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25 April 2013

HAZARD EVALUATION OF SUBSTANCES TRANSPORTED BY SHIPS

Report of the fiftieth session of the GESAMP/EHS Working Group on the evaluation of the hazards of harmful substances carried by ships

The report of the fiftieth session of the GESAMP/EHS Working Group on the evaluation of the hazards of harmful substances carried by ships, held from 15 to 19 April 2013 (EHS 50/8), is attached for information.

Any comments would be welcome and should be addressed to:

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INTERNATIONAL MARITIME ORGANIZATION

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WORKING GROUP ON THE EVALUATION OF THE HAZARDS OF HARMFUL SUBSTANCES CARRIED BY SHIP
50th session
Agenda item 8

EHS 50/8
19 April 2013
Original: ENGLISH

REPORT OF THE FIFTIETH SESSION

1 INTRODUCTION

1.1 The fiftieth 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 15 to 19 April 2013 under the chairmanship of Dr. C.T. Bowmer. The list of members attending the fiftieth 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 eighteenth intersessional meeting of the Working Group on the Evaluation of Safety and Pollution Hazards of Chemicals (ESPH 18) met from 22 to 26 October 2012;

.2 the Evaluation of Safety and Pollution Hazards (ESPH) Working Group also met from 5 to 6 February 2013 during BLG 17;

.3 the Sub-Committee on Bulk Liquids and Gases held its seventeenth session from 4 to 8 February 2013; and

.4 the Marine Environment Protection Committee met for its sixty-fourth session from 1 to 5 October 2012.

Matters discussed at these meetings which are of relevance to the work of GESAMP/EHS are summarized in annex 3. The Group noted these issues and took action on specific points, as required, under the appropriate agenda item of the session.

1.3 It was observed by the Group that for the shipment of trade-named mixtures, normally there is no GESAMP Hazard Profile available for the formulated product. In terms of having information readily available for spillage response purposes, however, it was suggested that there might be a benefit in generating and recording a suitable profile (even if not formally endorsed by GESAMP/EHS) but it was recognised that this would be an issue for IMO to consider further if appropriate.

Activities of GESAMP

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

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

1.6 GESAMP will next meet from 9 to 13 September 2013 in Vienna for its 40th session, hosted by UNIDO. The Chairman of the EHS Working Group will as usual report on the outcome of the latest session of the Working Group to GESAMP.

2 EVALUATION OF NEW SUBSTANCES

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

.1 Fatty acids, tall oil, reaction products with linoleic acid dimer and polyalkylenepolyamines, compounds with dodecylbenzenesulfonic acid and linoleic acid dimer in heavy aromatic naphtha/isopropanol solution

.2 Alcohols, C10-16, ethoxylated propoxylated

.3 Sodium dodecyl sulphate solution

.4 C9-C11 n-alkanes

.5 Polymeric amine in aliphatic hydrocarbons

.6 (2-Methoxymethylethoxy) propanols

.7 Reaction product, bisphenol-A-(epichlorydrin) epoxy resin (n.a.M.Wt≤ 700) blended with 1,4-bis (2,3 epoxypropoxy) butane; butanedioldiglycidyl ether

.8 Ethyleneamines mixture

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

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

.1 **Fatty acids, tall oil, reaction products with linoleic acid dimer and polyalkylenepolyamines, compounds with dodecylbenzenesulfonic acid and linoleic acid dimer in heavy aromatic naphtha/isopropanol solution**: the Group observed that this product was a complex material but that a comprehensive set of test data to support it was available. With respect to a product name for the Composite List entry, it was agreed that this should be amended to Tall oil acids/linoleic acid dimer/ polyalkylenepolyamines /dodecyl benzenesulfonic acid complexes in naphtha/ isopropanol;

.2 **Alcohols, C10-16, ethoxylated propoxylated:** the Group noted that in this instance just a short version of the hazard profile, in line with that required for cleaning additive components, had been requested. Full data sets for the relevant elements of the hazard profile were available and a short profile was assigned accordingly. In accordance with the established practice for cleaning additive components in the GESAMP/EHS Composite List, it was noted that this entry would be marked by a single asterisk, signifying this was a short profile intended to be used for cleaning additive purposes only;

.3 **Sodium dodecyl sulphate solution:** the Group noted that for this product, a short hazard profile in line with the basis of the previous case had also been requested. Full supporting data were available and the profile ratings were assigned accordingly;

.4 **C9-C11 n-alkanes:** the Group observed that this material was effectively a mixture with some iso-alkanes (<10%) also being present but that acceptable supporting data for the product was available. Supporting data included information on other C9-C11 products which showed irritation potential and these data were taken into consideration. In terms of the name to be used for the Composite List, it was agreed that, to maintain harmony with a number of comparable products, this should be recorded as n-Alkanes (C9-C11);

.5 **Polymeric amine in aliphatic hydrocarbons**: the Group noted that the principal components of this substance were well characterised and a full hazard profile was assigned on this basis. In terms of the product name for the Composite List, it was agreed that the proposed name was too generic and that this should therefore be amended to (Polyisobutene)amino products in aliphatic hydrocarbons;

.6 **(2-Methoxymethylethoxy)propanols**: the Group confirmed their acceptance of the proposed product name for the Composite List and, utilising the comprehensive data set submitted, assigned a full hazard profile rating accordingly;

.7 **Reaction product, bisphenol-A-(epichlorydrin) epoxy resin (n.a.M.Wt≤ 700) blended with 1,4-bis (2,3 epoxypropoxy) butane; butanedioldiglycidyl ether)**: the Group reviewed this submission but decided that there was insufficient supporting data and information on the product to be able to assign hazard profile ratings. It was concluded therefore that this product should be deferred to the next meeting for assessment, pending the provision of adequate study reports defining its properties in relation to the requirements of the GESAMP Hazard profile; and

.8 **Ethyleneamines mixture**: the Group noted that this material was a complex mixture but that supporting information was available for all of its key components. In considering the proposed name to be employed for the Composite List, the Group decided that the product entry should be Triethylenetetramine/2- piperazine-1-ylethylamine mixtures.

2.4 Whilst reviewing the new submissions, the Group highlighted as a general point the importance of fully addressing all of the information requirements set out in the GESAMP/EHS Product Data Reporting Form. Failure to provide the necessary data or adequate supporting arguments where estimates are involved can only result in no rating being assigned for the end-point concerned or, in a worst case, no hazard profile being issued for the chemical under review.

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

3.1 The GESAMP hazard profiles were completely revised between 1998 and 2006 according to the new 14 column procedure described in GESAMP Reports & Studies No.64. The GESAMP/EHS Group, however, continually updates its dataset of over 950 hazard profiles through two processes:

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

- the Group with the help of its consultant, reviews the files for completeness and consistency on an ongoing basis and draws any amendments relating to such matters to the attention of IMO. Since completion of the revision of MARPOL Annex II in 2006, over 50% of the hazard profiles have been reviewed in this way. Often such a review enables the Group to locate and evaluate missing data.

As a consequence of these activities, the hazard profiles are maintained in the best condition possible by the Group. This is understood to be the only peer reviewed and regularly maintained hazard evaluation system in UN use.

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

Industry Correspondence

3.3 The Group observed that additional information on a number of products had been received with a request that this be taken into account for the evaluation of these substances. Comments in relation to this input for the specific substances concerned are summarised below and the results of this exercise are set out at annex 6. It was noted that GESAMP/EHS is currently reviewing and revising the evaluation procedures for hazard identification in order to enhance harmonisation with the GHS.

Diphenylmethane–4,4'-diisocyanate

3.4 The Group had received a submission from Industry requesting revision of the rating for acute inhalation toxicity (C3) from 4 to 3 or even from 4 to 1.

3.5 The request from Industry is based on an inhalation study carried out with aerosol only and the Group accepted that classification should consequently be made following GHS criteria for aerosols/mists. In view of this, the Group agreed to revise the rating in C3 from 4 to 3.

3.6 An argument to reduce this rating even further to 1 was not accepted by the Group, as there is clearly evidence of toxic effects of Diphenylmethane-4,4'-diisocyanate relevant to human health.

Sulphuric acid

3.7 The Group had received a new test report from industry on the acute inhalation toxicity of sulphuric acid through mist exposure. As this study had been performed according to OECD Test Guideline 436 and Good Laboratory Practice (GLP), the Group decided that the results should supersede those from studies performed in 1976 and 1979 showing a higher toxicity of sulphuric acid aerosols. Accordingly, the rating under column C3 was amended from 4 to 3.

