)	(0)	(2)	(2)	(3)			D	3
Formic acid mixture (containing up to 18% propionic acid and up to 25% sodium formate)	3684		RTECS No						CAS No							
Fumaric adduct of rosin (water dispersion)	810	0	NI	0	R	3	NI	(0)	NI	NI	NI	NI			NI	NI
Fumaric adduct of rosin, water dispersion	357		RTECS No						CAS No							
Furfural	812	0	NI	0	R	2	NI	2	(2)	3	2	2	C		D	3
Furfural	358		RTECS No		LT7000000				CAS No		98-01-1					
Furfuryl alcohol	813	0	NI	0	R	(3)	NI	2	2	3	2	2			D	2
Furfuryl alcohol	359		RTECS No		LU9100000				CAS No		98-00-0					
Glucitol/glycerol blend, propoxylated containing less than 10% amines	2368	0	NI	0	NR	1	NI	1	0	(2)	(1)	(1)			SD	2
Glucitol/glycerol blend propoxylated (containing less than 10% amines)	3074		RTECS No						CAS No							
Glycerine	814	0	NI	0	R	0	NI	0	0	(1)	0	1			D	1

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Glycerine	363		RTECS No		MA8050000				CAS No		56-81-5					
Glycerine (83%)/ Dioxane-dimethanol (17%) mixture	1743	NI	NI	NI	R	1	NI	0	(0)	(1)	(0)	1			D	1
Glycerine (83%), Dioxanedimethanol (17%) mixture	364		RTECS No						CAS No							
Glycerol ethoxylated	2360	0	NI	0	R	0	NI	0	0	(0)	0	0			D	0
Glycerol ethoxylated	3123		RTECS No						CAS No							
Glycerol monooleate	1898	0	0	0	R	0	NI	0	(0)	(1)	1	1			Fp	2
Glycerol monooleate	365		RTECS No		RK1300000				CAS No		25496-72-4					
Glycerol propoxylated	2346	0	NI	0	NR	1	NI	1	0	(2)	1	0			D	2
Glycerol propoxylated	3110		RTECS No						CAS No							
Glycerol, propoxylated and ethoxylated	2276	0	NI	0	NR	1	0	0	0	0	0	0			SD	2
Glycerol, propoxylated and ethoxylated	2872		RTECS No						CAS No							
Glycerol/sorbitol blend, propoxylated and ethoxylated	2372	0	NI	0	NR	2	NI	NI	NI	NI	NI	NI			NI	NI
Glycerol/sorbitol blend, propoxylated and ethoxylated	3136		RTECS No						CAS No							
Glycerol/sucrose blend, propoxylated and ethoxylated	2361	0	NI	0	NR	1	NI	0	0	0	0	0			SD	0
Glycerol/sucrose blend propoxylated and ethoxylated	3124		RTECS No						CAS No							
Glyceryl triacetate	816	0	NI	0	R	1	0	1	0	0	0	1			D	1
Glyceryl triacetate	367		RTECS No		AK3675000				CAS No		102-76-1					
Glycidyl ester of C10 trialkyl acetic acid	441	3	NI	3	NR	3	NI	0	0	(2)	2	1			F	2
Glycidyl ester of C10 trialkylacetic acid	368		RTECS No						CAS No							
Glycine, Sodium salt, solution	817	0	NI	0	NI	0	NI	0	(0)	(1)	(0)	(1)			D	1
Glycine, sodium salt solution	369		RTECS No		MB7600000				CAS No		56-40-6					
Glycolic acid	2218	0	0	0	R	1	NI	1	(1)	2	3C	3			D	3
Glycolic acid solution (70% or less)	2539		RTECS No						CAS No							
Glyoxal solutions (40% or less)	84	0	NI	0	R	1	NI	0	0	2	2	3	MS		D	3
Glyoxal solution (40% or less)	370		RTECS No		MD2700000				CAS No		107-22-2					
Glyoxylic acid	1535	0	NI	0	R	2	0	0	0	(3)	0	3	S		D	3
Glyoxylic acid solution (50 % or less)	371		RTECS No		MD4550000				CAS No		298-12-4					
Glyphosate solution, without surfactant	1765	0	0	0	NR	3	0	0	0	(3)	0	3			D	3
Glyphosate solution (not containing surfactant)	2204		RTECS No		MC1075000				CAS No		1071-83-6					
Groundnut oil	820	0	NI	0	R	(2)	NI	(0)	(0)	(0)	(0)	0			Fp	2

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Groundnut oil	2769		RTECS No		RX2830000			CAS No		8002-03-7						
[Heavy Oxo Fraction]	2266	5	2	(2)	NR	1	NI	0	0	(1)	1	1			FE	2
Oxygenated aliphatic hydrocarbon mixture	2825		RTECS No					CAS No								
Heptane	827	4	NI	4	R	4	NI	0	0	0	(1)	1	A		E	2
Heptane (all isomers)	372		RTECS No		MI7700000			CAS No		142-82-5						
Heptanoic acid	831	2	NI	2	R	1	NI	0	0	(3)	3B	(3)			FD	3
n-Heptanoic acid	479		RTECS No		MJ1575000			CAS No		111-14-8						
Heptanol (all isomers)	2223	2	NI	2	R	(2)	NI	0	0	(2)	(1)	(2)			FD	2
Heptanol (all isomers) (d)	373		RTECS No					CAS No								
1-Heptanol	828	2	NI	2	R	2	NI	1	0	2	(2)	(2)			FD	2
1-Heptanol	2688		RTECS No		MK0350000			CAS No		111-70-6						
Heptene (all isomers)	2225	3	NI	3	NI	2	NI	(0)	(0)	(0)	(2)	(1)			E	2
Heptene (all isomers)	374		RTECS No					CAS No								
1-Heptene	832	3	NI	3	NI	2	NI	(0)	(0)	(0)	(2)	(1)			E	2
1-Heptene	2685		RTECS No		MJ8815000			CAS No								
Heptyl acetate	833	3	NI	3	NI	(3)	NI	0	0	(2)	1	2			F	2
Heptyl acetate	375		RTECS No		AH9901000			CAS No		112-06-1						
Hexadecyl naphthalene/dihexadecyl naphthalene mixture	2159	0	NI	0	NR	0	NI	0	0	(1)	1	1			Fp	2
1-Hexadecyl naphthalene / 1,4-bis(hexadecyl)naphthalene mixture	2373		RTECS No					CAS No								
Hexamethylene diamine	845	0	NI	0	R	2	NI	1	1	(3)	3A	3	SR		D	3
Hexamethylenediamine solution	380		RTECS No		MO1180000			CAS No		124-09-4						
Hexamethylene diamine	845	0	NI	0	R	2	NI	1	1	(3)	3A	3	SR		D	3
Hexamethylenediamine (molten)	378		RTECS No		MO1180000			CAS No		124-09-4						
Hexamethylene diamine	845	0	NI	0	R	2	NI	1	1	(3)	3A	3	SR		D	3
Hexamethylenediamine	377		RTECS No		MO1180000			CAS No		124-09-4						
Hexamethylene diamine adipate, 50% in water	846	0	NI	0	R	1	NI	0	(0)	(0)	0	0			D	0
Hexamethylenediamine adipate (50% in water)	379		RTECS No		AV1940000			CAS No		3323-53-3						
Hexamethylene diisocyanate	2142	3	0	0	NR	2	NI	1	2	4	3	3	S		S	3
Hexamethylene diisocyanate	18		RTECS No					CAS No								
Hexamethylene glycol	847	0	NI	0	R	1	NI	0	0	(1)	0	1			D	1

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Hexamethylene glycol	376		RTECS No	MO2100000				CAS No	629-11-8							
Hexamethyleneimine	848	1	NI	1	NI	2	NI	3	1	2	NI	NI			FED	2
Hexamethyleneimine	381		RTECS No	CM3150000				CAS No	111-49-9							
Hexamethylene tetramine (40% solution)	849	0	NI	0	R	0	NI	0	0	(1)	0	1	S		D	2
Hexamethylenetetramine solutions	382		RTECS No	MN4725000				CAS No	100-97-0							
Hexane	850	3	NI	3	R	4	NI	0	0	0	2	2	NA		E	2
Hexane (all isomers)	383		RTECS No	MN9275000				CAS No	100-54-3							
Hexane	850	3	NI	3	R	4	NI	0	0	0	2	2	NA		E	2
Hexane	2683		RTECS No	MN9275000				CAS No	100-54-3							
1,6-Hexanediol, distillation overheads	2143	4	NI	4	NR	2	NI	0	0	2	1	2			FED	2
1,6-Hexanediol, distillation overheads	2641		RTECS No					CAS No								
Hexanoic acid	853	2	NI	2	R	2	NI	0	0	(3)	(3)	3			FD	3
Hexanoic acid	384		RTECS No	MO5250000				CAS No	142-62-1							
1-Hexanol	854	1	0	0	(R)	2	NI	1	0	(3)	1	3			FD	3
Hexanol	385		RTECS No	MQ4025000				CAS No	111-27-3							
Hexene (all isomers)	2224	3	NI	3	R	3	NI	(0)	(0)	(1)	(1)	(1)			E	2
Hexene (all isomers)	386		RTECS No					CAS No								
1-Hexene	855	3	NI	3	R	3	NI	0	0	0	1	1			E	2
1-Hexene	2681		RTECS No	MP6600100				CAS No	592-41-6							
2-Hexene (mixed isomers)	856	3	NI	3	R	3	NI	(0)	(0)	(1)	(1)	(1)			E	2
2-Hexene (mixed isomers)	2682		RTECS No					CAS No								
Hexyl acetate	857	2	NI	2	NI	3	NI	0	0	(1)	1	1			FE	2
Hexyl acetate	387		RTECS No	AI0875000				CAS No	142-92-7							
sec-Hexyl acetate	858	2	NI	2	NI	3	NI	0	0	0	1	(2)			FED	2
Methylamyl acetate	456		RTECS No	SA7525000				CAS No	108-84-9							
Hexylene glycol	859	0	NI	0	R	0	0	0	0	(2)	2	2			D	2
Hexylene glycol	388		RTECS No	SA0810000				CAS No	107-41-5							
Hydrocarbon waxes	2278	0	NI	0	NR	0	0	0	0	2	1	1			Fp	2
Hydrocarbon waxes	2886		RTECS No					CAS No								
Hydrochloric acid	864	Inorg	0	0	Inorg	1	NI	1	1	3	3C	3			DE	3

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Hydrochloric acid	389		RTECS No		MW4025000				CAS No		7647-01-0					
Hydrogenated Starch Hydrolysate	2347	0	NI	0	R	0	NI	0	0	(0)	0	0			D	0
Hydrogenated starch hydrolysate	3077		RTECS No						CAS No							
Hydrogen peroxide, more than 60%	867	Inorg	0	0	Inorg	3	NI	1	0	2	3	3			D	3
Hydrogen peroxide, more than 60%	2689		RTECS No		MX0900000				CAS No		7722-84-1					
Hydrogen peroxide, more than 60%	867	Inorg	0	0	Inorg	3	NI	1	0	2	3	3			D	3
Hydrogen peroxide solutions (over 60% but not over 70% by mass)	390		RTECS No		MX0900000				CAS No		7722-84-1					
Hydrogen peroxide, more than 8% but not more than 60%	2231	Inorg	0	0	Inorg	3	NI	1	0	(2)	3	3			D	3
Hydrogen peroxide solutions (over 8% but not over 60% by mass)	391		RTECS No						CAS No							
Hydrogen peroxide, more than 8% but not more than 60%	2231	Inorg	0	0	Inorg	3	NI	1	0	(2)	3	3			D	3
Hydrogen peroxide, more than 8% but not more than 60%	2690		RTECS No						CAS No							
N-(2-Hydroxyethyl) ethylene diamine triacetic acid, trisodium salt (solution)	870	0	NI	0	NI	1	NI	0	0	(1)	1	1	R		D	3
N-(Hydroxyethyl)ethylenediaminetriacetic acid, trisodium salt solution	470		RTECS No		MB9185000				CAS No		150-30-0					
2-Hydroxy-4-(methylthio) butanoic acid	871	1	NI	1	R	1	NI	0	0	(3)	1	3			D	3
2-Hydroxy-4-(methylthio)butanoic acid	49		RTECS No		ET4761500				CAS No		583-91-5					
Icosa(oxypropane-2,3-diyl)s	2092	NI	NI	NI	NI	NI	NI	0	(0)	(2)	2	(2)			Fp	2
Icosa(oxypropane-2,3-diyl)s	2691		RTECS No						CAS No							
Icosa(oxypropane-2,3-diyl)s	2092	NI	NI	NI	NI	NI	NI	0	(0)	(2)	2	(2)			Fp	2
Icosa(oxypropane-2,3-diyl)s	392		RTECS No						CAS No							
Illipe oil (containing less than 10% free fatty acids)	2304	(0)	NI	(0)	(R)	(0)	NI	(0)	(0)	(0)	(0)	(0)			Fp	2
Illipe oil	3034		RTECS No						CAS No							
Interesterified Mixed Vegetable Oils	2355	0	NI	0	R	(0)	NI	(0)	(0)	(1)	(1)	(1)			Fp	2
Interesterified vegetable oils	3115		RTECS No						CAS No							
Isobutanol	382	0	NI	0	R	1	0	0	0	1	2	3			D	3
Isobutyl alcohol	397		RTECS No		NP9625000				CAS No		78-83-1					
Isobutyl formate	405	1	NI	1	NI	1	NI	0	(0)	0	(1)	(2)			E	2
Isobutyl formate	398		RTECS No		LQ8650000				CAS No		542-55-2					
Isobutyl methacrylate	408	2	NI	2	NR	1	NI	0	0	0	2	2	S		FED	2
Isobutyl methacrylate	2673		RTECS No		OZ4900000				CAS No		97-86-9					
Isobutyric acid	419	0	NI	0	R	2	NI	2	2	(3)	3	3			E	NI

