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Ref. T5/2.01

BLG.1/Circ.26
27 May 2008

HAZARD EVALUATION OF SUBSTANCES TRANSPORTED BY SHIPS

Report of the forty-fifth session of the GESAMP/EHS Working Group on the Evaluation of the Hazards of Harmful Substances Carried by Ships

The report of the forty-fifth session of the GESAMP/EHS Working Group on the Evaluation of the Hazards of Harmful Substances Carried by Ships (EHS 45/9) is attached for information.

Any comments would be welcome and should be addressed to:

IMO Technical Secretary of the GESAMP/EHS Working Group
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WORKING GROUP ON THE EVALUATION OF THE HAZARDS OF HARMFUL SUBSTANCES CARRIED BY SHIPS
45th session
Agenda item 9

EHS 45/9
25 April 2008
ENGLISH ONLY

REPORT OF THE FORTY-FIFTH SESSION

1 INTRODUCTION

1.1 The forty-fifth 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 22 to 25 April 2008 under the chairmanship of Dr. C.T. Bowmer. The list of members attending this 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 thirteenth intersessional meeting of the Working Group on the Evaluation of Safety and Pollution Hazards of Chemicals (ESPH 13) met from 22 to 26 October 2007;

.2 the Evaluation of Safety and Pollution Hazards (ESPH) Working Group also met from 5 to 6 February 2008 during BLG 12;

.3 the Marine Environment Protection Committee held its fifty-sixth session from 9 to 13 July 2007; and

.4 the Marine Environment Protection Committee additionally met for its fifty-seventh session from 31 March to 4 April 2008.

Matters arising from these meetings which are of relevance to the work of GESAMP/EHS are summarised in Annex 3.

Activities of GESAMP

1.3 The Group received a report from the GESAMP Officer, Mr. Frederik Haag on a number of recent activities and initiatives which had been undertaken by GESAMP. The key points addressed are summarised in Annex 4.

1.4 The members of the EHS Working Group suggested that, since many experts in GESAMP WGs would like to become more aware of GESAMP activities, the GESAMP Office could consider distributing a newsletter to all experts in GESAMP working groups, to keep them informed of recent developments.

2 EVALUATION OF NEW PRODUCTS

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

.1 Olefin mixture (C7-C9);
.2 Cesium formate solution;
.3 Ammonium chloride solution;
.4 Sodium bromide solution;
.5 Sodium bicarbonate solution;
.6 Potassium chloride solution;
.7 Dicyclopentadiene; and
.8 1,3-Pentadiene.

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:

.1 **Olefin mixture (C7-C9)** – the Group noted that in the EHS Composite List there are already existing entries for Heptene (all isomers); Octene (all isomers) and Nonene (all isomers). Data were consequently cross-checked with the information held for these substances in the course of assigning a profile for the olefin mixture. It was noted that with respect to the C3 rating (inhalation toxicity) for Heptene (all isomers), a request to review the core data behind this should be made in order to verify this rating;

.2 **Cesium formate solution** – the data submitted were fully evaluated and this information was supplemented by reference to a report issued by NICNAS (Australia) on this substance in order to assign appropriate profile ratings. Additional BCF information on cesium was drawn from a toxicological profile developed by ATSDR (USA);

.3 **Ammonium chloride solution** – the Group noted that the main chemical name given is "Ammonium chloride solution 22.2%". In the latest list of Tripartite Agreements (MEPC.2/Circ.13, List 1), there is a similar entry but this is described as "Ammonium chloride solution (less than 25% drilling brines)". It was agreed that the data supplied would support the latter product and that the higher percentage level limit should therefore be adopted for the EHS name;

.4 **Sodium bromide solution** – the Group noted that the main chemical name given is "Sodium Bromide Solution" and that in the information provided in the data form, a concentration of 48% is specified. In the latest list of Tripartite Agreements (MEPC.2/Circ.13, List 1), there is a similar entry but this is described as "Sodium bromide solution (less than 50%) drilling brines" sodium. It was accepted that the data supplied would support the latter product and that the higher percentage level limit should therefore be adopted for the EHS name;

.5 **Sodium bicarbonate solution** - the Group noted that the main chemical name given is "Sodium bicarbonate solution" and that in the information provided in the data form, a concentration of 7.5% is specified. In the latest list of Tripartite Agreements (MEPC.2/Circ.13, List 1), there is a similar entry but this is described

as "Sodium bicarbonate (less than 10%) drilling brines". Reviewing the data, it was agreed by the Group that the data supplied would support the latter product and that the higher percentage level limit should therefore be adopted for the EHS name;

.6 **Potassium chloride solution (<26%)** – it was noted that entries already existed in the GESAMP/EHS Composite List for "potassium chloride solution" and "potassium chloride brine". In reviewing the information for all products, it was agreed to rename the latter entry as "potassium chloride (brines <26%)" rather than introduce a third entry to the listing. In consolidating all data, it was agreed that the D2 column (eye irritation) entry for both this product and "potassium chloride solution" should be given a rating of 0. In turn, this also modifies the C3 rating for both products from a (1) to a (0);

.7 **Dicyclopentadiene**, **Resin Grade, 81-89%** – the Group noted that the chemical name associated with this product did not fully reflect its composition and accordingly, an EHS name of "Dicyclopentadiene (80-90%), codimer (10-20%) mixture" was proposed;

.8 **1,3-Pentadiene concentrate** – as this submission represented a multicomponent composition, the Group proposed an EHS name of "1,3-pentadiene (>50%), cyclopentene and isomers, mixtures" in order to more accurately reflect the product. In reviewing the various components in the product, it was noted that for most of these (accounting for over 80% of the composition), existing GESAMP profiles are already available. This information was utilised together with the new data supplied to assign appropriate ratings for the GESAMP profile.

Cleaning Additive components

2.4 The Group noted that some products had been submitted for evaluation which were substances not intended for shipment but which were to be used as components in cleaning additive formulations. In this regard, the Group recalled that in accordance with MEPC.1/Circ.590 (Revised tank cleaning additives guidance note and reporting form) only a shortened hazard profile is required for each component. From this, the Pollution Category could be determined and consequently, it was only necessary to provide data for ratings in columns **A1 (bioaccumulation), A2 (biodegration), B1 (acute aquatic toxicity) and D3 (long-term health effects)**. The Group also noted that, notwithstanding that a cleaning additive producer or component supplier would not be expected to undertake testing for the long-term health effects under column D3, any reports which might assist in the consideration of this rating should be provided, where available.

2.5 It was noted accordingly that submissions had been proposed for octadimethyl amine oxide, ethoxylated tridecyl alcohol, "octyphenoxypoly" (ethoxy ethoxy ethanol) and potassium pyrophosphate anhydrous. Reduced GESAMP profiles as required for cleaning additive components were requested but all products were rejected for evaluation due to the absence of data for many of the properties required.

2.6 In view of the difficulties noted for the substances listed above, the Group reiterated that even if only a partial GESAMP profile is required, it is still imperative that full supporting data are provided for the properties to be reviewed.

2.7 In recognition of the difficulties which may be experienced by manufacturers submitting data for components of cleaning additives, the Group reviewed the key elements to be supplied when completing the GESAMP form and these items are listed below:

Sections 1-4	-	all relevant information;
Section 5	-	molecular weight and water solubility;
Section 7	-	sensitization and any long term health effects; and
Section 8	-	acute toxicity data; bioaccumulation data; and biodegradation data.

Further guidance on presenting these data are given in the GESAMP Reports and Studies No.64 publication (The Revised GESAMP Hazard Evaluation Procedure for Chemical Substances carried by Ships). This report may be found at the website http://gesamp.imo.org/publicat.htm To support all data submissions, the Group reiterated that summaries with full reference details or complete study reports should always be provided.

2.8 The Group agreed that when only partial GESAMP profiles are assigned for cleaning additive components, this should be indicated in the database in the remarks column in order to be able to clearly identify such substances.

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

3.1 The Group noted that additional information on the following products had been received with a request that it be taken into account when evaluating the products. The results are set out at annex 6.

Tall oil fatty acids (resin acids <20%)

3.2 The Group noted that new studies and other supporting information had been submitted for consideration. In assessing these data, the Group concluded that:

- for chronic toxicity (B2), use of a read-across result from Tall oil crude is acceptable and the rating should be amended to a 0 to reflect this accordingly;
- the rating for skin irritancy (D1) should remain unchanged as the new information confirms the current assignment of 1; and
- the product is not an eye irritant (D2) and this should be rated as 0 in the profile.

Tall oil pitch

3.3 The Group noted that two new sensitization studies had been submitted for consideration. In assessing these data, the Group concluded that this product is not a skin sensitizer. With respect to chronic aquatic toxicity, it was decided that a read-across result from a study undertaken on Tall oil crude was acceptable and that the rating should be amended to a 0 to reflect this point.

Tall oil crude

3.4 Two documents had been submitted to address the issue of needing to treat this product as a respiratory sensitizer. The origin of this concern relates to section 21.7.4 of the IBC Code in which it states that "where a product is identified as a skin sensitizer and there is no evidence to show that it is not a respiratory sensitizer", the "product is classified as a respiratory sensitizer".

3.5 In the current hazard evaluation/rating system, it was noted that there is no mechanism for recording that a health effect for a substance has been shown to be negative (only positive reactions are indicated) and moreover, an S rating in column D3 can represent either a skin sensitizer or a respiratory sensitizer or both.

3.6 In considering the former aspect, the Group noted that the treatment of skin sensitizing chemicals as if they were respiratory sensitizers is essentially a precautionary approach arising from an IMO risk management decision to ensure high protection standards onboard noxious liquid carriers. It is not within the remit of the Group to debate the regulations in this respect but rather, this would be for the appropriate IMO bodies to review.

3.7 As to the GESAMP rating system, when this was established it was decided to differentiate only between "skin/respiratory sensitization" and "photosensitizing chemicals" (see GESAMP Reports and Studies No.64, section 4.4.3). This system of rating is accordingly the one which has been formally ratified by the relevant IMO committees. The Group concluded that there was no need to amend the existing procedures for assigning ratings in column D3.

3.8 The Group noted that in the case of Tall oil crude, skin sensitization data only are available and a rating of S in column D3 was assigned on this basis following a review of the supporting data.

3.9 The Group noted that a number of arguments had been advanced to challenge the precautionary linkage adopted between skin and respiratory sensitization (based on vapour pressure and viscosity properties, mechanistic differences for skin and respiratory effects, no history of respiratory problems, alternative regulatory approaches and other considerations). The Group concluded, however, that these issues would, in fact, not influence the D3 rating in the GESAMP profile since the terms for this are fixed as described above.

3.10 With respect to chronic toxicity (B2), the Group noted that new information had been submitted for consideration. In assessing this information, it was concluded that the data supported a rating of 0 for B2 and the GESAMP profile was amended accordingly.

Di (2-ethylhexyl) phthalate

3.11 The Group noted that a new study had been submitted by Japan which describes the ability of three marine algae species to biosynthesise DEHP. This information was put forward in relation to a request to reconsider A1 and A2 ratings. Having reviewed all information, the Group concluded that for column A1 a rating of 4 should be retained (as this is clearly supported by the test data) whilst for column A2, it was agreed to amend the rating to R.

3.12 It was recognised that, as DEHP is a key member of the phthalate group of chemicals, the latter amendment could have an impact for other phthalates (e.g., dioctyl and diisooctyl products) and the group as a whole was therefore reviewed later in the meeting (see item 5).

Coconut and Palm kernel products

3.13 Correspondence had been received identifying possible anomalies between coconut and palm kernel products. Based on a consideration of the fatty acid composition of the two oils, industry proposed that the hazard profile of palm kernel oil and its derivative products should not be more than the corresponding products from coconut oil.

3.14 The Group noted that in many cases for vegetable oils and their derivatives, analogies using "similar oils" had been employed.

3.15 Coconut oil has been tested and rated with a 1 for B1 whilst palm kernel oil had not been tested and had previously received a precautionary rating of (2). The new data allowed the Group to give a rating of 1 in column B1 for palm kernel oil. In reviewing the coconut oil profile, it was noted that the entry for D2 should be amended to (1) reflecting that this was not based on direct test data.

3.16 For C3 ratings in the acid oil and fatty acid distillate products from the two oils, the Group recalled that in the absence of test data, C3 assignments are dependent on C and D ratings. Since for the palm kernel derivatives D2 has a rating of 2 based on test data, this accounts for the higher ratings assigned. The data are not considered strong enough to support a rating by analogy to other products and therefore this was not read-across for the coconut based derivatives. Further testing on eye irritation with products representing the whole group would be required to alter this position as well as then to influence the respective assignments in column C3.

Diethylene glycol initiated polyoxypropylene diamine

3.17 The Group considered new information which had been supplied on a range of mammalian toxicology studies and agreed that a revision to the ratings for C1, C2, C3, D1, D2 and E3 should be applied.

Calcium carbonate slurry

3.18 Industry had requested information on the basis of the assignment made concerning B1. Utilising new data which was subsequently provided, the Group agreed that a revision to the B1 rating should be made, modifying this from 1 to 0.

Dimethyl disulphide

3.19 The Group noted that some additional information relating to solubility data and acute aquatic toxicity had been supplied by CEDRE and that this had been added to the substance file. The information was complementary to rating assigned for B1 and no amendment to the existing profile was required.

Alkyltoluenesulphonic acid, calcium salt

3.20 Information had been received from Industry in relation to the rating for column D1 for this substance. The initial rating of 3 had been based on a study undertaken for a material which was stated to be equivalent but was described using a synonym. Subsequently, it was confirmed that this result in fact referred to the free acid and not to the calcium salt. After reviewing a new study which had subsequently been provided, the Group concluded that the correct rating for D1 would be 1 but further clarification on the exact products used for testing was required before the GESAMP profile could be amended accordingly.

Polyolefin amide alkeneaminine polyol

3.21 The Group noted that new information had been submitted in relation to sensitization properties. Previously, the product had been given a rating of "S" in column D3 but this was based on a study undertaken with a related material (Polyolefin amide alkeneamine borate (C_{25}-C_{250}) rather than the polyol itself. From a new study carried out on a more closely related material, it was proposed by industry that the product was not a sensitizer and that its profile should be amended accordingly. Before considering the report, the Group requested further clarification on all products and data used in testing and assessment.

Bioaccumulation of Aliphatic Amines

3.22 The Group noted that correspondence had been received from Industry in relation to the bioaccumulation properties of N,N-Dimethyldodecylamine, Alkyl (C12+) dimethylamine and Dodecylamine/tetradecylamine mixture. An extensive data package (reflecting particularly on metabolic considerations) was submitted for evaluation. Whilst the Group had some sympathy with the arguments outlined, it was noted that for the purpose of the GESAMP evaluation, the hazard criteria to be applied are fixed and are set out in the GESAMP Reports and Studies No.64 publication.

3.23 It was accepted, however, that in the case of N,N-Dimethyldodecylamine, an amendment was justified based on the measured log Pow data submitted and that the rating for A1 should accordingly be adjusted from 5 to 3.

Lecithin

3.24 Industry have recently assembled a new data package on this product for the European REACH regulation but they are concerned that there may be some inconsistency with the GESAMP profile for bioaccumulation and acute aquatic toxicity properties. A request was made to look at the basis for the ratings assigned and to compare this to the information supplied. In reviewing the new input, it was noted by the Group that no new direct test based data were provided but that the findings were based on expert opinion and read across from glycerides.

3.25 The Group reviewed their own assessment and concluded that there was no basis to amend the current ratings. The Group noted further that GESAMP advises IMO on environmental and human health hazards, but has no function or authority to provide linkages between different regulatory systems.

Alkyl (C7-C9) nitrates

3.26 An inconsistency had been noted in relation to the ratings assigned for columns A1, A2 and B1 and the Pollution Category given for the product in the IBC Code. In reviewing the ratings, it was concluded that the assignment for B1 should be amended from 4 to 3.

Dodecylbenzene

3.27 An inconsistency had been noted with respect to the ratings assigned for columns B2 and E2 and the Pollution Category given for the product in the IBC Code. Following a review of the ratings assigned, it was confirmed these are correct but it was noted that the IBC Code entry may now need to be reassessed to be in line with the GESAMP profile. The ESPH Working Group should be advised on this point accordingly.

Dodecyl methacrylate

3.28 An inconsistency had been noted with respect to the Pollution Category arising from the GESAMP Hazard profile. After reviewing the data available in the file for this substance, the Group confirmed that the profile was correct but noted that the IBC Code entry may need to be re-evaluated to match this accordingly. The ESPH Working Group should be advised on this point accordingly.

2,2,4-Trimethyl-1,3-pentanediol diisobutyrate

3.29 It was noted that for column A2, no information was recorded and that hence, the profile needed to be completed. In considering data available in IUCLID, the Group concluded that a rating of NR should be assigned for this product. The rest of the profile ratings were confirmed to be correct but it was noted that the IBC Code Pollution Category may need to be amended to be in line with the GESAMP profile and that the ESPH Working Group should be advised accordingly.

Urea/Ammonium nitrate solution (containing less than 1% free ammonia)

3.30 This product was highlighted due to an apparent inconsistency between its GESAMP hazard profile and its Pollution Category entry in the IBC Code. Upon reviewing the ratings and supporting data, the Group recalled that at an earlier meeting, it had been agreed to amend the acute aquatic toxicity rating (B1) from 3 to 1 provided that a qualification (<1%) to the ammonia content of the product was added to the EHS name. Although the name change was effected, in the transition the amendment to B1 had not been recorded. It was agreed that this should be corrected, in which case there would then be consistency between the GESAMP profile and the IBC Code Pollution Category.

3.31 In addressing this issue, it was also noted that in the entry for "urea/ammonium nitrate solution" the B1 rating had been amended in error to 1 and that this now needed to be corrected back to its original value of 3.

Maltitol solution

3.32 The Group were advised that the entry for this product as shown in the Composite List of EHS 44 is incorrect. The correct hazard profile is as follows:

A1:0, A2:R, B1:0, B2:NI, C1:0, C2:0, C3:(0), D1:0, D2:0, D3:-, E1:NI, E2:D, E3:0

The error is corrected in the revised Composite List produced for this meeting.

Dialkyl thiophosphates, sodium salt solution

3.33 The Group noted that a new test report on vapour pressure properties had been submitted. This was a follow-on from an earlier query from industry in relation to the assignment of a rating of (2) for inhalation toxicity (C3). Industry had proposed that based on their estimates a rating of (0) was more appropriate but the only rationale appears to be that the vapour pressure of the substance is lower than the original value quoted (125 Pa down from 2480 Pa). After considering the new information, the Group concluded that there was no justification for amending the C3 estimated rating based on the data available.

Sodium hydrogen sulphide (6% or less)/sodium carbonate (3% or less) solution

3.34 It was noted that the toxicological properties of this product had been based on the results for sodium hydrosulphide solution (45% or less) after allowing for dilution effects. In reviewing the GESAMP profile, it was revised to give changes for D1, D2 and C3 and to reflect that the data used had been estimated. An amendment for column A1 was also introduced as noted below (EHS No.2262).

Bioaccumulation ratings

3.35 As a general comment, it had been noted that for a number of entries (EHS Nos.1138, 1280, 1387, 2262, 2322), "Inorg" had been recorded in column A1 (Bioaccumulation). This, however, is not an approved rating for this property and the Group concluded that such entries should be amended to read 0.

4 RENEWABLE DIESEL

4.1 The Group recalled that it was agreed by the BLG Sub-Committee at BLG 11 (and subsequently endorsed at MEPC 56) that with respect to the carriage of Renewable diesel oil, a scientific review of this product was needed before an informed technical decision on its transportation could be made. The question associated with this material is whether it can be considered to be sufficiently similar to mineral based diesel oil such that it should be transported in line with the requirements of MARPOL Annex I (even though it is produced from typical Annex II substances, i.e. vegetable oils and animal fats).

4.2 To facilitate this review, a dossier of information had been assembled and GESAMP/EHS were requested by BLG to evaluate this accordingly. The data provided contained information for both renewable diesel oil and mineral diesel oil products.

4.3 It should be noted that there are many different 'bio-diesel' products, sometimes divided into first generation, e.g., vegetable oils and fatty acid methyl ethers and second generation, e.g., alkane mixtures such as renewable diesel. It should also be noted that the current analysis pertains only to renewable diesel as described in the submission provided by the Finnish Maritime Administration and not to other 'biodiesels' in general. The Group used the data provided through the Finnish Maritime Agency to prepare a GESAMP hazard profile, noting that adequate data were also available to characterize the hazards of the mineral diesel described in the submission for the sake of comparison.

4.4 The Group did not consider attempting to interpret the definitions in Annexes I and II of MARPOL concerning this issue to be within its scientific remit.

4.5 The following criteria were used to provide a scientific and technical comparison between the two products:

Origin and production process

.1 Renewable diesel is of vegetable and animal oil origin (palm, rape or animal oil), sometimes called **oleochemicals**.

The feedstock is pretreated to remove impurities. The impurities are removed by methods known from the oil/fats-industry such as acid/caustic treatment and adsorption.

The oils are then hydrogenated in the presence of a catalyst to form fully saturated n-paraffins, propane, water and carbon dioxide. The n-paraffins originate from the fatty acid chain in the feedstock triglycerides and the propane from the glycerol part. The n-paraffins are catalytically upgraded to isoparaffins to improve cold flow properties of the product. The n-/iso-paraffinic mixture is then stabilized by removing lighter components (hydrogen, fuel gas and gasoline range hydrocarbons).

Mineral diesel on the other hand originates from the processing of crude oil by distillation to form a range of products called gas oils and is therefore a **petroleum product**. Similar steps such as hydrogenation and catalytic conversion may be involved to produce a finished product.

Chemical composition

.2 Renewable diesel consists of 100% "Alkanes C12 to C26 (straight and branched)" according to the product description supplied, whereas mineral diesel (also based on a product specification supplied) consists of 33% alkanes (straight and branched) of a similar chain length to the above, but also contains 48% cycloalkanes, 14% monoaromatics such as alkylbenzenes and 5% polyaromatics. Chemically, the two products are quite different.