Allyl alcohol

3.8 At the request of industry, the Group re-evaluated the inhalation toxicity of Allyl alcohol. A new test had been performed using 10% Allyl alcohol in corn oil to provide a mist. An exposure to 0.5 mg/l of the substance for 4 hours did not result in any deaths.

3.9 The existing 4 rating in column C3, however, is based on a 4 hour exposure vapour inhalation test resulting in an LC50 value of 0.3 mg/l and, on this basis, the existing rating of 4 was confirmed. This test has been already evaluated and accepted by the OECD (SIDS, October 2005)

Glucitol/glycerol blend, propoxylated (containing 10% or more amines)

3.10 The Group had received new data for consideration in respect of columns C1, C2, C3, D1, D2, D3 and E3 as currently these show only NI in these columns in the hazard profile. In considering this information, cross-checks with a related substance in the Composite List, Glucitol/glycerol blend, propoxylated containing less than 10% amines, were also made and as a consequence of this full review, the following changes were agreed:

C1 = 1,	C2 = 0,	C3 = (2)
D1 = 1,	D2 = 0,	D3 = blank
E3 = 2		

Additionally, in order to maintain a level of consistency with the EHS product names, it was agreed to add brackets to the amine content limit for the product, Glucitol/glycerol, propoxylated containing less than 10% amines.

Further considerations

3.11 In relation to the assignment of inhalation toxicity ratings (C3 values), the Group noted that a communication from Cefic had been received requesting that the issue of utilizing aerosol data for the assignment of column C3 ratings should be reconsidered. The substance of this proposal is presented in annex 7.

3.12 The EHS working group has already highlighted difficulties in applying the full GHS criteria with separate ratings for vapours, mists and dusts, as much of the older data available on file does not allow such a distinction to be made. It was recognised, however, that for inhalation test results based on a pure mist/aerosol with no vapour exposure at all (e.g. with substances of very low vapour pressure), classification criteria as presented in the GHS may be applied. It should be noted in this context, that the 2nd edition of Reports & Studies 64, the revised GESAMP hazard evaluation procedure, currently in preparation will further address this issue of inhalation toxicity and the interpretation of data.

3.13 The extrapolation method (Hoefer et al., 2011[1]) developed by the group in response to IMOs decision to make a value in column C3 (inhalation toxicity) mandatory for transport in bulk by sea, is based on surrogate criteria such as acute oral and dermal toxicity as well as skin and eye irritation and corrosion. It is used to provide a rating when no inhalation data is available. It generally predicts the toxicity of mists and aerosols better than it does vapours, probably due to the nature of the training data set used (studies on ca. 300 substances on file at IMO).

3.14 Where the extrapolation method has been applied or an aerosol test result has been used, and a high rating has been assigned but test data using saturated vapour are also available indicating no toxicity or less toxicity, then the extrapolated or aerosol based rating is retained to indicate that a mist or aerosol is likely to be hazardous under certain circumstances, (e.g. burst or leaking pipe joints under pressure) but a # notation is added to the product name to indicate that for the C3 rating, as a vapour the product would have a lower inhalation hazard.

4 CONSOLIDATION OF DATA FILES

4.1 During an ongoing review of the GESAMP/EHS files which is being undertaken by the Secretariat, some issues with specific ratings in hazard profiles (compared to information contained in the files) have been observed for a number of substances. These observations were presented to the Group for their consideration and 40 substances had ratings checked with 19 products requiring additions or amendments to be made to their hazard profiles as indicated below. These range from minor issues such as the removal of brackets from a rating to the addition of missing ratings and occasionally, the complete review of a profile. The changes implemented have been incorporated into the updated GESAMP/EHS Composite List as presented in annex 6. Where specific comments were made on a particular product, these are noted in the subsequent paragraphs.

2-Ethyl-3-propylacrolein	:	E2=F
Fumaric adduct of rosin, water dispersion	:	Ala=3, A1=3, A2=NR, C1=0, C2=(0), C3=(3), D1=0, D2=3, D3=S, E2=D, E3=3
Furfuryl alcohol	:	B1=1
1-Heptanol	:	B2=0
Heptanoic acid	:	C3=1
Heptyl acetate	:	A2=(R)
Lactonitrile (80% solution or less)	:	C1=3
Latex, ammonia inhibited	:	A2=NI
Lauryl methacrylate	:	A1a=0, A1b=2, A1=2, A2=R, B1=0, B2=0

[1] Estimation of the Acute Inhalation Hazards of Chemicals Based on Route-to-route and Local Endpoint Extrapolation: Experience from Bulk Maritime Transport (T. Hoefer, D. James, T. Syversen and T. Bowmer), in the Journal of Alternatives to Laboratory Animals (ATLA 39, 541-556, 2011)

Butylene glycol monomethyl ether	:	B1=1
2-Methyl-2-butanol	:	A2=(R), B1=(1)
Methyl butyl ketone	:	A2=(R), B2=(0)
2-Methyl-5-ethylpyridine	:	A2=R, B2=0
Methyl propyl ketone	:	A2=(R)
4-Methylpyridine	:	A2=(R)
Naphthenic acids	:	Hazard profile deleted
1-Nitropropane	:	A1a=0, A1b=1, A1=1, A2=NR, B1=1, B2=NI
2-Nitropropane	:	A1a=0, A1b=1, A1=1, A2=NR, B1=2, B2=NI
Nonylphenol	:	E2=Fp

4.2 EHS 791 2-Ethyl-3-propylacrolein

The data available on vapour pressure and solubility in water were reviewed. Currently a value of 800 Pa for vapour pressure is listed in the data file but it was determined on the basis of other data that the correct vapour pressure is approximately 100 to 130 Pa. Concerning solubility, the present value of 700 mg/L on the data form in the file was supported by other data. On this basis, the E2 rating was revised from FE to F.

4.3 EHS 810 Fumaric adduct of Rosin, water dispersion

New data from key and supporting studies in the REACH Chemical Safety Report data on file at ECHA were examined. Two OECD 117 studies gave measured log Kow values of 2.8 and 2.7 to 3.6, indicating a rating in column A1a of 3. Three ready biodegradability studies on this and related (grouped) substances gave values of 15%, 19% and 26%, indicating a rating of NR (not readily biodegradable).

With respect to toxicity ratings, available data now enabled all columns to be updated, including the assignment of S for column D3.

4.4 EHS 813 Furfuryl alcohol

Data from an algal study on file without any duration and indicating a rating of 3 was rejected in favour of the weight of evidence from other studies on fish, crustaceans and algae, as noted in the REACH Chemical Safety Report data on file at ECHA, all giving a rating of 1 in column B1.

4.5 EHS 828 1-Heptanol

A 21d Daphnia reproduction study on file (Japan Min. of Environment) with a NOEC of 1.4 mg/L was used to add a rating of 0 in column B2 of the profile.

4.6 EHS 831 Heptanoic acid

The current hazard rating under column C3 was based on extrapolation but utilising an aerosol inhalation study that was now available, this was re-evaluated resulting in a rating of 1 for C3.

4.7 EHS 833 Heptyl acetate

A rating of (R) was added to the profile by analogy to ethylhexyl acetate, based on an OECD 301B biodegradation study (REACH CSR on file at ECHA) giving a result of 70% in 28d,.

4.8 EHS 887 Lactonitrile (80% solution or less)

A study on oral toxicity now showed a higher acute toxicity than a previous report which was the basis of the existing rating of 2. The C1 rating was accordingly amended to read 3. The NI ratings for columns D1 and D2 reflect the fact that the systemic toxicity of the chemical is so high that irritation testing should not be attempted.

4.9 EHS 889 Latex, ammonia inhibited

A reference supporting a rating of R in column A2 (biodegradation), could not be confirmed and the rating was removed to be replaced with NI for no information. Industry is requested to provide the necessary data for this overall very data-poor substance.

4.10 EHS 893 Lauryl methacrylate

Utilizing new data from key and supporting studies in the REACH Chemical Safety Report data on file at ECHA, calculated and measured log Kow data with values between 6.7 and 7.1 were interpreted as indicating no potential to bioaccumulate (see Table 3 of R&S 64). Furthermore, a fish bioconcentration test with 2-ethylhexyl methacrylate indicated a BCF of 37, corresponding to a rating of 2 in Column A1b and giving an overall rating in column A1 of 2. A MITI test on an alkyl methacrylate with a similar chain length gave 76.6% degradation in 28d and allowed a rating of R for readily biodegradable in column A2, replacing the previous rating of NR. Finally, a 21d Daphnia reproduction test showed no toxicity at a limit concentration of 5.73 ug/L, i.e. above the stated water solubility of the substance of 1 ug/L, allowing a rating of 0 to be assigned to column B2.