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Isobutyric acid	2459		RTECS No	NQ4375000				CAS No	79-31-2							
Isodecanol	557	3	2	2	R	3	NI	0	0	0	2	1			Fp	2
Decyl alcohol (all isomers)	219		RTECS No	NR0960000				CAS No	25339-17-7							
Isononanol	1059	3	NI	3	NR	3	1	0	0	(2)	2	2			Fp	2
Nonyl alcohol (all isomers)	510		RTECS No	RH1400000				CAS No	2430-22-0							
Isononylaldehyde	2300	3	NI	3	NR	(3)	NI	0	0	(2)	2	1			F	2
Isononylaldehyde	2754		RTECS No					CAS No								
Isooctaldehyde	1071	2	NI	2	NI	3	NI	0	0	(1)	1	1			F	1
Octyl aldehydes	542		RTECS No					CAS No	63885-09-6							
Isooctanol	1076	3	NI	3	R	2	0	1	0	(2)	2	(2)			F	2
iso-Octanol	2675		RTECS No	NS7700000				CAS No	26952-21-6							
Isooctylamine	1081	2	NI	2	NI	3	NI	1	1	3	3	3			FD	3
2-Ethylhexylamine	48		RTECS No	MQ5250000				CAS No	104-75-6							
Isopentene	1113	2	NI	2	NI	2	NI	(0)	(0)	(0)	(0)	(1)			E	2
iso-Pentene	2677		RTECS No	EM7600000				CAS No	563-45-1							
Isophorone	879	1	1	1	R	2	0	1	1	(2)	1	2			FD	2
Isophorone	399		RTECS No	GW7700000				CAS No	78-59-1							
Isophorone diamine	880	0	0	0	NR	2	0	1	(1)	(3)	3	3	S		D	3
Isophoronediamine	401		RTECS No	GV6129000				CAS No	2855-13-2							
Isophorone diisocyanate	881	1	NI	1	NR	4	NI	0	0	3	3	3	SA		S	3
Isophorone diisocyanate	400		RTECS No	NQ9370000				CAS No	4098-71-9							
Isoprene	882	2	2	2	NR	2	NI	0	0	0	1	2	CM		E	3
Isoprene	402		RTECS No	NT4037000				CAS No	78-79-5							
Isopropanol	1181	0	NI	0	R	0	0	0	0	0	1	2			D	2
Isopropyl alcohol	405		RTECS No	NT8050000				CAS No	67-63-0							
Isopropanolamine	1182	0	NI	0	R	2	NI	0	1	0	3	3			D	3
Isopropanolamine	403		RTECS No	UA5775000				CAS No	78-96-6							
Isopropyl acetate	1192	1	NI	1	R	1	NI	0	0	0	1	2			ED	2
Isopropyl acetate	404		RTECS No	AI4930000				CAS No	108-21-4							
Isopropylamine	1195	0	NI	0	R	2	NI	2	2	1	3	3			DE	3

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Isopropylamine	407		RTECS No		NT8400000				CAS No		75-31-0					
Isopropylamine (70%)	2350	0	NI	0	R	2	NI	2	2	1	3	3			DE	3
Isopropylamine (70% or less) solution	395		RTECS No						CAS No							
Isopropyl benzene	1197	3	2	2	R	3	NI	0	0	0	2	1			FE	2
Isopropylbenzene	2687		RTECS No		GR8575000				CAS No		98-82-8					
Isopropyl benzene	1197	3	2	2	R	3	NI	0	0	0	2	1			FE	2
Propylbenzene (all isomers)	623		RTECS No		GR8575000				CAS No		98-82-8					
Isopropyl cyclohexane	1199	4	NI	4	(NR)	(3)	NI	(0)	(0)	(1)	(0)	(1)			FE	2
Isopropylcyclohexane	408		RTECS No						CAS No		696-29-7					
Isopropyltoluenes	549	4	4	4	(NR)	3	NI	0	(0)	1	2	(1)			FE	2
p-Cymene	552		RTECS No		GZ5950000				CAS No		99-87-6					
Isovaleraldehyde	1390	1	NI	1	R	3	NI	0	0	0	2	2			D	2
Valeraldehyde (all isomers)	731		RTECS No		ES3450000				CAS No		590-86-3					
Jatropha oil	2402	0	NI	(0)	(R)	(2)	NI	(0)	(0)	(0)	(0)	(0)			Fp	2
Jatropha oil	3637		RTECS No						CAS No							
[Jeffamine D-230] / Polyoxypropylene diamine	2352	1	NI	1	NR	1	NI	0	0	(3)	3	3			D	3
Polyoxypropylene diamine	3112		RTECS No						CAS No							
Kaolin slurry	883	Inorg	NI	0	Inorg	0	NI	0	0	0	0	0			S	0
Kaolin slurry	409		RTECS No		GF1670500				CAS No		1332-58-7					
Lactic acid	886	0	NI	0	R	1	NI	0	0	(3)	2	3			D	3
Lactic acid	410		RTECS No		OD2800000				CAS No		50-21-5					
Lactonitrile solution (80% or less)	887	0	NI	0	R	4	NI	2	4	(4)	NI	NI			D	3
Lactonitrile solution (80% or less)	411		RTECS No		OD8225000				CAS No		78-97-7					
Lard (containing less than 10% free fatty acids)	2317	0	NI	0	R	0	NI	0	(0)	(1)	0	1			Fp	2
Lard	3047		RTECS No						CAS No							
Latex, ammonia inhibited	889	0	NI	0	R	(2)	NI	0	0	(1)	0	1			D	1
Latex, ammonia (1% or less)- inhibited	413		RTECS No						CAS No							
Lauric acid	891	4	NI	4	R	4	1	0	(0)	(2)	1	2			Fp	2
Lauric acid	415		RTECS No		OE9800000				CAS No		143-07-7					
Lauryl methacrylate	893	5	NI	5	NR	0	NI	0	(0)	(1)	1	1			F	1

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Dodecyl methacrylate	300		RTECS No		OZ4300000				CAS No		142-90-5					
Lecithin (soybeans)	2146	0	NI	0	R	0	NI	0	0	(0)	0	(0)			SD	0
Lecithin	417		RTECS No						CAS No							
Lignin sulphonic acid, salt solution	34	0	NI	0	(NR)	(0)	NI	0	(0)	(0)	(0)	(0)			D	0
Ligninsulphonic acid, sodium salt solution	419		RTECS No						CAS No							
Linear alkyl (C12-16) propoxyamine ethoxylate	2380	3	0	3	NR	4	NI	1	(1)	(3)	3	(3)	S		D	3
Alkyl(C12-C16) propoxyamine ethoxylate	3423		RTECS No						CAS No							
Linseed oil (containing less than 4% free fatty acids)	2318	0	NI	0	R	(2)	NI	0	(0)	(1)	0	(1)			Fp	2
Linseed oil	3048		RTECS No						CAS No							
Long chain alkaryl polyether (C11-C20) (LOA)	1982	(4)	NI	(4)	NR	3	(1)	0	0	(2)	0	2			Fp	2
Long-chain alkaryl polyether (C11-C20)	421		RTECS No						CAS No							
Long chain alkaryl sulphonic acid (C16-C60) (LOA)	1966	0	NI	0	(NR)	0	NI	0	0	(2)	(1)	2			Fp	2
Long-chain alkaryl sulphonic acid (C16-C60)	424		RTECS No						CAS No							
Long-chain alkylphenate/Phenol sulphide mixture	1754	(0)	NI	(0)	(NR)	0	NI	0	0	(2)	2	2	S		Fp	3
Long-chain alkylphenate/Phenol sulphide mixture	425		RTECS No						CAS No							
Lubrizol polyolefin anhydride	1865	0	NI	0	NR	1	NI	0	0	(2)	1	(2)			Fp	2
Polyolefin anhydride	605		RTECS No						CAS No							
L-Lysine solution (50% or less)	2199	0	0	0	R	1	0	0	0	0	1	NI			D	1
L-Lysine solution (60% or less)	2306		RTECS No						CAS No							
Magnesium alkyl (long chain) salicylate (overbased) in mineral oil (LOA)	71	(0)	NI	(0)	NR	(2)	NI	0	0	(1)	(1)	(1)	S		S	2
Magnesium long-chain alkyl salicylate (C11+)	429		RTECS No						CAS No							
Magnesium chloride	915	Inorg	0	0	Inorg	1	0	0	0	(0)	0	0			D	0
Magnesium chloride solution	427		RTECS No		OM2800000				CAS No		7786-30-3					
Magnesium hydroxide slurry	916	Inorg	0	0	Inorg	0	NI	0	0	(1)	(0)	1			S	1
Magnesium hydroxide slurry	428		RTECS No		OM3570000				CAS No		1309-42-8					
Magnesium lignosulphonate solutions	2356	(0)	NI	(0)	(NR)	(0)	NI	0	0	(0)	(0)	(0)			D	0
Ligninsulphonic acid, magnesium salt solution	3116		RTECS No						CAS No							
Magnesium long chain alkaryl sulphonate (C11-C50) (LOA)	1967	0	NI	0	NR	0	NI	0	0	(2)	1	2	S		Fp	3
Magnesium long-chain alkaryl sulphonate (C11-C50)	430		RTECS No						CAS No							
Maleic acid/allyl sulfonic acid copolymer with phosphonate groups, partial sodium salt (aqueous solution)	2412	0	NI	0	NR	0	NI	(0)	(0)	(0)	(0)	(0)			D	0

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Maleic acid/allyl sulfonic acid copolymer, containing carboxylate, phosphonate & sulfonate groups, partial sodium salt	3688															
			RTECS No						CAS No							
Maleic anhydride	921	1	NI	1	R	2	0	1	2	(3)	3	3	S		D	3
Maleic anhydride	431		RTECS No		ON3675000				CAS No		108-31-6					
Maleic anhydride - sodium allylsulfonate copolymer(aqueous solution)	2410	0	NI	0	NR	1	NI	0	0	(0)	(0)	0			D	0
Maleic anhydride – sodium allylsulfonate copolymer (aqueous solution)	3686		RTECS No						CAS No							
Maltitol Syrup	2348	0	NI	0	R	0	NI	0	0	(0)	0	0			D	0
Maltitol solution	3078		RTECS No						CAS No							
Mango kernal oil (containing less than 10% free fatty acids)	2305	(0)	NI	(0)	(R)	(0)	NI	(0)	(0)	(0)	(0)	(0)			Fp	2
Mango kernel oil	3035		RTECS No						CAS No							
MCPA-dimethylammonium (ISO)	1536	2	NI	2	NI	2	NI	1	0	2	1	1	S		S	2
4-Chloro-2-methylphenoxyacetic acid, dimethylamine salt solution	62		RTECS No						CAS No							
2-Mercaptobenzothiazol	925	2	1	1	NR	4	2	0	0	(0)	0	0	S		S	2
Mercaptobenzothiazol, sodium salt solution	432		RTECS No		DL6475000				CAS No		149-30-4					
Mesityl oxide	946	1	NI	1	R	(1)	NI	1	0	2	2	2			D	2
Mesityl oxide	433		RTECS No		SB4200000				CAS No		141-79-7					
Metam-sodium (ISO)	202	0	NI	0	NR	4	NI	1	2	(2)	2	1	S		D	2
Metam sodium solution	434		RTECS No		FC2100000				CAS No		137-42-8					
Methacrylic acid-alkoxypoly (alkylene oxide) methacrylate co-polymer sodium salt (45% or less solution)	2288	NI	0	0	NR	1	NI	0	(0)	(1)	1	0			D	1
Methacrylic acid - alkoxypoly (alkylene oxide) methacrylate copolymer, sodium salt aqueous solution (45% or less)	2819		RTECS No						CAS No							
Methacrylic acid, inhibited	948	0	NI	0	R	2	0	1	2	2	3	3			D	3
Methacrylic acid	435		RTECS No		OZ2975000				CAS No		79-41-4					
Methacrylic resin in 1,2 Dichloroethane soln.	2046	1	1	1	NR	2	0	(1)	(0)	(2)	(1)	(2)	C		SD	3
Methacrylic resin in ethylene dichloride	436		RTECS No						CAS No							
Methacrylonitrile	949	0	NI	0	R	2	0	3	2	4	1	1	S	NT	ED	3
Methacrylonitrile	437		RTECS No		UD1400000				CAS No		126-98-7					
Methanol	951	0	NI	0	R	0	0	(2)	(2)	(2)	2	2	T		DE	3
Methyl alcohol	441		RTECS No		PC1400000				CAS No		67-56-1					
Methyl acetate	954	0	NI	0	R	1	NI	0	0	0	1	2			DE	2
Methyl acetate	438		RTECS No		AI9100000				CAS No		79-20-9					