It was noted that the IBC Code already contains two products which are comparable to renewable diesel:

- n-Alkanes (C10+)
- iso and cyclo-Alkanes (C12+)

These are essentially group names to cover a variable range of long chain alkane products, which could include renewable diesel. Both products lack the alkylbenzenes and polyaromatic components of mineral diesel.

Environmental and human health hazard

4.6 Renewable diesel will not bioaccumulate in aquatic organisms, is readily biodegradable and has negligible toxicity to aquatic organisms.

4.7 Regarding human health, renewable diesel has negligible acute toxicity via the oral and dermal route and an estimated low toxicity via inhalation. It is mildly irritating to skin and eye, poses an aspiration hazard, is a floater and is regarded as highly objectionable when stranded on beaches due to the combination of the aspiration hazard and its floating behaviour. With this one exception, renewable diesel is a low hazard product.

4.8 For the purposes of GESAMP the product was renamed Alkanes C12-C26 linear and branched and the following profile was developed:

Renewable diesel (Alkanes C12-C26 linear and branched)

A1A	A1B	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
0	NI	0	R	0	NI	0	0	(1)	1	1	A		F	3

4.9 Mineral diesel in general is of relatively low acute toxicity for man but could represent an aspiration hazard. Studies indicate a low skin and eye irritation potential for most mineral diesel products. It is well known in toxicology that the polyaromatics in mineral diesel induce cancer. In respect to aquatic organisms, studies demonstrate toxicity. Parts of the complex mixture of mineral diesel are not readily biodegradable. As data on mineral diesel also indicate floating, there is a health hazard in case of coastal pollution.

4.10 Comparing the hazards of renewable and mineral diesel common floating properties, aspiration hazards as well as interference with coastal amenities can be identified. However, the potential toxicity to man and environment differ significantly.

Conclusion

4.11 Both products have different origins, i.e. renewable diesel is an oleochemical product from vegetable/animal origin, while mineral diesel is clearly a petroleum product. Their composition is different. Renewable diesel is a relatively simple mixture of straight and branched long chain alkanes, whereas mineral diesel is a complex mixture of straight and branched linear and cycloalkanes, monoaromatics and polyaromatic hydrocarbons. As a result of these compositional differences, the environmental and human health hazards of renewable diesel are relatively mild, while those of diesel are potentially severe.

5 CONSOLIDATION OF DATA

Phthalates

5.1 Following on from the request from Japan to review Di(2-ethylhexyl) phthalate (see agenda item 3), a more comprehensive overview for all phthalate products was undertaken. This resulted in a number of amendments being made to ratings in columns A and B.

5.2 Additionally, the Group noted that further work had been undertaken on the reprotoxic properties of phthalates in order to have a more comprehensive overview for this product grouping. On the basis of this work, the Group concluded that in a number of cases, an R rating in column D3 was no longer justifiable and amendments to these profiles were made accordingly. Evidence to support an R rating was found for ten products. Consequent changes to column E3 were also introduced.

5.3 A summary of the phthalates involved in the review together with their revised ratings are shown in Annex 7.

Application of R/NR to "Inorg" ratings in column A2

5.4 The Group recalled that the GESAMP Reports & Studies No.64 describes three ratings for Ready (bio) degradability as follows:

R = Readily (bio)degradable in the appropriate standard tests;
NR = Not readily (bio)degradable in the appropriate standards tests; and
Inorg = Inorganic, and not subject to biological degradation.

5.5 The Group further recalled that the IMO has chosen to use only the ratings "R" and "NR" for categorization purposes under the revised MARPOL Annex II and the amended IBC Code. In this regard, the Group was asked to provide an interpretation for all IBC Code substances listed as "Inorg" as to whether they are degradable or not. For this purpose, the term "readily degradable" was taken in the context of inorganic substances to mean rapidly dissociating or dissolving, so that the constituent ions separate in seawater and disperse.

5.6 The Group noted that at EHS 43, it had proposed, for ease of use, to identify inorganics by using the ratings "R" or "NR" and had supplied a product listing to this effect (BLG.1/Circ.20, Annex 3).

5.7 In view of this action, the Group agreed not to proceed with the idea of using new "Inorg, R" and "Inorg, NR" designations but decided to retain the current ratings system.

Acrylate and methacrylate esters

5.8 This item was deferred to the next meeting due to time constraints.

6 COMMUNICATION AND PUBLICATION

6.1 The Group recalled that at its 44th meeting it had discussed a proposal to prepare a paper for publication on its recent work with the revised GESAMP hazard evaluation procedure. Of the possibilities discussed for communicating the application of the revised GESAMP hazard evaluation procedure to potential user groups, the Group agreed to proceed with a paper on the novel aspects of the procedure, focussing on its GHS compatibility, the grouping of chemicals and read across to fill in missing data, estimation methods such as that for inhalation toxicity which the Group had developed and described at its 41st meeting (Annex IV) and the mechanism developed for predicting the behaviour of substances spilled in the sea. The Group agreed on an outline of the paper which is reproduced in Annex 8, to be further developed intersessionally.

7 ANY OTHER BUSINESS

Change of membership and expression of appreciation

7.1 The Group welcomed Dr. Ken McDonald who was introduced by Dr. Stefan Micallef as his replacement as Secretary to the GESAMP/EHS Working Group. The Group expressed its thanks to Dr. Micallef for his considerable support and commitment over the past years and wished him well in his new role at IMO.

7.2 The Group also welcomed Dr. Stéphane Le Floch of Cedre, France who replaced Dr. M. Marchand, France.

7.3 The Group welcomed Mr. Frederik Haag, GESAMP officer who attended the meeting for part of the time.

7.4 The Group was informed that Professor Tore Syversen, Norway had informed the Secretariat that he wished to resign from the Group due to other commitments that would now no longer allow time to continue with the work of the Group. The Group expressed its gratitude for his untiring efforts, dedication and contribution to the work of the Group over 23 years.

7.5 In this regard, the Group had a preliminary exchange of views on how to maintain expertise within the Group and it was agreed that in the first instance, Professor Syversen would liaise with the Norwegian Administration to establish if an appropriate replacement can be identified.

GESAMP/EHS files

7.6 In noting that many of the old files in the GESAMP/EHS system relate to packaged goods only and are now unlikely to be utilized again, it was agreed that such files could be disposed of respecting fully any confidentiality aspects associated with the documentation.

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 9.

8.2 The Group agreed that the next regular meeting would be tentatively held from 20 to 24 April 2009.

8.3 **Submissions for this session should reach the *Technical Secretary of the GESAMP/EHS Working Group not later than Friday, 13 March 2009.**

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, 25 April 2008 at 13.30 hrs.

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ANNEX 1

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ANNEX 2

AGENDA FOR THE FORTY-FIFTH 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

- Cleaning Additive components

3 Correspondence with the industry and consideration of queries related to evaluations

4 Renewable diesel

5 Consolidation of data:

- phthalates
- application of R/NR to “Inorg” ratings in column A2
- acrylate and methacrylate esters review

6 Communication and publication

7 Any other business

8 Future work programme and date of the following session

9 Consideration and adoption of the report

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ANNEX 3

MATTERS ARISING FROM IMO

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

.1 reiterated that the use of trade names in the IBC Code or for List 1 entries to the MEPC.2/Circ. is not permitted;

.2 recognized that with respect to product names, the entries in the GESAMP/EHS Composite List would prevail if modified names were used for product submissions;

.3 recalled that whilst a shortened hazard profile for List 5 (substances not shipped in pure form but as components in mixtures) products was acceptable, if shipment of a product in a pure form was envisaged for the future, noted that it would be advantageous to have a complete GESAMP hazard profile from the start of the process and that manufacturers should be encouraged to consider this accordingly;

.4 reiterated that submissions to GESAMP/EHS (for new profiles or amendments) represented the first step in the classification of a product under MARPOL Annex II and the IBC Code. A second stage of submission to the BLG Sub-Committee (via ESPH) was still required and the Group stressed again the importance of making this two-step approach known to the industry (more information on the process can be found at http://www.imo.org: click on *marine environment*: click on *chemical reporting forms*);

.5 developed a list reflecting various decisions taken on the interpretation of ratings of revised GESAMP hazard profiles for classification purposes. This summary list provides an overview as a supplement to document BLG 11/3/2 which provides more reference information in relation to the various interpretations made; and

.6 noted that due to changes in the duties of the Chairman of GESAMP/EHS, his participation at ESPH meetings through the delegation of the Netherlands will no longer continue. In this respect, the Group agreed that it was desirable that the Chairman of GESAMP/EHS should be present at ESPH during the debate of the GESAMP/EHS report (similar to the arrangements for the presentation of the GESAMP report for ballast water). In addition, the majority of the Group were also of the view that the participation of the Chairman of GESAMP/EHS at ESPH was advantageous for the discussions on the evaluation of new products for inclusion in the IBC Code since the GESAMP hazard profile forms the basis of these evaluations. In recognition of this position, it was agreed that this view/request should be put forward to the Sub-Committee and subsequently to MEPC and GESAMP for consideration.

1.2 The ESPH Working Group also met during BLG 12 and during this session, the ESPH Group had:

.1 noted that in general, industry should be encouraged to check that all data provided in the BLG data reporting form are in line with the GESAMP Hazard Profile. If there are inconsistencies, these should initially be reviewed with GESAMP/EHS to seek a resolution but if this is not possible a note explaining the discrepancy should be included with the submission;

.2 observed that the development of MEPC.1/Circ.590 had greatly improved the quality of applications received for the evaluation of cleaning additives;

.3 reiterated its intent to undertake a review of chapter 19 of the IBC Code recognizing that the synonyms' list had been developed over many years and that chapter 19 now contains some anomalies that need to be rectified in order to avoid any future confusion. To progress this issue further, the delegation of the Netherlands had advised that they were able to provide some resources for this activity. They would require some support and input from other members of the Group, however, in order to reach a successful conclusion. Any comments and input should be provided to Mrs. Joke Herremans for consolidation into the review (e-mail: joke.herremans@rivm.nl). The target completion date for this work was noted to be 2009.

1.3 In BLG 12, the Sub-Committee had supported, in principle, the attendance of the Chairman of GESAMP/EHS at ESPH meetings whenever there is a need but recognized that further debate may be required in order to ensure that the implications of attendance (or not) are fully appreciated.

1.4 The Marine Environment Protection Committee (MEPC) had held its fifty-sixth and fifty-seventh sessions and during these meetings, MEPC had:

.1 agreed with the BLG Sub-Committee decision to add the re-evaluation of cleaning additives as a new future programme item for the ESPH Working Group. In this regard, the Committee further endorsed the decision of the Sub-Committee that the cleaning additives in annex 10 of the MEPC.2/Circ., submitted before 1 January 2007 and identified as being evaluated through MEPC/Circ.363, will cease to be valid after 31 July 2010;

.2 tasked the Secretariat in order to promote the revised guidelines and to bring to the attention of industry, the need to resubmit their products for re-evaluation; and

.3 considered the various proposals made with respect to the issue of long-term funding for the GESAMP/EHS Working Group and agreed on the cost sharing option where costs are split between the Organization and industry (option 2). Accordingly, the Secretariat had been requested to put in place the necessary administration mechanism to implement such a mechanism based on a fixed cost per application. This should treat the evaluation of products to be carried in bulk or those used as a component in a mixture and the evaluation of components in cleaning additives in an identical manner once the fee-based system is introduced. Additionally, recalling the "owners pay principle", the fixed fee will be paid each time an evaluation is carried out on a product as this provides a clear incentive to provide the whole range of data necessary for the Working Group to carry out an evaluation in one submission.

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ANNEX 4

ACTIVITIES OF GESAMP

1.1 In the revitalization of GESAMP after a long period of re-orientation and review, substantial support had been received from the Swedish International Development Co-operation Agency (SIDA) for the period 2006 to 2008, on the condition that GESAMP:

.1 rebuilds and strengthens its network and structure;

.2 involves scientific experts from developing countries in its activities; and

.3 plays a role in and supports the 'UN Regular Process for global reporting and assessment of the state of the marine environment, including socio-economic aspects', aiming at fostering regional and local ownership of this 'Regular Process'.

1.2 In the context of point 2, there was an opportunity for the GESAMP/EHS Group to develop this objective should any suitable activity or task be identified and this should be investigated further via various contacts as appropriate.

1.3 With respect to recent GESAMP activities, developments since the last EHS meeting have included the following items:

At the thirty-fourth session of GESAMP (May 2007) 4 new working groups were established:

.1 Development of activities in relation to deepwater fisheries, fisheries habitat and related ecosystem concerns (WG35: FAO leading);

.2 Development of an ecosystem approach to mariculture (WG36: FAO leading);

.3 Expanded scientific review of mercury and its compounds and threats to the marine environment (WG37: UNIDO leading); and

.4 Atmospheric input of pollutants to the oceans (WG38: WMO leading).

In addition, the establishment of a working group on trends in global pollution in coastal environments had been proposed by IAEA. The terms of reference for this working group are still under development.

GESAMP has been actively involved in the Assessment of Assessments phase of the UNGA Regular Process. In response to a request from the lead agencies of that process (UNEP and UNESCO-IOC), GESAMP established a Task Team, which has produced a report on the assessment landscape for marine pollution of the open ocean.

GESAMP has also established a formal GESAMP Office at IMO, which will provide support to all GESAMP activities and act as an internal and external contact point.

1.4 The next meeting of GESAMP, the thirty-fifth session of the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection will be hosted by UNIDO at the IGCC Headquarters in Accra, Ghana from 13 to 16 May 2008.

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

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Ammonium chloride solution (less than 25%) drilling brines	2388	0	NI	0	Inorg	1	0	0	(0)	(2)	2	2			D	2
	3411		**RTECS No**		BP4550000				**CAS No**		12125-02-9					
Cesium formate solution drilling brines	2384	0	3	3	Inorg	2	NI	1	0	(2)	2	2			D	2
	3421		**RTECS No**						**CAS No**		3495-36-1					
Dicyclopentadiene, Resin Grade, 81-89%	2389	2	3	3	NR	3	0	2	0	3	2	2	AR		FED	3
	3559		**RTECS No**						**CAS No**							
Olefin Mixture (C7-C9)	2385	5	4	4	NR	4	(1)	(0)	0	0	2	1	A		E	2
	3548		**RTECS No**						**CAS No**		97593-00-5					
1,3-Pentadiene concentrate	2390	NI	NI	(3)	(NR)	(3)	NI	(2)	(1)	(3)	(2)	(2)	CMR		E	3
	3560		**RTECS No**						**CAS No**							
Potassium chloride brine (less than 26%)	2345	0	0	0	Inorg	0	0	0	(0)	(0)	0	0			D	0
	3109		**RTECS No**						**CAS No**							
Sodium bicarbonate solution.	2386	0	NI	0	Inorg	0	0	0	0	(0)	0	0			D	0
	3558		**RTECS No**						**CAS No**		144-55-8					
Sodium bromide solution (less than 50%) drilling brines	2387	0	NI	0	Inorg	0	0	0	0	(1)	0	1	R		D	3
	3410		**RTECS No**		VZ 315000				**CAS No**		7647-15-6					

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ANNEX 6 - GESAMP/EHS COMPOSITE LIST
GESAMP Hazard Profiles

	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
	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
	65		**RTECS No**		AK1925000				**CAS No**		108-24-7					
Acetochlor	2047	3	2	2	NR	4	NI	1	0	(1)	0	0			S	2
	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
	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
	68		**RTECS No**		OD9275000				**CAS No**		75-86-5					
Acetonitrile	16	0	0	0	R	1	NI	1	1	2	1	2			D	2
	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
	2876		**RTECS No**						**CAS No**							
Acid oil mixture from soyabean, corn (maize) and sunflower oil refining	2306	(0)	NI	(0)	(R)	(0)	NI	0	(0)	(1)	(1)	1			Fp	2
	3036		**RTECS No**						**CAS No**							
Acrylamide solution (50% or less)	23	0	0	0	R	2	0	2	2	(2)	1	2	CMNS		D	3
	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
	71		**RTECS No**		AS4375000				**CAS No**		79-10-7					
Acrylonitrile	25	0	2	2	NR	3	0	2	2	2	2	2	CSM	NT	DE	3
	72		**RTECS No**		AT5250000				**CAS No**		107-13-1					
Acrylonitrile-Styrene copolymer dispersion in polyether polyol	1432	NI	0	0	NI	1	NI	0	(0)	(0)	0	(0)			S	0
	73		**RTECS No**						**CAS No**							
Adiponitrile	26	0	0	0	R	1	NI	3	(3)	3	3	(3)			FD	3
	74		**RTECS No**		AV2625000				**CAS No**		111-69-3					
Alachlor technical (90% or more)	1488	3	3	3	NI	4	1	1	0	(2)	1	0	CS		S	3
	75		**RTECS No**		AE1225000				**CAS No**		15972-60-8					
Alcoholic beverages, n.o.s.	293	0	0	0	R	0	0	0	0	0	0	1			D	1
	85		**RTECS No**						**CAS No**							
Alcohol (C9-C11) poly (2.5-9) ethoxylate	2094	3	3	3	R	3	NI	1	0	(2)	(2)	(2)			D	2

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	2209		**RTECS No**						**CAS No**							
Alcohol (C6-C17) (secondary) poly(3-6)ethoxylates	722	4	3	3	R	4	2	0	(0)	(3)	3	2			D	3
	81		**RTECS No**						**CAS No**							
Alcohol (C6-C17) (secondary) poly(7-12)ethoxylates	295	3	3	3	R	4	1	1	0	(3)	3	3			D	3
	80		**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
	77		**RTECS No**						**CAS No**							
Alcohol (C12-C16) poly(20+)ethoxylates	1482	4	(3)	(3)	R	2	0	(0)	(0)	(2)	2	1			D	2
	78		**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
	79		**RTECS No**						**CAS No**							
Alcohols (C13+)	2039	5	2	2	R	4	1	0	0	0	(1)	(1)			Fp	2
	86		**RTECS No**						**CAS No**							
Alcohols, linear (C12+)	2326	(5)	(2)	(2)	(R)	(4)	(1)	0	0	(1)	1	1			Fp	2
	3081		**RTECS No**						**CAS No**							
Alcohols, linear (C16+)	2327	(5)	(2)	(2)	(R)	(0)	(1)	0	0	(1)	1	1			Fp	2
	3082		**RTECS No**						**CAS No**							
Alcohols (C8-C11), primary, linear and essentially linear	2279	5	2	2	(R)	(3)	(1)	(0)	(0)	(2)	(2)	(2)			Fp	2
	2887		**RTECS No**						**CAS No**							
Alcohols (C12-C13), primary, linear and essentially linear	2294	5	2	2	R	4	(1)	0	0	(1)	1	1			Fp	2
	2950		**RTECS No**						**CAS No**							
Alcohols (C14-C18), primary, linear and essentially linear	2293	5	2	2	R	0	1	0	0	(1)	1	1			Fp	2
	2951		**RTECS No**						**CAS No**							
Alkanes (C6-C9)	2202	(5)	NI	(5)	(R)	(4)	NI	(0)	(0)	(1)	(2)	(2)	N		FE	2
	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
	393		**RTECS No**						**CAS No**							
Iso- and cyclo-alkanes (C12+)	2204	(5)	NI	(5)	NI	(0)	NI	0	0	(1)	NI	NI			NI	1
	394		**RTECS No**						**CAS No**							
Alkanes(C12 -C26), linear and branched	2392	0	NI	0	R	0	NI	0	0	(1)	1	1	A		F	3
	3562		**RTECS No**						**CAS No**		90622-53-0					

ANNEX 6 - GESAMP/EHS COMPOSITE LIST
GESAMP Hazard Profiles

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
n-Alkanes (C10+)	296	(5)	NI	(5)	(R)	(0)	(0)	(0)	(0)	(1)	(1)	(0)	A		F	3
	471		RTECS No						CAS No							
Alkaryl polyethers (C9-C20)	1974	4	NI	4	NR	3	NI	0	0	(3)	2	3			S	2
	90		RTECS No						CAS No							
Alkenoic acid ester, borated	2376	5	(3)	(3)	R	2	NI	0	0	(2)	2	0			Fp	2
	3153		RTECS No						CAS No							
Alkenyl (C11+) amide	1858	3	NI	3	(NR)	4	NI	0	(0)	(1)	0	1			Fp	2
	838		RTECS No						CAS No							
Alkenyl (C16-C20) succinic anhydride	298	0	0	0	NR	1	NI	0	0	(2)	2	(2)	S		FD	2
	2336		RTECS No						CAS No							
Alkyl acrylate-vinylpyridine copolymer in toluene	299	2	2	2	R	2	0	0	0	(2)	2	2	RNA		F/Fp	3
	94		RTECS No						CAS No							
Alkyl(C8+)amine, Alkenyl (C12+) acid ester mixture	1433	NI	NI	NI	NI	1	NI	(0)	(0)	NI	NI	NI	S		Fp	3
	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
	280		RTECS No						CAS No							
Alkylated (C4-C9) hindered phenols	2273	0	2	0	NR	1	0	1	0	(2)	1	1			Fp	2
	2575		RTECS No						CAS No							
Alkylbenzene, alkylindane, alkylindene mixture (each C12-C17)	1872	0	4	4	NR	0	NI	0	0	0	0	2			FE	2
	103		RTECS No						CAS No							
Alkyl benzene distillation bottoms	300	0	2	2	NR	0	(3)	0	0	1	1	1			Fp	2
	3106		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
	2909		RTECS No						CAS No							
Alkyl (C3-C4) benzenes	2206	(3)	NI	(3)	R	4	NI	0	0	(2)	(2)	(1)			FE	2
	91		RTECS No						CAS No							
Alkyl (C5-C8) benzenes	2207	5	4	4	(NR)	4	NI	0	0	(2)	(2)	(1)			F	2
	92		RTECS No						CAS No							
Alkyl(C9+)benzenes	1783	0	4	4	NR	1	NI	0	(0)	(1)	(1)	(1)			F	1
	100		RTECS No						CAS No							
Alkyl (C11-C17) benzene sulphonic acid	1739	NI	NI	3	R	3	1	1	(1)	(2)	(1)	(1)			D	2