4.11 EHS 952 Butylene glycol monomethyl ether

The file was reviewed and the brackets were removed from the B1 rating of 1 for acute aquatic toxicity.

4.12 EHS 964 2-Methyl-2-butanol

The file was reviewed and new data added, without any changes to the ratings; brackets were added to the A2 and B1 ratings to indicate that the data evaluated was for an isomer of the listed substance.

4.13 EHS 970 Methyl butyl ketone

This substance was originally partly rated by analogy with methyl isobutyl ketone (EHS 971) and therefore the ratings for A2 and B2 should read as follows: A2 (R) and B2 (0).

4.14 EHS 986 2-Methyl-5-ethylpyridine

The hazard profile was strengthened with data from the REACH registration file on-line at ECHA; an OECD 301E biodegradation study showing 77% removal in 28d, allowed an R to be added to column A2, while a 21d Daphnia magna reproduction study with a NOEC

of 22.2 mg/L allowed a rating of 0 to be added to column B2. Additional log Kow and acute aquatic data was used to confirm the ratings in column A1a and B1 respectively.

4.15 EHS 1003 Methyl propyl ketone

Column A2 was rated by analogy to methyl isobutyl ketone and should be listed as (R) as a result.

4.16 EHS 1007 4-Methylpyridine

Column A2 was rated by analogy to 3-methylpyridine and should be listed as (R) as a result.

4.17 EHS 1021 Naphthenic acids

The file for Naphthenic acids was checked. No new data was found and considering the amount of missing data (A1, A2, B2, C2, C3, D1, D2, and D3), the group recommended that as the substance is not contained in the IBC code or apparently used for mixtures, it should be deleted from the GESAMP EHS composite list.

4.18 EHS 1044 1-Nitropropane

This product had previously been rated by analogy to EHS 2245 Nitroethane (80%)/Nitropropane (20%) but new data from the REACH registration file on-line at ECHA allowed a new profile to be developed for columns A and B of 1-nitropropane as follows: A1a=0; A1b=1; A1= 1; A2=NR; B1=1; B2=NI.

4.19 EHS 1045 2-Nitropropane

This product had previously been rated by analogy to EHS 2245 Nitroethane (80%)/Nitropropane (20%) but new data from the REACH registration file on-line at ECHA allowed a new profile to be developed for columns A and B of 2-nitropropane as follows: A1a=0; A1b=1; A1= 1; A2=NR; B1=2; B2=NI.

4.20 EHS 1062 Nonylphenol

The data available on vapour pressure and solubility in water were reviewed. Currently, a value of 100 Pa for vapour pressure is listed in the data file but it was determined, on the basis of other data, that the correct vapour pressure is approximately 1 Pa. Concerning solubility, the present value of 3000 mg/L in the data file was not supported by other data and the solubility was determined to be approximately 3 mg/L. On this basis the E2 rating was revised from FD to Fp.

4.21 Other products

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

5 COMMUNICATION AND PUBLICATION

Update of GESAMP Reports and Studies No.64

5.1 The Group recalled its decision to update and re-issue GESAMP Reports and Studies No.64 (The Revised GESAMP Hazard Evaluation Procedure for Chemical Substances Carried by Ships). The report is now out of print but there is clearly a continuing need for this document. The second edition follows after eleven years of using the first edition of Reports and Studies No. 64 and its preparation is overdue considering the number of changes to test guidelines and technical guidance which have occurred in the interim and the need to update the rationale used to assess inhalation toxicology. By comparison, the original evaluation system was published in 1982 as GESAMP Reports & Studies No.17, then revised in 1989 as Reports and Studies No.35 before being replaced completely in 2002 by the revised GESAMP hazard evaluation procedure as described in Reports & Studies 64. It was noted that the revised procedure was prepared between 1995 and 1998 based on but ahead of the finalization of the Globally Harmonized System (GHS) which itself had also now been subject to various revisions. Whilst noting that it was not the intention to change the principles of the GESAMP hazard profile or the rating procedures, it was recognized that some additional guidance and interpretation would now be beneficial, particularly in relation to certain aspects of the GHS.

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

.1 incorporation of the 2002 addenda into R&S No. 64 as a whole;

.2 inclusion of the rationale for the estimation of inhalation toxicity in the text for column C3 (see also paragraph 3.12);

.3 the provision of additional guidance on the interpretation of the long-term toxicity criteria under column D3, in particular for; carcinogenicity (C), target organ systemic toxicity (T) as well as sensitization (S), including respiratory sensitization (in the light of recent requests from industry for clarification on this point);

.4 consolidation of the text and Annex VI on column E2 (floaters & sinkers), including a review of the examples used; and

.5 an update of Annex IV on all test guidelines and references to technical guidance in the light of recent developments and publications.

5.3 With regard to column D3 on long-term toxic effects, the group had recognised that the UN Globally Harmonized System for the classification of chemicals had been refined since R&S No.64 was first prepared and that some of the criteria would consequently need to be more closely considered.

The group therefore decided that with regard to column D3:

- sensitizers should be re-evaluated with a view to separating skin sensitizers from respiratory sensitizers and after evaluation, they would be allocated as Ss (skin) and/or Sr (respiratory);

- updated column D3 profiles reflecting the new sensitization ratings would be published following the release of the second edition of R&S No.64;

- the notation Sp (photosensitizer) and its associated text would be deleted as this rating had never been utilized;

- the rating L for lung injury would be deleted since it is covered by the rating T (target organ systemic toxicity) and it also has never been used by the Group in any assignments;

- N (neurotoxic) and I (immunotoxic) ratings, although included within the rating T under GHS, would be retained as specific entries since IMO uses both N and I on their own for assigning carriage conditions; and

- for the end-points C, M, R, the existing approach would continue whereby only substances with proven effects (rather than suspect properties) would be assigned these ratings.

5.4 It was noted that whilst introducing the above actions would enhance the GESAMP hazard profile and the evaluation procedure, there would be no impact on IMO's classification criteria for assigning carriage requirements for bulk liquid shipments.

5.5 Taking account of the above issues, the Group finalized revised text for the relevant sections of GESAMP Reports and Studies No. 64 in order to re-issue this guidance document later in the year. It was agreed that although the update was effectively just a second edition of the existing publication, the finalised version would be put to the main GESAMP body for any final written comments but it was noted that there was no intention to undertake a formal review of this document again.

GHS Classification of floating substances

5.6 The Group recalled that it had debated whether the classification employed by GESAMP/EHS for defining the characteristics of floating substances should be brought to the attention of the GHS Sub-Committee. This was considered to be important as this approach was now embodied in many national and European regulations. With the update of GESAMP Reports and Studies No.64 nearing completion, it was agreed that a document would be drafted to alert the GHS Sub-Committee to this issue, linking in to the new text developed for the GESAMP report.

Future publications

5.7 The Group had considered further possibilities for publications to promote the work of the GESAMP/EHS Working Group and decided at the last meeting that an appropriate topic for consideration may be "Read across in chemical hazard evaluation". After discussing this item further, it was agreed that chemical groups should be identified from the database where "read across" had been or could be employed in order to provide suitable examples in support of these principles. These would then be reviewed in order to identify possible themes for publication.

5.8 Additionally, it was agreed any new opportunities for promoting the activities of the EHS Group at appropriate conferences should continue to be investigated (similar to participation at Interspill 2009 in the HNS R & D Forum) and all members were requested to consider this point and advise of any possible events accordingly.

6 ANY OTHER BUSINESS

Membership issues

6.1 The Chairman reported that it was essential to maintain the expertise of the group but that he anticipated some changes to the membership in the coming years: a) to allow younger members to join and be trained in the work of the group; b) to address urgently the gender balance; and c) to continue to attract members from around the world to participate in the chemicals evaluation process.

Funding arrangements

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

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

Acknowledgements

6.4 Mr. Norman Soutar announced his retirement as part-time consultant to the group after more than twenty years. The Chairman recalled that Mr. Soutar had maintained and updated all files, supporting the group by preparing summaries of submissions for each new substance and more importantly, by cross-checking evaluations with the hazard profiles and the underlying data, so maintaining their integrity. The Group thanked Mr. Soutar for his hard work and dedication and wished him well in the future noting that his skills in chemical nomenclature wuld be sorely missed.