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Methyl acetoacetate	335	0	NI	0	R	1	NI	0	0	(2)	1	2			D	2
Methyl acetoacetate	439		RTECS No		AK5775000				CAS No		105-45-3					
Methyl acrylate	955	0	NI	0	R	3	NI	1	1	2	2	3	MS		D	3
Methyl acrylate	440		RTECS No		AT2800000				CAS No		96-33-3					
Methylamine solution 42% or less	957	0	NI	0	R	2	NI	2	(2)	3	3	3	M	NT	DE	3
Methylamine solutions (42% or less)	455		RTECS No		PF6300000				CAS No		74-89-5					
Methyl amyl alcohol	958	1	NI	1	R	1	NI	1	0	2	1	3			FED	3
Methylamyl alcohol	457		RTECS No		SA7350000				CAS No		108-11-2					
Methyl amyl ketone	959	1	NI	1	NI	1	NI	1	0	0	1	1			FED	2
Methyl amyl ketone	442		RTECS No		MJ5075000				CAS No		110-43-0					
N-Methyl aniline	961	1	NI	1	(NR)	3	1	1	1	(2)	(1)	1			FD	2
N-Methylaniline	3107		RTECS No		BY4550000				CAS No		100-61-8					
alpha-Methylbenzyl alcohol with acetophenone (15% or less)	2399	1	NI	1	(R)	(1)	NI	(1)	(0)	(3)	(2)	(3)	R		Fp	3
alpha-Methylbenzyl alcohol with acetophenone (15% or less)	3634		RTECS No						CAS No		98-85-1					
2-Methyl-2-butanol	964	1	1	1	R	1	0	1	1	1	3	2			D	3
tert-Amyl alcohol	685		RTECS No		SC0175000				CAS No		75-85-4					
3-Methyl-1-butanol	965	1	1	1	(R)	1	0	1	0	(2)	2	2			FED	2
Isoamyl alcohol	396		RTECS No		EL5425000				CAS No		123-51-3					
3-Methyl-1-butanol	965	1	1	1	(R)	1	0	1	0	(2)	2	2			FED	2
Amyl alcohol, primary	126		RTECS No		EL5425000				CAS No		123-51-3					
Methyl butenol	967	0	NI	0	R	2	NI	1	0	(2)	2	2			D	2
Methylbutenol	458		RTECS No		EM9472500				CAS No		556-82-1					
Methyl tert-butyl ether	969	1	NI	1	NR	1	0	0	0	0	2	1		T	ED	2
Methyl tert-butyl ether	454		RTECS No		KN5250000				CAS No		1634-04-4					
Methyl butyl ketone	970	1	NI	1	R	1	0	0	0	0	1	1	RN		FED	3
Methyl butyl ketone	443		RTECS No		MP1400000				CAS No		591-78-6					
Methylbutynol	968	0	NI	0	NR	1	NI	1	1	0	0	2			D	2
Methylbutynol	459		RTECS No		ES0810000				CAS No		115-19-5					
Methylbutynol	968	0	NI	0	NR	1	NI	1	1	0	0	2			D	2
2-Methyl-2-hydroxy-3-butyne	52		RTECS No		ES0810000				CAS No		115-19-5					

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Methyl butyrate	973	1	NI	1	NI	(2)	NI	0	0	2	2	(2)			ED	2
Methyl butyrate	444		RTECS No		ET5500000				CAS No		623-42-7					
Methyl cyclohexane	976	3	3	3	NR	3	1	0	0	1	1	1	A		E	2
Methylcyclohexane	460		RTECS No		GV6125000				CAS No		108-87-2					
Methyl cyclopentadiene, dimer	977	4	NI	4	(NR)	(3)	NI	0	(0)	(2)	(2)	(2)			F	2
Methylcyclopentadiene dimer	461		RTECS No		PC1075000				CAS No		26472-00-4					
Methyl cyclopentadienyl manganese tricarbonyl (60-70%) in mineral oil	2213	3	NI	3	NR	4	NI	2	3	4	1	1			S	3
Methylcyclopentadienyl manganese tricarbonyl	2692		RTECS No						CAS No							
N-Methyldiethanolamine	1491	0	NI	0	R	2	NI	1	0	(2)	1	2			D	2
Methyl diethanolamine	445		RTECS No		KL7525000				CAS No		105-59-9					
Methylene dithiocyanate	2235	2	NI	2	NR	5	NI	2	0	4	NI	NI	S		NI	3
Methylene bithiocyanate	2693		RTECS No						CAS No							
2-Methyl-6-ethylaniline	984	2	NI	2	NR	2	NI	1	1	(2)	0	2			FD	2
2-Methyl-6-ethyl aniline	54		RTECS No		BY5600000				CAS No		24549-06-2					
2-Methyl-5-ethylpyridine	986	2	NI	2	NI	2	NI	1	2	(3)	3	3			FD	3
2-Methyl-5-ethyl pyridine	53		RTECS No		TJ6825000				CAS No		104-90-5					
Methyl formate	987	0	NI	0	R	1	NI	1	0	2	0	2			DE	2
Methyl formate	447		RTECS No		LQ8925000				CAS No		107-31-3					
N-Methylglucamine, 60% aqueous solution	2048	0	NI	0	R	0	NI	1	0	(3)	0	3			D	3
N-Methylglucamine solution (70% or less)	482		RTECS No		000000000				CAS No		6284-40-8					
2-Methylglutaronitrile with 2-Ethylsuccinonitrile (12% or less)	2397	0	NI	0	R	0	NI	2	2	3	0	1			FD	2
2-Methylglutaronitrile with 2-Ethylsuccinonitrile (12% or less)	3632		RTECS No						CAS No		4553-62-2					
Methyl heptyl ketone	988	3	NI	3	R	3	NI	0	0	NI	NI	NI			FED	NI
Methyl heptyl ketone	448		RTECS No		RA8225000				CAS No		821-55-6					
Methyl isobutyl ketone	971	1	NI	1	R	1	0	1	0	2	2	3			FED	3
Methyl isobutyl ketone	449		RTECS No		SA9275000				CAS No		108-10-1					
Methyl methacrylate	995	1	NI	1	R	2	NI	0	0	0	2	2	S		ED	2
Methyl methacrylate	450		RTECS No		OZ5075000				CAS No		80-62-6					
3-Methyl-3-methoxy butanol	996	1	NI	1	NR	0	NI	0	(0)	(2)	1	(2)			FD	2
3-Methyl-3-methoxybutanol	59		RTECS No						CAS No							

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3-Methyl-3-methoxybutyl acetate	997	1	NI	1	NR	0	NI	0	(0)	NI	NI	NI			F	NI
3-Methyl-3-methoxybutyl acetate	60		RTECS No						CAS No							
Methyl naphthalenes	1999	4	NI	4	(NR)	(4)	NI	1	0	(2)	1	1		T	F	2
Methyl naphthalene (molten)	451		RTECS No						CAS No							
2-Methyl pentane	1000	3	NI	3	NI	4	NI	(0)	(0)	(2)	(2)	(2)			E	2
2-Methylpentane	2684		RTECS No		SA2995000				CAS No		107-83-5					
2-Methyl-1,3-propanediol	2200	0	0	0	NR	0	0	0	0	(0)	0	0			D	0
2-Methyl-1,3-propanediol	2213		RTECS No						CAS No							
Methyl propyl ketone	1003	0	NI	0	R	0	NI	1	0	(2)	1	2			FED	2
Methyl propyl ketone	452		RTECS No		SA7875000				CAS No		107-87-9					
2-Methyl pyridine	1005	1	NI	1	R	1	NI	1	2	1	3A	3			D	3
2-Methylpyridine	55		RTECS No		TJ4900000				CAS No		109-06-8					
3-Methylpyridine	1006	1	NI	1	R	1	NI	1	2	2	3	3			D	3
3-Methylpyridine	61		RTECS No		TJ5000000				CAS No		108-99-6					
4-Methylpyridine	1007	1	NI	1	R	1	NI	1	2	2	3	3			D	3
4-Methylpyridine	63		RTECS No		UT5425000				CAS No		108-89-4					
N-Methylpyrrolidone	1008	0	NI	0	R	1	NI	0	0	2	1	2	R		D	3
N-Methyl-2-pyrrolidone	481		RTECS No		UY5790000				CAS No		872-50-4					
Methyl salicylate	86	2	NI	2	R	2	NI	1	1	(2)	2	1	R		SD	3
Methyl salicylate	453		RTECS No		VO4725000				CAS No		119-36-8					
alpha-Methylstyrene	1010	3	3	3	NR	3	NI	0	0	1	2	1	M	(T)	FE	3
alpha-Methylstyrene	107		RTECS No		WL5075300				CAS No		98-83-9					
3-(Methylthio) propionaldehyde	993	0	NI	0	R	3	1	1	1	2	2	3	NS	T	D	3
3-(methylthio)propionaldehyde	2368		RTECS No		UE2285000				CAS No		3268-49-3					
Metolachlor (ISO)	113	2	2	2	NR	5	1	1	0	(2)	1	0	S		S	2
N-(2-Methoxy-1-methyl ethyl)-2-ethyl-6-methyl chloroacetanilide	469		RTECS No		AN3430000				CAS No		51218-45-2					
Mixed acid oil	2306	(0)	NI	(0)	(R)	(0)	NI	0	(0)	(1)	(1)	1			Fp	2
Acid oil mixture from soyabean, corn (maize) and sunflower oil refining	3036		RTECS No						CAS No							
Mixture of dithiophosphate salts in water	2381	1	0	1	NR	2	NI	0	0	(2)	2	2			D	2
Dialkyl thiophosphates sodium salts solution	3424		RTECS No						CAS No							

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Mobil syndril E51	2221	0	NI	0	R	1	NI	0	(0)	(0)	1	0			F	1
2-Ethylhexyl esters of fatty acids	2578		RTECS No						CAS No							
Molasses	1013	0	NI	0	R	0	NI	0	0	0	0	0			D	0
Molasses	462		RTECS No						CAS No							
Molybdenum polysulfide long chain alkyl dithiocarbamide complex	2344	4	2	2	NR	2	0	0	0	(2)	2	2			Fp	2
Molybdenum polysulfide long chain alkyl dithiocarbamide complex	3108		RTECS No						CAS No							
Mononitrobenzene	1017	1	1	1	R	3	(4)	(2)	2	2	1	1	CRT		SD	3
Nitrobenzene	501		RTECS No		DA6475000				CAS No		98-95-3					
Morpholine	1018	0	0	0	R	2	NI	1	2	2	3	3			D	3
Morpholine	463		RTECS No		QD6475000				CAS No		110-91-8					
Myrcene	1019	4	NI	4	R	4	1	0	0	(2)	2	NI			F	2
Myrcene	465		RTECS No		RG5365000				CAS No		123-35-3					
[Nalco 5740S Antifoam]	2291	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI			NI	NI
[Nalco 5740S Antifoam]	492		RTECS No						CAS No							
Naphthalene	1	3	3	3	NR	4	1	1	0	(2)	1	1	C	T	S	3
Naphthalene (molten)	493		RTECS No		QJ0525000				CAS No		91-20-3					
Naphthalene sulphonic acid condensed with formaldehyde, sodium salt, solution	1020	0	1	1	(NR)	1	NI	0	(0)	(1)	0	1			D	1
Naphthalenesulphonic acid-Formaldehyde copolymer, sodium salt solution	494		RTECS No		EC4850000				CAS No		9084-06-4					
Naphthenic acids	1021	NI	NI	NI	NI	3	NI	1	NI	NI	NI	NI		(T)	FD	NI
Naphthenic acids	495		RTECS No		QK8750000				CAS No		1338-24-5					
Neodecanoic acid	1025	4	NI	4	NR	2	NI	0	0	(2)	0	2			Fp	2
Neodecanoic acid	496		RTECS No						CAS No		26896-20-8					
Nitric acid (90% or less)	1029	Inorg	NI	0	Inorg	2	NI	(3)	(1)	4	3C	3			D	3
Nitric acid (70% and over)	498		RTECS No		QU5775000				CAS No		7697-37-2					
Nitric acid (90% or less)	1029	Inorg	NI	0	Inorg	2	NI	(3)	(1)	4	3C	3			D	3
Nitric acid (less than 70%)	499		RTECS No		QU5775000				CAS No		7697-37-2					
Nitrilotriacetic acid, trisodium salt	1030	0	NI	0	R	1	0	1	(0)	0	1	1	CMR		D	3
Nitrilotriacetic acid, trisodium salt solution	500		RTECS No		MB8400000				CAS No		5094-31-3					
Nitroethane	1037	0	NI	0	NR	2	NI	1	0	(2)	(0)	(1)			SD	2
Nitroethane	502		RTECS No		KI5600000				CAS No		79-24-3					

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Nitroethane (80%)/Nitropropane (20%)	2245	0	1	1	NR	2	NI	1	1	2	0	1			E	2	
Nitroethane(80%)/ Nitropropane(20%)	503		RTECS No						CAS No								
Nitroethane, 1-Nitropropane (each 15% or more) mixture	2270	(0)	(1)	(1)	(NR)	(2)	NI	1	1	2	0	1			FED	2	
Nitroethane, 1-Nitropropane (each 15% or more) mixture	2212		RTECS No						CAS No								
2-Nitrophenol	1041	1	2	2	R	3	(2)	0	0	(1)	1	1			S	1	
o-Nitrophenol (molten)	536		RTECS No			SM2100000			CAS No			88-75-5					
1-Nitropropane	1044	(0)	(1)	(1)	(NR)	(2)	NI	1	0	2	0	1			FED	2	
1-Nitropropane	2747		RTECS No			TZ5075000			CAS No			108-03-2					
1- or 2- Nitropropane	2242	0	1	1	NR	1	NI	2	0	2	0	1	C		FED	3	
1- or 2-Nitropropane	20		RTECS No						CAS No								
2-Nitropropane	1045	(0)	(1)	(1)	(NR)	(2)	NI	2	0	2	0	0	C		FED	3	
2-Nitropropane	2748		RTECS No			TZ5250000			CAS No			79-46-9					
Nitropropane (60%) Nitroethane (40%) (mixture)	1046	0	1	1	NR	2	NI	1	0	2	0	1	C		FED	3	
Nitropropane (60%)/Nitroethane (40%) mixture	504		RTECS No						CAS No								
o-Nitrotoluene	1049	2	2	2	NR	2	(1)	1	0	(2)	0	1	CMR		S	3	
o-Nitrotoluene	2745		RTECS No			XT3150000			CAS No			88-72-2					
p-Nitrotoluene	1051	2	1	1	NR	3	0	1	0	(2)	0	1	R		S	3	
p-Nitrotoluene	2746		RTECS No			XT3325000			CAS No			99-99-0					
o- or p-Nitrotoluenes	2241	2	2	2	NR	3	(1)	1	0	(2)	0	1	CMR		S	3	
o- or p-Nitrotoluenes	532		RTECS No						CAS No								
Nonane	1054	4	NI	4	R	4	NI	0	0	1	0	0	A		FE	2	
Nonane (all isomers)	506		RTECS No			RA6115000			CAS No			111-84-2					
Nonanoic acid	1055	3	NI	3	R	2	NI	0	0	(3)	2	3			F	3	
Nonanoic acid (all isomers)	507		RTECS No			RA6650000			CAS No			112-05-0					
Nonene (all isomers)	2222	4	NI	4	NI	3	NI	0	0	0	1	1	A		FE	2	
Nonene (all isomers)	508		RTECS No						CAS No								
1-Nonene	1060	4	NI	4	NI	3	NI	0	0	0	1	1	A		FE	2	
1-Nonene	2680		RTECS No						CAS No			27215-95-8					
Nonyl acetate	1766	4	NI	4	NI	NI	NI	0	0	NI	NI	NI			F	NI	
Nonyl acetate	509		RTECS No						CAS No			143-13-5					