ANNEX 6 - GESAMP/EHS COMPOSITE LIST
GESAMP Hazard Profiles

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	101		RTECS No						CAS No							
Alkylbenzene sulphonic acid, sodium salt solution	301	3	3	3	R	3	1	1	(1)	(3)	2	3			FD	3
	102		RTECS No		DB4370000				CAS No		42615-29-2					
Alkyl (C12+) dimethylamine	2248	3	NI	3	R	5	2	1	(1)	(3)	3C	3			F	3
	2485		RTECS No						CAS No							
Alkyl dithiocarbamate (C19-C35)	2236	0	NI	0	NI	1	NI	0	0	(0)	0	0			S	0
	2538		RTECS No						CAS No							
Alkyldithiothiadiazole (C6-C24)	1981	5	NI	5	NR	1	NI	0	0	(0)	0	0			S	2
	104		RTECS No						CAS No							
Alkyl ester copolymer (C4-C20)	1986	NI	0	0	NR	0	NI	0	0	(0)	0	0			Fp	2
	2202		RTECS No						CAS No							
Alkyl (C8-C10)/(C12-C14):(40% or less/60% or more) polyglucoside solution (55% or less)	2134	3	NI	3	R	3	0	0	0	(3)	2	3			D	3
	2248		RTECS No						CAS No		141464-42-8					
Alkyl (C8-C10)/(C12-C14):(60% or more/40% or less) polyglucoside solution(55% or less)	2135	3	NI	3	R	2	0	0	0	(2)	2	2			D	2
	2246		RTECS No						CAS No		141464-42-8					
Alkyl (C7-C9) nitrates	8	4	NI	4	NR	3	NI	0	0	(3)	2	(3)	S		F	3
	93		RTECS No						CAS No							
Alkyl(C7-C11)phenol poly(4-12) ethoxylate	1063	4	NI	4	NR	3	1	0	0	(2)	2	1			D	2
	97		RTECS No						CAS No							
Alkyl (C8-C40) phenol sulphide	1985	0	NI	0	NR	0	NI	0	0	(1)	1	1			FD	1
	2253		RTECS No						CAS No							
Alkyl (C8-C9) phenylamine in aromatic solvents	2096	2	NI	2	NR	3	NI	(0)	(0)	(2)	2	2			S	2
	2200		RTECS No						CAS No							
Alkyl (C9-C15) phenyl propoxylate	2188	0	NI	0	NR	0	NI	0	0	(2)	2	2			FD	2
	2430		RTECS No						CAS No							
Alkyl (C8-C10) polyglucoside solution (65% or less)	2136	1	NI	1	R	2	0	0	0	(2)	2	2			D	2
	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
	2247		RTECS No						CAS No							
Alkyl (C12-C14) polyglucoside solution (55% or less)	2137	3	NI	3	R	3	0	0	0	(3)	2	3			D	3
	2249		RTECS No						CAS No		110615-47-9					

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Alkyl(C12-C16) propoxyamine ethoxylate	2380	3	0	0	NR	4	NI	1	(1)	(3)	3	(3)	S		D	3
	3423		**RTECS No**						**CAS No**							
Alkyl(C10-C20, saturated and unsaturated) phosphite	2108	0	NI	0	R	1	NI	0	0	(0)	0	0			Fp	2
	96		**RTECS No**						**CAS No**							
Alkyl sulphonic acid ester of phenol	1878	5	NI	5	NR	0	NI	0	(0)	(0)	0	0			S	0
	1701		**RTECS No**						**CAS No**		91082-17-6					
Alkyl (C18+) toluenes	2374	0	2	2	NR	0	NI	0	(0)	(1)	0	1			Fp	2
	3148		**RTECS No**						**CAS No**							
Alkyltoluenesulphonic acid, calcium salts	2373	0	NI	0	NR	0	NI	0	0	(3)	3	1	S		S	3
	3149		**RTECS No**						**CAS No**							
Allyl alcohol	28	0	0	0	R	4	NI	2	3	4	2	3	A		D	3
	105		**RTECS No**		BA5075000				**CAS No**		107-18-6					
Allyl chloride	478	1	1	1	R	3	NI	1	0	2	1	3	T		E	3
	106		**RTECS No**		UC7350000				**CAS No**		107-05-1					
Aluminium chloride (30% or less)/Hydrochloric acid (20% or less) solution	336	Inorg	NI	2	Inorg	3	1	1	NI	3	(3C)	3			D	3
	110		**RTECS No**						**CAS No**							
Aluminium sulphate solution	2205	Inorg	Inorg	2	Inorg	3	1	1	(0)	(3)	(2)	(3)			D	3
	111		**RTECS No**						**CAS No**							
2-(2-Aminoethoxy) ethanol	75	0	0	0	NR	1	0	0	1	(3)	3	3			D	3
	37		**RTECS No**		KJ6125000				**CAS No**		929-06-6					
Aminoethyldiethanolamine/Aminoethylethanolamine solution	74	Inorg	0	0	NR	1	0	1	(1)	(3)	(3B)	(2)	S		D	3
	113		**RTECS No**						**CAS No**							
Aminoethyl ethanolamine	68	0	0	0	NR	1	0	0	0	0	3B	2	S		D	3
	112		**RTECS No**		KJ6300000				**CAS No**		111-41-1					
N-Aminoethylpiperazine	88	0	0	0	NR	1	NI	0	2	(3)	3	3	S		D	3
	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
	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
	39		**RTECS No**		UA5950000				**CAS No**		124-68-5					
Ammonia aqueous (28% or less)	91	0	0	0	R	3	2	1	(2)	3	3	3			DE	3

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	114		**RTECS No**		BO0875000				**CAS No**		7664-41-7					
Ammonium bisulphite solution (70% or less)	1730	NI	NI	NI	NI	1	NI	NI	NI	NI	2	2			D	2
	115		**RTECS No**		WT3595000				**CAS No**		10192-30-0					
Ammonium chloride solution (less than 25%) drilling brines	2388	0	NI	0	Inorg	1	0	0	(0)	(2)	2	2			D	2
	3411		**RTECS No**		BP4550000				**CAS No**		12125-02-9					
Ammonium hydrogen phosphate solution	98	0	0	0	Inorg	1	NI	0	0	0	(1)	(1)			D	1
	117		**RTECS No**						**CAS No**		7783-28-0					
Ammonium lignosulphonate solutions	2086	0	NI	0	NR	0	NI	0	(0)	(0)	0	0			D	0
	118		**RTECS No**						**CAS No**		8061-53-0					
Ammonium nitrate solution (93% or less)	1912	Inorg	0	0	Inorg	1	NI	0	0	(2)	1	2			D	2
	119		**RTECS No**						**CAS No**							
Ammonium polyphosphate solution	1764	Inorg	0	0	Inorg	1	NI	0	0	0	1	0			D	1
	120		**RTECS No**						**CAS No**		10-34-0					
Ammonium sulphate solution	99	0	0	0	Inorg	1	(0)	0	(0)	(0)	0	0			D	0
	121		**RTECS No**		BS4500000				**CAS No**		7783-20-2					
Ammonium sulphide solution (45% or less)	310	Inorg	0	0	Inorg	3	NI	1	0	(2)	2	2	N		D	2
	122		**RTECS No**		BS4900000				**CAS No**		12124-99-1					
Ammonium thiocyanate (25% or less)/Ammonium thiosulphate (20% or less) solution	1732	Inorg	0	0	Inorg	1	NI	1	NI	NI	NI	NI			D	NI
	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
	124		**RTECS No**		XN6465000				**CAS No**		7783-18-8					
Amyl acetate (all isomers)	255	2	2	2	NR	2	NI	0	(0)	0	1	1	S	NT	FED	2
	125		**RTECS No**		AJ1925000				**CAS No**		628-63-7					
n-Amyl alcohol	1110	1	1	1	(R)	1	0	1	0	(3)	2	3			FED	3
	473		**RTECS No**		SB9800000				**CAS No**		71-41-0					
Amyl alcohol, primary	965	1	1	1	(R)	1	0	1	0	(2)	2	2			FED	2
	126		**RTECS No**		EL5425000				**CAS No**		123-51-3					
sec-Amyl alcohol	1111	1	1	1	R	1	0	0	(0)	(2)	2	2			D	2
	637		**RTECS No**		SA4900000				**CAS No**		6032-29-7					
tert-Amyl alcohol	964	1	1	1	R	1	0	1	1	1	3	2			D	3
	685		**RTECS No**		SC0175000				**CAS No**		75-85-4					

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
tert-Amyl methyl ether	2141	1	NI	1	NI	4	NI	1	0	(2)	0	1			ED	2
	2210		**RTECS No**						**CAS No**							
Aniline	261	0	0	0	R	3	2	2	2	3	1	3	CTS	NT	FD	3
	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
	130		**RTECS No**						**CAS No**							
Aryl polyolefins (C11-C50)	1979	NI	NI	0	NR	0	NI	0	0	0	0	0			Fp	2
	131		**RTECS No**						**CAS No**							
Aviation alkylates (C8 paraffins and iso-paraffins BPT 95 - 120°C)	286	(5)	NI	(5)	(R)	(4)	NI	0	0	(0)	(0)	(0)			FE	2
	132		**RTECS No**						**CAS No**							
Barium long chain (C11-C50) alkaryl sulphonate	1978	4	NI	4	NR	3	NI	2	0	(2)	0	0			S	2
	2370		**RTECS No**						**CAS No**							
Benzene and mixtures having 10% benzene or more (i)	324	2	1	1	R	2	NI	1	0	0	2	2	CTM	NT	E	3
	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
	3405		**RTECS No**						**CAS No**							
Benzene sulphonyl chloride	320	1	1	1	R	(1)	NI	1	(2)	(3)	3	3			SD	3
	134		**RTECS No**		DB8750000				**CAS No**		98-09-9					
Benzenetricarboxylic acid, trioctyl ester	1733	0	0	0	NR	0	NI	0	(0)	2	1	1			Fp	2
	136		**RTECS No**						**CAS No**							
Benzyl acetate	348	1	NI	1	R	3	1	1	0	2	1	1			SD	2
	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
	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
	140		**RTECS No**		XS8925000				**CAS No**		100-44-7					
N,N-bis(2-hydroxyethyl) oleamide	2110	5	NI	5	NR	NI	NI	0	0	(2)	2	2			Fp	2
	2201		**RTECS No**						**CAS No**							
Borax	359	Inorg	0	0	Inorg	1	0	0	0	(1)	1	1	R		S	3
	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

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	2254		**RTECS No**		ED4550000				**CAS No**		10043-35-3					
Brake fluid base mix: Poly(2-8)alkylene (C2-C3) glycols/Polyalkylene (C2-C10) glycols monoalkyl (C1-C4) ethers and their borate esters	2358	(1)	NI	(1)	(R)	(1)	(0)	0	0	0	2	2			D	2
	144		**RTECS No**						**CAS No**							
Bromochloromethane	2084	1	1	1	NR	1	NI	0	0	0	1	0			SD	1
	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
	2696		**RTECS No**						**CAS No**							
Butene oligomer	386	0	NI	0	NR	(4)	0	0	0	0	0	1			FE	2
	146		**RTECS No**						**CAS No**							
Butyl acetate (all isomers)	387	1	NI	1	R	2	NI	0	0	2	0	1			FED	2
	147		**RTECS No**		AF7350000				**CAS No**		123-86-4					
Butyl acrylate (all isomers)	390	2	NI	2	R	3	NI	1	1	1	2	2	SA		FED	2
	148		**RTECS No**		UD3150000				**CAS No**		141-32-2					
Butyl alcohol (all isomers)	381	0	(0)	0	R	0	NI	0	0	0	2	3		NT	D	3
	2216		**RTECS No**		EO1400000				**CAS No**		71-36-3					
n-Butyl alcohol	381	0	(0)	0	R	0	NI	0	0	0	2	3		NT	D	3
	474		**RTECS No**		EO1400000				**CAS No**		71-36-3					
sec-Butyl alcohol	383	0	(0)	0	R	0	NI	0	0	0	0	2		NT	D	2
	638		**RTECS No**		EO1750000				**CAS No**		78-92-2					
tert-Butyl alcohol	384	0	0	0	NR	1	NI	0	0	0	1	3		NT	D	3
	686		**RTECS No**		EO1925000				**CAS No**		75-65-0					
Butylamine (all isomers)	392	0	NI	0	R	2	NI	2	2	3	3C	3			DE	3
	154		**RTECS No**		EO2975000				**CAS No**		109-73-9					
Butylbenzene (all isomers)	1774	4	NI	4	NI	4	1	0	0	(2)	2	1			Fp	2
	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
	149		**RTECS No**		TH9990000				**CAS No**		85-68-7					
Butyl butyrate (all isomers)	399	2	NI	2	NI	2	NI	0	0	(1)	1	NI			FE	2
	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

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	153		**RTECS No**						**CAS No**							
Butylene glycol	402	0	NI	0	R	1	NI	1	0	0	0	0			D	1
	156		**RTECS No**		EK0525000				**CAS No**		110-63-4					
1,2-Butylene oxide	403	0	NI	0	NR	2	NI	1	1	2	1	1	C		DE	3
	8		**RTECS No**		EK3675000				**CAS No**		106-88-7					
n-Butyl ether	578	3	3	3	NR	2	NI	0	0	0	1	1			FE	2
	475		**RTECS No**		EK5425000				**CAS No**		142-96-1					
Butyl methacrylate	409	2	NI	2	NR	1	NI	0	0	0	2	2	S		FE	2
	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
	2749		**RTECS No**						**CAS No**							
n-Butyl propionate	1483	2	NI	2	R	2	NI	0	0	0	1	1			FED	2
	476		**RTECS No**		UE8245000				**CAS No**		590-01-2					
Butyl stearate	413	0	NI	0	NI	0	NI	0	NI	NI	NI	NI			Fp	2
	152		**RTECS No**		WI2900000				**CAS No**		123-95-5					
Butyraldehyde (all isomers)	416	1	NI	1	R	2	0	0	1	0	3	3			DE	3
	157		**RTECS No**		ES2275000				**CAS No**		123-72-8					
Butyric acid	418	0	NI	0	R	2	0	0	1	0	3A	3			D	3
	158		**RTECS No**		ES5425000				**CAS No**		107-92-6					
gamma-Butyrolactone	420	0	NI	0	R	(3)	NI	1	(0)	0	0	1	C		D	3
	360		**RTECS No**		LU3500000				**CAS No**		96-48-0					
Calcium alkyl (C9) phenol sulphide/Polyolefin phosphorosulphide mixture	1435	NI	NI	NI	NR	4	NI	0	0	(0)	NI	NI			NI	NI
	160		**RTECS No**						**CAS No**							
Calcium alkyl (C10-C28) salicylate	2015	3	NI	3	NR	2	NI	0	0	(2)	2	2			Fp	2
	3152		**RTECS No**						**CAS No**							
Calcium carbonate slurry	2016	Inorg	0	0	Inorg	0	NI	0	(0)	(1)	0	1			S	2
	161		**RTECS No**		FF9335000				**CAS No**		471-34-1					
Calcium hydroxide slurry	431	Inorg	0	0	Inorg	1	NI	0	(0)	(2)	1	2			S	2
	162		**RTECS No**		EW2800000				**CAS No**		1305-62-0					
Calcium hypochlorite solution (15% or less)	2073	Inorg	0	0	Inorg	(4)	NI	1	0	1	3A	3			D	3
	163		**RTECS No**		NH3485000				**CAS No**		7778-54-3					

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Calcium hypochlorite solution (more than 15%)	432	Inorg	0	0	Inorg	5	NI	1	0	1	3A	3			D	3
	164		**RTECS No**		NH3485000				**CAS No**		7778-54-3					
Calcium lignosulphonate solutions	2087	0	NI	0	NR	0	NI	0	(0)	(0)	0	0			D	0
	165		**RTECS No**						**CAS No**		8061-52-7					
Calcium long-chain alkaryl sulphonate (C11-C50)	1973	NI	0	0	NR	0	NI	0	0	(1)	1	1	S		FD	2
	169		**RTECS No**						**CAS No**							
Calcium long-chain alkyl(C5-C10) phenate	2106	0	NI	0	NR	2	NI	0	0	(0)	0	0			FD	1
	168		**RTECS No**						**CAS No**							
Calcium long-chain alkyl(C11-C40) phenate	2097	0	NI	0	NR	0	NI	0	0	(1)	1	1			Fp	2
	167		**RTECS No**						**CAS No**							
Calcium long-chain alkyl phenate sulphide (C8-C40)	1756	0	NI	0	NR	1	NI	0	0	(1)	1	1			Fp	2
	170		**RTECS No**						**CAS No**							
Calcium long-chain alkyl phenolic amine (C8-C40)	1728	NI	NI	NI	NR	0	NI	0	0	(1)	1	(1)			Fp	2
	171		**RTECS No**						**CAS No**							
Calcium long-chain alkyl salicylate (C13+)	70	0	NI	0	NR	2	NI	0	0	(1)	(1)	(1)	S		Fp	3
	166		**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
	3426		**RTECS No**						**CAS No**							
Calcium nitrate/Magnesium nitrate/Potassium chloride solution	1734	Inorg	0	0	Inorg	1	0	0	(0)	(1)	(1)	1			D	1
	173		**RTECS No**						**CAS No**							
Calcium nitrate solutions (50% or less)	1803	Inorg	0	0	Inorg	0	NI	0	(0)	(1)	1	1			D	1
	172		**RTECS No**		EW2985000				**CAS No**		10124-37-5					
Camphor oil	1897	NI	NI	NI	NI	NI	NI	2	NI	(2)	1	NI		(T)	FE	2
	174		**RTECS No**		EX1490000				**CAS No**		8008-51-3					
epsilon-Caprolactam (molten or aqueous solutions)	436	0	NI	0	R	1	0	1	1	4	1	2			D	3
	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
	176		**RTECS No**						**CAS No**							
Carbon disulphide	439	2	1	1	NR	3	NI	2	(3)	4	3A	2	RN		SD	3
	177		**RTECS No**		FF6650000				**CAS No**		75-15-0					
Carbon tetrachloride	1296	2	2	2	NR	3	0	0	0	0	1	1	CT		S	3

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	178		**RTECS No**		FG4900000				**CAS No**		56-23-5					
Cashew nut shell oil (untreated)	443	0	NI	0	R	0	NI	(0)	(0)	(2)	2	(2)	S		Fp	3
	179		**RTECS No**						**CAS No**							
Castor oil	2314	0	NI	0	R	(2)	NI	0	0	(1)	1	1			Fp	2
	3044		**RTECS No**						**CAS No**							
Cesium formate solution drilling brines	2384	0	3	3	Inorg	2	NI	1	0	(2)	2	2			D	2
	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
	180		**RTECS No**						**CAS No**							
Chlorinated paraffins (C10-C13)	2021	5	5	5	NR	5	2	0	0	(1)	1	1	C		S	3
	181		**RTECS No**						**CAS No**							
Chlorinated paraffins (C10-C13) (60% chlorine or less)	2020	5	5	5	NR	5	3	(0)	(0)	(1)	(1)	(1)	C		S	3
	2832		**RTECS No**						**CAS No**							
Chlorinated paraffins (C14-C17) (with 50% chlorine or more, and less than 1% C13 or shorter chains)	2112	5	4	4	NR	6	3	0	0	(2)	2	2	C		S	3
	182		**RTECS No**						**CAS No**							
Chlorinated paraffins (C18+) with any level of chlorine	2024	0	4	4	NR	0	2	0	0	(1)	(1)	(1)	C		S	3
	183		**RTECS No**						**CAS No**							
Chloroacetic acid (80% or less)	450	0	NI	0	R	2	0	2	3	(4)	3C	3	A		D	3
	184		**RTECS No**		AF8575000				**CAS No**		79-11-8					
Chlorobenzene	456	2	2	2	NR	3	0	1	0	1	2	0			S	2
	185		**RTECS No**		CZ0175000				**CAS No**		108-90-7					
Chloroform	1328	1	1	1	NR	2	0	2	0	2	1	1	CT		SD	3
	186		**RTECS No**		FS9100000				**CAS No**		67-66-3					
Chlorohydrins (crude)	463	0	NI	0	R	0	NI	(2)	(2)	(3)	(3A)	3	CS		D	3
	187		**RTECS No**		TY4025000				**CAS No**		96-24-2					
N-(3-Chloro-2-hydroxypropyl)trimethyl ammonium chloride solution (75% or less)	2286	0	0	0	NR	1	NI	0	0	(2)	0	(2)	SC		D	3
	2579		**RTECS No**						**CAS No**							
4-Chloro-2-methylphenoxyacetic acid, dimethylamine salt solution	1536	2	NI	2	NI	2	NI	1	0	2	1	1	S		S	2
	62		**RTECS No**						**CAS No**							
o-Chloronitrobenzene	467	2	2	2	NR	3	NI	2	2	2	1	1			S	2
	533		**RTECS No**		CZ0855000				**CAS No**		25167-93-5					

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
1-(4-Chlorophenyl)-4,4- dimethyl-pentan-3-one	1772	3	3	3	NR	3	NI	0	0	(1)	1	0			S	1
	21		**RTECS No**						**CAS No**							
2- or 3-Chloropropionic acid	474	0	NI	0	R	1	NI	1	(3)	2	3A	3			D	3
	36		**RTECS No**		UE8570000				**CAS No**		598-78-7					
Chlorosulphonic acid	479	Inorg	0	0	Inorg	2	NI	1	0	2	1	1			D	2
	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
	426		**RTECS No**		XS8990000				**CAS No**		108-41-8					
o-Chlorotoluene	480	3	3	3	NR	3	1	2	0	2	1	1			S	2
	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
	551		**RTECS No**		XS9010000				**CAS No**		106-43-4					
Chlorotoluenes (mixed isomers)	480	3	3	3	NR	3	1	2	0	2	1	1			S	2
	189		**RTECS No**		XS9000000				**CAS No**		95-49-8					
Choline chloride solutions	485	0	NI	0	R	1	NI	0	(0)	(0)	0	0			D	0
	190		**RTECS No**		KH2975000				**CAS No**		67-48-1					
Citric acid (70% or less)	493	0	NI	0	R	1	0	0	(0)	(3)	1	3			D	3
	748		**RTECS No**		GE7350000				**CAS No**		77-92-9					
Clay slurry	495	Inorg	0	0	Inorg	0	0	0	0	0	0	0			S	0
	191		**RTECS No**						**CAS No**							
Coal slurry	498	Inorg	0	0	Inorg	0	0	0	0	0	0	0			S	0
	192		**RTECS No**						**CAS No**							
Coal tar	499	(4)	4	4	NR	3	1	0	0	0	2	2	CMR	(T)	S	3
	193		**RTECS No**		GF8600000				**CAS No**		8007-45-2					
Coal tar naphtha solvent	500	3	NI	3	NR	3	NI	0	0	(1)	1	1	C	(T)	FE	3
	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
	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
	196		**RTECS No**						**CAS No**							
Cocoa butter	2342	0	NI	0	R	0	NI	(0)	(0)	(1)	(0)	(1)			Fp	2