Dr. Ken McDonald, Secretary to the EHS Working Group had also announced his retirement from IMO and informed the group that this would be his last meeting. The Group thanked him for his support, in particular for the very well organised meetings and carefully drafted reports and wished him well in his retirement, expressing the hope that he would remain in contact with the Group and its work in some capacity.

Ms. Patricia Charlebois attended the meeting for the first time in her capacity as incoming Secretary and was welcomed by the Group who appreciated IMO's efforts to ensure a smooth handover for this important function.

7 FUTURE WORK PROGRAMME AND DATE OF THE NEXT SESSION

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

7.2 The Group agreed that the next regular meeting would be tentatively held from 12 to 16 May 2014.

7.3 **Submissions for this session should reach the [*]Technical Secretary of the GESAMP/EHS Working Group not later than Friday, 4 April 2014.**

8 CONSIDERATION AND ADOPTION OF THE REPORT

8.1 The Group adopted the report and were thanked for their considerable amount of effort, including extensive preparatory work, inter alia, the collection, collation and evaluation of data to generate Hazard Profiles. The session was closed on Friday, 19 April 2013 at 12.00 hrs.

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ANNEX 1

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ANNEX 2

AGENDA FOR THE FIFTIETH SESSION OF THE GESAMP/EHS WORKING GROUP

1 Adoption of the agenda

- Matters arising from IMO and other Organizations relevant to the activities of the Working Group

2 Evaluation of new products

- New submissions

3 Correspondence with industry/consideration of issues related to evaluations

- Industry correspondence

4 Consolidation of data files

- Miscellaneous amendments

5 Communication and publication

- Update of GESAMP Reports and Studies No.64
- Read across in chemical hazard evaluation
- GHS Classification of floating substances

6 Any other business

- Membership issues
- Review of funding arrangements

7 Future work programme and date of the next session

8 Consideration and adoption of the report

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ANNEX 3

MATTERS ARISING FROM IMO

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

.1 recalled that when GESAMP ratings are placed in brackets reflecting that the assignment is not based on an actual test result, this should nevertheless be interpreted in the same manner as an unbracketed result for the purposes of assigning carriage conditions. This point along with others was now noted in BLG.1/Circ.33 which summarizes decisions taken by the Group with respect to the categorization and classification of products;

.2 noted the amendments made to the EHS names for bis(2-ethylhexyl) terephthalate and dibutyl terephthalate in order to clarify that there was no linkage to ortho-phthalate materials;

.3 observed that when reviewing MEPC.2/Circular List 2 entries (Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO), a number of the mixtures listed specify substances in the "Contains" name that have Safety Hazards based on their latest GESAMP/EHS profiles. Unless it was clear therefore that the mixture does not have resultant safety concerns, it was proposed that such products may need to be reassigned to List 3 and it was agreed therefore that Administrations should be encouraged to re-visit their submissions and to effect any changes accordingly;

.4 expressed concern over two Trade-named mixtures proposed for MEPC.2/Circular List 3 as full GESAMP Hazard Profiles for all components in these mixtures were not available. These products were consequently withdrawn for evaluation at this session pending submissions being made to GESAMP/EHS to establish appropriate profiles;

.5 noted that for List 5 entries (Substances not shipped in pure form but as components in mixtures), only one proposal for change from the last issue of the MEPC.2/Circular had been received which was to include Dipropylene glycol dibenzoate. During the review process, however, it was further agreed that L-Aspartic acid, homopolymer, sodium salt (aqueous solution) and Acrylic acid/dimethyldiallylammonium chloride copolymer, partial sodium salt (MWt 1500-4000 aqueous solution), as contained in a number of the mixture products, both having complete hazard profiles but not yet having been assessed further by ESPH should also be included in List 5 of the MEPC.2/Circular;

.6 processed 25 cleaning additives for evaluation through the revised tank cleaning additives guidance note and reporting form as issued under MEPC.1/Circ.590. All of the cleaning additives were found to meet the necessary criteria, but some concern was raised with regard to a small number of products that contained components which are carcinogenic, mutagenic, reprotoxic or sensitizing. Having expressed these concerns, as related to occupational health and protection of the marine environment,

the relevant reporting countries were urged to convey these views to the manufacturers of the products concerned;

.7 considered the proposal to include *tert*-Amyl ethyl ether, Renewable Aviation Fuel and Renewable Naphtha as three bio-fuels to be used in blends with petroleum (fossil) based oil products and agreed that, although the latter two materials currently only had tripartite agreement status, all three products should be added to Annex 11 of the MEPC.2/Circular as recognized bio-fuels in order to be able to benefit from the MARPOL Annex I shipment possibilities afforded by association to the 2011 Guidelines for the Carriage of blends of petroleum oil and bio-fuels. It was noted, however, that more descriptive Product Names for Renewable Aviation Fuel and Renewable Naphtha would be required whenever these products are presented for assessment;

.8 noted that with respect to the bio-fuel Alkanes (C10-C26), linear and branched (flashpoint ≤60°C) which has only tripartite agreement status, this product still needs to be reviewed but that the generic GESAMP/EHS Composite List entry (which does not reference flashpoint) would be able to be used for future assessment whenever the product is formally presented;

.9 considered the report and the outcome of the previous session of the GESAMP/EHS Working Group;

.10 noted from the report that, aside from the assignment of hazard profiles for nine new products, amendments to a number of existing hazard profiles had also been introduced arising from both communications with industry and the review of inhalation toxicity ratings (C3 values) which had been undertaken by GESAMP/EHS in relation to publishing the estimation methodology used for this property;

.11 noted the two scientific papers recently issued by GESAMP/EHS and activities undertaken to update and re-issue GESAMP Reports and Studies No. 64 (The Revised GESAMP Hazard Evaluation Procedure for Chemical Substances Carried by Ships);

.12 proposed that the statement made in the section of the GESAMP/EHS report dealing with Sulphuric acid, noting that "when using the column C3 rating for taking decisions on risk management measures on board tankers it should be recognized that this hazard rating is based on intrinsic toxicity (hazard) only and does not incorporate any risk evaluation considerations" was a very general comment and that the GESAMP/EHS Working Group should be requested to consider highlighting this in the revised text being developed for GESAMP Reports and Studies No. 64;

.13 further considered options with regard to addressing inconsistencies in carriage requirements noted for a number of entries in the IBC Code and explored possible ways to qualify the usage of mammalian toxicity taking into account of the physical properties and behaviour of the substances concerned. Key properties considered were saturated vapour concentration (SVC) and behaviour in water but the usage of oral and dermal acute toxicity for the assignment at Ship Type and Tank type was also reviewed. To highlight the influence on assignments of varying the trigger limits for these properties, a number of product examples were

considered utilising data provided by GESAMP/EHS on a group of pilot materials. These served solely to illustrate possible effects and did not indicate in any way that these products were to be amended at this stage;

.14 agreed that to progress matters, these findings should be presented to the BLG Sub-Committee with a proposal to extend the product review, looking at the effects on a number of big volume chemicals. This was particularly relevant in the context of applying any changes to Tank type assignments, given that the availability of 1G tankage was very limited and that if any big volume chemicals currently shipped were affected in this way, there could be real difficulties associated with moving these materials; and

.15 proposed that Water Reactive Index (WRI) may be a further parameter that needs to be examined especially as there are no set test methods used for assigning WRI.