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Nonyl methacrylate monomer	1061	5	NI	5	R	3	NI	(0)	(0)	(1)	(1)	(1)			F	1
Nonyl methacrylate monomer	511		RTECS No						CAS No							
Nonyl phenol	1062	5	4	4	NR	5	3	1	0	(3)	3	3			FD	3
Nonylphenol	512		RTECS No		SM5600000				CAS No							
Nonyl(C6-C12)phenol poly(4-12)ethoxylate	1063	4	NI	4	NR	3	1	0	0	(2)	2	1			D	2
Alkyl(C7-C11)phenol poly(4-12) ethoxylate	97		RTECS No						CAS No							
Nonyl(C6-C12)phenol poly(4-12)ethoxylate	1063	4	NI	4	NR	3	1	0	0	(2)	2	1			D	2
Nonylphenol poly(4+)ethoxylate	513		RTECS No						CAS No							
Octamethylcyclotetrasiloxane	2398	5	5	5	NR	0	3	0	0	0	0	0			F	1
Octamethylcyclotetrasiloxane	3633		RTECS No						CAS No							
Octane	1072	5	NI	5	(R)	4	NI	(0)	(0)	0	0	0	A		FE	2
Octane (all isomers)	538		RTECS No		RG8400000				CAS No							
Octanoic acid (Caprylic acid)	1074	3	NI	3	R	1	NI	0	0	(3)	3	3			F	3
Octanoic acid (all isomers)	539		RTECS No		RH0175000				CAS No							
1-Octanol	1075	3	NI	3	R	2	0	1	0	(2)	2	2			Fp	2
Octanol (all isomers)	540		RTECS No		RH6550000				CAS No							
1-Octanol	1075	3	NI	3	R	2	0	1	0	(2)	2	2			Fp	2
1-Octanol	2676		RTECS No		RH6550000				CAS No							
Octene (all isomers)	1079	4	NI	4	NR	3	NI	0	0	0	2	1	A		FE	2
Octene (all isomers)	541		RTECS No						CAS No							
Octyl acetate	1080	3	NI	3	R	2	NI	0	0	(1)	1	NI			FD	1
n-Octyl acetate	483		RTECS No		AJ1400000				CAS No							
Octyl decyl adipate	1082	0	NI	0	(R)	(0)	(0)	(0)	(0)	(1)	(1)	(1)			Fp	2
Octyl decyl adipate	543		RTECS No						CAS No							
OGA 480 OGA 492 (Polyether amine)	1457	NI	NI	NI	NR	2	NI	0	0	(2)	2	2			Fp	2
Long-chain polyetheramine in alkyl (C2-C4) benzenes	422		RTECS No						CAS No							
OGA 480 OGA 492 (Polyether amine)	1457	NI	NI	NI	NR	2	NI	0	0	(2)	2	2			Fp	2
Long-chain polyetheramine in aromatic solvent	423		RTECS No						CAS No							
Olefin/Alkyl ester copolymer (molecular weight 2000+) (LOA)	1965	NI	NI	0	NR	0	NI	0	0	(0)	0	0			Fp	2
Olefin-Alkyl ester copolymer (molecular weight 2000+)	546		RTECS No						CAS No							

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Olefin mixture (C7-C9)	2385	5	4	4	NR	4	NI	(0)	0	0	2	1	A		E	2
Olefin Mixture (C7-C9) C8 rich, stabilised	3548		RTECS No						CAS No			97593-00-5				
Olefin mixtures (C5-C7)	2243	3	NI	3	R	3	NI	(0)	(0)	(1)	(2)	(1)			E	2
Olefin mixtures (C5-C7)	545		RTECS No						CAS No							
Olefin mixtures (C5-C15)	2321	(5)	NI	(5)	NR	(4)	NI	(0)	(0)	(2)	(2)	(1)	A		FE	2
Olefin mixtures (C5-C15)	544		RTECS No						CAS No							
Olefins C13 and above, all isomers	2028	5	NI	5	NR	0	NI	0	0	(0)	0	0			Fp	2
Olefins (C13+, all isomers)	547		RTECS No						CAS No							
alpha-Olefins (C6-C18),mixture	2030	(5)	NI	(5)	NR	(4)	NI	(0)	(0)	(2)	(2)	(1)	A		FE	2
alpha-Olefins (C6-C18) mixtures	108		RTECS No						CAS No							
Oleic acid	1089	0	NI	0	R	0	NI	0	1	(2)	1	1			Fp	2
Oleic acid	548		RTECS No			RG2275000			CAS No			112-80-1				
Oleylamine	1862	0	NI	0	NR	4	NI	1	(1)	(3)	3B	3			Fp	3
Oleylamine	550		RTECS No						CAS No							
Olive oil	1090	0	NI	0	R	(2)	NI	(0)	(0)	(1)	1	1			Fp	2
Olive oil	2771		RTECS No			RK4300000			CAS No			8001-25-0				
[OLOA 17503]	2376	5	(3)	(3)	R	2	NI	0	0	(2)	2	0			Fp	2
Alkenoic acid ester, borated	3153		RTECS No						CAS No							
[OLOA 224]	1728	NI	NI	NI	NR	0	NI	0	0	(1)	1	(1)			Fp	2
Calcium long-chain alkyl phenolic amine (C8-C40)	171		RTECS No						CAS No							
Orange juice	2375	0	0	0	R	0	0	0	0	(0)	0	0			D	0
Orange juice	3151		RTECS No						CAS No							
Orange juice (not concentrated)	2382	0	0	0	R	0	0	0	0	(0)	0	0			D	0
Orange juice (not concentrated)	3425		RTECS No						CAS No							
Oxatetra-azahydroxyalkanoic acid, substituted with acetic acid / acetoxylethanolamine	2413	1	NI	1	R	1	NI	0	0	0	0	0			D	0
Oxatetra-azahydroxyalkanoic acid, substituted with acetic acid / acetoxylethanolamine	3689		RTECS No						CAS No							
Palm acid oil	2307	(0)	NI	(0)	(R)	(0)	NI	0	(0)	(1)	0	1			Fp	2
Palm acid oil	3037		RTECS No						CAS No							
Palm fatty acid distillate	2310	NI	NI	(0)	(R)	(0)	NI	0	(0)	(1)	0	1			Fp	2
Palm fatty acid distillate	3040		RTECS No						CAS No							

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Palm kernel fatty acid distillate	2335	(0)	0	0	R	(3)	NI	0	(0)	(2)	1	2			Fp	2
Palm kernel fatty acid distillate	3111		RTECS No						CAS No							
Palm kernel olein (containing less than 5 % free fatty acids)	2308	(0)	NI	(0)	(R)	1	NI	(0)	(0)	(0)	(0)	(0)			Fp	2
Palm kernel olein	3038		RTECS No						CAS No							
Palm kernel stearin (containing less than 5% free fatty acids)	2309	0	(0)	(0)	(R)	0	NI	(0)	(0)	(0)	(0)	(0)			Fp	2
Palm kernel stearin	3039		RTECS No						CAS No							
Palm Mid Fraction	2363	(0)	NI	(0)	(R)	(0)	NI	0	0	(0)	(0)	(0)			Fp	2
Palm mid-fraction	3126		RTECS No						CAS No							
Palm nut oil	1094	0	NI	0	R	1	NI	(0)	(0)	(1)	(0)	(1)			Fp	2
Palm kernel oil	2766		RTECS No						CAS No							
Palm nut oil fatty acid	1095	0	NI	0	R	(3)	NI	0	0	(2)	1	2			Fp	2
Palm kernel acid oil	553		RTECS No						CAS No							
Palm oil (containing less than 15% free fatty acids)	2249	0	NI	0	R	0	NI	0	(0)	(0)	0	0			Fp	2
Palm oil	2764		RTECS No						CAS No							
Palm oil (containing more than 15% and less than 30% free fatty acids)	2364	0	NI	0	R	0	NI	0	0	(2)	(2)	(2)			Fp	2
Non-edible industrial grade palm oil	3127		RTECS No						CAS No							
Palm oil fatty acid methyl ester	1097	0	NI	0	R	0	NI	0	0	0	0	1			Fp	2
Palm oil fatty acid methyl ester	554		RTECS No						CAS No							
Palm olein	2250	0	NI	0	R	0	NI	0	(0)	(0)	0	0			Fp	2
Palm olein	2765		RTECS No						CAS No							
Palm stearin	2251	0	NI	0	R	0	NI	0	(0)	(0)	0	0			Fp	2
Palm stearin	555		RTECS No						CAS No							
Paraffin wax	1086	0	NI	0	R	0	NI	(0)	(0)	(1)	1	1			Fp	2
Paraffin wax	556		RTECS No		RV0350000				CAS No		8002-74-2					
Paraldehyde	1098	0	0	0	NR	0	NI	1	0	0	1	3			D	3
Paraldehyde	557		RTECS No		YK0525000				CAS No		123-63-7					
Pentachloroethane	1099	3	2	2	NI	3	1	1	(1)	1	(1)	(1)	CT		S	3
Pentachloroethane	558		RTECS No		KI6300000				CAS No		76-01-7					
1,3-Pentadiene	1102	2	NI	2	NR	2	NI	0	0	0	1	(2)			E	2
1,3-Pentadiene	14		RTECS No		RZ2464000				CAS No		504-60-9					

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1,3-Pentadiene (greater than 50%), cyclopentene and isomers, mixtures.	2390	NI	NI	(3)	(NR)	(3)	NI	(2)	(1)	(3)	(2)	(2)	CMR		E	3
1,3-Pentadiene (greater than 50%), cyclopentene and isomers, mixtures	3560		RTECS No						CAS No							
Pentaethylene hexamine	1103	0	NI	0	NI	4	NI	1	(2)	(3)	3	(3)	S		D	3
Pentaethylenehexamine	560		RTECS No		RZ2680000				CAS No		4067-16-7					
Pentane	1105	3	NI	3	R	3	NI	0	0	0	1	1			E	2
Pentane (all isomers)	561		RTECS No		RZ9450000				CAS No		109-66-0					
1,5-Pentanedial solution, (5-50%)	1107	0	NI	0	R	3	0	1	0	4	3	3	S		D	3
Glutaraldehyde solutions (50% or less)	362		RTECS No		MA2450000				CAS No		111-30-8					
Pentanoic acid	1109	1	NI	1	NI	2	NI	1	2	(3)	3	3			FD	3
Pentanoic acid	562		RTECS No		YV6100000				CAS No		109-52-4					
Pentanoic acid (64%)/2-methyl butyric acid (36%) mixture	2144	(1)	NI	(1)	NI	(2)	NI	(1)	(2)	(3)	3	(3)			FD	3
n-Pentanoic acid (64%)/2-Methyl butyric acid (36%) mixture	2211		RTECS No						CAS No							
1-Pentanol	1110	1	1	1	(R)	1	0	1	0	(3)	2	3			FED	3
n-Amyl alcohol	473		RTECS No		SB9800000				CAS No		71-41-0					
2-Pentanol	1111	1	1	1	R	1	0	0	(0)	(2)	2	2			D	2
sec-Amyl alcohol	637		RTECS No		SA4900000				CAS No		6032-29-7					
Pentasodium triphosphate*	2418	Inorg	0	0	Inorg	1	NI	NI	NI	NI	NI	NI			NI	NI
	3694		RTECS No						CAS No							
Pentene (all isomers)	1992	2	NI	2	NI	(2)	NI	(0)	(0)	(0)	(0)	(1)			E	2
Pentene (all isomers)	563		RTECS No						CAS No							
1-Pentene	1114	2	NI	2	NI	(2)	NI	(0)	(0)	0	(0)	(1)			E	2
1-Pentene	2679		RTECS No						CAS No		109-67-1					
2-Pentene	1115	2	NI	2	NI	2	NI	(0)	(0)	(0)	(0)	(1)			E	2
2-Pentene	2678		RTECS No						CAS No		109-68-2					
Petrolatum	2244	0	NI	0	NR	0	NI	0	0	2	1	1			Fp	2
Petrolatum	565		RTECS No						CAS No							
Petroleum wax	1122	0	NI	0	NR	0	NI	0	0	(0)	0	0			Fp	2
Waxes	741		RTECS No		RV0350000				CAS No		8002-74-2					
Phenol	1124	1	2	2	R	3	0	2	2	(3)	3	3		NT	S	3
Phenol	566		RTECS No		SJ3325000				CAS No		108-95-2					