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	3096		**RTECS No**						**CAS No**							
Coconut acid oil	2370	0	0	0	R	3	NI	(0)	(0)	(1)	(1)	(1)			Fp	2
	3139		**RTECS No**						**CAS No**							
Coconut fatty acid distillate	2366	0	NI	0	R	(3)	NI	0	(0)	(1)	(1)	(1)			Fp	2
	3130		**RTECS No**						**CAS No**							
Coconut oil	503	0	NI	0	R	1	NI	0	(0)	(1)	0	(1)			Fp	2
	2772		**RTECS No**		GG6040000				**CAS No**		8001-31-8					
Coconut oil fatty acid	505	0	0	0	(R)	0	NI	0	(0)	(1)	(1)	(1)			Fp	2
	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
	198		**RTECS No**						**CAS No**		61788-59-8					
Copper salt of long chain (C17+) alkanoic acid	2111	0	NI	0	(R)	2	NI	0	0	(0)	0	0			Fp	2
	2214		**RTECS No**						**CAS No**							
Corn Oil	521	0	NI	0	R	(2)	NI	0	(0)	(1)	1	1			Fp	2
	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
	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
	199		**RTECS No**		GF8615000				**CAS No**		8001-58-9					
Creosote (wood)	525	NI	NI	NI	NR	5	NI	1	0	2	2	1	CM	(T)	SD	3
	200		**RTECS No**		GO5870000				**CAS No**		8021-39-4					
Cresols (all isomers)	527	2	2	2	R	3	0	2	2	(3)	3A	3		T	SD	3
	201		**RTECS No**		GO5950000				**CAS No**		1319-77-3					
Cresylic acid, dephenolized	1875	2	2	2	R	3	0	(2)	(2)	(3)	(3A)	(3)		(T)	S	3
	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
	203		**RTECS No**						**CAS No**							
Crotonaldehyde	528	0	NI	0	NR	3	1	2	4	4	2	3			D	3
	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
	2810		**RTECS No**						**CAS No**							

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
1,5,9-Cyclododecatriene	534	5	5	5	NR	4	NI	0	0	2	2	2	SA		F	3
	17		**RTECS No**		GU2308000				**CAS No**		4904-61-4					
Cycloheptane	535	4	NI	4	(NR)	4	NI	(0)	0	(1)	(0)	(1)			FE	2
	205		**RTECS No**		GU3140000				**CAS No**		291-64-5					
Cyclohexane	536	3	3	3	NR	3	NI	0	0	1	0	1			E	2
	206		**RTECS No**		GU6300000				**CAS No**		110-82-7					
Cyclohexanol	537	1	NI	1	R	2	NI	0	0	0	2	2			Fp	2
	207		**RTECS No**		GV7875000				**CAS No**		108-93-0					
Cyclohexanone	539	0	1	1	R	1	0	1	1	1	2	2			FE	2
	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
	209		**RTECS No**						**CAS No**							
Cyclohexyl acetate	541	2	NI	2	(R)	(2)	NI	0	0	(2)	2	1			FED	2
	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
	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
	11		**RTECS No**		PC1050000				**CAS No**		77-73-6					
Cyclopentane	546	3	NI	3	NR	3	NI	(0)	(0)	0	1	(1)			E	2
	212		**RTECS No**		GY2390000				**CAS No**		287-92-3					
Cyclopentene	547	2	NI	2	NI	3	NI	1	1	0	NI	NI			E	2
	213		**RTECS No**		GY5950000				**CAS No**		142-29-0					
p-Cymene	549	4	4	4	(NR)	3	NI	0	(0)	1	2	(1)			FE	2
	552		**RTECS No**		GZ5950000				**CAS No**		99-87-6					
Decahydronaphthalene	551	4	4	4	NR	3	NI	0	0	(1)	1	1			F	1
	214		**RTECS No**		QJ3150000				**CAS No**		91-17-8					
Decane	554	5	NI	5	R	0	0	0	0	0	1	0			F	1
	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
	215		**RTECS No**		HD9100000				**CAS No**		334-48-5					
Decene	558	5	NI	5	R	4	2	0	0	0	2	0	A		F	3

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	216		**RTECS No**						**CAS No**		872-05-9					
Decyl acetate	1767	4	NI	4	NI	NI	NI	0	0	(1)	(1)	(1)			F	1
	217		**RTECS No**						**CAS No**		112-17-4					
Decyl acrylate	559	5	NI	5	NI	5	NI	0	0	(2)	2	1			Fp	2
	218		**RTECS No**		AS7400000				**CAS No**		2156-96-9					
Decyl alcohol (all isomers)	557	3	2	2	R	3	NI	0	0	0	2	1			Fp	2
	219		**RTECS No**		NR0960000				**CAS No**		25339-17-7					
Decyl/Dodecyl/Tetradecyl alcohol mixture	2365	(5)	(2)	(2)	(R)	(4)	(1)	0	0	(2)	(2)	(2)			Fp	2
	3128		**RTECS No**						**CAS No**							
Decyloxytetrahydrothiophene dioxide	1859	3	NI	3	NR	4	NI	0	0	(1)	1	0			Fp	2
	220		**RTECS No**						**CAS No**							
Dextrose solution	562	0	0	0	R	0	NI	0	0	0	0	(0)			D	0
	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
	226		**RTECS No**		SA9100000				**CAS No**		123-42-2					
Dialkyl (C8-C9) diphenylamines	1852	5	NI	5	NR	1	0	0	0	(0)	0	0			FD	0
	2255		**RTECS No**						**CAS No**							
Dialkyl (C7-C13) phthalates	566	(0)	(4)	(4)	(NR)	(0)	(2)	(0)	(0)	(1)	(1)	(1)	R		Fp	3
	227		**RTECS No**						**CAS No**							
Dialkyl (C9 - C10) phthalates	2359	(0)	(0)	(0)	(R)	(0)	(0)	(0)	(0)	(1)	(1)	(1)			Fp	2
	3121		**RTECS No**						**CAS No**							
Dialkyl thiophosphates sodium salts solution	2381	1	0	1	NR	2	NI	0	0	(2)	2	2			D	2
	3424		**RTECS No**						**CAS No**							
Dibromomethane	574	1	NI	1	NR	(2)	NI	1	0	0	NI	NI			SD	1
	228		**RTECS No**		PA7350000				**CAS No**		74-95-3					
Dibutylamine	577	2	NI	2	R	3	NI	2	2	3	3	3			FD	3
	231		**RTECS No**		HR7780000				**CAS No**		111-92-2					
Dibutyl hydrogen phosphonate	1857	1	NI	1	NI	2	NI	0	0	(3)	3	3			F	3
	229		**RTECS No**						**CAS No**		1809-19-4					
2,4-Di-tert-butylphenol	2083	5	4	4	NR	4	NI	NI	NI	NI	NI	NI			NI	NI
	2339		**RTECS No**		SK8260000				**CAS No**		96-76-4					

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
2,6-Di-tert-butylphenol	2082	4	NI	4	NR	4	NI	0	0	(1)	1	1			Fp	2
	2250		**RTECS No**		SK8265000				**CAS No**		128-39-2					
Dibutyl phthalate	582	4	4	4	R	4	1	0	0	1	0	1	R		S	3
	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
	232		**RTECS No**						**CAS No**							
3,4-Dichloro-1-butene	2079	2	2	2	NR	3	NI	1	0	2	2	3			S	3
	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
	4		**RTECS No**		KI0175000				**CAS No**		75-34-3					
Dichloroethyl ether	588	1	1	1	NR	1	0	2	3	4	1	3	M	T	SD	3
	233		**RTECS No**		KN0875000				**CAS No**		111-44-4					
1,6-Dichlorohexane	593	3	NI	3	NR	3	NI	0	(0)	(0)	0	0			S	0
	19		**RTECS No**						**CAS No**		2163-00-0					
2,2'-Dichloroisopropyl ether	615	2	2	2	NR	2	NI	2	0	2	0	2			SD	2
	25		**RTECS No**		KN1750000				**CAS No**		108-60-1					
Dichloromethane	594	1	2	2	NR	1	0	1	0	0	2	2	C		SD	3
	234		**RTECS No**		PA8050000				**CAS No**		75-09-2					
2,4-Dichlorophenol	596	3	2	2	R	3	2	3	2	3	3	3		T	S	3
	30		**RTECS No**		SK8575000				**CAS No**		120-83-2					
2,4-Dichlorophenoxyacetic acid, diethanolamine salt solution	599	0	1	1	R	3	NI	1	0	(3)	1	3		(T)	D	3
	32		**RTECS No**						**CAS No**							
2,4-Dichlorophenoxyacetic acid, dimethylamine salt solution (70% or less)	600	0	1	1	R	3	NI	1	0	(3)	1	3		(T)	D	3
	33		**RTECS No**						**CAS No**							
2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt solution	602	0	NI	0	R	2	NI	1	0	(3)	(1)	3		(T)	D	3
	34		**RTECS No**						**CAS No**							
1,1-Dichloropropane	605	2	1	1	NR	2	1	0	0	1	1	1			SD	1
	5		**RTECS No**		TX9450000				**CAS No**		78-99-9					
1,2-Dichloropropane	606	2	1	1	NR	2	1	1	0	2	2	2			SD	2
	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

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	12		**RTECS No**		TX9660000				**CAS No**		142-28-9					
1,3-Dichloropropene	612	1	NI	1	NR	4	1	2	1	2	3	3	CS		SD	3
	13		**RTECS No**		UC8310000				**CAS No**		542-75-6					
Dichloropropene/Dichloropropane mixtures	608	2	1	1	NR	4	1	2	1	2	3	3	CS		SD	3
	235		**RTECS No**		TX9800000				**CAS No**		8003-19-8					
2,2-Dichloropropionic acid	609	2	2	2	NR	2	NI	1	0	(3)	3	3			D	3
	28		**RTECS No**		UF0690000				**CAS No**		75-99-0					
Dicyclopentadiene, Resin Grade, 81-89%	2389	2	3	3	NR	3	0	2	0	3	2	2	AR		FED	3
	3559		**RTECS No**						**CAS No**							
Diethanolamine	620	0	NI	0	R	1	0	1	0	0	2	3	T		D	3
	236		**RTECS No**		KL2975000				**CAS No**		111-42-2					
Diethylamine	621	0	NI	0	R	2	NI	1	2	3	3C	3			DE	3
	240		**RTECS No**		HZ8750000				**CAS No**		109-89-7					
Diethylaminoethanol	622	0	NI	0	NR	3	NI	1	1	2	3	3			D	3
	241		**RTECS No**		KK5075000				**CAS No**		100-37-8					
2,6-Diethylaniline	1437	3	3	3	NR	2	NI	1	1	(2)	1	2			FD	2
	35		**RTECS No**		BX3500000				**CAS No**		579-66-8					
Diethylbenzene	624	4	4	4	NR	3	NI	0	(0)	(2)	2	1			F	2
	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
	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
	243		**RTECS No**		ID5950000				**CAS No**		111-46-6					
Diethylene glycol dibutyl ether	629	2	NI	2	NI	1	NI	0	0	(1)	1	1			FD	1
	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
	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
	3113		**RTECS No**						**CAS No**							
Diethylene glycol phthalate	1438	2	NI	2	NR	1	NI	0	0	(2)	(1)	2			S	2
	247		**RTECS No**						**CAS No**							

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Diethylenetriamine	638	0	1	1	(R)	2	NI	1	3	3	3A	3	S		FD	3
	248		**RTECS No**		IE1225000				**CAS No**		111-40-0					
Diethylenetriaminepentaacetic acid, pentasodium salt solution	2076	0	NI	0	NR	0	NI	0	(0)	(0)	0	0			D	0
	249		**RTECS No**						**CAS No**							
Diethyl ether	640	0	1	1	NR	0	NI	1	0	0	1	1			DE	2
	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
	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
	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
	2751		**RTECS No**		TI0350000				**CAS No**		117-81-7					
Diethyl phthalate	648	3	3	3	R	2	0	0	0	(1)	1	1			S	1
	238		**RTECS No**		TI1050000				**CAS No**		84-66-2					
Diethyl sulphate	649	1	NI	1	(NR)	(2)	NI	1	2	3	2	3	CM		SD	3
	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
	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
	251		**RTECS No**						**CAS No**		55492-52-9					
Diheptyl phthalate	655	0	(4)	(4)	R	0	NI	0	0	(1)	1	1	R		Fp	3
	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
	224		**RTECS No**		AV1150000				**CAS No**		110-33-8					
Dihexyl phthalate	2125	5	NI	5	R	0	2	0	0	(1)	1	1	R		Fp	3
	253		**RTECS No**		TI1100000				**CAS No**		84-75-3					
1,4-Dihydro-9,10-dihydroxyanthracene, disodium salt solution	657	1	NI	1	NI	1	NI	0	NI	NI	NI	NI			D	NI
	15		**RTECS No**						**CAS No**							
Diisobutylamine	576	2	NI	2	R	3	NI	2	(2)	2	(3)	(3)			FED	3
	256		**RTECS No**		TX1750000				**CAS No**		110-96-3					
Diisobutylene	575	4	4	4	NR	3	NI	0	0	0	1	0			FE	2

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	257		**RTECS No**		SB2715000				**CAS No**		11071-47-9					
Diisobutyl ketone	579	3	NI	3	R	2	NI	0	0	2	2	2			F	2
	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
	255		**RTECS No**		TI1225000				**CAS No**		84-69-5					
Diisodecyl phthalate	619	0	0	0	(R)	0	(0)	0	0	(1)	0	1			Fp	2
	3119		**RTECS No**		TI1270000				**CAS No**		26761-40-0					
Diisoheptyl phthalate	2391	0	(4)	(4)	R	0	0	0	0	(1)	1	1	R		Fp	3
	3561		**RTECS No**						**CAS No**							
Diisononyl adipate	690	0	NI	0	R	0	0	0	0	(1)	1	1			Fp	2
	258		**RTECS No**						**CAS No**		33703-08-1					
Diisononyl phthalate	691	0	0	0	R	0	0	0	0	(0)	0	0			Fp	2
	3120		**RTECS No**						**CAS No**							
Diisooctyl phthalate	693	0	4	4	(R)	0	0	0	0	(1)	1	0			Fp	2
	259		**RTECS No**		TI1300000				**CAS No**		27554-26-3					
Diisopropanolamine	703	0	NI	0	NR	1	NI	0	0	0	2	3			FD	3
	260		**RTECS No**		UB6600000				**CAS No**		110-97-4					
Diisopropylamine	705	1	NI	1	NR	2	0	1	1	2	3	3			ED	3
	261		**RTECS No**		IM4025000				**CAS No**		108-18-9					
Diisopropylbenzene (all isomers)	2220	5	4	4	NR	4	NI	0	0	2	2	1		(T)	F	2
	262		**RTECS No**						**CAS No**							
1,3-Diisopropyl benzene	706	5	4	4	NR	4	NI	0	0	2	2	1			F	2
	2626		**RTECS No**		CZ6330000				**CAS No**		25321-09-9					
Diisopropylnaphthalene	712	5	4	4	NR	(3)	NI	0	0	(1)	1	1			Fp	2
	263		**RTECS No**		QJ1527000				**CAS No**		38640-62-9					
N,N-Dimethylacetamide	658	0	NI	0	R	1	NI	0	0	2	1	2			D	2
	2730		**RTECS No**		AB7700000				**CAS No**		127-19-5					
N,N-Dimethylacetamide solution (40% or less)	658	0	NI	0	R	1	NI	0	0	2	1	2			D	2
	466		**RTECS No**		AB7700000				**CAS No**		127-19-5					
Dimethyl adipate	659	1	NI	1	NR	4	NI	0	0	2	1	1			SD	2
	264		**RTECS No**		AV1645000				**CAS No**		627-93-0					

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Dimethylamine solution (45% or less)	661	0	NI	0	R	3	0	2	0	2	3B	3	S	NT	DE	3
	270		**RTECS No**		IP8750000				**CAS No**		124-40-3					
Dimethylamine solution (greater than 45% but not greater than 55%)	661	0	NI	0	R	3	0	2	0	2	3B	3	S	NT	DE	3
	271		**RTECS No**		IP8750000				**CAS No**		124-40-3					
Dimethylamine solution (greater than 55% but not greater than 65%)	661	0	NI	0	R	3	0	2	0	2	3B	3	S	NT	DE	3
	272		**RTECS No**		IP8750000				**CAS No**		124-40-3					
N,N-Dimethylcyclohexylamine	665	2	NI	2	NR	2	NI	1	2	3	3C	3			FD	3
	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
	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
	468		**RTECS No**		JR6600000				**CAS No**		112-18-5					
Dimethylethanolamine	667	0	NI	0	R	2	NI	1	1	2	3	3			D	3
	273		**RTECS No**		KK6125000				**CAS No**		108-01-0					
Dimethylformamide	676	0	0	0	R	1	0	0	1	2	1	2	R		D	3
	274		**RTECS No**		LQ2100000				**CAS No**		68-12-2					
Dimethyl glutarate	670	0	NI	0	R	3	NI	0	0	2	3	2	A		SD	3
	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
	266		**RTECS No**		SZ7710000				**CAS No**		868-89-9					
Dimethyl octanoic acid	675	3	NI	3	R	4	1	0	0	(2)	2	2			Fp	2
	267		**RTECS No**						**CAS No**		29662-90-6					
Dimethyl phthalate	678	2	2	2	R	2	0	0	0	(1)	0	1			SD	1
	268		**RTECS No**		TI1575000				**CAS No**		131-11-3					
Dimethylpolysiloxane	1161	NI	4	4	NI	2	NI	0	(0)	(0)	0	0			F	1
	275		**RTECS No**						**CAS No**							
2,2-Dimethylpropane-1,3-diol (molten or solution)	679	0	0	0	NR	0	0	0	0	0	2	2			FD	2
	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
	269		**RTECS No**		WM7675000				**CAS No**		106-65-0					
Dinitrotoluene (molten)	688	2	2	2	NR	4	2	2	(2)	(2)	1	0	CMR		S	3

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	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
	2993		**RTECS No**		TI1800000				**CAS No**		84-76-4					
Dioctyl phthalate	692	0	(4)	(4)	(R)	0	0	0	0	(1)	1	(1)			Fp	2
	277		**RTECS No**		TI1925000				**CAS No**		117-84-0					
1,4-Dioxane	682	0	0	0	NR	0	0	0	0	0	0	2	C		D	3
	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
	278		**RTECS No**		OS8100000				**CAS No**		138-86-3					
Diphenyl	694	3	4	4	R	4	1	0	0	(2)	2	1			S	2
	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
	285		**RTECS No**						**CAS No**							
Diphenylamine, reaction product with 2,2,4-Trimethylpentene	1500	NI	1	1	NR	3	NI	0	0	(1)	1	1	S		Fp	3
	286		**RTECS No**						**CAS No**							
Diphenylamines, alkylated	1770	5	NI	5	NR	(3)	NI	0	0	(1)	(1)	(1)	S		F	3
	287		**RTECS No**						**CAS No**							
Diphenyl/Diphenyl ether mixtures	698	NI	NI	4	NR	4	1	0	0	(1)	1	1		(T)	S	1
	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
	281		**RTECS No**		KN8970000				**CAS No**		101-84-8					
Diphenyl ether/Diphenyl phenyl ether mixture	702	5	NI	5	NR	4	NI	0	0	0	1	1		(T)	S	1
	282		**RTECS No**						**CAS No**							
Diphenylmethane diisocyanate	700	5	2	2	NR	0	0	0	0	4	2	2	S		S	3
	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
	290		**RTECS No**						**CAS No**							
Di-n-propylamine	704	1	NI	1	NR	3	NI	2	2	2	3C	3			FED	3
	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
	291		**RTECS No**		UB8785000				**CAS No**		110-98-5					

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Dipropylene glycol dibenzoate	708	4	NI	4	R	NI	NI	0	(0)	NI	NI	NI			NI	NI
	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
	2752		**RTECS No**		TI1940000				**CAS No**		131-16-8					
Dithiocarbamate ester (C7-C35)	2185	NI	2	2	NR	4	NI	0	0	(1)	1	1			S	1
	2371		**RTECS No**						**CAS No**							
Ditridecyl adipate	2351	0	NI	0	NR	0	NI	0	0	(2)	2	1	S		Fp	2
	293		**RTECS No**						**CAS No**							
Ditridecyl phthalate	714	0	(0)	0	NR	0	(0)	0	0	(1)	1	(1)			Fp	2
	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
	294		**RTECS No**		TI1980000				**CAS No**		3648-20-2					
Dodecane (all isomers)	718	5	NI	5	(R)	0	NI	0	0	(1)	(1)	(0)			Fp	2
	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
	2418		**RTECS No**						**CAS No**							
Dodecene (all isomers)	720	5	NI	5	NR	4	NI	0	0	(2)	2	1	A		F	3
	296		**RTECS No**		UD1950000				**CAS No**		6842-15-5					
Dodecenylsuccinic acid, dipotassium salt solution	727	4	NI	4	NR	1	NI	(0)	(0)	NI	NI	NI			D	NI
	297		**RTECS No**						**CAS No**		57195-28-5					
Dodecyl alcohol	719	5	2	2	R	4	1	0	0	(1)	1	(1)			Fp	2
	298		**RTECS No**		JR5775000				**CAS No**		112-53-8					
Dodecylamine/Tetradecylamine mixture	721	3	NI	3	R	4	NI	1	0	(3)	3	3			F	3
	303		**RTECS No**						**CAS No**							
Dodecylbenzene	126	0	NI	0	NR	0	3	0	0	(2)	(2)	(1)			F	2
	304		**RTECS No**		CZ9540000				**CAS No**		123-01-3					
Dodecyl diphenyl ether disulphonate solution	723	(5)	NI	5	NR	4	1	1	0	(3)	1	3			D	3
	299		**RTECS No**		JR8050000				**CAS No**							
Dodecyl hydroxypropyl sulphide	1861	5	NI	5	NI	4	NI	0	0	(0)	0	0			FD	0
	2252		**RTECS No**						**CAS No**							
Dodecyl methacrylate	893	5	NI	5	NR	0	NI	0	(0)	(1)	1	1			F	1