2 The ESPH Working Group also met during BLG 17 and during this session, the ESPH Group had:

.1 evaluated two new products, Tall oil soap, crude and Alkanes (C10-C26), linear and branched (flashpoint≤60°C);

.2 evaluated a further 29 cleaning additives in line with the criteria set out in MEPC.1/Circ.590 with 24 products being approved as meeting the requirements;

.3 noted that for the next MEPC.2/Circular, expiry dates would be triggered for twenty tripartite agreements and that Administrations and industry may need therefore to take action on such cases, as appropriate. It was highlighted that if new GESAMP Hazard Profiles were required to support any of these products, these would need to be established at the forthcoming GESAMP-EHS 50 meeting;

.4 agreed that a table giving reference details for relevant documents and information as needed for the evaluation of chemical substances and the assignment of carriage requirements should be placed on the IMO website together with other information already present which is relevant to these processes. This will then be further highlighted in the annual MEPC.2/Circular, giving a clear reference to the website location;

.5 recalled the issue of cargoes requiring oxygen-dependent inhibitors in relation to inert gas controls and the proposal that the MSC/MEPC Circular covering equivalency arrangements for the carriage of styrene could be expanded to provide guidance when carrying other cargoes with similar requirements. Although the provision of additional information regarding oxygen cut-off limits of products identified in BLG.16/INF.8 had been requested in order to develop a new Circular, as yet no information had been made available and in view of this, it was not possible at this stage to consider any expansion of the circular; and

.6 considered further, options with regard to addressing the inconsistencies in carriage requirements, in relation to GESAMP Hazard profiles, noted for a number of entries in chapters 17 and 18 of the IBC Code. In this instance, additional work was undertaken to examine the influence of water reactivity,

corrosion, sensitization and long-term health hazards on Ship Type and Tank type assignments. With respect to the Water Reactivity Index (WRI), it was noted by reference to both the current and previous (1998) editions of the IBC Code that there was a significant difference in these two versions for the description of products which react with water leading to the assignment of Ship Type 1 or Ship Type 2. After debating this, it was proposed that only products which are "extremely reactive with water and produce large quantities of flammable, toxic or corrosive gas or aerosols" should be assigned to Ship Type 1, and that the value of WRI = 2 should be used for the assignment of the Ship Type 2. In consequence, an amendment to chapter 21 of the IBC Code was proposed by the Group, introducing a new 3 rating for WRI defined as being for "Any chemical which is extremely reactive with water and produces large quantities of flammable, toxic or corrosive gas or aerosol". This new rating would then trigger "Ship Type 1 requirement and also Tank type 1G. It was noted that Chlorosulphonic acid is the only substance listed in chapter 17 for which WRI = 3 would apply.

With regard to the other properties reviewed, the Group concluded that for corrosion, sensitization and long-term health effects there were no grounds for revising the current criteria used in chapter 21 for these parameters and there was no incentive for introducing any change. With respect to a question on aspiration toxicity (rating A in GESAMP column D3) it was thought that this refers to a set of possible severe acute effects (e.g. chemical pneumonia) following entry of a product "directly through the oral or nasal cavity, or indirectly from vomiting, into the trachea and lower respiratory system". This accordingly was not considered relevant in the context of long-term health effects or prolonged exposure and it was noted that effectively, it should accordingly be used only as a trigger for carriage requirements that reduce the risk of oral exposure.

With respect to the density limit used in relation to defining sinkers, it was agreed that the value of >1050 kg/m^3 proposed should be modified to be in line with that used by GESAMP which is 1025 kg/m^3.

As the next step in the review process, it was agreed that a track-change version of chapter 21 of the IBC Code highlighting all the amendments proposed would be developed and also that an overview of the impact of introducing such changes to the products listed in chapters 17 and 18 of the IBC Code will be generated for consideration and action as appropriate at BLG 18.

3 In BLG 17, the Sub-Committee approved the reports of the ESPH Working Group and:

.1 endorsed the proposals made by the Group and concurred with actions taken; and

.2 proposed to invite MSC 92 and MEPC 65 to approve the holding of an intersessional meeting of the ESPH Working Group in 2014.

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

.1 approved the report of BLG 16 in general;

.2 approved the work programme for the intersessional meeting of the ESPH Working Group in 2012;

.3 approved, noting MSC 91's concurrent decision, the holding of an intersessional meeting of the ESPH Working Group in 2013; and

.4 approved proposed amendments to the 2011 Guidelines for the carriage of blends of petroleum oil and bio-fuels (MEPC.1/Circ.761) concerning ethanol/gasoline blends and the need to utilize alcohol resistant foams for fire-fighting.

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ANNEX 4

REVIEW OF GESAMP ACTIVITIES

1 The UN sponsoring agencies continue to support GESAMP and its working groups; external funding has however become more important and GESAMPs newest working group (WG 40) on micro-plastics in the oceans is sponsored by CEFIC and the American Chemistry Council. Intersessional activities such as the development of new topics under GESAMP's New and Emerging Issues Programme provide the impetus for GESAMP's rolling agenda. Therefore, at GESAMP's 39th session held in New York from 15 to 20 April 2012 and hosted for the first time by UNDP, the core support from the sponsoring agencies upon which GESAMP relies and the independent funding of its working groups were key topics of discussion.

2 The working groups have been both the familiar face of GESAMP within the UN system and for considerable stretches of its history, its main reason for existing. To ensure the long-term stability of GESAMP therefore, there is a need to attract the sponsoring agencies to support new working groups on challenging and urgent topics in the protection of the marine environment. Each of the working groups (currently 6) needs to be adequately and, in as far as possible, independently funded in order to achieve the goals of their respective Terms of Reference and produce the right product in the agreed time-frame.

3 It was noted that GESAMP had not held a meeting since the last session of the EHS Working Group and that consequently, no update on the activities of its Working Groups had yet been reviewed. GESAMP will meet shortly, however, for its 40th session from 9 to 13 September 2013 in Vienna, hosted by UNIDO.

4 GESAMP's New and Emerging Issues Programme is one of the keys to its future and may also form a useful mechanism through which it can interact with the UN Regular Process and provide advice on emerging topics. GESAMP has spent recent years redeveloping its New and Emerging Issue Programme which has included the following topics:

- Hypoxia is acknowledged as a major threat to the oceans. The causes of hypoxia and the extent of its effects, including a special focus on endocrine disruption, is an issue on which GESAMP has already provided a scoping paper (GESAMP R&S 81, Annex VII);

- Biomagnification of contaminants in marine top predators is an issue affecting both marine and human communities and an ecological and sociological approach is warranted in the view of GESAMP. A report on the potential scope of this issue has been prepared (GESAMP R&S 85, Annex VIII) and GESAMP, in collaboration with CIESM, plans to investigate this further in 2013; and

- The potential impact of disinfection byproducts in the marine environment (low molecular weight halogenated substances), is an issue raised during recent peer reviews by GESAMP of WG 34's reports to the MEPC of IMO on the evaluation of ballast water treatment systems for use on board ships. Such systems predominantly use electrolysis to produce chlorine as an active substance; the chlorine oxidizes organic matter in the water to form disinfection by-products including bromoform. However, this issue is also relevant to the global expansion of coastal power generation sites, refineries and desalination plants and its proponents consider that an investigation by GESAMP may be appropriate.

GESAMP would like to see each of these issues objectively evaluated in terms of their importance to the protection of the marine environment.

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

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Alcohols, C10-C16 ethoxylated propoxylated (*)	2450	0	NI	0	R	3	NI	NI	NI	NI	NI	NI			NI	NI
	3868		**RTECS No**						**CAS No**							
n-Alkanes (C9-C11)	2449	(5)	NI	(5)	R	0	(0)	0	0	(2)	2	0	A		F	3
	3867		**RTECS No**						**CAS No**							
(2-Methoxymethylethoxy)propanols	2452	0	NI	0	R	0	(0)	0	0	(0)	0	0			D	0
	3870		**RTECS No**						**CAS No**							
(Polyisobutene)amino products in aliphatic hydrocarbons	2455	0	NI	(5)	NR	2	NI	0	0	(1)	1	0	A		Fp	3
Polymeric amine in aliphatic hydrocarbons	3811		**RTECS No**						**CAS No**							
Sodium dodecyl sulphate (*)	2451	0	NI	0	R	3	1	NI	NI	NI	NI	NI			NI	NI
	3869		**RTECS No**						**CAS No**							
Tall oil acids/linoleic acid dimer/polyalkylenepolyamines/dodecylbenzenesulphonic acid complexes in naphtha/isopropanol	2448	0	NI	0	NR	1	NI	0	0	(0)	0	0	CM		Fp	3
	3866		**RTECS No**						**CAS No**							
Triethylenetetramine/2-piperazine-1-ylethylamine mixtures (#)	2456	0	NI	0	NR	2	NI	0	2	(3)	3	3	S		D	3
	3872		**RTECS No**						**CAS No**							

* * *

ANNEX 6

UPDATED COMPOSITE LIST

Notes:

1 In the Composite List, both EHS and TRN (shipping) names as registered in the database are shown for each product. The alphabetical listing of the products is based on EHS names.

2 Any changes introduced into the table since the last issue of the Composite List are highlighted.

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

4 Entries with an EHS name marked ** represent mixture components which have had only a partial hazard profile assigned. These profiles **may be used** for mixture calculations in relation to bulk shipments.

5 Entries with an EHS name marked # reflect that for the **C3 rating**, as a vapour rather than an aerosol or mist, the product would have a lower inhalation hazard.