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Phenylxylylethane	1135	5	4	4	NR	(2)	NI	1	0	(1)	(0)	0			F	1
1-Phenyl-1-xylyl ethane	23		RTECS No		CZ7300000				CAS No		40766-31-2					
Phosphate esters, alkyl(C12-C14)amine (LOA)	1854	2	NI	2	NR	3	NI	0	(0)	(2)	1	2			FD	2
Phosphate esters, alkyl (C12-C14) amine	1345		RTECS No						CAS No							
Phosphoric acid	1138	0	NI	0	Inorg	1	NI	(3)	(3)	3	3	3			D	3
Phosphoric acid	567		RTECS No		TB6300000				CAS No		7664-38-2					
Phosphorus (elemental yellow)	1139	Inorg	(3)	(3)	Inorg	6	4	0	0	0	2	1			S	2
Phosphorus, yellow or white	568		RTECS No		TH3500000				CAS No		7732-14-0					
Phthalic anhydride (molten)	1146	1	NI	1	R	2	0	1	0	(3)	1	3	S		S	3
Phthalic anhydride (molten)	569		RTECS No		TI3150000				CAS No		85-44-9					
alpha-Pinene	40	4	NI	4	R	4	NI	0	0	0	1	(1)	S	T	F	3
alpha-Pinene	109		RTECS No		DT7000000				CAS No		80-56-8					
beta-Pinene	41	4	NI	4	(R)	4	NI	0	0	0	1	(1)	S	NT	F	3
beta-Pinene	141		RTECS No		DT5078500				CAS No		1330-16-1					
Pine oil	1148	4	NI	4	NR	4	NI	0	0	(1)	(1)	(1)	S	(T)	Fp	3
Pine oil	570		RTECS No		TK5100000				CAS No		8002-09-3					
Piperazine, 68% Aqueous	2433	0	NI	0	NR	2	NI	0	0	2	3A	3	SN		SD	3
Piperazine, 68% Aqueous	3748		RTECS No						CAS No							
Pol (2-8) alkylene (C2-C3) glycols/ Polyalkylene (C2-C10) glycols monoalkyl ethers and their borate esters	2358	(1)	NI	(1)	(R)	(1)	(0)	0	0	0	2	2			D	2
Brake fluid base mix: Poly(2-8)alkylene (C2-C3) glycols/Polyalkylene (C2-C10) glycols monoalkyl (C1-C4) ethers and their borate esters	144		RTECS No						CAS No							
Polyacrylic acid (40% solution)	2302	(2)	NI	(2)	NR	1	NI	0	0	(1)	1	1			D	1
Polyacrylic acid solution (40% or less)	2709		RTECS No						CAS No							
Poly(C18-C22)alkyl acrylate in xylene	1151	(3)	NI	(3)	NR	2	NI	0	0	(2)	2	1			Fp	2
Polyalkyl (C18-C22) acrylate in xylene	580		RTECS No						CAS No							
Polyalkylalkenaminesuccinimide, molybdenum oxysulphide	2379	NI	0	0	NR	0	NI	0	0	(0)	0	0			Fp	2
Polyalkylalkenaminesuccinimide, molybdenum oxysulphide	3422		RTECS No						CAS No							
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	1152	1	NI	1	R	1	0	0	0	0	2	2			D	2
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	576		RTECS No						CAS No							
Poly(2-8)alkylene glycol monoalkyl (C1-C6) ether acetate	2254	1	NI	1	NR	2	1	0	0	0	2	2			D	2

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Poly(2-8)alkylene glycol monoalkyl (C1-C6) ether acetate	575		RTECS No						CAS No							
Poly alkyl methacrylate (C1-C20) (LOA)	1984	(5)	NI	(5)	NR	0	NI	0	0	0	0	0			Fp	2
Polyalkyl (C10-C20) methacrylate	2189		RTECS No						CAS No							
Poly alkyl(C10-C18) methacrylate/ethylene-propylene copolymer mixture	2201	0	0	0	NR	0	0	0	0	(1)	1	1	A		Fp	3
Polyalkyl (C10-C18) methacrylate/ethylene-propylene copolymer mixture	2188		RTECS No						CAS No							
Polyaluminium chloride (sol.)	1136	Inorg	0	0	Inorg	0	NI	(0)	(0)	(1)	(0)	(1)			D	1
Polyaluminium chloride solution	584		RTECS No		BD0549500				CAS No		1327-41-9					
Polybutene	1154	0	NI	0	(NR)	(0)	(0)	(0)	(0)	(0)	(0)	(0)			Fp	2
Polybutene	585		RTECS No		EM9032000				CAS No		9003-29-6					
Polybutenylsuccinimide in oil	2055	5	NI	5	NR	0	NI	(0)	(0)	(0)	0	(0)			Fp	2
Polybutenyl succinimide	586		RTECS No						CAS No							
Poly(2+)cyclic aromatics	2246	4	4	4	NR	(4)	NI	(1)	(1)	(2)	(1)	(1)	CM		S	3
Poly(2+)cyclic aromatics	574		RTECS No						CAS No							
Polyether, borated	1863	0	NI	0	NR	3	1	0	(0)	(1)	1	0			D	1
Polyether, borated	572		RTECS No						CAS No							
Polyether (molecular weight 2000+) (LOA)	1975	0	NI	0	NR	1	NI	0	(0)	(0)	0	0			Fp	2
Polyether (molecular weight 1350+)	587		RTECS No						CAS No							
Polyethylene amines / paraffin mixtures	1991	(5)	NI	(5)	NR	3	0	0	(1)	(3)	(2)	(3)	S		Fp	0
Polyethylene polyamines (more than 50% C5 -C20 paraffin oil)	591		RTECS No						CAS No							
Polyethylene glycol	1157	0	NI	0	NR	0	NI	0	0	0	1	1			D	1
Polyethylene glycol	589		RTECS No		TQ3500000				CAS No		25322-68-3					
Polyethylene glycol dimethyl ether	1158	0	NI	0	NR	0	NI	0	0	(1)	1	(1)			D	1
Polyethylene glycol dimethyl ether	590		RTECS No		MC9630000				CAS No		24991-55-7					
Poly(ethylene glycol) methylbutenyl ether (MW >1000)	2395	NI	0	0	R	1	NI	0	0	(0)	0	0			D	0
Poly(ethylene glycol) methylbutenyl ether (MW>1000)	3501		RTECS No						CAS No							
Polyethylene polyamines	2367	0	NI	0	NR	3	0	1	0	(3)	2	(3)	S		D	0
Polyethylene polyamines	3131		RTECS No						CAS No							
Polyferric sulphate solution	338	Inorg	0	0	Inorg	(2)	NI	1	(1)	(3)	3	(3)			D	3
Polyferric sulphate solution	592		RTECS No						CAS No							
Polyglycerine, sodium salt, solution	1874	0	NI	0	R	0	NI	0	0	(3)	(2)	3			D	3

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Polyglycerin, sodium salt solution (containing less than 3% sodium hydroxide)	593		RTECS No						CAS No							
Polyglycerol	1511	NI	NI	NI	NI	NI	NI	0	(0)	(0)	(0)	(0)			D	0
Polyglycerol	594		RTECS No						CAS No							
Poly (iminoethylene)-graft-N-poly (ethyleneoxy) solution (90% or less)	2287	0	0	0	NR	0	NI	0	0	(1)	0	1			D	1
Poly(iminoethylene)-graft-N-poly(ethyleneoxy) solution (90% or less)	2537		RTECS No						CAS No							
Polyisobutenamine in aliphatic (C10-C14) solvent	2192	0	0	0	NR	2	NI	0	(0)	(2)	2	1			FED	2
Polyisobutenamine in aliphatic (C10-C14) solvent	2374		RTECS No						CAS No							
Polyisobutenyl anhydride adduct	2127	0	NI	0	NR	0	NI	0	0	(1)	0	1			FD	1
Polyisobutenyl anhydride adduct	2256		RTECS No						CAS No							
Poly(4+)isobutylene	2264	0	NI	0	NR	0	NI	(0)	(0)	(0)	(0)	(0)			Fp	2
Poly(4+)isobutylene	578		RTECS No						CAS No							
Polymethylene polyphenyl isocyanate	1153	NI	(2)	(2)	NR	0	0	0	0	(2)	2	2	S		S	2
Polymethylene polyphenyl isocyanate	595		RTECS No		TR0350000				CAS No		9016-87-9					
Polyolefin acid, potassium salt	1895	NI	NI	NI	NR	0	NI	0	0	(0)	0	0			NI	0
Potassium salt of polyolefin acid	2199		RTECS No						CAS No							
Polyolefinamide alkene(C16+)amine (LOA)	2104	5	NI	5	NR	0	NI	0	0	(1)	1	(1)			Fp	2
Polyolefin amide alkeneamine (C17+)	597		RTECS No						CAS No							
Polyolefin amide alkeneamine (C28+) (LOA)	1971	0	NI	0	NR	0	NI	0	0	(0)	1	(1)			NI	1
Polyolefin amide alkeneamine (C28+)	598		RTECS No						CAS No							
Polyolefin amide alkeneamine borate (C28-C250) (LOA)	1970	0	NI	0	NR	0	NI	0	0	(0)	0	(0)			Fp	2
Polyolefin amide alkeneamine borate (C28-C250)	600		RTECS No						CAS No							
Polyolefin amide alkeneamine/molybden oxysulphide mi	2256	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI			NI	NI
Polyolefin amide alkeneamine/molybdenum oxysulphide mixture	603		RTECS No						CAS No							
Polyolefin amide alkylene amine polyol	1989	0	2	2	NR	0	NI	0	0	(0)	0	0			Fp	3
Polyolefin amide alkeneamine polyol	602		RTECS No						CAS No							
Poly (17+) olefin amine	2049	0	NI	0	NR	2	NI	0	(0)	(1)	(1)	(1)			Fp	2
Poly (17+) olefin amine	571		RTECS No						CAS No		98761-78-5					
Polyolefinamine (C28-C250) (LOA)	2107	0	NI	0	NR	2	NI	0	(0)	(2)	2	(1)			Fp	2
Polyolefinamine in aromatic solvent	611		RTECS No						CAS No							
Polyolefinamine (C28-C250) (LOA)	2107	0	NI	0	NR	2	NI	0	(0)	(2)	2	(1)			Fp	2

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Polyolefinamine (C28-C250)	609		RTECS No						CAS No							
Polyolefinamine (C28-C250) (LOA)	2107	0	NI	0	NR	2	NI	0	(0)	(2)	2	(1)			Fp	2
Polyolefinamine in alkyl (C2-C4) benzenes	610		RTECS No						CAS No							
Polyolefin aminoester salt	2095	0	NI	0	NR	1	NI	0	0	(1)	1	(1)			Fp	2
Polyolefin aminoester salts (molecular weight 2000+)	604		RTECS No						CAS No							
Polyolefin ester (C28-C250) (LOA)	1969	0	NI	0	NR	0	NI	0	0	(0)	0	0			Fp	2
Polyolefin ester (C28-C250)	606		RTECS No						CAS No							
Polyolefin (molecular weight 300+) (LOA)	1968	0	NI	0	NR	0	NI	0	0	0	0	0			Fp	2
Polyolefin (molecular weight 300+)	596		RTECS No						CAS No							
Polyolefin phenolic amine (C28-C250) (LOA)	1980	0	NI	0	NI	0	NI	0	0	(1)	(1)	(1)			Fp	2
Polyolefin phenolic amine (C28-C250)	607		RTECS No						CAS No							
Polyolefin phosphoro sulphide - barium derivative (C28-C250) (LOA)	1976	0	NI	0	NI	2	NI	0	(0)	(0)	(0)	(0)			S	0
Polyolefin phosphorosulphide, barium derivative (C28-C250)	608		RTECS No						CAS No							
Polyoxyethylene sorbitan monooleate	1442	3	NI	3	NI	(3)	NI	0	(0)	(1)	0	1			D	1
Poly(20)oxyethylene sorbitan monooleate	577		RTECS No		WG2932500				CAS No		9005-65-6					
Polypropylene	1512	0	NI	0	NR	(0)	NI	(0)	(0)	(0)	(0)	(0)			F	1
Poly(5+)propylene	579		RTECS No		UD1842000				CAS No		9003-07-0					
Polypropylene glycol	1159	0	NI	0	(NR)	1	NI	1	0	(1)	1	1			D	1
Polypropylene glycol	612		RTECS No		TR6125000				CAS No		25322-69-4					
Polysiloxane	1161	NI	4	4	NI	2	NI	0	(0)	(0)	0	0			F	1
Dimethylpolysiloxane	275		RTECS No						CAS No							
Polysiloxane	1161	NI	4	4	NI	2	NI	0	(0)	(0)	0	0			F	1
Polysiloxane	613		RTECS No						CAS No							
Poly (tetramethylene) ether glycol (mw 600-3000)	2147	2	NI	2	NR	3	NI	0	0	(0)	0	(0)			FD	0
Poly(tetramethylene ether) glycol (mw 600-3000)	2540		RTECS No						CAS No							
Potassium chloride brine (less than 26%)	2345	0	0	0	Inorg	0	0	0	(0)	(0)	0	0			D	0
Potassium chloride solution (less than 26%)	3109		RTECS No						CAS No							
Potassium chloride solution	1513	0	0	0	Inorg	1	0	0	(0)	(0)	0	0			D	0
Potassium chloride solution	614		RTECS No		TS8050000				CAS No		7447-40-7					
Potassium formate solution (75% or more)	2121	0	NI	0	R	0	NI	(0)	(0)	(2)	2	2			D	2