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	300		**RTECS No**		OZ4300000				**CAS No**		142-90-5					
Dodecyl/Octadecyl methacrylate mixture	2116	(5)	NI	(5)	(NR)	(0)	NI	0	0	(1)	1	(1)			Fp	2
	1717		**RTECS No**						**CAS No**							
Dodecyl/Pentadecyl methacrylate mixture	724	(5)	NI	(5)	(NR)	(0)	NI	0	(0)	(1)	(1)	(1)			Fp	2
	302		**RTECS No**						**CAS No**							
Dodecyl phenol	725	0	4	4	NI	4	NI	0	0	(3)	3	2			Fp	3
	301		**RTECS No**		SL3675000				**CAS No**		27193-86-8					
Dodecyl Xylene	1763	0	NI	0	NI	0	NI	0	0	(1)	1	1			Fp	2
	306		**RTECS No**						**CAS No**							
Drilling brines (containing zinc salts)	1425	Inorg	4	4	Inorg	4	1	(1)	(1)	(3)	(3)	(3)			D	3
	307		**RTECS No**		ZH1400000				**CAS No**		7646-85-7					
Drilling brines, including:calcium bromide solution, calcium chloride solution and sodium chloride solution	427	Inorg	0	0	Inorg	1	0	(0)	(0)	(2)	(1)	(2)			D	2
	308		**RTECS No**		EV9328000				**CAS No**		7789-41-5					
Epichlorohydrin	731	0	NI	0	R	3	1	2	2	3	3a	3	CS		D	3
	309		**RTECS No**		TX4900000				**CAS No**		106-89-8					
Ethanolamine	733	0	NI	0	R	2	0	1	1	3	3a	3			D	3
	311		**RTECS No**		KJ5775000				**CAS No**		141-45-5					
2-Ethoxyethanol	766	0	NI	0	R	0	0	0	0	1	2	2	R		NI	3
	40		**RTECS No**		KK8050000				**CAS No**		110-80-5					
2-Ethoxyethyl acetate	767	0	NI	0	R	2	0	1	0	1	1	2	R		D	3
	41		**RTECS No**		KK8225000				**CAS No**		111-15-9					
Ethoxylated long chain (C16+) alkyloxyalkylamine	2103	5	NI	5	NR	1	NI	0	0	(3)	3	(3)			Fp	3
	2203		**RTECS No**						**CAS No**							
Ethoxylated tallow amine (> 95%)	2313	0	NI	0	NR	4	NI	1	(1)	3	2	3	S		Fp	3
	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
	2476		**RTECS No**						**CAS No**							
Ethyl acetate	735	0	2	2	R	1	0	0	0	1	0	1			DE	2
	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

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	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
	314		**RTECS No**		AT0700000				**CAS No**		140-88-5					
Ethyl alcohol	732	0	NI	0	R	0	NI	0	0	0	1	2			D	2
	315		**RTECS No**		KQ6300000				**CAS No**		64-17-5					
Ethylamine	1016	0	NI	0	R	2	NI	2	2	1	3	3			GD	3
	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
	323		**RTECS No**						**CAS No**							
Ethyl amyl ketone	1784	2	NI	2	NI	2	NI	0	0	(2)	2	NI			FD	2
	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
	324		**RTECS No**		DA070000				**CAS No**		100-41-4					
N-Ethylbutylamine	745	1	NI	1	NI	NI	NI	1	1	2	3	3			FED	3
	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
	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
	317		**RTECS No**		ET1660000				**CAS No**		105-54-4					
Ethylcyclohexane	751	4	4	4	NR	3	NI	(0)	(0)	(1)	(0)	(1)			FE	2
	325		**RTECS No**		GV1140000				**CAS No**		1678-91-7					
N-Ethylcyclohexylamine	752	2	NI	2	NI	(3)	NI	1	2	2	3	3			FED	3
	478		**RTECS No**		GX1225000				**CAS No**		5459-93-8					
S-Ethyl dipropylthiocarbamate	2081	3	2	2	NI	3	NI	1	1	2	2	(2)	N		F	3
	2302		**RTECS No**						**CAS No**		759-94-4					
Ethylene carbonate	755	0	NI	0	R	0	NI	0	0	(2)	1	2			SD	2
	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
	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
	328		**RTECS No**		MU5250000				**CAS No**		109-78-4					

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Ethylenediamine	758	0	1	1	R	3	1	1	2	1	3	3	S		D	3
	343		**RTECS No**		KH8575000				**CAS No**		107-15-3					
Ethylenediaminetetraacetic acid, tetrasodium salt solution	759	0	NI	0	NR	2	0	1	(1)	(2)	1	2			D	2
	344		**RTECS No**		AH4375000				**CAS No**		139-33-3					
Ethylene dibromide	760	1	2	2	NR	3	NI	2	2	2	3	3	CRT		SD	3
	329		**RTECS No**		KH9275000				**CAS No**		106-93-4					
Ethylene dichloride	591	1	1	1	NR	2	0	1	0	2	1	2	C		SD	3
	330		**RTECS No**		KI0525000				**CAS No**		107-06-2					
Ethylene glycol	761	0	NI	0	R	0	0	1	(1)	(1)	0	0	R		D	3
	331		**RTECS No**		KW2975000				**CAS No**		107-21-1					
Ethylene glycol acetate	762	0	NI	0	R	2	NI	0	0	(3)	NI	(3)	R		D	3
	333		**RTECS No**		KW7175000				**CAS No**		542-59-6					
Ethylene glycol butyl ether acetate	764	1	NI	1	R	2	NI	0	1	(1)	1	1			FD	1
	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
	335		**RTECS No**		KW4025000				**CAS No**		111-55-7					
Ethylene glycol methyl butyl ether	772	1	NI	1	NI	1	NI	NI	NI	NI	NI	NI			D	NI
	336		**RTECS No**						**CAS No**		13343-98-1					
Ethylene glycol methyl ether acetate	773	0	NI	0	R	2	NI	1	0	(2)	NI	1	R		D	3
	337		**RTECS No**		KL5950000				**CAS No**		110-49-6					
Ethylene glycol monoalkyl ethers	2268	0	NI	0	R	2	NI	1	2	2	1	2			D	2
	338		**RTECS No**						**CAS No**							
Ethylene glycol phenyl ether	775	1	NI	1	R	1	0	1	0	(2)	1	2			SD	2
	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
	340		**RTECS No**						**CAS No**							
Ethylene oxide	77	NI	NI	NI	NI	NI	NI	1	(1)	3	3	3	CMRS		GD	3
	2744		**RTECS No**		KX2450000				**CAS No**		75-21-8					
Ethylene oxide/Propylene oxide mixture with an ethylene oxide content of not more than 30% by mass	78	0	NI	0	R	1	NI	1	1	3	3	3	CMR		DE	3
	341		**RTECS No**						**CAS No**							
Ethylene-vinyl acetate copolymer (emulsion)	779	0	1	1	NR	0	0	0	(0)	(2)	2	0			S	NI

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	342		**RTECS No**						**CAS No**							
Ethyl-3-ethoxypropionate	1439	1	NI	1	NR	2	NI	0	0	2	1	1			FD	2
	321		**RTECS No**		UF3325000				**CAS No**		763-69-9					
2-Ethylhexanoic acid	776	2	NI	2	R	2	NI	0	0	(2)	2	2	R		FD	3
	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
	46		**RTECS No**		AT0855000				**CAS No**		103-11-7					
2-Ethylhexylamine	1081	2	NI	2	NI	3	NI	1	1	3	3	3			FD	3
	48		**RTECS No**		MQ5250000				**CAS No**		104-75-6					
2-Ethylhexyl esters of fatty acids	2221	0	NI	0	R	1	NI	0	(0)	(0)	1	0			F	1
	2578		**RTECS No**						**CAS No**							
2-Ethyl-2-(hydroxymethyl) propane-1,3-diol (C8-C10) ester	2054	0	NI	0	R	0	NI	0	(0)	(0)	0	(0)			Fp	2
	42		**RTECS No**						**CAS No**							
Ethylidene norbornene	783	3	3	3	NR	3	0	0	0	2	1	2			FE	2
	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
	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
	318		**RTECS No**		OZ4550000				**CAS No**		97-63-2					
N-Ethylmethylallylamine	2228	0	NI	0	NR	2	NI	3	2	2	3A	3			D	3
	2417		**RTECS No**						**CAS No**							
o-Ethylphenol	788	2	NI	2	NI	(2)	NI	1	NI	NI	NI	NI			S	NI
	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
	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
	43		**RTECS No**		MP6300000				**CAS No**		645-62-5					
Ethyl toluene	2297	3	NI	3	NI	(3)	NI	0	0	0	2	2			F	2
	346		**RTECS No**						**CAS No**							
Fatty acid (saturated C13+)	1298	5	NI	0	R	0	NI	0	(0)	(1)	(1)	(1)			Fp	2
	347		**RTECS No**		QH4375000				**CAS No**		544-63-8					

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Fatty acid (C8-C16) ethyl hexyl esters	2253	0	NI	0	R	1	NI	0	0	(1)	1	0			Fp	2
	2759		RTECS No						CAS No							
Fatty acid methyl esters (m)	2362	0	NI	0	R	2	NI	0	(0)	(2)	2	2			Fp	2
	3125		RTECS No						CAS No							
Fatty acids, (C8-C10)	2324	0	NI	0	R	4	NI	0	0	(3)	3C	3			NI	NI
	3079		RTECS No						CAS No							
Fatty acids, (C8-C18)	2260	(4)	NI	(4)	R	(4)	(1)	(0)	(0)	(1)	(1)	(1)			Fp	3
	2779		RTECS No						CAS No							
Fatty acids, (C12+)	2261	5	0	0	(R)	0	NI	(0)	(0)	(1)	(1)	(1)			NI	2
	2780		RTECS No						CAS No							
Fatty acids, (C16+)	2259	0	0	0	R	(0)	NI	0	0	(0)	0	0			Fp	2
	2778		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
	1914		RTECS No						CAS No							
Ferric chloride solutions	339	Inorg	5	5	Inorg	2	0	1	(0)	(3)	2	3			D	3
	348		RTECS No		LJ9100000				CAS No		7705-08-0					
Ferric hydroxyethylethylenediaminetriacetic acid, trisodium salt solution	796	NI	NI	NI	NI	NI	NI	0	0	(1)	(0)	1			D	1
	349		RTECS No						CAS No							
Ferric nitrate/Nitric acid solution	337	Inorg	5	5	Inorg	2	0	0	(0)	(3)	3	3			D	3
	350		RTECS No						CAS No							
Fish oil	2316	0	NI	0	R	2	NI	(0)	(0)	(1)	(0)	(1)			Fp	2
	3046		RTECS No						CAS No							
Fish solubles (water-based fish meal extract)	1509	NI	NI	NI	NI	NI	NI	(0)	(0)	(0)	(0)	(0)			NI	NI
	351		RTECS No						CAS No							
Fluorosilicic acid	806	Inorg	0	0	Inorg	2	NI	2	(2)	4	3	3			D	3
	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
	353		RTECS No						CAS No							
Formaldehyde, polymer with isobutylenated phenol	2377	NI	NI	NI	NR	NI	NI	NI	NI	NI	NI	NI			Fp	NI
	1203		RTECS No						CAS No							
Formaldehyde solutions (45% or less)	807	0	NI	0	R	2	NI	2	2	3	3	3	CSM	NT	D	3

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	354		**RTECS No**		LP8925000				**CAS No**		50-00-0					
Formamide	808	0	NI	0	NR	1	NI	0	0	1	1	2	R		D	3
	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
	356		**RTECS No**		LQ4900000				**CAS No**		64-18-6					
Fumaric adduct of rosin, water dispersion	810	0	NI	0	R	3	NI	(0)	NI	NI	NI	NI			NI	NI
	357		**RTECS No**						**CAS No**							
Furfural	812	0	NI	0	R	2	NI	2	(2)	3	2	2	C		D	3
	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
	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
	3074		**RTECS No**						**CAS No**							
Glucose solution	562	0	0	0	R	0	NI	0	0	0	0	(0)			D	0
	361		**RTECS No**		LZ6600000				**CAS No**		50-99-7					
Glutaraldehyde solutions (50% or less)	1107	0	NI	0	R	3	0	1	0	4	3	3	S		D	3
	362		**RTECS No**		MA2450000				**CAS No**		111-30-8					
Glycerine	814	0	NI	0	R	0	NI	0	0	(1)	0	1			D	1
	363		**RTECS No**		MA8050000				**CAS No**		56-81-5					
Glycerine (83%), Dioxanedimethanol (17%) mixture	1743	NI	NI	NI	R	1	NI	0	(0)	(1)	(0)	1			D	1
	364		**RTECS No**						**CAS No**							
Glycerol ethoxylated	2360	0	NI	0	R	0	NI	0	0	(0)	0	0			D	0
	3123		**RTECS No**						**CAS No**							
Glycerol monooleate	1898	0	0	0	R	0	NI	0	(0)	(1)	1	1			Fp	2
	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
	3110		**RTECS No**						**CAS No**							
Glycerol, propoxylated and ethoxylated	2276	0	NI	0	NR	1	0	0	0	0	0	0			SD	2
	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
	3136		**RTECS No**						**CAS No**							

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Glycerol/sucrose blend propoxylated and ethoxylated	2361	0	NI	0	NR	1	NI	0	0	0	0	0			SD	0
	3124		**RTECS No**						**CAS No**							
Glyceryl triacetate	816	0	NI	0	R	1	0	1	0	0	0	1			D	1
	367		**RTECS No**		AK3675000				**CAS No**		102-76-1					
Glycidyl ester of C10 trialkylacetic acid	441	3	NI	3	NR	3	NI	0	0	(2)	2	1			F	2
	368		**RTECS No**						**CAS No**							
Glycine, sodium salt solution	817	0	NI	0	NI	0	NI	0	(0)	(1)	(0)	(1)			D	1
	369		**RTECS No**		MB7600000				**CAS No**		56-40-6					
Glycolic acid solution (70% or less)	2218	0	0	0	R	1	NI	1	(1)	2	3C	3			D	3
	2539		**RTECS No**						**CAS No**							
Glyoxal solution (40% or less)	84	0	NI	0	R	1	NI	0	0	2	2	3	MS		D	3
	370		**RTECS No**		MD2700000				**CAS No**		107-22-2					
Glyoxylic acid solution (50 % or less)	1535	0	NI	0	R	2	0	0	0	(3)	0	3	S		D	3
	371		**RTECS No**		MD4550000				**CAS No**		298-12-4					
Glyphosate solution (not containing surfactant)	1765	0	0	0	NR	3	0	0	0	(3)	0	3			D	3
	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
	2769		**RTECS No**		RX2830000				**CAS No**		8002-03-7					
Heptane (all isomers)	827	4	NI	4	R	4	NI	0	0	0	(1)	1	A		E	2
	372		**RTECS No**		MI7700000				**CAS No**		142-82-5					
n-Heptanoic acid	831	2	NI	2	R	1	NI	0	0	(3)	3B	(3)			FD	3
	479		**RTECS No**		MJ1575000				**CAS No**		111-14-8					
1-Heptanol	828	2	NI	2	R	2	NI	1	0	2	(2)	(2)			FD	2
	2688		**RTECS No**		MK0350000				**CAS No**		111-70-6					
Heptanol (all isomers) (d)	2223	2	NI	2	R	(2)	NI	0	0	(2)	(1)	(2)			FD	2
	373		**RTECS No**						**CAS No**							
Heptene (all isomers)	2225	3	NI	3	NI	2	NI	(0)	(0)	(2)	(2)	(0)			E	2
	374		**RTECS No**						**CAS No**							
1-Heptene	832	3	NI	3	NI	2	NI	(0)	(0)	(2)	(2)	(0)			E	2
	2685		**RTECS No**		MJ8815000				**CAS No**							
Heptyl acetate	833	3	NI	3	NI	(3)	NI	0	0	(2)	1	2			F	2

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	375		**RTECS No**		AH9901000				**CAS No**		112-06-1					
1-Hexadecylnaphthalene / 1,4-bis(hexadecyl)naphthalene mixture	2159	0	NI	0	NR	0	NI	0	0	(1)	1	1			Fp	2
	2373		**RTECS No**						**CAS No**							
Hexamethylenediamine	845	0	NI	0	R	2	NI	1	1	(3)	3A	3	SR		D	3
	377		**RTECS No**		MO1180000				**CAS No**		124-09-4					
Hexamethylenediamine (molten)	845	0	NI	0	R	2	NI	1	1	(3)	3A	3	SR		D	3
	378		**RTECS No**		MO1180000				**CAS No**		124-09-4					
Hexamethylenediamine adipate (50% in water)	846	0	NI	0	R	1	NI	0	(0)	(0)	0	0			D	0
	379		**RTECS No**		AV1940000				**CAS No**		3323-53-3					
Hexamethylenediamine solution	845	0	NI	0	R	2	NI	1	1	(3)	3A	3	SR		D	3
	380		**RTECS No**		MO1180000				**CAS No**		124-09-4					
Hexamethylene diisocyanate	2142	3	0	0	NR	2	NI	1	2	4	3	3	S		S	3
	18		**RTECS No**						**CAS No**							
Hexamethylene glycol	847	0	NI	0	R	1	NI	0	0	(1)	0	1			D	1
	376		**RTECS No**		MO2100000				**CAS No**		629-11-8					
Hexamethyleneimine	848	1	NI	1	NI	2	NI	3	1	2	NI	NI			FED	2
	381		**RTECS No**		CM3150000				**CAS No**		111-49-9					
Hexamethylenetetramine solutions	849	0	NI	0	R	0	NI	0	0	(1)	0	1	S		D	2
	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
	2683		**RTECS No**		MN9275000				**CAS No**		100-54-3					
Hexane (all isomers)	850	3	NI	3	R	4	NI	0	0	0	2	2	NA		E	2
	383		**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
	2641		**RTECS No**						**CAS No**							
Hexanoic acid	853	2	NI	2	R	2	NI	0	0	(3)	(3)	3			FD	3
	384		**RTECS No**		MO5250000				**CAS No**		142-62-1					
Hexanol	854	1	0	0	(R)	2	NI	1	0	(3)	1	3			FD	3
	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
	386		**RTECS No**						**CAS No**							

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
1-Hexene	855	3	NI	3	R	3	NI	0	0	0	1	1			E	2
	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
	2682		**RTECS No**						**CAS No**							
Hexyl acetate	857	2	NI	2	NI	3	NI	0	0	(1)	1	1			FE	2
	387		**RTECS No**		AI0875000				**CAS No**		142-92-7					
Hexylene glycol	859	0	NI	0	R	0	0	0	0	(2)	2	2			D	2
	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
	2886		**RTECS No**						**CAS No**							
Hydrochloric acid	864	Inorg	0	0	Inorg	1	NI	1	1	3	3C	3			DE	3
	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
	3077		**RTECS No**						**CAS No**							
Hydrogen peroxide, more than 60%	867	Inorg	0	0	Inorg	3	NI	1	0	2	3	3			D	3
	2689		**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
	2690		**RTECS No**						**CAS No**							
Hydrogen peroxide solutions (over 60% but not over 70% by mass)	867	Inorg	0	0	Inorg	3	NI	1	0	2	3	3			D	3
	390		**RTECS No**		MX0900000				**CAS No**		7722-84-1					
Hydrogen peroxide solutions (over 8% but not over 60% by mass)	2231	Inorg	0	0	Inorg	3	NI	1	0	(2)	3	3			D	3
	391		**RTECS No**						**CAS No**							
2-Hydroxyethyl acrylate	869	0	NI	0	R	4	NI	1	3	3	3	3	SM		D	3
	51		**RTECS No**		AT1750000				**CAS No**		818-61-1					
N-(Hydroxyethyl)ethylenediaminetriacetic acid, trisodium salt solution	870	0	NI	0	NI	1	NI	0	0	(1)	1	1	R		D	3
	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
	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
	392		**RTECS No**						**CAS No**							
Icosa(oxypropane-2,3-diyl)s	2092	NI	NI	NI	NI	NI	NI	0	(0)	(2)	2	(2)			Fp	2

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	2691		**RTECS No**						**CAS No**							
Illipe oil	2304	(0)	NI	(0)	(R)	(0)	NI	(0)	(0)	(0)	(0)	(0)			Fp	2
	3034		**RTECS No**						**CAS No**							
Interesterified vegetable oils	2355	0	NI	0	R	(0)	NI	(0)	(0)	(1)	(1)	(1)			Fp	2
	3115		**RTECS No**						**CAS No**							
Isoamyl alcohol	965	1	1	1	(R)	1	0	1	0	(2)	2	2			FED	2
	396		**RTECS No**		EL5425000				**CAS No**		123-51-3					
Isobutyl alcohol	382	0	NI	0	R	1	0	0	0	1	2	3			D	3
	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
	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
	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
	2459		**RTECS No**		NQ4375000				**CAS No**		79-31-2					
Isononylaldehyde	2300	3	NI	3	NR	(3)	NI	0	0	(2)	2	1			F	2
	2754		**RTECS No**						**CAS No**							
Isophorone	879	1	1	1	R	2	0	1	1	(2)	1	2			FD	2
	399		**RTECS No**		GW7700000				**CAS No**		78-59-1					
Isophoronediamine	880	0	0	0	NR	2	0	1	(1)	(3)	3	3	S		D	3
	401		**RTECS No**		GV6129000				**CAS No**		2855-13-2					
Isophorone diisocyanate	881	1	NI	1	NR	4	NI	0	0	4	3	3	SA		S	3
	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
	402		**RTECS No**		NT4037000				**CAS No**		78-79-5					
Isopropanolamine	1182	0	NI	0	R	2	NI	0	1	0	3	3			D	3
	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
	404		**RTECS No**		AI4930000				**CAS No**		108-21-4					
Isopropyl alcohol	1181	0	NI	0	R	0	0	0	0	0	1	2			D	2
	405		**RTECS No**		NT8050000				**CAS No**		67-63-0					