ANNEX 6 - GESAMP/EHS COMPOSITE LIST
GESAMP Hazard Profiles

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Acetic acid	13	0	0	0	R	1	NI	1	1	1	3C	3			D	3
Acetic acid	64		**RTECS No**		AF1225000				**CAS No**		64-19-7					
Acetic anhydride	12	0	0	0	R	1	NI	1	0	2	3	3	A		D	3
Acetic anhydride	65		**RTECS No**		AK1925000				**CAS No**		108-24-7					
Acetochlor (ISO)	2047	3	2	2	NR	4	NI	1	0	(1)	0	0			S	2
Acetochlor	66		**RTECS No**		AB5457000				**CAS No**		34256-82-1					
Acetone	15	0	0	0	R	0	0	0	0	0	1	2		NT	DE	2
Acetone	67		**RTECS No**		AL3150000				**CAS No**		67-64-1					
Acetone cyanohydrin	14	0	0	0	R	4	NI	3	4	3	(3)	(3)			D	3
Acetone cyanohydrin	68		**RTECS No**		OD9275000				**CAS No**		75-86-5					
Acetonitrile	16	0	0	0	R	1	NI	1	1	2	1	2			D	2
Acetonitrile	69		**RTECS No**		AL7700000				**CAS No**		75-05-8					
Acetonitrile (Low purity grade)	2333	0	NI	0	R	3	NI	1	1	2	1	2			D	2
Acetonitrile (Low purity grade)	2876		**RTECS No**						**CAS No**							
Acid mixtures (nitrating acid)	289	Inorg	NI	0	Inorg	(2)	NI	3	3	4	3C	3			D	3
Nitrating acid (mixture of sulphuric and nitric acids)	497		**RTECS No**						**CAS No**							
Acrylamide	23	0	0	0	R	2	0	2	2	(2)	1	2	CMNS		D	3
Acrylamide solution (50% or less)	70		**RTECS No**		AS3325000				**CAS No**		79-06-1					
Acrylic acid	24	0	0	0	R	4	NI	2	2	2	3C	3			D	3
Acrylic acid	71		**RTECS No**		AS4375000				**CAS No**		79-10-7					
Acrylic acid / dimethyldiallylammonium chloride copolymer, partial sodium salt (MWt 1500-4000, aqueous solution)	2406	0	NI	0	R	0	0	0	0	(0)	0	0			D	0
Acrylic acid / dimethyldiallylammonium chloride copolymer, partial sodium salt (MWt 1500-4000, aqueous solution)	3682		**RTECS No**						**CAS No**							
Acrylic acid/ethenesulfonic acid copolymer with phosphonate groups, sodium salt (aqueous solution)	2417	0	NI	0	NR	0	NI	0	(0)	(0)	0	0			D	0
Acrylic acid / ethenesulfonic acid copolymer with phosphonate groups, sodium salt solution	3693		**RTECS No**						**CAS No**							
Acrylonitrile	25	0	2	2	NR	3	0	2	3	3	2	2	CSM	NT	DE	3
Acrylonitrile	72		**RTECS No**		AT5250000				**CAS No**		107-13-1					
Acrylonitrile-styrene copolymer dispersion in polyether polyol (LOA)	1432	NI	0	0	NI	1	NI	0	(0)	(0)	0	(0)			S	0
Acrylonitrile-Styrene copolymer dispersion in polyether polyol	73		**RTECS No**						**CAS No**							
Adiponitrile	26	0	0	0	R	1	NI	3	(3)	3	3	(3)			FD	3

ANNEX 6 - GESAMP/EHS COMPOSITE LIST
GESAMP Hazard Profiles

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Adiponitrile	74		**RTECS No**		AV2625000				**CAS No**		111-69-3					
Alachlor (ISO)	1488	3	3	3	NI	4	1	1	0	(2)	1	0	CS		S	3
Alachlor technical (90% or more)	75		**RTECS No**		AE1225000				**CAS No**		15972-60-8					
Alcoholic beverages	293	0	0	0	R	0	0	0	0	0	0	1			D	1
Alcoholic beverages, n.o.s.	85		**RTECS No**						**CAS No**							
Alcoholic silicasol	2198	0	0	0	R	0	0	0	0	0	1	2			DE	2
Tetraethyl silicate monomer/oligomer (20% in ethanol)	2475		**RTECS No**						**CAS No**							
Alcohol(C12-C16) poly(20 and above)ethoxylates	1482	4	(3)	(3)	R	2	0	(0)	(0)	(2)	2	1			D	2
Alcohol (C12-C16) poly(20+)ethoxylates	78		**RTECS No**						**CAS No**							
Alcohol(C6-C17)(secondary) poly(3-6)ethoxylate	722	4	3	3	R	4	2	0	(0)	(3)	3	2			D	3
Alcohol (C6-C17) (secondary) poly(3-6)ethoxylates	81		**RTECS No**						**CAS No**							
Alcohol(C6-C17)(secondary) poly(7-12)ethoxylate	295	3	3	3	R	4	1	1	0	(3)	3	3			D	3
Alcohol (C6-C17) (secondary) poly(7-12)ethoxylates	80		**RTECS No**						**CAS No**							
Alcohol(C8-C11) poly(2.5-9)ethoxylates	2094	3	3	3	R	3	NI	1	0	(2)	(2)	(2)			D	2
Alcohol (C9-C11) poly (2.5-9) ethoxylate	2209		**RTECS No**						**CAS No**							
Alcohol(C12-C16) poly(1-6)ethoxylates	294	5	3	3	R	4	1	0	0	(2)	2	2			FD	2
Alcohol (C12-C16) poly(1-6)ethoxylates	77		**RTECS No**						**CAS No**							
Alcohol(C12-C16) poly(7-19)ethoxylates	1481	4	3	3	R	4	1	1	0	(3)	3	3			D	3
Alcohol (C12-C16) poly(7-19)ethoxylates	79		**RTECS No**						**CAS No**							
Alcohol(C12 – C14)poly(2)ethoxylate sulfate, sodium salt (*)	2419	2	NI	2	R	3	NI	NI	NI	NI	NI	NI			NI	NI
	3695		**RTECS No**						**CAS No**							
Alcohols (C8-C11)	2279	5	2	2	(R)	(3)	(1)	(0)	(0)	(2)	(2)	(2)			Fp	2
Alcohols (C8-C11), primary, linear and essentially linear	2887		**RTECS No**						**CAS No**							
Alcohols, C13 and above as individuals and mixtures	2039	5	2	2	R	4	1	0	0	0	(1)	(1)			Fp	2
Alcohols (C13+)	86		**RTECS No**						**CAS No**							
Alcohols, C10-C16 ethoxylated propoxylated (*)	2450	0	NI	0	R	3	NI	NI	NI	NI	NI	NI			NI	NI
	3868		**RTECS No**						**CAS No**							
Alcohols (C12-C13), linear	2294	5	2	2	R	4	(1)	0	0	(1)	1	1			Fp	2
Alcohols (C12-C13), primary, linear and essentially linear	2950		**RTECS No**						**CAS No**							
Alcohols (C14-C18), linear	2293	5	2	2	R	0	1	0	0	(1)	1	1			Fp	2