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Potassium formate solutions	615		RTECS No	LQ9625000				CAS No	590-29-4							
Potassium hydroxide (sol.)	1171	Inorg	0	0	Inorg	2	NI	2	(2)	(3)	3C	3			D	3
Potassium hydroxide solution	616		RTECS No	TT2100000				CAS No	1310-58-3							
Potassium oleate	1497	3	NI	3	R	4	NI	(0)	(0)	(1)	1	1			FD	1
Potassium oleate	617		RTECS No	RK1150000				CAS No	143-18-0							
Potassium thiosulphate solution (50% or less)	2152	Inorg	0	0	Inorg	2	NI	0	0	(2)	2	(2)			D	2
Potassium thiosulphate (50% or less)	2335		RTECS No					CAS No								
Propanol	1180	0	NI	0	R	0	NI	1	0	0	1	2	R		D	3
n-Propyl alcohol	488		RTECS No	UH8225000				CAS No	71-23-8							
Propanolamine	1183	0	NI	0	R	2	NI	0	1	(3)	3	3			D	3
n-Propanolamine	485		RTECS No	UA5600000				CAS No	156-87-6							
2-Propene-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer (aqueous solution)	2420	0	NI	0	R	2	0	0	(0)	(1)	0	1			D	1
2-Propene-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer	3696		RTECS No					CAS No								
2-Propenoic acid polymer with furandione (65% in 2-butoxyethanol)	2435	0	NI	0	NR	2	(0)	1	0	0	2	2			Fp	2
2-Propenoic acid polymer with furandione (65% in 2-butoxyethanol)	3750		RTECS No					CAS No								
beta-Propiolactone	1184	0	NI	0	R	(2)	NI	2	(2)	4	3B	3	CM		D	3
beta-Propiolactone	142		RTECS No	RQ7350000				CAS No	57-57-8							
Propionaldehyde	1185	0	NI	0	R	2	NI	1	0	1	2	2			DE	2
Propionaldehyde	619		RTECS No	UE0350000				CAS No	123-38-6							
Propionic acid	1186	0	NI	0	R	2	NI	0	0	(3)	3B	3			D	3
Propionic acid	620		RTECS No	UE5950000				CAS No	79-09-4							
Propionic anhydride	1187	0	NI	0	R	2	NI	0	0	(3)	2	3			FD	3
Propionic anhydride	621		RTECS No	UF9100000				CAS No	123-62-6							
Propionitrile	1188	0	NI	0	NI	0	NI	3	3	4	1	2	R		D	3
Propionitrile	622		RTECS No	UF9625000				CAS No	107-12-0							
Propyl acetate	1191	1	NI	1	R	2	NI	0	0	0	1	1			ED	1
n-Propyl acetate	487		RTECS No	AJ3675000				CAS No	109-60-4							
Propylamine	1194	0	NI	0	NI	1	NI	2	2	3	3	3			DE	3
n-Propylamine	490		RTECS No	UH9100000				CAS No	107-10-8							
Propyl benzene	1196	NI	NI	NI	NI	3	NI	NI	NI	NI	NI	NI		(T)	FE	NI

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Propylbenzene	2686		RTECS No	DA8750000		CAS No	103-65-1									
Propyl chloride	1198	2	NI	2	NI	1	NI	0	NI	NI	NI	NI			FED	2
n-Propyl chloride	489		RTECS No	TX4400000		CAS No	540-54-5									
Propylene carbonate	2056	0	NI	0	R	0	NI	0	0	(3)	2	3			D	3
Propylene carbonate	624		RTECS No	FF9650000		CAS No	108-32-7									
Propylene dimer	1201	3	NI	3	R	3	NI	NI	NI	NI	NI	NI			E	2
Propylene dimer	625		RTECS No			CAS No										
1,2-Propylene glycol	1202	0	NI	0	R	0	0	0	0	(1)	0	1			D	1
Propylene glycol	626		RTECS No	TY2000000		CAS No	57-55-6									
Propylene glycol methyl ether acetate	1759	0	NI	0	NR	1	NI	0	0	0	0	1			D	1
Propylene glycol methyl ether acetate	627		RTECS No	AI8925000		CAS No	108-65-6									
Propylene glycol monoalkyl ether	1958	0	NI	0	NR	0	NI	0	1	0	2	3			D	3
Propylene glycol monoalkyl ether	628		RTECS No			CAS No										
Propylene glycol phenyl ether	2057	1	NI	1	NI	1	NI	0	0	(1)	(1)	(1)			SD	1
Propylene glycol phenyl ether	629		RTECS No	UB8886000		CAS No	4169-04-4									
Propylene oxide	76	0	NI	0	R	2	NI	1	1	2	2	3	CMR		DE	3
Propylene oxide	630		RTECS No	TZ2975000		CAS No	75-56-9									
Propylene oxide/Ethylene oxide mixture	78	0	NI	0	R	1	NI	1	1	3	3	3	CMR		DE	3
Ethylene oxide/Propylene oxide mixture with an ethylene oxide content of not more than 30% by mass	341		RTECS No			CAS No										
Propylene tetramer	2255	NI	4	4	NR	(4)	NI	(0)	(0)	(1)	(1)	(1)			F	1
Propylene tetramer	631		RTECS No			CAS No										
Propylene trimer	1207	5	4	4	NR	3	2	(0)	(0)	(1)	(1)	(1)			FE	2
Propylene trimer	632		RTECS No	UD2794000		CAS No	13987-01-4									
Pyridine	1213	0	NI	0	R	3	0	1	1	2	1	3		NT	D	3
Pyridine	634		RTECS No	UR8400000		CAS No	110-86-1									
Pyridine bases	2131	1	NI	1	R	2	NI	2	1	(3)	3B	3			FED	3
Paraldehyde-ammonia reaction product	1989		RTECS No			CAS No										
Pyrolysis gasoline	2271	(4)	(3)	(3)	(R)	(3)	(1)	1	0	(2)	2	2	TCM		FE	3
Pyrolysis gasoline (containing benzene)	1990		RTECS No			CAS No										
Rapeseed oil (high erucic acid; containing less than 4% free fatty acids)	2315	0	NI	0	R	(2)	NI	(0)	(0)	(0)	(1)	(1)			Fp	2

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Rapeseed oil	3045		RTECS No						CAS No							
Rapeseed oil (Low erucic acid containing less than 4% free fatty acids)	2296	0	NI	0	R	(2)	NI	0	0	0	(1)	(1)			Fp	2
Rapeseed oil (low erucic acid containing less than 4% free fatty acids)	2956		RTECS No						CAS No							
Rape seed oil fatty acid, methyl ester	2209	0	0	0	R	0	NI	0	(0)	(1)	1	1			Fp	2
Rape seed oil fatty acid methyl esters	2576		RTECS No						CAS No							
Rice bran oil (containing less than 15% of free fatty acids)	2312	(0)	NI	(0)	(R)	(0)	NI	0	(0)	(1)	0	1			Fp	2
Rice bran oil	3043		RTECS No						CAS No							
Rosin	1219	3	NI	3	NR	3	NI	0	0	2	(1)	1	S		S	2
Rosin	635		RTECS No						CAS No		8050-09-7					
Rosin soap (disproportionated solution)	1220	3	NI	3	NR	3	NI	0	NI	NI	NI	NI			S	NI
Rosin soap (disproportionated) solution	636		RTECS No						CAS No							
Safflower oil (containing less than 5% free fatty acids)	1222	(0)	NI	(0)	(R)	(0)	NI	(0)	(0)	(1)	1	1			Fp	2
Safflower oil	3041		RTECS No		VN2230000				CAS No		8001-23-8					
Saturated and unsaturated alkyl (C10-C20) phosphite (LOA)	2108	0	NI	0	R	1	NI	0	0	(0)	0	0			Fp	2
Alkyl(C10-C20, saturated and unsaturated) phosphite	96		RTECS No						CAS No							
Shea butter (containing less than 15% free fatty acids)	2311	(0)	NI	(0)	NR	(0)	NI	(0)	(0)	(1)	(0)	(1)			Fp	2
Shea butter	3042		RTECS No						CAS No							
Silica slurry	1514	Inorg	0	0	Inorg	0	0	(0)	(0)	0	(0)	(0)			S	0
Microsilica slurry	2507		RTECS No						CAS No		7631-86-9					
Sodium acetate	1498	0	NI	0	R	0	NI	0	0	0	1	1			D	1
Sodium acetate solutions	639		RTECS No		AJ4375000				CAS No		127-09-3					
Sodium aluminate (solution)	1234	Inorg	0	0	Inorg	NI	NI	(0)	(0)	(3)	(3)	(3)			D	3
Sodium aluminate solution	641		RTECS No		BD1600000				CAS No		11138-49-1					
Sodium aluminosilicate slurry	1235	Inorg	0	0	Inorg	1	0	0	0	0	1	1			S	1
Sodium aluminosilicate slurry	643		RTECS No						CAS No		1344-00-9					
Sodium benzoate	1475	0	NI	0	R	1	NI	0	(0)	(1)	0	1			D	1
Sodium benzoate	644		RTECS No		DH6650000				CAS No		532-32-1					
Sodium bicarbonate solution (less than 10%)	2386	0	NI	0	Inorg	0	0	0	0	(0)	0	0			D	0
Sodium bicarbonate solution (less than 10%)	3558		RTECS No						CAS No		144-55-8					
Sodium borohydride/sodium hydroxide mixture (soln.)	1239	Inorg	0	0	Inorg	2	NI	(2)	(1)	(3)	(3)	(3)			D	3

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Sodium borohydride (15% or less)/Sodium hydroxide solution	645		RTECS No						CAS No							
Sodium bromide solution (less than 50%)	2387	0	NI	0	Inorg	0	0	0	0	(1)	0	1	R		D	3
Sodium bromide solution (less than 50%) (*)	3410		RTECS No		VZ 315000				CAS No		7647-15-6					
Sodium carbonate	1243	Inorg	0	0	Inorg	1	NI	0	0	2	1	2			SD	2
Sodium carbonate solution	646		RTECS No		VZ4050000				CAS No		497-19-8					
Sodium chlorate solid and solutions (50% or less)	1244	Inorg	0	0	Inorg	1	NI	1	0	(2)	1	1	S		D	2
Sodium chlorate solution (50% or less)	647		RTECS No		FO0525000				CAS No		7775-09-9					
Sodium dichromate solution	487	Inorg	0	0	Inorg	4	1	2	2	4	2	3	CMS		D	3
Sodium dichromate solution (70% or less)	649		RTECS No		HX7700000				CAS No		10588-01-9					
Sodium hydrogen sulphide/Ammonium sulphide(mixture)	1253	Inorg	0	0	Inorg	3	NI	1	1	0	2	2			D	2
Sodium hydrosulphide/Ammonium sulphide solution	653		RTECS No						CAS No							
Sodium hydrogen sulphide (6% or less)/sodium carbonate (3% or less)	2262	0	NI	0	Inorg	1	NI	(0)	(0)	(1)	(1)	(1)			D	1
Sodium hydrogen sulphide (6% or less)/Sodium carbonate (3% or less) solution	650		RTECS No						CAS No							
Sodium hydrogen sulphide,solutions	1252	Inorg	0	0	Inorg	1	NI	1	1	1	2	2			D	2
Sodium hydrosulphide solution (45% or less)	652		RTECS No		WE1900000				CAS No		16721-80-5					
Sodium hydrogen sulphite,solutions	1251	Inorg	0	0	Inorg	1	NI	0	(0)	(0)	0	0			D	0
Sodium hydrogen sulphite solution (45% or less)	651		RTECS No		VZ2000000				CAS No		7631-90-5					
Sodium hydroxide	1254	Inorg	0	0	Inorg	2	NI	1	1	(3)	3C	3			D	3
Sodium hydroxide solution	654		RTECS No		WB4900000				CAS No		1310-73-2					
Sodium hypochlorite solutions containing 20% and less but more than 2% NaOCl	1256	Inorg	0	0	Inorg	(4)	(1)	0	0	1	3	3	S		D	3
Sodium hypochlorite solution (15% or less)	2785		RTECS No		NH3486300				CAS No		7681-52-9					
Sodium hypochlorite solutions containing more than 20% NaOCl	1255	Inorg	0	0	Inorg	5	2	0	0	1	3	3	S		D	3
Sodium hypochlorite solution (Full strength solution)	655		RTECS No		NH3486300				CAS No		7681-52-9					
Sodium Methylate (21-30% in Methanol)	2427	0	NI	0	R	1	NI	2	(2)	(3)	3	3	T		D	3
Sodium Methylate Solution 21-30% in Methanol	3608		RTECS No						CAS No							
Sodium nitrate	1259	Inorg	0	0	Inorg	0	NI	(0)	(0)	(0)	(1)	(1)			SD	1
Sodium nitrate	656		RTECS No		WC5600000				CAS No		7631-99-4					
Sodium nitrite	340	Inorg	0	0	Inorg	3	0	2	(2)	2	0	1			SD	2
Sodium nitrite solution	658		RTECS No		RA1225000				CAS No		7632-00-0					
Sodium perborate monohydrate	2284	Inorg	NI	NI	Inorg	3	NI	1	0	(3)	2	3			NI	3