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Isopropylamine	1195	0	NI	0	R	2	NI	2	2	1	3	3			DE	3
	407		**RTECS No**		NT8400000				**CAS No**		75-31-0					
Isopropylamine (70% or less) solution	2350	0	NI	0	R	2	NI	2	2	1	3	3			DE	3
	395		**RTECS No**						**CAS No**							
Isopropylbenzene	1197	3	2	2	R	3	NI	0	0	0	2	1			FE	2
	2687		**RTECS No**		GR8575000				**CAS No**		98-82-8					
Isopropylcyclohexane	1199	4	NI	4	(NR)	(3)	NI	(0)	(0)	(1)	(0)	(1)			FE	2
	408		**RTECS No**						**CAS No**		696-29-7					
Isopropyl ether	711	1	NI	1	NR	2	NI	0	0	0	1	1			E	2
	406		**RTECS No**		TZ5425000				**CAS No**		108-20-3					
Kaolin slurry	883	Inorg	NI	0	Inorg	0	NI	0	0	0	0	0			S	0
	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
	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
	411		**RTECS No**		OD8225000				**CAS No**		78-97-7					
Lard	2317	0	NI	0	R	0	NI	0	(0)	(1)	0	1			Fp	2
	3047		**RTECS No**						**CAS No**							
Latex, ammonia (1% or less)- inhibited	889	0	NI	0	R	(2)	NI	0	0	(1)	0	1			D	1
	413		**RTECS No**						**CAS No**							
Latex: Carboxylated styrene-Butadiene copolymer; Styrene-Butadiene rubber	1274	0	NI	0	NR	0	NI	0	0	(1)	0	1			D	1
	414		**RTECS No**						**CAS No**							
Lauric acid	891	4	NI	4	R	4	1	0	(0)	(2)	1	2			Fp	2
	415		**RTECS No**		OE9800000				**CAS No**		143-07-7					
Lauryl polyglucose (50% or less)	2137	3	NI	3	R	3	0	0	0	(3)	2	3			D	3
	416		**RTECS No**						**CAS No**		110615-47-9					
Lecithin	2146	0	NI	0	R	0	NI	0	0	(0)	0	(0)			SD	0
	417		**RTECS No**						**CAS No**							
Ligninsulphonic acid, sodium salt solution	34	0	NI	0	(NR)	(0)	NI	0	(0)	(0)	(0)	(0)			D	0
	419		**RTECS No**						**CAS No**							
Linseed oil	2318	0	NI	0	R	(2)	NI	0	(0)	(1)	0	(1)			Fp	2

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	3048		**RTECS No**						**CAS No**							
Long-chain alkaryl polyether (C11-C20)	1982	(4)	NI	(4)	NR	3	(1)	0	0	(2)	0	2			Fp	2
	421		**RTECS No**						**CAS No**							
Long-chain alkaryl sulphonic acid (C16-C60)	1966	0	NI	0	(NR)	0	NI	0	0	(2)	(1)	2			Fp	2
	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
	425		**RTECS No**						**CAS No**							
Long-chain polyetheramine in alkyl (C2-C4) benzenes	1457	NI	NI	NI	NR	2	NI	0	0	(2)	2	2			Fp	2
	422		**RTECS No**						**CAS No**							
Long-chain polyetheramine in aromatic solvent	1457	NI	NI	NI	NR	2	NI	0	0	(2)	2	2			Fp	2
	423		**RTECS No**						**CAS No**							
L-Lysine solution (60% or less)	2199	0	0	0	R	1	0	0	0	0	1	NI			D	1
	2306		**RTECS No**						**CAS No**							
Magnesium chloride solution	915	Inorg	0	0	Inorg	1	0	0	0	(0)	0	0			D	0
	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
	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
	3116		**RTECS No**						**CAS No**							
Magnesium long-chain alkaryl sulphonate (C11-C50)	1967	0	NI	0	NR	0	NI	0	0	(2)	1	2	S		Fp	3
	430		**RTECS No**						**CAS No**							
Magnesium long-chain alkyl salicylate (C11+)	71	(0)	NI	(0)	NR	(2)	NI	0	0	(1)	(1)	(1)	S		S	2
	429		**RTECS No**						**CAS No**							
Maleic anhydride	921	1	NI	1	R	2	0	1	2	(3)	3	3	S		D	3
	431		**RTECS No**		ON3675000				**CAS No**		108-31-6					
Maltitol solution	2348	0	NI	0	R	0	NI	0	0	(0)	0	0			D	0
	3078		**RTECS No**						**CAS No**							
Mango kernel oil	2305	(0)	NI	(0)	(R)	(0)	NI	(0)	(0)	(0)	(0)	(0)			Fp	2
	3035		**RTECS No**						**CAS No**							
Mercaptobenzothiazol, sodium salt solution	925	2	1	1	NR	4	2	0	0	(0)	0	0	S		S	2
	432		**RTECS No**		DL6475000				**CAS No**		149-30-4					

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Mesityl oxide	946	1	NI	1	R	(1)	NI	1	0	2	2	2			D	2
	433		**RTECS No**		SB4200000				**CAS No**		141-79-7					
Metam sodium solution	202	0	NI	0	NR	5	NI	1	2	(2)	2	1	S		D	2
	434		**RTECS No**		FC2100000				**CAS No**		137-42-8					
Methacrylic acid	948	0	NI	0	R	2	0	1	2	2	3	3			D	3
	435		**RTECS No**		OZ2975000				**CAS No**		79-41-4					
Methacrylic acid - alkoxypoly (alkylene oxide) methacrylate copolymer, sodium salt aqueous solution (45% or less)	2288	NI	0	0	NR	1	NI	0	(0)	(1)	1	0			D	1
	2819		**RTECS No**						**CAS No**							
Methacrylic resin in ethylene dichloride	2046	1	1	1	NR	2	0	(1)	(0)	(2)	(1)	(2)	C		SD	3
	436		**RTECS No**						**CAS No**							
Methacrylonitrile	949	0	NI	0	R	2	0	3	2	4	1	1	S	NT	ED	3
	437		**RTECS No**		UD1400000				**CAS No**		126-98-7					
3-Methoxy-1-butanol	952	0	NI	0	R	(1)	NI	0	0	(1)	0	1			D	1
	57		**RTECS No**						**CAS No**		2517-43-3					
3-Methoxybutyl acetate	953	1	1	1	R	3	NI	0	(0)	(1)	1	1			FED	1
	58		**RTECS No**		EL4725000				**CAS No**		4435-53-4					
N-(2-Methoxy-1-methyl ethyl)-2-ethyl-6-methyl chloroacetanilide	113	2	2	2	NR	5	1	1	0	(2)	1	0	S		S	2
	469		**RTECS No**		AN3430000				**CAS No**		51218-45-2					
Methyl acetate	954	0	NI	0	R	1	NI	0	0	0	1	2			DE	2
	438		**RTECS No**		AI9100000				**CAS No**		79-20-9					
Methyl acetoacetate	335	0	NI	0	R	1	NI	0	0	(2)	1	2			D	2
	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
	440		**RTECS No**		AT2800000				**CAS No**		96-33-3					
Methyl alcohol	951	0	NI	0	R	0	0	3	(3)	(4)	2	2	T		DE	3
	441		**RTECS No**		PC1400000				**CAS No**		67-56-1					
Methylamine solutions (42% or less)	957	0	NI	0	R	2	NI	2	(2)	3	3	3	M	NT	DE	3
	455		**RTECS No**		PF6300000				**CAS No**		74-89-5					
Methylamyl acetate	858	2	NI	2	NI	3	NI	0	0	0	1	(2)			FED	2
	456		**RTECS No**		SA7525000				**CAS No**		108-84-9					

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Methylamyl alcohol	958	1	NI	1	R	1	NI	1	0	2	1	3			FED	3
	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
	442		**RTECS No**		MJ5075000				**CAS No**		110-43-0					
N-Methylaniline	961	1	NI	1	(NR)	3	1	1	1	(2)	(1)	1			FD	2
	3107		**RTECS No**		BY4550000				**CAS No**		100-61-8					
Methylbutenol	967	0	NI	0	R	2	NI	1	0	(2)	2	2			D	2
	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
	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
	443		**RTECS No**		MP1400000				**CAS No**		591-78-6					
Methylbutynol	968	0	NI	0	NR	1	NI	1	1	3	0	2			D	2
	459		**RTECS No**		ES0810000				**CAS No**		115-19-5					
Methyl butyrate	973	1	NI	1	NI	(2)	NI	0	0	2	2	(2)			ED	2
	444		**RTECS No**		ET5500000				**CAS No**		623-42-7					
Methylcyclohexane	976	3	3	3	NR	3	1	0	0	1	1	1	A		E	2
	460		**RTECS No**		GV6125000				**CAS No**		108-87-2					
Methylcyclopentadiene dimer	977	4	NI	4	(NR)	(3)	NI	0	(0)	(2)	(2)	(2)			F	2
	461		**RTECS No**		PC1075000				**CAS No**		26472-00-4					
Methylcyclopentadienyl manganese tricarbonyl	2213	3	NI	3	NR	4	NI	2	3	4	1	1			S	3
	2692		**RTECS No**						**CAS No**							
Methyl diethanolamine	1491	0	NI	0	R	2	NI	1	0	(2)	1	2			D	2
	445		**RTECS No**		KL7525000				**CAS No**		105-59-9					
Methylene bisthiocyanate	2235	2	NI	2	NR	5	NI	2	0	4	NI	NI	S		NI	3
	2693		**RTECS No**						**CAS No**							
2-Methyl-6-ethyl aniline	984	2	NI	2	NR	2	NI	1	1	(2)	0	2			FD	2
	54		**RTECS No**		BY5600000				**CAS No**		24549-06-2					
Methyl ethyl ketone	385	0	NI	0	R	1	0	0	0	1	2	2			DE	2
	446		**RTECS No**		EL6475000				**CAS No**		78-93-3					
2-Methyl-5-ethyl pyridine	986	2	NI	2	NI	2	NI	1	2	(3)	3	3			FD	3

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	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
	447		**RTECS No**		LQ8925000				**CAS No**		107-31-3					
N-Methylglucamine solution (70% or less)	2048	0	NI	0	R	0	NI	1	0	(3)	0	3			D	3
	482		**RTECS No**		000000000				**CAS No**		6284-40-8					
Methyl heptyl ketone	988	3	NI	3	R	3	NI	0	0	NI	NI	NI			FED	NI
	448		**RTECS No**		RA8225000				**CAS No**		821-55-6					
2-Methyl-2-hydroxy-3-butyne	968	0	NI	0	NR	1	NI	1	1	3	0	2			D	2
	52		**RTECS No**		ES0810000				**CAS No**		115-19-5					
Methyl isobutyl ketone	971	1	NI	1	R	1	0	1	0	2	2	3			FED	3
	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
	450		**RTECS No**		OZ5075000				**CAS No**		80-62-6					
3-Methyl-3-methoxybutanol	996	1	NI	1	NR	0	NI	0	(0)	(2)	1	(2)			FD	2
	59		**RTECS No**						**CAS No**							
3-Methyl-3-methoxybutyl acetate	997	1	NI	1	NR	0	NI	0	(0)	NI	NI	NI			F	NI
	60		**RTECS No**						**CAS No**							
Methyl naphthalene (molten)	1999	4	NI	4	(NR)	(4)	NI	1	0	(2)	1	1		T	F	2
	451		**RTECS No**						**CAS No**							
2-Methylpentane	1000	3	NI	3	NI	4	NI	(0)	(0)	(2)	(2)	(2)			E	2
	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
	2213		**RTECS No**						**CAS No**							
Methyl propyl ketone	1003	0	NI	0	R	0	NI	1	0	(2)	1	2			FED	2
	452		**RTECS No**		SA7875000				**CAS No**		107-87-9					
2-Methylpyridine	1005	1	NI	1	R	1	NI	1	2	1	3A	3			D	3
	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
	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
	63		**RTECS No**		UT5425000				**CAS No**		108-89-4					

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
N-Methyl-2-pyrrolidone	1008	0	NI	0	R	1	NI	0	0	2	1	2	R		D	3
	481		**RTECS No**		UY5790000				**CAS No**		872-50-4					
Methyl salicylate	86	2	NI	2	R	2	NI	1	1	1	2	1	R		SD	3
	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
	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
	2368		**RTECS No**		UE2285000				**CAS No**		3268-49-3					
Microsilica slurry	1514	Inorg	0	0	Inorg	0	0	(0)	(0)	NI	(0)	(0)			S	0
	2507		**RTECS No**						**CAS No**		7631-86-9					
Molasses	1013	0	NI	0	R	0	NI	0	0	0	0	0			D	0
	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
	3108		**RTECS No**						**CAS No**							
Morpholine	1018	0	0	0	R	2	NI	1	2	2	3	3			D	3
	463		**RTECS No**		QD6475000				**CAS No**		110-91-8					
Motor fuel anti-knock compound (containing lead alkyls)	1303	4	5	5	NR	5	NI	3	2	4	2	2	NR		S	3
	464		**RTECS No**		TP4550000				**CAS No**		78-00-2					
Myrcene	1019	4	NI	4	R	4	1	0	0	(2)	2	NI			F	2
	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
	492		**RTECS No**						**CAS No**							
Naphthalene (molten)	1	3	3	3	NR	4	1	1	0	(2)	1	1	C	T	S	3
	493		**RTECS No**		QJ0525000				**CAS No**		91-20-3					
Naphthalenesulphonic acid-Formaldehyde copolymer, sodium salt solution	1020	0	1	1	(NR)	1	NI	0	(0)	(1)	0	1			D	1
	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
	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
	496		**RTECS No**						**CAS No**		26896-20-8					
Nitrating acid (mixture of sulphuric and nitric acids)	289	Inorg	NI	0	Inorg	(2)	NI	3	3	4	3C	3			D	3

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	497		**RTECS No**						**CAS No**							
Nitric acid (70% and over)	1029	Inorg	NI	0	Inorg	2	NI	(3)	(1)	4	3C	3			D	3
	498		**RTECS No**		QU5775000				**CAS No**		7697-37-2					
Nitric acid (less than 70%)	1029	Inorg	NI	0	Inorg	2	NI	(3)	(1)	4	3C	3			D	3
	499		**RTECS No**		QU5775000				**CAS No**		7697-37-2					
Nitrilotriacetic acid, trisodium salt solution	1030	0	NI	0	R	1	0	1	(0)	0	1	1	CMR		D	3
	500		**RTECS No**		MB8400000				**CAS No**		5094-31-3					
Nitrobenzene	1017	1	1	1	R	3	(4)	(2)	2	2	1	1	CRT		SD	3
	501		**RTECS No**		DA6475000				**CAS No**		98-95-3					
Nitroethane	1037	0	NI	0	NR	2	NI	1	0	(2)	(0)	(1)			SD	2
	502		**RTECS No**		KI5600000				**CAS No**		79-24-3					
Nitroethane(80%)/ Nitropropane(20%)	2245	0	1	1	NR	2	NI	1	1	2	0	1			E	2
	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
	2212		**RTECS No**						**CAS No**							
o-Nitrophenol (molten)	1041	1	2	2	R	3	(2)	0	0	(1)	1	1			S	1
	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
	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
	20		**RTECS No**						**CAS No**							
2-Nitropropane	1045	(0)	(1)	(1)	(NR)	(2)	NI	2	0	2	0	0	C		FED	3
	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
	504		**RTECS No**						**CAS No**							
o-Nitrotoluene	1049	2	2	2	NR	2	(1)	1	0	(2)	0	1	CMR		S	3
	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
	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
	532		**RTECS No**						**CAS No**							

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Nonane (all isomers)	1054	4	NI	4	R	4	NI	0	0	1	0	0	A		FE	2
	506		**RTECS No**		RA6115000				**CAS No**		111-84-2					
Nonanoic acid (all isomers)	1055	3	NI	3	R	2	NI	0	0	(3)	2	3			F	3
	507		**RTECS No**		RA6650000				**CAS No**		112-05-0					
Non-edible industrial grade palm oil	2364	0	NI	0	R	0	NI	0	0	(2)	(2)	(2)			Fp	2
	3127		**RTECS No**						**CAS No**							
Nonene (all isomers)	2222	4	NI	4	NI	3	NI	0	0	0	1	1	A		FE	2
	508		**RTECS No**						**CAS No**							
1-Nonene	1060	4	NI	4	NI	3	NI	0	0	0	1	1	A		FE	2
	2680		**RTECS No**						**CAS No**		27215-95-8					
Nonyl acetate	1766	4	NI	4	NI	NI	NI	0	0	NI	NI	NI			F	NI
	509		**RTECS No**						**CAS No**		143-13-5					
Nonyl alcohol (all isomers)	1059	3	NI	3	NR	3	1	0	0	(2)	2	2			Fp	2
	510		**RTECS No**		RH1400000				**CAS No**		2430-22-0					
Nonyl methacrylate monomer	1061	5	NI	5	R	3	NI	(0)	(0)	(1)	(1)	(1)			F	1
	511		**RTECS No**						**CAS No**		2696-43-7					
Nonylphenol	1062	5	4	4	NR	5	3	1	0	(3)	3	3			FD	3
	512		**RTECS No**		SM5600000				**CAS No**		25154-52-3					
Nonylphenol poly(4+)ethoxylate	1063	4	NI	4	NR	3	1	0	0	(2)	2	1			D	2
	513		**RTECS No**						**CAS No**							
Octane (all isomers)	1072	5	NI	5	(R)	4	NI	(0)	(0)	0	0	0	A		FE	2
	538		**RTECS No**		RG8400000				**CAS No**		111-65-9					
Octanoic acid (all isomers)	1074	3	NI	3	R	1	NI	0	0	(3)	3	3			F	3
	539		**RTECS No**		RH0175000				**CAS No**		134-07-2					
Octanol (all isomers)	1075	3	NI	3	R	2	0	1	0	(2)	2	2			Fp	2
	540		**RTECS No**		RH6550000				**CAS No**		111-87-5					
1-Octanol	1075	3	NI	3	R	2	0	1	0	(2)	2	2			Fp	2
	2676		**RTECS No**		RH6550000				**CAS No**		111-87-5					
iso-Octanol	1076	3	NI	3	R	2	0	1	0	(2)	2	(2)			F	2
	2675		**RTECS No**		NS7700000				**CAS No**		26952-21-6					
Octene (all isomers)	1079	4	NI	4	NR	3	NI	0	0	0	2	1	A		FE	2

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	541		**RTECS No**						**CAS No**							
n-Octyl acetate	1080	3	NI	3	R	2	NI	0	0	(1)	1	NI			FD	1
	483		**RTECS No**		AJ1400000				**CAS No**		112-14-1					
Octyl aldehydes	1071	2	NI	2	NI	3	NI	0	0	(1)	1	1			F	1
	542		**RTECS No**						**CAS No**		63885-09-6					
Octyl decyl adipate	1082	0	NI	0	(R)	(0)	(0)	(0)	(0)	(1)	(1)	(1)			Fp	2
	543		**RTECS No**						**CAS No**		110-29-2					
Olefin-Alkyl ester copolymer (molecular weight 2000+)	1965	NI	NI	0	NR	0	NI	0	0	(0)	0	0			Fp	2
	546		**RTECS No**						**CAS No**							
Olefin Mixture (C7-C9)	2385	5	4	4	NR	4	(1)	(0)	0	0	2	1	A		E	2
	3548		**RTECS No**						**CAS No**		97593-00-5					
Olefin mixtures (C5-C7)	2243	3	NI	3	R	3	NI	(0)	(0)	(2)	(2)	(1)	A		E	2
	545		**RTECS No**						**CAS No**							
Olefin mixtures (C5-C15)	2321	(5)	NI	(5)	R	(4)	NI	(0)	(0)	(2)	(2)	(1)	A		FE	2
	544		**RTECS No**						**CAS No**							
Olefins (C13+, all isomers)	2028	5	NI	5	NR	0	NI	0	0	(0)	0	0			Fp	2
	547		**RTECS No**						**CAS No**							
alpha-Olefins (C6-C18) mixtures	2030	(5)	NI	(5)	R	(4)	NI	(0)	(0)	(2)	(2)	(1)	A		FE	2
	108		**RTECS No**						**CAS No**							
Oleic acid	1089	0	NI	0	R	0	NI	0	1	(2)	1	1			Fp	2
	548		**RTECS No**		RG2275000				**CAS No**		112-80-1					
Oleum	1280	0	NI	0	Inorg	2	NI	(3)	(3)	4	3C	3	C		D	3
	549		**RTECS No**		WS5600000				**CAS No**		7664-93-9					
Oleylamine	1862	0	NI	0	NR	4	NI	1	(1)	(3)	3B	3			Fp	3
	550		**RTECS No**						**CAS No**							
Olive oil	1090	0	NI	0	R	(2)	NI	(0)	(0)	(1)	1	1			Fp	2
	2771		**RTECS No**		RK4300000				**CAS No**		8001-25-0					
Orange juice	2375	0	0	0	R	0	0	0	0	(0)	0	0			D	0
	3151		**RTECS No**						**CAS No**							
Orange juice (not concentrated)	2382	0	0	0	R	0	0	0	0	(0)	0	0			D	0
	3425		**RTECS No**						**CAS No**							