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Alcohols (C14-C18), primary, linear and essentially linear	2951		**RTECS No**						**CAS No**							
Alcohols, linear (C10-C14)	2365	(5)	(2)	(2)	(R)	(4)	(1)	0	0	(2)	(2)	(2)			Fp	2
Decyl/Dodecyl/Tetradecyl alcohol mixture	3128		**RTECS No**						**CAS No**							
Alkanes (C6-C9)	2202	(5)	NI	(5)	(R)	(4)	NI	(0)	(0)	(1)	(2)	(2)	N		FE	2
Alkanes (C6-C9)	88		**RTECS No**						**CAS No**							
Iso- and cyclo-alkanes (C10-C11)	2203	(5)	NI	(5)	NI	(0)	(0)	(0)	(0)	(1)	(1)	(0)			F	1
Iso- and cyclo-alkanes (C10-C11)	393		**RTECS No**						**CAS No**							
Iso-and cyclo-alkanes (C12+)	2204	(5)	NI	(5)	NI	(0)	NI	0	0	(1)	NI	NI			NI	1
Iso- and cyclo-alkanes (C12+)	394		**RTECS No**						**CAS No**							
Alkanes(C10 -C26), linear and branched	2392	0	NI	0	R	0	NI	0	0	(1)	1	1	A		F	3
Alkanes(C10-C26), linear and branched, (flashpoint >60°C)	3562		**RTECS No**						**CAS No**		90622-53-0					
n-Alkanes (C9-C11)	2449	(5)	NI	(5)	R	0	(0)	0	0	(2)	2	0	A		F	3
	3867		**RTECS No**						**CAS No**							
n-Alkanes (C10-C20)	296	(5)	NI	(5)	(R)	(0)	(0)	(0)	(0)	(1)	(1)	(0)	A		F	3
n-Alkanes (C10+)	471		**RTECS No**						**CAS No**							
Alkane (C14-C17) sulphonic acid, sodium salt	334	2	2	2	R	3	1	0	0	(2)	2	2			D	2
Sodium alkyl (C14-C17) sulphonates (60-65% solution)	1153		**RTECS No**						**CAS No**							
Alkaryl polyether (C9-C20) (LOA)	1974	4	NI	4	NR	3	NI	0	0	(3)	2	3			S	2
Alkaryl polyethers (C9-C20)	90		**RTECS No**						**CAS No**							
Alkenoic acid ester, borated	2376	5	(3)	(3)	R	2	NI	0	0	(2)	2	0			Fp	2
	3153		**RTECS No**						**CAS No**							
Alkenylamide, long chain, more than C10	1858	3	NI	3	(NR)	4	NI	0	(0)	(1)	0	1			Fp	2
Alkenyl (C11+) amide	838		**RTECS No**						**CAS No**							
Alkenyl succinic anhydride	298	0	0	0	NR	1	NI	0	0	(2)	2	(2)	S		FD	2
Alkenyl (C16-C20) succinic anhydride	2336		**RTECS No**						**CAS No**							
Alkyl acrylate/Vinyl pyridine copolymer in toluene	299	2	2	2	R	2	0	0	0	(2)	2	2	RNA		F/Fp	3
Alkyl acrylate-vinylpyridine copolymer in toluene	94		**RTECS No**						**CAS No**							
Alkyl amine, alkenyl acid ester, mixture	1433	NI	NI	NI	NI	1	NI	(0)	(0)	NI	NI	NI	S		Fp	3
Alkyl(C8+)amine, Alkenyl (C12+) acid ester mixture	98		**RTECS No**						**CAS No**							
Alkylaryl phosphate mixtures (more than 40% Diphenyl tolyl phosphate, less than 0.02% ortho-isomers)	2267	4	4	4	R	4	4	0	0	(1)	1	0			S	1

ANNEX 6 - GESAMP/EHS COMPOSITE LIST
GESAMP Hazard Profiles

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Alkylaryl phosphate mixtures (more than 40% Diphenyl tolyl phosphate, less than 0.02% ortho-isomers)	280		**RTECS No**						**CAS No**							
Alkylated phenols (C4-C9)	2273	0	2	0	NR	1	0	1	0	(2)	1	1			Fp	2
Alkylated (C4-C9) hindered phenols	2575		**RTECS No**						**CAS No**							
Alkyl benzene distillation bottoms	300	0	2	2	NR	0	(3)	0	0	1	1	1			Fp	2
Alkyl benzene distillation bottoms	3106		**RTECS No**						**CAS No**							
Alkyl (C12-C15) benzene/indane/indene mixture	1872	0	4	4	NR	0	NI	0	0	0	0	2			FE	2
Alkylbenzene, alkylindane, alkylindene mixture (each C12-C17)	103		**RTECS No**						**CAS No**							
Alkylbenzene mixtures (containing at least 50% of toulene)	2303	(2)	(2)	(2)	(R)	(3)	(0)	0	0	(2)	2	2	ACMNR		FE	3
Alkylbenzene mixtures (containing at least 50% of toluene)	2909		**RTECS No**						**CAS No**							
Alkyl (C3-C4) benzenes	2206	(3)	NI	(3)	R	4	NI	0	0	(2)	(2)	(1)			FE	2
Alkyl (C3-C4) benzenes	91		**RTECS No**						**CAS No**							
Alkyl (C5-C8) benzenes	2207	5	4	4	(NR)	4	NI	0	0	(2)	(2)	(1)			F	2
Alkyl (C5-C8) benzenes	92		**RTECS No**						**CAS No**							
Alkyl benzenes, C9-C17 (straight or branched)	1783	0	4	4	NR	1	NI	0	(0)	(1)	(1)	(1)			F	1
Alkyl(C9+)benzenes	100		**RTECS No**						**CAS No**							
Alkylbenzenes mixture (containing less than 1% naphthalene)	2423	3	3	3	NR	4	NI	0	0	(2)	2	1	AC		F	3
Alkylbenzenes mixture (containing less than 1% naphthalene)	3600		**RTECS No**						**CAS No**							
Alkylbenzenes mixtures (containing naphthalene)	2424	(3)	(3)	(3)	(NR)	(4)	NI	0	0	(1)	1	1	AC		F	3
Alkylbenzenes mixture (containing naphthalene)	3698		**RTECS No**						**CAS No**							
Alkyl(C11-C13)benzenesulphonates, straight chain	301	3	3	3	R	3	1	1	(1)	(3)	2	3			FD	3
Alkylbenzene sulphonic acid, sodium salt solution	102		**RTECS No**		DB4370000				**CAS No**		42615-29-2					
Alkyl dithiocarbamate (C19-C35)	2236	0	NI	0	NI	1	NI	0	0	(0)	0	0			S	0
Alkyl dithiocarbamate (C19-C35)	2538		**RTECS No**						**CAS No**							
Alkyl dithio thiadiazole (C6-C24) (LOA)	1981	5	NI	5	NR	1	NI	0	0	(0)	0	0			S	2
Alkyldithiothiadiazole (C6-C24)	104		**RTECS No**						**CAS No**							
Alkyl(C4-C20) ester copolymer (LOA)	1986	NI	0	0	NR	0	NI	0	0	(0)	0	0			Fp	2
Alkyl ester copolymer (C4-C20)	2202		**RTECS No**						**CAS No**							
Alkylnaphthalenes, crude (containing less than 1% naphthalene)	2425	4	4	4	R	4	NI	0	0	(1)	1	1	AC		F	3
Alkylnaphthalenes (containing less than 1% naphthalene), crude	3601		**RTECS No**						**CAS No**							
Alkylnaphthalenes, crude (containing naphthalene)	2426	(4)	(4)	(4)	(R)	(4)	NI	0	0	(1)	1	1	AC		F	3