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Sodium perborate monohydrate	2948		RTECS No						CAS No							
Sodium petroleum sulphonate	1860	0	NI	0	(NR)	2	NI	0	(0)	(2)	1	2	S		S	2
Sodium petroleum sulphonate	660		RTECS No						CAS No							
Sodium polyacrylate solution	1487	0	NI	0	NR	1	0	0	(0)	(1)	1	1			D	1
Sodium poly(4+)acrylate solutions	826		RTECS No						CAS No							
Sodium silicate (solution)	1262	Inorg	0	0	Inorg	2	NI	1	0	(3)	3	3			D	3
Sodium silicate solution	661		RTECS No						CAS No				1344-09-8			
Sodium sulphate (solution)	1499	Inorg	0	0	Inorg	0	0	0	(0)	(1)	1	1			SD	1
Sodium sulphate solutions	662		RTECS No		WE1650000				CAS No				7757-82-6			
Sodium sulphide (solution)	1263	Inorg	0	0	Inorg	3	NI	1	1	(3)	3A	3			D	3
Sodium sulphide solution (15% or less)	663		RTECS No		WE1905000				CAS No				1313-82-2			
Sodium sulphite (solution)	9	Inorg	0	0	Inorg	2	NI	0	(0)	(1)	0	1			D	1
Sodium sulphite solution (25% or less)	664		RTECS No		WE2150000				CAS No				7757-83-7			
Sodium tartrate succinate/Sodium tartrate disuccinate mixtures	1771	NI	1	1	NI	1	NI	0	NI	NI	NI	NI			D	NI
Sodium tartrates/Sodium succinates solution	665		RTECS No						CAS No							
Sodium thiocyanate	1264	Inorg	0	0	Inorg	2	NI	1	(0)	(1)	0	0			D	1
Sodium thiocyanate solution (56% or less)	667		RTECS No		XL2275000				CAS No				540-72-7			
Sorbitan monooleate	2215	(5)	NI	(5)	R	3	NI	0	NI	NI	0	0			Fp	2
Sorbitan monooleate	2408		RTECS No						CAS No							
Sorbitol	1265	0	NI	0	R	0	NI	0	(0)	(0)	(0)	(0)			D	0
Sorbitol solution	668		RTECS No		LZ4290000				CAS No				50-70-4			
Soyabean oil (containing less than 4% free fatty acids)	2320	0	NI	0	R	0	NI	0	(0)	(1)	(0)	1			Fp	2
Soyabean oil	3050		RTECS No						CAS No							
Soybean oil fatty acids, methyl esters	2431	0	NI	0	R	2	NI	0	0	0	0	0			Fp	2
Soybean oil fatty acids, methyl esters	3737		RTECS No						CAS No							
Styrene (monomer)	1273	3	(2)	3	R	3	NI	1	0	2	2	2	CM		FE	3
Styrene monomer	669		RTECS No		WL3675000				CAS No				100-42-5			
Styrene butadiene rubber latex	1274	0	NI	0	NR	0	NI	0	0	(1)	0	1			D	1
Latex: Carboxylated styrene-Butadiene copolymer; Styrene-Butadiene rubber	414		RTECS No						CAS No							
Sulfurized fat(C14-C20) (LOA)	1853	0	NI	0	NR	1	NI	0	(0)	(1)	0	(1)			FD	1

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Sulphurized fat (C14-C20)	2257		RTECS No						CAS No							
Sulfurized polyolefinamide alkene(C28-C250)amine (LOA)	1855	0	NI	0	NR	0	NI	0	0	(0)	0	0			FD	0
Sulphurized polyolefinamide alkene (C28-C250) amine	2258		RTECS No						CAS No							
Sulpho hydrocarbon (C3-C88) (LOA)	1972	4	NI	4	NR	2	NI	0	0	0	0	0			Fp	2
Sulphohydrocarbon (C3-C88)	672		RTECS No						CAS No							
Sulpholane	1277	0	1	1	NR	2	0	1	0	0	1	2			SD	2
Sulpholane	673		RTECS No		XN0700000				CAS No		126-33-0					
Sulphonated polyacrylate solution	1760	NI	0	0	NI	0	NI	(0)	(0)	(0)	(0)	(0)			D	0
Sulphonated polyacrylate solution	674		RTECS No						CAS No							
Sulphur	906	Inorg	0	0	Inorg	0	NI	0	0	(1)	1	1			S	1
Sulphur (molten)	675		RTECS No		WS4250000				CAS No		7704-34-9					
Sulphuric acid	1280	0	NI	0	Inorg	2	NI	(3)	(3)	4	3C	3	C		D	3
Sulphuric acid	676		RTECS No		WS5600000				CAS No		7664-93-9					
Sulphuric acid	1280	0	NI	0	Inorg	2	NI	(3)	(3)	4	3C	3	C		D	3
Oleum	549		RTECS No		WS5600000				CAS No		7664-93-9					
Sulphuric acid	1280	0	NI	0	Inorg	2	NI	(3)	(3)	4	3C	3	C		D	3
Sulphuric acid, spent	677		RTECS No		WS5600000				CAS No		7664-93-9					
Sunflower oil	1283	0	NI	0	R	0	NI	(0)	(0)	(1)	(0)	(1)			Fp	2
Sunflower seed oil	2782		RTECS No						CAS No		8001-21-6					
sym-Dichlorodiethyl ether	588	1	1	1	NR	1	0	2	3	4	1	3		T	SD	3
Dichloroethyl ether	233		RTECS No		KN0875000				CAS No		111-44-4					
Tall oil, crude and distilled	1285	(4)	NI	(4)	(R)	(2)	NI	0	0	(0)	0	0	S		Fp	2
Tall oil (crude and distilled)	678		RTECS No						CAS No		68187-71-3					
Tall oil, distilled	2283	0	NI	0	R	0	NI	0	(0)	(0)	0	(0)			Fp	2
Tall oil, distilled	2890		RTECS No						CAS No							
Tall oil fatty acid (resin acids less than 2%)	1287	0	0	0	R	0	0	0	0	(1)	1	0			Fp	2
Tall oil fatty acid (resin acids less than 20%)	679		RTECS No						CAS No		61790-12-3					
Tall oil fatty acid, barium salt	1864	NI	NI	NI	NI	NI	NI	(1)	(0)	(2)	1	2			S	2
Tall oil fatty acid, barium salt	680		RTECS No						CAS No							
Tall oil pitch	2323	3	NI	3	NR	0	0	0	0	(0)	0	(0)			Fp	2

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Tall oil pitch	3051		RTECS No					CAS No								
Tall oil soap (disproportionated solution)	1286	NI	NI	NI	NI	NI	NI	(1)	(0)	(2)	1	2			D	2
Tall oil soap (disproportionated) solution	681		RTECS No					CAS No								
Tall oil soap, crude	2432	0	NI	0	R	2	0	(0)	(0)	(3)	(3)	(3)	S		Fp	3
Tall oil soap, crude	3735		RTECS No					CAS No								
Tallow	1288	0	NI	0	R	0	NI	0	0	(0)	(0)	(0)			Fp	2
Tallow	682		RTECS No					CAS No				61789-21-6				
Tallow fatty acid	1289	0	NI	0	R	0	NI	0	(0)	(0)	(0)	(0)			Fp	2
Tallow fatty acid	684		RTECS No					CAS No								
1,1,2,2-Tetrachloroethane	53	2	2	2	NR	3	0	2	0	2	2	2			SD	2
Tetrachloroethane	687		RTECS No		KI8575000			CAS No				79-34-5				
1,1,2,2-Tetrachloroethylene	1295	3	2	2	NR	(3)	2	0	0	0	2	1	C		S	3
Perchloroethylene	564		RTECS No		KX3850000			CAS No				127-18-4				
Tetrachloromethane	1296	2	2	2	NR	3	0	0	0	0	1	1	CT		S	3
Carbon tetrachloride	178		RTECS No		FG4900000			CAS No				56-23-5				
Tetradecanoic acid (Myristic acid)	1298	5	NI	0	R	0	NI	0	(0)	(1)	(1)	(1)			Fp	2
n-Tetradecanoic acid	491		RTECS No		QH4375000			CAS No				544-63-8				
Tetradecanoic acid (Myristic acid)	1298	5	NI	0	R	0	NI	0	(0)	(1)	(1)	(1)			Fp	2
Fatty acid (saturated C13+)	347		RTECS No		QH4375000			CAS No				544-63-8				
Tetraethylene glycol	1301	0	NI	0	NR	0	NI	0	0	0	1	1			D	1
Tetraethylene glycol	688		RTECS No		XC2100000			CAS No				112-60-7				
Tetraethylene pentamine	1302	0	NI	0	NR	3	NI	0	2	(3)	3	3	S		D	3
Tetraethylene pentamine	689		RTECS No		KH8585000			CAS No				112-57-2				
Tetraethyl lead	1303	4	5	5	NR	5	NI	3	2	4	2	2	NR		S	3
Motor fuel anti-knock compound (containing lead alkyls)	464		RTECS No		TP4550000			CAS No				78-00-2				
Tetrahydrofuran	1304	0	NI	0	R	0	NI	0	(0)	0	1	2			DE	2
Tetrahydrofuran	690		RTECS No		LU5950000			CAS No				109-99-9				
Tetrahydronaphthalene	1305	3	3	3	NR	3	NI	0	0	(2)	2	0			F	2
Tetrahydronaphthalene	691		RTECS No		QK3850000			CAS No				119-64-2				
1,2,3,4-Tetramethylbenzene	1307	4	NI	4	NI	4	NI	0	(0)	(1)	1	(1)			F	1

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Tetramethylbenzene (all isomers)	692		RTECS No		DC0465000				CAS No		488-23-3					
Tetrapotassium pyrophosphate	2400	Inorg	0	0	Inorg	1	NI	0	NI	NI	NI	NI			D	NI
Tetrapotassium pyrophosphate	3635		RTECS No						CAS No		7320-34-5					
Thixatrol plus	2210	5	NI	5	R	3	NI	0	0	0	1	1			S	1
Thixatrol Plus	2699		RTECS No						CAS No							
Titanium dioxide (64 - 77% solution in water)	2080	Inorg	1	1	Inorg	1	NI	0	0	0	1	1			NI	1
Titanium dioxide slurry	2259		RTECS No						CAS No		13463-67-7					
Toluene	330	2	2	2	R	3	0	0	0	0	2	2	ANR	NT	E	3
Toluene	693		RTECS No		XS5250000				CAS No		108-88-3					
Toluene diisocyanate	1315	(3)	1	1	NR	2	NI	0	(0)	4	3	3	SCL		S	3
Toluene diisocyanate	694		RTECS No		CZ6300000				CAS No		584-84-9					
Toluidines	1316	1	1	1	R	4	2	1	0	(2)	2	2	CM		FD	3
o-Toluidine	537		RTECS No						CAS No							
2,4-Tolylenediamine	1317	0	2	2	NR	3	0	2	2	4	1	2	CMS		Fp	3
Toluenediamine	695		RTECS No		XS9625000				CAS No		96-80-7					
Tolyl triazole	2292	1	NI	1	NR	2	0	1	0	(2)	(1)	2			S	2
Tolyl triazole	696		RTECS No						CAS No							
Tributyl phosphate	1319	4	2	2	R	3	0	1	0	2	2	2	S		F	3
Tributyl phosphate	697		RTECS No		TC7700000				CAS No		126-73-8					
1,2,3-Trichlorobenzene	2191	4	4	4	NR	4	2	1	0	(2)	2	2			S	2
1,2,3-Trichlorobenzene (molten)	2288		RTECS No						CAS No							
1,2,4-Trichlorobenzene	1323	4	5	5	NR	4	1	1	0	(2)	2	2	M		S	3
1,2,4-Trichlorobenzene	7		RTECS No		DC2100000				CAS No		120-82-1					
1,1,1-Trichloroethane	1326	2	NI	2	NR	2	NI	0	0	0	2	2			SD	2
1,1,1-Trichloroethane	1		RTECS No		KJ2975000				CAS No		71-55-6					
1,1,2-Trichloroethane	1327	2	1	1	NR	2	0	1	0	1	2	1			SD	2
1,1,2-Trichloroethane	3		RTECS No		KJ3150000				CAS No		70-00-5					
1,1,2-Trichloro-ethylene	329	2	2	2	NR	3	NI	0	0	0	2	2	MC		SD	3
Trichloroethylene	698		RTECS No		KX4550000				CAS No		79-01-6					
Trichloromethane	1328	1	1	1	NR	2	0	2	0	2	1	1	CT		SD	3

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Chloroform	186		RTECS No	FS9100000		CAS No	67-66-3									
1,2,3-Trichloropropane	1329	2	2	2	NR	2	0	2	2	3	2	2	C		SD	3
1,2,3-Trichloropropane	6		RTECS No	TZ9275000		CAS No	96-18-4									
1,1,2-Trichloro-1,2,2-trifluoroethane	1330	3	2	2	NR	3	0	0	0	0	1	1			S	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	2		RTECS No	KJ4000000		CAS No	76-13-1									
Tricresyl phosphate (less than 1% ortho-isomers)	1331	5	(3)	(3)	(R)	(4)	(4)	0	1	0	1	1	N		S	2
Tricresyl phosphate (containing less than 1% ortho-isomer)	700		RTECS No	TD0175000		CAS No	1330-78-5									
Tricresyl phosphate (more than 1% ortho-isomers)	1332	5	3	3	R	4	4	0	1	0	1	1	N		S	2
Tricresyl phosphate (containing 1% or more ortho-isomer)	699		RTECS No	TD0175000		CAS No	1330-78-5									
Tridecane	1333	0	NI	0	NI	0	NI	0	0	(1)	1	0			Fp	2
Tridecane	701		RTECS No	YD3025000		CAS No	629-50-5									
Tridecanoic acid	1334	5	NI	5	(R)	3	NI	(0)	(0)	(1)	(1)	(1)			Fp	2
Tridecanoic acid	702		RTECS No	YD3850000		CAS No	638-53-9									
Tridecyl acetate	1768	5	NI	5	NI	0	NI	0	(0)	(2)	2	2			F	2
Tridecyl acetate	703		RTECS No			CAS No	1072-33-9									
Triethanolamine	1338	0	0	0	R	1	NI	0	0	(2)	1	2			D	2
Triethanolamine	704		RTECS No	KL9275000		CAS No	102-71-6									
Triethylamine	1339	1	0	0	R	3	0	1	2	2	2	3			D	3
Triethylamine	706		RTECS No	YE0175000		CAS No	121-44-8									
1,3,5-Triethylbenzene	1340	5	NI	5	NI	4	NI	0	(0)	(2)	(2)	(1)			F	2
Triethylbenzene	707		RTECS No	DC2490000		CAS No	25340-18-5									
Triethylene glycol	1341	0	NI	0	R	0	0	0	0	(1)	1	1			D	1
Triethylene glycol	708		RTECS No	YE4550000		CAS No	112-27-6									
Triethylenetetramine	1346	0	NI	0	NR	3	NI	0	2	(3)	3	3	S		D	3
Triethylenetetramine	709		RTECS No	YE6650000		CAS No	112-24-3									
Triethyl phosphate	1348	0	0	0	NR	1	0	1	0	0	(2)	(2)			D	2
Triethyl phosphate	705		RTECS No	TC7900000		CAS No	78-40-0									
Triethyl phosphite	1349	0	NI	0	R	1	NI	1	0	2	1	2	S		FE	2
Triethyl phosphite	710		RTECS No	TH1130000		CAS No	122-52-1									
Triisopropanolamine	1370	0	0	0	NR	1	0	1	0	0	(2)	3			FD	3