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Oxygenated aliphatic hydrocarbon mixture	2266	5	2	(2)	NR	1	NI	0	0	(1)	1	1			FE	2
	2825		RTECS No						CAS No							
Palm acid oil	2307	(0)	NI	(0)	(R)	(0)	NI	0	(0)	(1)	0	1			Fp	2
	3037		RTECS No						CAS No							
Palm fatty acid distillate	2310	NI	NI	(0)	(R)	(0)	NI	0	(0)	(1)	0	1			Fp	2
	3040		RTECS No						CAS No							
Palm kernel acid oil	1095	0	NI	0	R	(3)	NI	0	0	(2)	1	2			Fp	2
	553		RTECS No						CAS No							
Palm kernel fatty acid distillate	2335	(0)	0	0	R	(3)	NI	0	(0)	(2)	1	2			Fp	2
	3111		RTECS No						CAS No							
Palm kernel oil	1094	0	NI	0	R	1	NI	(0)	(0)	(1)	(0)	(1)			Fp	2
	2766		RTECS No						CAS No							
Palm kernel olein	2308	(0)	NI	(0)	(R)	1	NI	(0)	(0)	(0)	(0)	(0)			Fp	2
	3038		RTECS No						CAS No							
Palm kernel stearin	2309	0	(0)	(0)	(R)	0	NI	(0)	(0)	(0)	(0)	(0)			Fp	2
	3039		RTECS No						CAS No							
Palm mid-fraction	2363	(0)	NI	(0)	(R)	(0)	NI	0	0	(0)	(0)	(0)			Fp	2
	3126		RTECS No						CAS No							
Palm oil	2249	0	NI	0	R	0	NI	0	(0)	(0)	0	0			Fp	2
	2764		RTECS No						CAS No							
Palm oil fatty acid methyl ester	1097	0	NI	0	R	0	NI	0	0	0	0	1			Fp	2
	554		RTECS No						CAS No							
Palm olein	2250	0	NI	0	R	0	NI	0	(0)	(0)	0	0			Fp	2
	2765		RTECS No						CAS No							
Palm stearin	2251	0	NI	0	R	0	NI	0	(0)	(0)	0	0			Fp	2
	555		RTECS No						CAS No							
Paraffin wax	1086	0	NI	0	R	0	NI	(0)	(0)	(1)	1	1			Fp	2
	556		RTECS No		RV0350000				CAS No		8002-74-2					
Paraldehyde	1098	0	0	0	NR	0	NI	1	0	0	1	3			D	3
	557		RTECS No		YK0525000				CAS No		123-63-7					
Paraldehyde-ammonia reaction product	2131	1	NI	1	R	2	NI	2	1	(3)	3B	3			FED	3

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	1989		**RTECS No**						**CAS No**							
Pentachloroethane	1099	3	2	2	NI	3	1	1	(1)	1	(1)	(1)	CT		S	3
	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
	14		**RTECS No**		RZ2464000				**CAS No**		504-60-9					
1,3-Pentadiene concentrate	2390	NI	NI	(3)	(NR)	(3)	NI	(2)	(1)	(3)	(2)	(2)	CMR		E	3
	3560		**RTECS No**						**CAS No**							
Pentaethylenehexamine	1103	0	NI	0	NI	4	NI	1	(2)	(3)	3	(3)	S		D	3
	560		**RTECS No**		RZ2680000				**CAS No**		4067-16-7					
Pentane (all isomers)	1105	3	NI	3	R	3	NI	0	0	0	1	1			E	2
	561		**RTECS No**		RZ9450000				**CAS No**		109-66-0					
Pentanoic acid	1109	1	NI	1	NI	2	NI	1	2	(3)	3	3			FD	3
	562		**RTECS No**		YV6100000				**CAS No**		109-52-4					
n-Pentanoic acid (64%)/2-Methyl butyric acid (36%) mixture	2144	(1)	NI	(1)	NI	(2)	NI	(1)	(2)	(3)	3	(3)			FD	3
	2211		**RTECS No**						**CAS No**							
Pentene (all isomers)	1992	2	NI	2	NI	(2)	NI	(0)	(0)	(0)	(0)	(1)			E	2
	563		**RTECS No**						**CAS No**							
1-Pentene	1114	2	NI	2	NI	(2)	NI	(0)	(0)	0	(0)	(1)			E	2
	2679		**RTECS No**						**CAS No**		109-67-1					
2-Pentene	1115	2	NI	2	NI	2	NI	(0)	(0)	(1)	(0)	(1)			E	2
	2678		**RTECS No**						**CAS No**		109-68-2					
iso-Pentene	1113	2	NI	2	NI	2	NI	(0)	(0)	(0)	(0)	(1)			E	2
	2677		**RTECS No**		EM7600000				**CAS No**		563-45-1					
n-Pentyl propionate	1484	2	NI	2	R	2	NI	0	0	(2)	2	1			F	2
	484		**RTECS No**						**CAS No**		624-54-4					
Perchloroethylene	1295	3	2	2	NR	(3)	2	0	0	0	2	1	C		S	3
	564		**RTECS No**		KX3850000				**CAS No**		127-18-4					
Petrolatum	2244	0	NI	0	NR	0	NI	0	0	2	1	1			Fp	2
	565		**RTECS No**						**CAS No**							
Phenol	1124	1	2	2	R	3	0	2	2	(3)	3	3		NT	S	3
	566		**RTECS No**		SJ3325000				**CAS No**		108-95-2					

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
1-Phenyl-1-xylyl ethane	1135	5	4	4	NR	(2)	NI	1	0	(1)	(0)	0			F	1
	23		**RTECS No**		CZ7300000				**CAS No**		40766-31-2					
Phosphate esters, alkyl (C12-C14) amine	1854	2	NI	2	NR	3	NI	0	(0)	(2)	1	2			FD	2
	1345		**RTECS No**						**CAS No**							
Phosphoric acid	1138	0	NI	0	Inorg	1	NI	(3)	(3)	3	3	3			D	3
	567		**RTECS No**		TB6300000				**CAS No**		7664-38-2					
Phosphorus, yellow or white	1139	Inorg	(3)	(3)	Inorg	6	4	0	0	0	2	1			S	2
	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
	569		**RTECS No**		TI3150000				**CAS No**		85-44-9					
alpha-Pinene	40	4	NI	4	NI	4	NI	0	0	0	1	(1)	S	T	F	3
	109		**RTECS No**		DT7000000				**CAS No**		80-56-8					
beta-Pinene	41	4	NI	4	NI	4	NI	0	0	0	1	(1)	S	NT	F	3
	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
	570		**RTECS No**		TK5100000				**CAS No**		8002-09-3					
Polyacrylic acid solution (40% or less)	2302	(2)	NI	(2)	NR	1	NI	0	0	(1)	1	1			D	1
	2709		**RTECS No**						**CAS No**							
Polyalkyl (C18-C22) acrylate in xylene	1151	(3)	NI	(3)	NR	2	NI	0	0	(2)	2	1			Fp	2
	580		**RTECS No**						**CAS No**							
Polyalkylalkenaminesuccinimide, molybdenum oxysulphide	2379	NI	0	0	NR	0	NI	0	0	(0)	0	0			Fp	2
	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
	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
	575		**RTECS No**						**CAS No**							
Polyalkyl (C10-C20) methacrylate	1984	(5)	NI	(5)	NR	0	NI	0	0	0	0	0			Fp	2
	2189		**RTECS No**						**CAS No**							
Polyalkyl (C10-C18) methacrylate/ethylene-propylene copolymer mixture	2201	0	0	0	NR	0	0	0	0	(1)	1	1	A		Fp	3
	2188		**RTECS No**						**CAS No**							
Polyaluminium chloride solution	1136	Inorg	0	0	Inorg	0	NI	(0)	(0)	(1)	(0)	(1)			D	1

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	584		**RTECS No**		BD0549500				**CAS No**		1327-41-9					
Polybutene	1154	0	NI	0	(NR)	(0)	(0)	(0)	(0)	(0)	(0)	(0)			Fp	2
	585		**RTECS No**		EM9032000				**CAS No**		9003-29-6					
Polybutenyl succinimide	2055	5	NI	5	NR	0	NI	(0)	(0)	(0)	0	(0)			Fp	2
	586		**RTECS No**						**CAS No**							
Poly(2+)cyclic aromatics	2246	4	4	4	NR	(4)	NI	(1)	(1)	(2)	(1)	(1)	CM		S	3
	574		**RTECS No**						**CAS No**							
Polyether (molecular weight 1350+)	1975	0	NI	0	NR	1	NI	0	(0)	(0)	0	0			Fp	2
	587		**RTECS No**						**CAS No**							
Polyetheramine	2353	0	NI	0	NR	2	NI	0	0	(3)	3B	(3)			D	3
	2946		**RTECS No**						**CAS No**							
Polyether, borated	1863	0	NI	0	NR	3	1	0	(0)	(1)	1	0			D	1
	572		**RTECS No**						**CAS No**							
Polyethylene glycol	1157	0	NI	0	NR	0	NI	0	0	0	1	1			D	1
	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
	590		**RTECS No**		MC9630000				**CAS No**		24991-55-7					
Polyethylene polyamines	2367	0	NI	0	NR	3	0	1	0	(3)	2	(3)	S		D	0
	3131		**RTECS No**						**CAS No**							
Polyethylene Polyamines (more than 50% C5 -C20 Paraffin Oil)	1991	(5)	NI	(5)	NR	3	0	0	(1)	(3)	(2)	(3)	S		Fp	0
	591		**RTECS No**						**CAS No**							
Polyferric sulphate solution	338	Inorg	0	0	Inorg	(2)	NI	1	(1)	(3)	3	(3)			D	3
	592		**RTECS No**						**CAS No**							
Polyglycerin, sodium salt solution (containing less than 3% sodium hydroxide)	1874	0	NI	0	R	0	NI	0	0	(3)	(2)	3			D	3
	593		**RTECS No**						**CAS No**							
Polyglycerol	1511	NI	NI	NI	NI	NI	NI	0	(0)	(0)	(0)	(0)			D	0
	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
	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
	2374		**RTECS No**						**CAS No**							

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Polyisobutenyl anhydride adduct	2127	0	NI	0	NR	0	NI	0	0	(1)	0	1			FD	1
	2256		RTECS No						CAS No							
Poly(4+)isobutylene	2264	0	NI	0	NR	0	NI	(0)	(0)	(0)	(0)	(0)			Fp	2
	578		RTECS No						CAS No							
Polymethylene polyphenyl isocyanate	1153	NI	(2)	(2)	NR	0	0	0	0	(2)	2	2	S		S	2
	595		RTECS No		TR0350000				CAS No		9016-87-9					
Polyolefin (molecular weight 300+)	1968	0	NI	0	NR	0	NI	0	0	0	0	0			Fp	2
	596		RTECS No						CAS No							
Polyolefin amide alkeneamine (C17+)	2104	5	NI	5	NR	0	NI	0	0	(1)	1	(1)			Fp	2
	597		RTECS No						CAS No							
Polyolefin amide alkeneamine (C28+)	1971	0	NI	0	NR	0	NI	0	0	(0)	1	(1)			NI	1
	598		RTECS No						CAS No							
Polyolefin amide alkeneamine borate (C28-C250)	1970	0	NI	0	NR	0	NI	0	0	(0)	0	(0)			Fp	2
	600		RTECS No						CAS No							
Polyolefin amide alkeneamine/molybdenum oxysulphide mixture	2256	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI			NI	NI
	603		RTECS No						CAS No							
Polyolefin amide alkeneamine polyol	1989	0	NI	0	NR	0	NI	0	0	(0)	0	0	S		Fp	3
	602		RTECS No						CAS No							
Poly (17+) olefin amine	2049	0	NI	0	NR	2	NI	0	(0)	(1)	(1)	(1)			Fp	2
	571		RTECS No						CAS No		98761-78-5					
Polyolefinamine (C28-C250)	2107	0	NI	0	NR	2	NI	0	(0)	(2)	2	(1)			Fp	2
	609		RTECS No						CAS No							
Polyolefinamine in alkyl (C2-C4) benzenes	2107	0	NI	0	NR	2	NI	0	(0)	(2)	2	(1)			Fp	2
	610		RTECS No						CAS No							
Polyolefinamine in aromatic solvent	2107	0	NI	0	NR	2	NI	0	(0)	(2)	2	(1)			Fp	2
	611		RTECS No						CAS No							
Polyolefin aminoester salts (molecular weight 2000+)	2095	0	NI	0	NR	1	NI	0	0	(1)	1	(1)			Fp	2
	604		RTECS No						CAS No							
Polyolefin anhydride	1865	0	NI	0	NR	1	NI	0	0	(2)	1	(2)			Fp	2
	605		RTECS No						CAS No							
Polyolefin ester (C28-C250)	1969	0	NI	0	NR	0	NI	0	0	(0)	0	0			Fp	2

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	606		RTECS No						CAS No							
Polyolefin phenolic amine (C28-C250)	1980	0	NI	0	NI	0	NI	0	0	(1)	(1)	(1)			Fp	2
	607		RTECS No						CAS No							
Polyolefin phosphorosulphide, barium derivative (C28-C250)	1976	0	NI	0	NI	2	NI	0	(0)	(0)	(0)	(0)			S	0
	608		RTECS No						CAS No							
Poly(20)oxyethylene sorbitan monooleate	1442	3	NI	3	NI	(3)	NI	0	(0)	(1)	0	1			D	1
	577		RTECS No		WG2932500				CAS No		9005-65-6					
Polyoxypropylene diamine	2352	1	NI	1	NR	1	NI	0	0	(3)	3	3			D	3
	3112		RTECS No						CAS No							
Poly(5+)propylene	1512	0	NI	0	NR	(0)	NI	(0)	(0)	(0)	(0)	(0)			F	1
	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
	612		RTECS No		TR6125000				CAS No		25322-69-4					
Polysiloxane	1161	NI	4	4	NI	2	NI	0	(0)	(0)	0	0			F	1
	613		RTECS No						CAS No							
Poly(tetramethylene ether) glycol (mw 600-3000)	2147	2	NI	2	NI	3	NI	0	NI	1	2	1			FD	2
	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
	3109		RTECS No						CAS No							
Potassium chloride solution	1513	0	0	0	Inorg	1	0	0	(0)	(0)	0	0			D	0
	614		RTECS No		TS8050000				CAS No		7447-40-7					
Potassium formate solutions	2121	0	NI	0	R	0	NI	(0)	(0)	(2)	2	2			D	2
	615		RTECS No		LQ9625000				CAS No		590-29-4					
Potassium hydroxide solution	1171	Inorg	0	0	Inorg	2	NI	2	(2)	(3)	3C	3			D	3
	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
	617		RTECS No		RK1150000				CAS No		143-18-0					
Potassium salt of polyolefin acid	1895	NI	NI	NI	NR	0	NI	0	0	(0)	0	0			NI	0
	2199		RTECS No						CAS No							
Potassium thiosulphate (50% or less)	2152	Inorg	0	0	Inorg	2	NI	0	0	(2)	2	(2)			D	2
	2335		RTECS No						CAS No							

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
n-Propanolamine	1183	0	NI	0	R	2	NI	0	1	(3)	3	3			D	3
	485		**RTECS No**		UA5600000				**CAS No**		156-87-6					
beta-Propiolactone	1184	0	NI	0	R	(2)	NI	2	(2)	4	3B	3	CM		D	3
	142		**RTECS No**		RQ7350000				**CAS No**		57-57-8					
Propionaldehyde	1185	0	NI	0	R	2	NI	1	0	1	2	2			DE	2
	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
	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
	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
	622		**RTECS No**		UF9625000				**CAS No**		107-12-0					
n-Propyl acetate	1191	1	NI	1	R	2	NI	0	0	0	1	1			ED	1
	487		**RTECS No**		AJ3675000				**CAS No**		109-60-4					
n-Propyl alcohol	1180	0	NI	0	R	0	NI	1	0	0	1	2	R		D	3
	488		**RTECS No**		UH8225000				**CAS No**		71-23-8					
n-Propylamine	1194	0	NI	0	NI	1	NI	2	2	3	3	3			DE	3
	490		**RTECS No**		UH9100000				**CAS No**		107-10-8					
Propylbenzene	1196	NI	NI	NI	NI	3	NI	NI	NI	NI	NI	NI		(T)	FE	NI
	2686		**RTECS No**		DA8750000				**CAS No**		103-65-1					
Propylbenzene (all isomers)	1197	3	2	2	R	3	NI	0	0	0	2	1			FE	2
	623		**RTECS No**		GR8575000				**CAS No**		98-82-8					
n-Propyl chloride	1198	2	NI	2	NI	1	NI	0	NI	NI	NI	NI			FED	2
	489		**RTECS No**		TX4400000				**CAS No**		540-54-5					
Propylene-Butylene copolymer	1508	NI	NI	NI	NI	NI	NI	(0)	(0)	(0)	(0)	(0)			NI	0
	633		**RTECS No**						**CAS No**							
Propylene carbonate	2056	0	NI	0	R	0	NI	0	0	(3)	2	3			D	3
	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
	625		**RTECS No**						**CAS No**							
Propylene glycol	1202	0	NI	0	R	0	0	0	0	(1)	0	1			D	1

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	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
	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
	628		**RTECS No**						**CAS No**							
Propylene glycol phenyl ether	2057	1	NI	1	NI	1	NI	0	0	(1)	(1)	(1)			SD	1
	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
	630		**RTECS No**		TZ2975000				**CAS No**		75-56-9					
Propylene tetramer	2255	4	NI	4	NR	(4)	NI	(0)	(0)	(1)	(1)	(1)			F	1
	631		**RTECS No**						**CAS No**							
Propylene trimer	1207	5	4	4	NR	3	2	(0)	(0)	(1)	(1)	(1)			FE	2
	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
	634		**RTECS No**		UR8400000				**CAS No**		110-86-1					
Pyrolysis gasoline (containing benzene)	2271	(4)	(3)	(3)	(R)	(3)	(1)	1	0	(2)	2	2	TCM		FE	3
	1990		**RTECS No**						**CAS No**							
Rapeseed oil	2315	0	NI	0	R	(2)	NI	(0)	(0)	(0)	(1)	(1)			Fp	2
	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
	2956		**RTECS No**						**CAS No**							
Rape seed oil fatty acid methyl esters	2209	0	0	0	R	0	NI	0	(0)	(1)	1	1			Fp	2
	2576		**RTECS No**						**CAS No**							
Resin oil, distilled	2299	(3)	NI	(3)	(NR)	(3)	NI	0	0	(2)	2	1	MN		FE	3
	2958		**RTECS No**						**CAS No**							
Rice bran oil	2312	(0)	NI	(0)	(R)	(0)	NI	0	(0)	(1)	0	1			Fp	2
	3043		**RTECS No**						**CAS No**							
Rosin	1219	3	NI	3	NR	3	NI	0	0	2	(1)	1	S		S	2
	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
	636		**RTECS No**						**CAS No**							

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Safflower oil	1222	(0)	NI	(0)	(R)	(0)	NI	(0)	(0)	(1)	1	1			Fp	2
	3041		**RTECS No**		VN2230000				**CAS No**		8001-23-8					
Shea butter	2311	(0)	NI	(0)	NR	(0)	NI	(0)	(0)	(1)	(0)	(1)			Fp	2
	3042		**RTECS No**						**CAS No**							
Sodium acetate solutions	1498	0	NI	0	R	0	NI	0	0	0	1	1			D	1
	639		**RTECS No**		AJ4375000				**CAS No**		127-09-3					
Sodium alkyl (C14-C17) sulphonates (60-65% solution)	334	2	2	2	R	3	1	0	0	(2)	2	2			D	2
	1153		**RTECS No**						**CAS No**							
Sodium aluminate solution	1234	Inorg	0	0	Inorg	NI	NI	(0)	(0)	(3)	(3)	(3)			D	3
	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
	643		**RTECS No**						**CAS No**		1344-00-9					
Sodium benzoate	1475	0	NI	0	R	1	NI	0	(0)	(1)	0	1			D	1
	644		**RTECS No**		DH6650000				**CAS No**		532-32-1					
Sodium bicarbonate solution.	2386	0	NI	0	Inorg	0	0	0	0	(0)	0	0			D	0
	3558		**RTECS No**						**CAS No**		144-55-8					
Sodium borohydride (15% or less)/Sodium hydroxide solution	1239	Inorg	0	0	Inorg	2	NI	(2)	(1)	(3)	(3)	(3)			D	3
	645		**RTECS No**						**CAS No**							
Sodium bromide solution (less than 50%) drilling brines	2387	0	NI	0	Inorg	0	0	0	0	(1)	0	1	R		D	3
	3410		**RTECS No**		VZ 315000				**CAS No**		7647-15-6					
Sodium carbonate solution	1243	Inorg	0	0	Inorg	1	NI	0	0	3	1	2			SD	2
	646		**RTECS No**		VZ4050000				**CAS No**		497-19-8					
Sodium chlorate solution (50% or less)	1244	Inorg	0	0	Inorg	1	NI	1	0	(2)	1	1	S		D	2
	647		**RTECS No**		FO0525000				**CAS No**		7775-09-9					
Sodium dichromate solution (70% or less)	487	Inorg	0	0	Inorg	2	1	2	2	4	2	3	CMS		D	3
	649		**RTECS No**		HX7700000				**CAS No**		10588-01-9					
Sodium hydrogen sulphide (6% or less)/Sodium carbonate (3% or less) solution	2262	0	NI	0	Inorg	1	NI	(0)	(0)	(1)	(1)	(1)			D	1
	650		**RTECS No**						**CAS No**							
Sodium hydrogen sulphite solution (45% or less)	1251	Inorg	0	0	Inorg	1	NI	0	(0)	(0)	0	0			D	0
	651		**RTECS No**		VZ2000000				**CAS No**		7631-90-5					
Sodium hydrosulphide/Ammonium sulphide solution	1253	Inorg	0	0	Inorg	3	NI	1	1	0	2	2			D	2

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	653		**RTECS No**						**CAS No**							
Sodium hydrosulphide solution (45% or less)	1252	Inorg	0	0	Inorg	1	NI	1	1	1	2	2			D	2
	652		**RTECS No**		WE1900000				**CAS No**		16721-80-5					
Sodium hydroxide solution	1254	Inorg	0	0	Inorg	2	NI	1	1	(3)	3C	3			D	3
	654		**RTECS No**		WB4900000				**CAS No**		1310-73-2					
Sodium hypochlorite solution (15% or less)	1256	Inorg	0	0	Inorg	(4)	(1)	0	0	1	3	3	S		D	3
	2785		**RTECS No**		NH3486300				**CAS No**		7681-52-9					
Sodium hypochlorite solution (Full strength solution)	1255	Inorg	0	0	Inorg	5	2	0	0	1	3	3	S		D	3
	655		**RTECS No**		NH3486300				**CAS No**		7681-52-9					
Sodium nitrate	1259	Inorg	0	0	Inorg	0	NI	(0)	(0)	(0)	(1)	(1)			SD	1
	656		**RTECS No**		WC5600000				**CAS No**		7631-99-4					
Sodium nitrite solution	340	Inorg	0	0	Inorg	3	0	2	(2)	2	0	1			SD	2
	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
	2948		**RTECS No**						**CAS No**							
Sodium petroleum sulphonate	1860	0	NI	0	(NR)	2	NI	0	(0)	(2)	1	2	S		S	2
	660		**RTECS No**						**CAS No**							
Sodium poly(4+)acrylate solutions	1487	0	NI	0	NR	1	0	0	(0)	(1)	1	1			D	1
	826		**RTECS No**						**CAS No**							
Sodium silicate solution	1262	Inorg	0	0	Inorg	2	NI	1	0	(3)	3	3			D	3
	661		**RTECS No**						**CAS No**		1344-09-8					
Sodium sulphate solutions	1499	Inorg	0	0	Inorg	0	0	0	(0)	(1)	1	1			SD	1
	662		**RTECS No**		WE1650000				**CAS No**		7757-82-6					
Sodium sulphide solution (15% or less)	1263	Inorg	0	0	Inorg	3	NI	1	1	(3)	3A	3			D	3
	663		**RTECS No**		WE1905000				**CAS No**		1313-82-2					
Sodium sulphite solution (25% or less)	9	Inorg	0	0	Inorg	2	NI	0	(0)	(1)	0	1			D	1
	664		**RTECS No**		WE2150000				**CAS No**		7757-83-7					
Sodium tartrates/Sodium succinates solution	1771	NI	1	1	NI	1	NI	0	NI	NI	NI	NI			D	NI
	665		**RTECS No**						**CAS No**							
Sodium thiocyanate solution (56% or less)	1264	Inorg	0	0	Inorg	2	NI	1	(0)	(1)	0	0			D	1
	667		**RTECS No**		XL2275000				**CAS No**		540-72-7					

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Sorbitan monooleate	2215	(5)	NI	(5)	R	3	NI	0	NI	NI	0	0			Fp	2
	2408		**RTECS No**						**CAS No**							
Sorbitol solution	1265	0	NI	0	R	0	NI	0	(0)	(0)	(0)	(0)			D	0
	668		**RTECS No**		LZ4290000				**CAS No**		50-70-4					
Soyabean oil	2320	0	NI	0	R	0	NI	0	(0)	(1)	(0)	1			Fp	2
	3050		**RTECS No**						**CAS No**							
Styrene monomer	1273	3	(2)	3	R	3	NI	1	0	2	2	2	CM		FE	3
	669		**RTECS No**		WL3675000				**CAS No**		100-42-5					
Sulphohydrocarbon (C3-C88)	1972	4	NI	4	NR	2	NI	0	0	0	0	0			Fp	2
	672		**RTECS No**						**CAS No**							
Sulpholane	1277	0	1	1	NR	2	0	1	0	0	1	2			SD	2
	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
	674		**RTECS No**						**CAS No**							
Sulphur (molten)	906	Inorg	0	0	Inorg	0	NI	0	0	(1)	1	1			S	1
	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
	676		**RTECS No**		WS5600000				**CAS No**		7664-93-9					
Sulphuric acid, spent	1280	0	NI	0	Inorg	2	NI	(3)	(3)	4	3C	3	C		D	3
	677		**RTECS No**		WS5600000				**CAS No**		7664-93-9					
Sulphurized fat (C14-C20)	1853	0	NI	0	NR	1	NI	0	(0)	(1)	0	(1)			FD	1
	2257		**RTECS No**						**CAS No**							
Sulphurized polyolefinamide alkene (C28-C250) amine	1855	0	NI	0	NR	0	NI	0	0	(0)	0	0			FD	0
	2258		**RTECS No**						**CAS No**							
Sunflower seed oil	1283	0	NI	0	R	0	NI	(0)	(0)	(1)	(0)	(1)			Fp	2
	2782		**RTECS No**						**CAS No**		8001-21-6					
Tall oil (crude and distilled)	1285	(4)	NI	(4)	(R)	(2)	NI	0	0	(0)	0	0	S		Fp	2
	678		**RTECS No**						**CAS No**		68187-71-3					
Tall oil, crude	2357	4	NI	4	R	2	0	0	0	(0)	0	0	S		Fp	2
	3118		**RTECS No**						**CAS No**							
Tall oil, distilled	2283	0	NI	0	R	0	NI	0	(0)	(0)	0	(0)			Fp	2

ANNEX 6 - GESAMP/EHS COMPOSITE LIST
GESAMP Hazard Profiles

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	2890		RTECS No						CAS No							
Tall oil fatty acid (resin acids less than 20%)	1287	0	0	0	R	0	0	0	0	(1)	1	0			Fp	2
	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
	680		RTECS No						CAS No							
Tall oil pitch	2323	3	NI	3	NR	0	0	0	0	(0)	0	(0)			Fp	2
	3051		RTECS No						CAS No							
Tall oil soap (disproportionated) solution	1286	NI	NI	NI	NI	NI	NI	(1)	(0)	(2)	1	2			D	2
	681		RTECS No						CAS No							
Tallow	1288	0	NI	0	R	0	NI	0	0	(0)	(0)	(0)			Fp	2
	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
	684		RTECS No						CAS No							
Tetrachloroethane	53	2	2	2	NR	3	0	2	0	2	2	2	MN		SD	3
	687		RTECS No		KI8575000				CAS No		79-34-5					
n-Tetradecanoic acid	1298	5	NI	0	R	0	NI	0	(0)	(1)	(1)	(1)			Fp	2
	491		RTECS No		QH4375000				CAS No		544-63-8					
Tetraethylene glycol	1301	0	NI	0	NR	0	NI	0	0	0	1	1			D	1
	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
	689		RTECS No		KH8585000				CAS No		112-57-2					
Tetraethyl silicate monomer/oligomer (20% in ethanol)	2198	0	0	0	R	0	0	0	0	0	1	2			DE	2
	2475		RTECS No						CAS No							
Tetrahydrofuran	1304	0	NI	0	R	0	NI	0	(0)	0	1	2			DE	2
	690		RTECS No		LU5950000				CAS No		109-99-9					
Tetrahydronaphthalene	1305	3	3	3	NR	3	NI	0	0	(2)	2	0			F	2
	691		RTECS No		QK3850000				CAS No		119-64-2					
Tetramethylbenzene (all isomers)	1307	4	NI	4	NI	4	NI	0	(0)	(1)	1	(1)			F	1
	692		RTECS No		DC0465000				CAS No		488-23-3					
Thixatrol Plus	2210	5	NI	5	R	3	NI	0	0	0	1	1			S	1
	2699		RTECS No						CAS No							

ANNEX 6 - GESAMP/EHS COMPOSITE LIST
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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Titanium dioxide slurry	2080	Inorg	1	1	Inorg	1	NI	0	0	0	1	1			NI	1
	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
	693		**RTECS No**		XS5250000				**CAS No**		108-88-3					
Toluenediamine	1317	0	2	2	NR	3	0	2	2	4	1	2	CMS		Fp	3
	695		**RTECS No**		XS9625000				**CAS No**		96-80-7					
Toluene diisocyanate	1315	(3)	1	1	NR	2	NI	0	(0)	4	3	3	SCL		S	3
	694		**RTECS No**		CZ6300000				**CAS No**		584-84-9					
o-Toluidine	1316	1	1	1	R	4	2	1	0	(2)	2	2	CM		FD	3
	537		**RTECS No**						**CAS No**							
Tolyl triazole	2292	1	NI	1	NR	2	0	1	0	(2)	(1)	2			S	2
	696		**RTECS No**						**CAS No**							
Tributyl phosphate	1319	4	2	2	R	3	0	1	0	2	2	2	S		F	3
	697		**RTECS No**		TC7700000				**CAS No**		126-73-8					
1,2,3-Trichlorobenzene (molten)	2191	4	4	4	NR	4	2	1	0	(2)	2	2			S	2
	2288		**RTECS No**						**CAS No**							
1,2,4-Trichlorobenzene	1323	4	5	5	NR	4	1	1	0	(2)	2	2	M		S	3
	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		**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
	3		**RTECS No**		KJ3150000				**CAS No**		70-00-5					
Trichloroethylene	329	2	2	2	NR	3	NI	0	0	0	2	2	CM		SD	3
	698		**RTECS No**		KX4550000				**CAS No**		79-01-6					
1,2,3-Trichloropropane	1329	2	2	2	NR	2	0	2	2	3	2	2	C		SD	3
	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
	2		**RTECS No**		KJ4000000				**CAS No**		76-13-1					
Tricresyl phosphate (containing 1% or more ortho-isomer)	1332	5	3	3	R	4	4	0	1	0	1	1	N		S	2
	699		**RTECS No**		TD0175000				**CAS No**		1330-78-5					
Tricresyl phosphate (containing less than 1% ortho-isomer)	1331	5	(3)	(3)	(R)	(4)	(4)	0	1	0	1	1	N		S	2

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	700		**RTECS No**		TD0175000				**CAS No**		1330-78-5					
Tridecane	1333	0	NI	0	NI	0	NI	0	0	(1)	1	0			Fp	2
	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
	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
	703		**RTECS No**						**CAS No**		1072-33-9					
Triethanolamine	1338	0	0	0	R	1	NI	0	0	(2)	1	2			D	2
	704		**RTECS No**		KL9275000				**CAS No**		102-71-6					
Triethylamine	1339	1	0	0	R	3	0	1	2	2	2	3			D	3
	706		**RTECS No**		YE0175000				**CAS No**		121-44-8					
Triethylbenzene	1340	5	NI	5	NI	4	NI	0	(0)	(2)	(2)	(1)			F	2
	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
	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
	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
	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
	710		**RTECS No**		TH1130000				**CAS No**		122-52-1					
Triisopropanolamine	1370	0	0	0	NR	1	0	1	0	0	(2)	3			FD	3
	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
	712		**RTECS No**						**CAS No**		68937-41-7					
Trimethylacetic acid	1350	1	1	1	R	2	NI	1	1	(2)	2	2			Fp	2
	714		**RTECS No**		TO7700000				**CAS No**		75-98-9					
Trimethylamine solution (30% or less)	1353	0	NI	0	R	1	NI	1	0	2	3	3			DE	3
	715		**RTECS No**		PA0350000				**CAS No**		75-50-3					
Trimethylbenzene (all isomers)	1354	3	3	3	NR	4	0	0	0	1	2	1			FE	2
	716		**RTECS No**		DC3300000				**CAS No**		526-73-8					

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	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Trimethylhexamethylenediamine (2,2,4- and 2,4,4-isomers)	1359	1	NI	1	NI	NI	NI	1	0	(3)	2	3	S		D	3
	718		**RTECS No**		MO1451000				**CAS No**		26520-58-0					
Trimethylhexamethylene diisocyanate (2,2,4- and 2,4,4-isomers)	1360	0	NI	0	NI	3	NI	0	NI	NI	NI	NI	S		NI	2
	717		**RTECS No**		MO1760000				**CAS No**		28679-16-5					
Trimethylolpropane polyethoxylate	1362	NI	NI	NI	NR	1	NI	0	0	NI	NI	NI			NI	NI
	719		**RTECS No**						**CAS No**							
Trimethylol propane propoxylated	2274	0	NI	0	(NR)	1	0	0	0	(1)	0	1			SD	1
	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
	26		**RTECS No**						**CAS No**							
2,2,4-Trimethyl-1,3-pentanediol-1-isobutyrate	1364	3	NI	3	NI	2	NI	0	0	(1)	1	1			Fp	2
	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
	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
	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
	720		**RTECS No**		YK6825000				**CAS No**		24800-44-0					
Trixylyl phosphate	1377	5	4	4	NR	4	1	(0)	(1)	(2)	(1)	(1)			S	2
	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
	2784		**RTECS No**						**CAS No**							
Turpentine	1379	4	NI	4	NI	4	NI	0	(0)	1	(2)	2	AS	(T)	D	2
	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
	723		**RTECS No**		YQ2275000				**CAS No**		112-37-8					
1-Undecene	1383	5	NI	5	NR	4	NI	(0)	(0)	(1)	(1)	(1)			F	1
	24		**RTECS No**						**CAS No**		821-95-4					
Undecyl alcohol	1382	4	NI	4	R	4	NI	0	0	(2)	2	(1)			Fp	2
	724		**RTECS No**		YQ3155000				**CAS No**		112-42-5					
Urea	1384	0	0	0	R	1	NI	0	0	(1)	1	(1)			D	1

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	2627		RTECS No		YR6250000				CAS No		57-13-6					
Urea/Ammonium mono- and di-hydrogen phosphate/Potassium chloride solution	1386	0	0	0	R	3	2	NI	NI	NI	NI	NI			NI	NI
	727		RTECS No						CAS No							
Urea/Ammonium nitrate solution	2322	0	NI	0	R	3	NI	0	0	(2)	1	2			D	2
	728		RTECS No						CAS No							
Urea/Ammonium nitrate solution (containing less than 1% free ammonia)	1387	0	NI	0	R	1	2	0	0	(2)	1	2			D	2
	729		RTECS No						CAS No							
Urea/Ammonium phosphate solution	2179	0	0	0	R	3	2	(0)	(0)	(2)	(2)	(2)			D	2
	730		RTECS No						CAS No							
Urea formaldehyde resin solution	1388	NI	NI	NI	NI	1	NI	1	1	NI	NI	NI	S		NI	2
	725		RTECS No						CAS No							
Urea solution	1384	0	0	0	R	1	NI	0	0	(1)	1	(1)			D	1
	726		RTECS No		YR6250000				CAS No		57-13-6					
Valeraldehyde (all isomers)	1390	1	NI	1	R	3	NI	0	0	0	2	2			D	2
	731		RTECS No		ES3450000				CAS No		590-86-3					
Vegetable acid oils (m)	2371	0	NI	0	R	0	NI	(0)	(0)	(1)	(1)	(1)			Fp	2
	3138		RTECS No						CAS No							
Vegetable fatty acid distillates (m)	2369	0	NI	0	R	0	NI	(0)	(0)	(0)	(0)	(0)			Fp	2
	3137		RTECS No						CAS No							
Vegetable protein solution (hydrolysed)	1398	0	NI	0	R	0	NI	(0)	(0)	(0)	(0)	(0)			D	0
	734		RTECS No						CAS No							
Vinyl acetate	1400	0	NI	0	R	2	NI	1	0	2	1	1	C		ED	3
	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
	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
	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
	737		RTECS No						CAS No		45115-34-2					
Vinyltoluene	1409	3	3	3	NR	3	NI	0	0	2	2	1	NM	(T)	F	3
	739		RTECS No		WL5075000				CAS No		25013-15-4					

ANNEX 6 - GESAMP/EHS COMPOSITE LIST
GESAMP Hazard Profiles

	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Water	494	0	0	0	Inorg	0	0	0	0	0	0	0			D	0
	740		**RTECS No**						**CAS No**							
Waxes	1122	0	NI	0	NR	0	NI	0	0	(0)	0	0			Fp	2
	741		**RTECS No**		RV0350000				**CAS No**		8002-74-2					
White spirit, low (15-20%) aromatic	1411	(4)	NI	(4)	(R)	3	NI	(0)	(0)	(2)	(1)	(2)	A		F	3
	742		**RTECS No**						**CAS No**							
Xylenes	1408	3	NI	3	NR	3	0	0	0	0	2	2		(T)	FE	2
	743		**RTECS No**		ZE2275000				**CAS No**		133-20-7					
Xylenes/ethylbenzene (10% or more) mixture	2269	3	2	2	NR	3	1	(0)	(0)	(2)	(2)	(2)		(T)	FE	2
	2337		**RTECS No**						**CAS No**							
Xylenol	1422	2	NI	2	R	3	NI	1	2	(3)	3	3		(T)	Fp	3
	744		**RTECS No**		ZE5425000				**CAS No**		1300-71-6					
Zinc alkaryl dithiophosphate (C7-C16)	1977	0	NI	0	NR	3	NI	0	0	(0)	(0)	(0)			Fp	2
	745		**RTECS No**						**CAS No**							
Zinc alkenyl carboxamide	2053	NI	0	0	NR	0	NI	0	0	(1)	1	(1)			Fp	2
	746		**RTECS No**						**CAS No**							
Zinc alkyl dithiophosphate (C3-C14)	1428	5	NI	5	NR	3	NI	0	0	0	2	2			S	2
	747		**RTECS No**						**CAS No**							
Zinc bromide solutions	2227	Inorg	4	4	Inorg	3	NI	1	(2)	(3)	3B	3	S		D	3
	2617		**RTECS No**						**CAS No**							
Zinc chloride	1425	Inorg	4	4	Inorg	4	1	(1)	(1)	(3)	(3)	(3)			D	3
	2869		**RTECS No**		ZH1400000				**CAS No**		7646-85-7					

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ANNEX 7

Phthalates

	A1A	A1B	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Dimethyl phthalate	2	2	2	R	2	0	0	0	(1)	0	1			SD	1
Diethyl phthalate	3	3	3	R	2	0	0	0	(1)	1	1			S	1
Di-n-propyl phthalate	3	NI	3	(R)	3	NI	0	0	(1)	1	1	R		S	3
Dibutyl phthalate	4	4	4	R	4	1	0	0	1	0	1	R		S	3
Diisobutyl phthalate	4	(4)	4	R	4	1	0	0	1	0	0	R		S	3
Butyl benzyl phthalate	4	4	4	R	4	2	0	0	(0)	(0)	(0)	R		S	3
Dihexyl phthalate	5	NI	5	R	0	2	0	0	(1)	1	1	R		Fp	3
Di-(2-ethylbutyl phthalate	5	NI	5	R	0	2	0	0	(1)	1	1	R		Fp	3
Butyl octyl phthalate	5	NI	5	(R)	0	2	0	0	(1)	1	1			Fp	2
Diheptyl phthalate	0	(4)	(4)	R	0	NI	0	0	(1)	1	1	R		Fp	3
Diisoheptyl phthalate	0	(4)	(4)	R	0	0	0	0	(1)	1	1	R		Fp	3
Di(2-ethylhexyl) phthalate	0	4	4	R	0	0	0	0	1	1	1	R		Fp	3
Dioctyl phthalate	0	(4)	(4)	(R)	0	0	0	0	(1)	1	(1)			Fp	2
Diisooctyl phthalate	0	4	4	(R)	0	0	0	0	(1)	1	0			Fp	2
Dinonyl phthalate	0	NI	0	R	0	0	0	0	(1)	1	1			Fp	2
Diisononyl phthalate	0	0	0	R	0	0	0	0	(0)	0	0			Fp	2
Diisodecyl phthalate	0	0	0	(R)	0	(0)	0	0	(1)	0	1			Fp	2
Diundecyl phthalate	0	(0)	0	NR	0	0	0	0	(1)	1	1			Fp	2
Ditridecyl phthalate	0	(0)	0	NR	0	(0)	0	0	(1)	1	(1)			Fp	2
MIXTURES															
Dialkyl (C7-C13)	(0)	(4)	(4)	(NR)	(0)	(2)	(0)	(0)	(1)	(1)	(1)	R		Fp	3
Dialkyl (C9-C10)	(0)	(0)	(0)	(R)	(0)	(0)	(0)	(0)	(1)	(1)	(1)			Fp	2

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ANNEX 8

Publication of GESAMPs experiences with the revised hazard evaluation procedure, a GHS compatible system

Running title: A decade of experience with the GHS in bulk marine transport

Field: Scientific, Regulatory

Audience: Chemical Industry (Environment, Health & Safety Managers, Product Stewards), Administrators (dangerous goods, transport safety), Trade Organizations, UN and other bodies responsible for chemical safety (UN-CTDG, IMO, UNIDO, OECD).

Possible journals/formats:

- Regulatory journals: Env. Health Perspectives, Regulatory Toxicology & Pharmacology; Science of the Total Environment
- Trade magazine article
- GESAMP Reports & Studies or in the shorter Reports to GESAMP series.

Central themes:

- The GHS principles of non-testing hazard evaluation – avoidance of unnecessary animal tests, use of expert judgment and Structure Activity Relations and other validated estimation techniques
- The GESAMP revised hazard evaluation procedure is one of the first GHS aligned regulatory systems (for bulk marine chemicals transport) for which there is now practical experience with implementation.

Technical issues to be illustrated:

- Grouping & Read across from one chemical to another (with a suitable case study)
- Extrapolation within a chemical, e.g., using different properties combined to estimate another hazard (case: inhalation hazard; including a description of the validation exercise)
- A matrix approach to read across in the aquatic environment; the use of measured and estimated chronic aquatic toxicity data in the GESAMP/IMO system
- Behaviour of substances in water.

Lessons learned in using the GHS 'menu-driven' system and the use of downstream criteria, i.e. GESAMPs simplified use for the GHS long-term toxicity criteria such as CMRAST.

The Group agreed to develop a first draft by the end of September 2008.

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ANNEX 9

DRAFT WORK PROGRAMME FOR THE FORTY-SIXTH 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 substances

3 Correspondence with industry and consideration of queries from industry related to evaluations

4 Consolidation of data:

- acrylate and methacrylate esters review

5 Communication and publication

6 Review of funding arrangements