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Triisopropanolamine	711		RTECS No	UB8750000				CAS No	122-20-3							
Triisopropylated phenyl phosphates	1375	5	5	5	R	4	NI	0	0	0	0	0			S	0
Triisopropylated phenyl phosphates	712		RTECS No					CAS No	68937-41-7							
Trimethylacetic acid	1350	1	1	1	R	2	NI	1	1	(2)	2	2			Fp	2
Trimethylacetic acid	714		RTECS No	TO7700000				CAS No	75-98-9							
Trimethylamine	1353	0	NI	0	R	1	NI	1	0	2	3	3			DE	3
Trimethylamine solution (30% or less)	715		RTECS No	PA0350000				CAS No	75-50-3							
1,2,3-Trimethyl benzene	1354	3	3	3	NR	4	0	0	0	1	2	1			FE	2
Trimethylbenzene (all isomers)	716		RTECS No	DC3300000				CAS No	526-73-8							
2,4,4-Trimethyl hexamethylene diamine	1359	1	NI	1	NI	NI	NI	1	0	(3)	2	3	S		D	3
Trimethylhexamethylenediamine (2,2,4- and 2,4,4-isomers)	718		RTECS No	MO1451000				CAS No	26520-58-0							
Trimethyl hexamethylene diisocyanate	1360	0	NI	0	NI	3	NI	0	NI	NI	NI	NI	S		NI	2
Trimethylhexamethylene diisocyanate (2,2,4- and 2,4,4-isomers)	717		RTECS No	MO1760000				CAS No	28679-16-5							
Trimethylol propane polyethoxylate	1362	NI	NI	NI	NR	1	NI	0	0	NI	NI	NI			NI	NI
Trimethylolpropane polyethoxylate	719		RTECS No					CAS No								
Trimethylol propane, propoxylated	2274	0	NI	0	(NR)	1	0	0	0	(1)	0	1			SD	1
Trimethylol propane propoxylated	2870		RTECS No					CAS No								
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	1845	4	NI	4	NR	0	NI	0	0	(1)	1	0			F	1
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	26		RTECS No					CAS No								
2,2,4-Trimethyl-1,3-pentanediol monoisobutyrate	1364	3	NI	3	NI	2	NI	0	0	(1)	1	1			Fp	2
2,2,4-Trimethyl-1,3-pentanediol-1-isobutyrate	27		RTECS No	UF6000000				CAS No	25264-77-4							
Trimethyl phosphite	1365	0	NI	0	R	NI	NI	NI	NI	NI	NI	NI			S	NI
Trimethyl phosphite	713		RTECS No	TH1400000				CAS No	121-45-9							
1,3,5-Trioxane	1844	0	NI	0	NI	0	NI	0	0	0	0	1	R		SD	3
1,3,5-Trioxane	10		RTECS No	YK0350000				CAS No	110-88-3							
Tripropylene glycol	1372	0	0	0	NR	0	NI	0	0	(0)	0	0			D	0
Tripropylene glycol	720		RTECS No	YK6825000				CAS No	24800-44-0							
Trixylenyl phosphate	1377	5	4	4	NR	4	1	(0)	(1)	(0)	(1)	(1)	R		S	3
Trixylyl phosphate	721		RTECS No	ZE8320000				CAS No	25155-23-1							
Tung oil	1378	0	NI	0	R	(2)	NI	(0)	(0)	(1)	(0)	(1)			Fp	2

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Tung oil	2784	RTECS No			CAS No												
Turpentine (wood)	1379	4	NI	4	NI	4	NI	0	(0)	1	(2)	2	AS	(T)	D	2	
Turpentine	722	RTECS No			YO8400000	CAS No			8006-64-2								
Undecanoic acid	1381	4	NI	4	(R)	3	NI	(0)	(0)	(2)	1	(2)	Fp			2	
Undecanoic acid	723	RTECS No			YQ2275000	CAS No			112-37-8								
1-Undecanol	1382	4	NI	4	R	4	NI	0	0	(2)	2	(1)	Fp			2	
Undecyl alcohol	724	RTECS No			YQ3155000	CAS No			112-42-5								
1-Undecene	1383	5	NI	5	NR	4	NI	(0)	(0)	(1)	(2)	(1)	A	F		3	
1-Undecene	24	RTECS No			CAS No			821-95-4									
Urea	1384	0	0	0	R	1	NI	0	0	(1)	1	(1)	D			1	
Urea solution	726	RTECS No			YR6250000	CAS No			57-13-6								
Urea	1384	0	0	0	R	1	NI	0	0	(1)	1	(1)	D			1	
Urea	2627	RTECS No			YR6250000	CAS No			57-13-6								
Urea/Ammonium mono and dihydrogen phosphate/ Potassium chloride solution	1386	0	0	0	R	3	2	NI	NI	NI	NI	NI	NI			NI	
Urea/Ammonium mono- and di-hydrogen phosphate/Potassium chloride solution	727	RTECS No			CAS No												
Urea/Ammonium nitrate solution (> 1% aq. ammonia)	2322	0	NI	0	R	3	NI	0	0	(2)	1	2	D			2	
Urea/Ammonium nitrate solution	728	RTECS No			CAS No												
Urea/Ammonium nitrate solution (containing < 1% aq. ammonia)	1387	0	NI	0	R	1	2	0	0	(2)	1	2	D			2	
Urea/Ammonium nitrate solution (containing less than 1% free ammonia)	729	RTECS No			CAS No												
Urea-ammonium phosphate solutions	2179	0	0	0	R	3	2	(0)	(0)	(2)	(2)	(2)	D			2	
Urea/Ammonium phosphate solution	730	RTECS No			CAS No												
Urea-formaldehyde resin solution	1388	NI	NI	NI	NI	1	NI	1	1	NI	NI	NI	S	NI		2	
Urea formaldehyde resin solution	725	RTECS No			CAS No												
Vegetable acid oils	2371	0	NI	0	R	0	NI	(0)	(0)	(1)	(1)	(1)	Fp			2	
Vegetable acid oils (m)	3138	RTECS No			CAS No												
Vegetable oils fatty acid distillates	2369	0	NI	0	R	0	NI	(0)	(0)	(0)	(0)	(0)	Fp			2	
Vegetable fatty acid distillates (m)	3137	RTECS No			CAS No												
Vegetable protein solution,hydrolyzed	1398	0	NI	0	R	0	NI	(0)	(0)	(0)	(0)	(0)	D			0	
Vegetable protein solution (hydrolysed)	734	RTECS No			CAS No												
Vinyl acetate	1400	0	NI	0	R	2	NI	1	0	2	1	1	C	ED		3	

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Vinyl acetate	735		RTECS No		AK0875000			CAS No		108-05-4						
Vinyl ethyl ether	1405	1	NI	1	NR	1	NI	0	0	0	1	1			E	2
Vinyl ethyl ether	736		RTECS No		KO0710000			CAS No		109-92-2						
Vinylidene chloride	1406	2	1	1	NR	2	NI	2	0	(2)	2	2	M		SD	3
Vinylidene chloride	738		RTECS No		KV9275000			CAS No		75-35-4						
Vinyl neodecanoate	1404	5	NI	5	NR	3	NI	0	0	(3)	3	3			F	3
Vinyl neodecanoate	737		RTECS No					CAS No		45115-34-2						
Vinyl toluenes	1409	3	3	3	NR	3	NI	0	0	2	2	1	NM	(T)	F	3
Vinyltoluene	739		RTECS No		WL5075000			CAS No		25013-15-4						
White spirit, low (15-20%)aromatic	1411	(4)	NI	(4)	(R)	3	NI	(0)	(0)	(2)	(1)	(2)	A		F	3
White spirit, low (15-20%) aromatic	742		RTECS No					CAS No								
Wood lignin with sodium acetate/oxalate	2403	NI	NI	(0)	NR	(0)	NI	0	(0)	(1)	(1)	(1)			D	1
Wood lignin with sodium acetate/oxalate	3638		RTECS No					CAS No								
Xylene (mixed isomers)	1408	3	NI	3	NR	3	0	0	0	0	2	2		(T)	FE	2
Xylenes	743		RTECS No		ZE2275000			CAS No		133-20-7						
Xylenes/Ethyl benzene (10% or more) mixture	2269	3	2	2	NR	3	1	(0)	(0)	(2)	(2)	(2)		(T)	FE	2
Xylenes/ethylbenzene (10% or more) mixture	2337		RTECS No					CAS No								
Xylenols (mixtures)	1422	2	NI	2	R	3	NI	1	2	(3)	3	3		(T)	Fp	3
Xylenol	744		RTECS No		ZE5425000			CAS No		1300-71-6						
Yeast Extract Solution with Propylene Glycol (25% or less)	2396	NI	0	0	R	0	NI	0	0	(1)	0	1			D	1
Stabilized Yeast Extract Solution	3631		RTECS No					CAS No		8013-01-2						
Zinc alkaryl dithiophosphate (C7-C16) (LOA)	1977	0	NI	0	NR	3	NI	0	0	(0)	(0)	(0)			Fp	2
Zinc alkaryl dithiophosphate (C7-C16)	745		RTECS No					CAS No								
Zinc alkenylcarboxamide (LOA)	2053	NI	0	0	NR	0	NI	0	0	(1)	1	(1)			Fp	2
Zinc alkenyl carboxamide	746		RTECS No					CAS No								
Zinc alkyl dithiophosphate	1428	5	NI	5	NR	3	NI	0	0	0	2	2			S	2
Zinc alkyl dithiophosphate (C3-C14)	747		RTECS No					CAS No								
Zinc bromide solutions	2227	Inorg	4	4	Inorg	3	NI	1	(2)	(3)	3B	3	S		D	3
Zinc bromide solutions	2617		RTECS No					CAS No								
Zinc chloride	1425	Inorg	4	4	Inorg	4	1	(1)	(1)	(3)	(3)	(3)			D	3

**ANNEX 6 - GESAMP/EHS COMPOSITE LIST
GESAMP Hazard Profiles**

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EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Zinc chloride	2869		RTECS No	ZH1400000				CAS No	7646-85-7							
Zinc chloride	1425	Inorg	4	4	Inorg	4	1	(1)	(1)	(3)	(3)	(3)			D	3
Drilling brines (containing zinc salts)	307		RTECS No	ZH1400000				CAS No	7646-85-7							

ANNEX 7

FLASHPOINT DATA FOR SUBSTANCES IDENTIFIED AS
HAVING MISSING INFORMATION IN THE IBC CODE

Product name	Flash point (deg. °C)
Alkyl acrylate-vinylpyridine copolymer in toluene	10
Alkyl (C3-C4) benzenes	35 to 60
Alkyl(C8-C9) phenylamine in aromatic solvents	40
Ammonium sulphide solution (45% or less)	20
Aviation alkylates (C8 paraffins and iso-paraffins BPT 95-120°)	-12 to 13
Butylbenzene (all isomers)	34 to 60
m-Chlorotoluene	48
Chlorotoluenes (mixed isomers)	50
Cycloheptane	6
Cyclohexyl acetate	57
1,6-Dichlorohexane	73
1,1-Dichloropropane	21
Dodecane (all isomers)	74
Diisobutylamine	24
N,N-Dimethylcyclohexylamine	43
Ethyl butyrate	24
Ethylcyclohexane	35
Ethyl toluene	36
Heptene (all isomers)	< -3
Hexamethyleneimine	18
Isobutyl formate	21
Isopropylcyclohexane	35
Liquid chemical wastes	Varies
Methylbutenol	13
Methylbutynol	25
Methyl butyrate	14
Methylcyclopentadiene dimer	27
Nitropropane(60%)/Nitroethane(40%) mixture	30
Nonane (all isomers)	31
Octyl aldehydes	52
alpha-Olefins(C6-C18) mixtures	63 (1-Undecene)
Paraldehyde-ammonia reaction product	29
n-Pentyl propionate	40
beta-Pinene	47
Polyalkyl (C18-C22)acrylate in Xylene	25 (xylene)
Polyolefinamine in alkyl(C2-C4)benzenes	21 (ethyl benzene)
Polyolefinamine in aromatic solvent	21 (ethyl benzene)
Polysiloxane	≥ 58
Sodium hydrosulphide/Ammonium sulphide solution	22

Note: when a substance is in parenthesis, the flash point indicated is for that substance.

ANNEX 8

**DRAFT WORK PROGRAMME FOR THE FORTY-NINTH SESSION
OF THE GESAMP/EHS WORKING GROUP**

- 1 Adoption of the agenda
 - 2 Matters arising from IMO and other Organizations relevant to the activities of the Working Group
 - 3 Evaluation of new substances
 - 4 Correspondence with industry
 - 5 Consolidation of data files
 - 6 Communication and publication
 - Acute inhalation toxicity review
 - Promotion of GHP column E information
 - Update of GESAMP Reports and Studies No. 64
 - 7 Any other business
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