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Alkylnaphthalenes (containing naphthalenes), crude	3699		**RTECS No**						**CAS No**							
Alkyl (C7-C9) nitrates	8	4	NI	4	NR	3	NI	0	0	(3)	2	(3)	S		F	3
Alkyl (C7-C9) nitrates	93		**RTECS No**						**CAS No**							
Alkyl(C8-C40)phenol sulphide (LOA)	1985	0	NI	0	NR	0	NI	0	0	(1)	1	1			FD	1
Alkyl (C8-C40) phenol sulphide	2253		**RTECS No**						**CAS No**							
Alkyl(C8-C9)phenylamine, in aromatic solvent (LOA)	2096	2	NI	2	NR	3	NI	(0)	(0)	(2)	2	2			S	2
Alkyl (C8-C9) phenylamine in aromatic solvents	2200		**RTECS No**						**CAS No**							
Alkyl (C9-C15) phenyl propoxylate	2188	0	NI	0	NR	0	NI	0	0	(2)	2	2			FD	2
Alkyl (C9-C15) phenyl propoxylate	2430		**RTECS No**						**CAS No**							
Alkyl[(C8-C10)/(C12-C14)]:(<40%/>60%)polyglucoside mixture solution (max 55% active material)	2134	3	NI	3	R	3	0	0	0	(3)	2	3			D	3
Alkyl (C8-C10)/(C12-C14):(40% or less/60% or more) polyglucoside solution (55% or less)	2248		**RTECS No**						**CAS No**		141464-42-8					
Alkyl[(C8-C10)/(C12-C14)]:(>60%/<40%)polyglucoside mixture solution (max 55% active material)	2135	3	NI	3	R	2	0	0	0	(2)	2	2			D	2
Alkyl (C8-C10)/(C12-C14):(60% or more/40% or less) polyglucoside solution(55% or less)	2246		**RTECS No**						**CAS No**		141464-42-8					
Alkyl(C8-C10)polyglucoside solution (max 65% active material)	2136	1	NI	1	R	2	0	0	0	(2)	2	2			D	2
Alkyl (C8-C10) polyglucoside solution (65% or less)	2245		**RTECS No**						**CAS No**		68515-73-1					
Alkyl (C8-C10)/(C12-C14):(50%/50%) polyglucoside solution (55% or less)	2133	3	NI	3	R	2	0	0	0	(3)	2	(3)			D	3
Alkyl (C8-C10)/(C12-C14):(50%/50%) polyglucoside solution (55% or less)	2247		**RTECS No**						**CAS No**							
Alkyl(C12-C14)polyglucoside solution (max 55% active material)	2137	3	NI	3	R	3	0	0	0	(3)	2	3			D	3
Alkyl (C12-C14) polyglucoside solution (55% or less)	2249		**RTECS No**						**CAS No**		110615-47-9					
Alkyl(C12-C14)polyglucoside solution (max 55% active material)	2137	3	NI	3	R	3	0	0	0	(3)	2	3			D	3
Lauryl polyglucose (50% or less)	416		**RTECS No**						**CAS No**		110615-47-9					
Alkylsulphonic acid ester of phenol (MESAMOLL)	1878	5	NI	5	NR	0	NI	0	(0)	(0)	0	0			S	0
Alkyl sulphonic acid ester of phenol	1701		**RTECS No**						**CAS No**		91082-17-6					
Alkyltoluenes	2374	0	2	2	NR	0	NI	0	(0)	(1)	0	1			Fp	2
Alkyl (C18+) toluenes	3148		**RTECS No**						**CAS No**							
Alkyl(C18-C28)toluenesulfonic acid (>90% in mineral oil)	2429	0	4	4	NR	3	NI	0	0	(3)	2	3	S		Fp	3
Alkyl(C18-C28)toluenesulfonic acid	3658		**RTECS No**						**CAS No**							
Alkyl(C18-C28)toluenesulfonic acid, calcium salts, borated (up to 70% in mineral oil)	2404	0	4	4	NR	0	NI	(0)	(0)	(1)	(1)	(1)	S		S	2
Alkyl(C18-C28)toluenesulfonic acid, calcium salts, borated	3661		**RTECS No**						**CAS No**							
Alkyl(C18-C28)toluenesulfonic acid, calcium salts, high overbase (up to 70% in mineral oil)	2373	(0)	(4)	(4)	(NR)	(0)	NI	0	0	(0)	0	0	S		S	2

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Alkyl (C18-C28) toluenesulphonic acid, calcium salts, high overbase	3149		**RTECS No**						**CAS No**							
Alkyl(C18-C28)toluenesulfonic acid, calcium salts, low overbase (up to 60% in mineral oil)	2409	0	4	4	NR	0	NI	0	0	(2)	2	0	S		Fp	3
Alkyl (C18-C28) toluenesulfonic acid, calcium salts, low overbase	3685		**RTECS No**						**CAS No**							
Allyl alcohol	28	0	0	0	R	4	NI	2	3	4	2	3	A		D	3
Allyl alcohol	105		**RTECS No**		BA5075000				**CAS No**		107-18-6					
Aluminium chloride/hydrogen chloride solution	336	Inorg	NI	2	Inorg	3	1	1	(0)	3	(3C)	3			D	3
Aluminium chloride (30% or less)/Hydrochloric acid (20% or less) solution	110		**RTECS No**						**CAS No**							
Aluminium hydroxide, sodium hydroxide, sodium carbonate solution (40% or less)	2438	Inorg	0	0	Inorg	3	NI	0	0	(3)	3B	(3)			D	3
Aluminium hydroxide, sodium hydroxide, sodium carbonate solution (40% or less)	3807		**RTECS No**						**CAS No**							
Aluminium sulphate solution	2205	Inorg	Inorg	2	Inorg	3	1	1	(0)	(3)	(2)	(3)			D	3
Aluminium sulphate solution	111		**RTECS No**						**CAS No**							
2-(2-Aminoethoxy) ethanol	75	0	0	0	NR	1	0	0	1	(3)	3	3			D	3
2-(2-Aminoethoxy) ethanol	37		**RTECS No**		KJ6125000				**CAS No**		929-06-6					
Aminoethylethanolamine	68	0	0	0	NR	1	0	0	0	(3)	3B	2	S		D	3
Aminoethyl ethanolamine	112		**RTECS No**		KJ6300000				**CAS No**		111-41-1					
Aminoethylethanolamine/Aminoethyldiethanolamine solution	74	Inorg	0	0	NR	1	0	(0)	(0)	(3)	(3B)	(2)	S		D	3
Aminoethyldiethanolamine/Aminoethylethanolamine solution	113		**RTECS No**						**CAS No**							
N-Aminoethylpiperazine	88	0	0	0	NR	1	NI	0	2	(3)	3	3	S		D	3
N-Aminoethylpiperazine	472		**RTECS No**		TK8050000				**CAS No**		140-31-8					
2-Amino-2-(hydroxymethyl)-1,3-propanediol solution(40% or less)	89	0	NI	0	NI	1	NI	0	0	NI	NI	NI			D	NI
2-Amino-2-hydroxymethyl-1,3-propanediol solution (40% or less)	38		**RTECS No**		TY2900000				**CAS No**		77-86-1					
2-Amino-2-methyl-1-propanol	90	0	0	0	NR	1	NI	0	0	(3)	3	3			DE	3
2-Amino-2-methyl-1-propanol	39		**RTECS No**		UA5950000				**CAS No**		124-68-5					
Ammonia (anhydrous and aqueous, 28% or less)	91	0	0	0	R	3	2	1	(2)	3	3	3			DE	3
Ammonia aqueous (28% or less)	114		**RTECS No**		BO0875000				**CAS No**		7664-41-7					
Ammonium bisulphite solution, greater than 15%	1730	NI	NI	NI	NI	1	NI	NI	NI	NI	2	2			D	2
Ammonium bisulphite solution (70% or less)	115		**RTECS No**		WT3595000				**CAS No**		10192-30-0					
Ammonium chloride solution (less than 25%)	2388	0	NI	0	Inorg	1	0	0	(0)	(2)	2	2			D	2
Ammonium chloride solution (less than 25%) (*)	3411		**RTECS No**		BP4550000				**CAS No**		12125-02-9					
Ammonium lignosulphonate (46% solution in water)	2086	0	NI	0	NR	0	NI	0	(0)	(0)	0	0			D	0

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Ammonium lignosulphonate solutions	118		**RTECS No**						**CAS No**		8061-53-0					
Ammonium nitrate solutions	1912	Inorg	0	0	Inorg	1	NI	0	0	(2)	1	2			D	2
Ammonium nitrate solution (93% or less)	119		**RTECS No**						**CAS No**							
Ammonium polyphosphate solution	1764	Inorg	0	0	Inorg	1	NI	0	0	0	1	0			D	1
Ammonium polyphosphate solution	120		**RTECS No**						**CAS No**		10-34-0					
Ammonium sulphate	99	0	0	0	Inorg	1	(0)	0	(0)	(0)	0	0			D	0
Ammonium sulphate solution	121		**RTECS No**		BS4500000				**CAS No**		7783-20-2					
Ammonium sulphide soln.(45% or less)	310	Inorg	0	0	Inorg	3	NI	1	0	(2)	2	2	N		D	2
Ammonium sulphide solution (45% or less)	122		**RTECS No**		BS4900000				**CAS No**		12124-99-1					
Ammonium thiocyanate/ Ammonium thiosulphate solution	1732	Inorg	0	0	Inorg	1	NI	1	NI	NI	NI	NI			D	NI
Ammonium thiocyanate (25% or less)/Ammonium thiosulphate (20% or less) solution	123		**RTECS No**						**CAS No**							
Ammonium thiosulphate solution (60% or less)	312	Inorg	0	0	Inorg	1	NI	0	(0)	(1)	(1)	(1)			D	1
Ammonium thiosulphate solution (60% or less)	124		**RTECS No**		XN6465000				**CAS No**		7783-18-8					
Amyl acetate	255	2	2	2	NR	2	NI	0	(0)	0	1	1	S	NT	FED	2
Amyl acetate (all isomers)	125		**RTECS No**		AJ1925000				**CAS No**		628-63-7					
tert-Amyl ethyl ether	2428	3	NI	3	NR	1	NI	0	(0)	0	2	2			E	2
tert-Amyl ethyl ether	3623		**RTECS No**						**CAS No**							
tert-Amyl methyl ether	2141	1	NI	1	NI	4	NI	1	0	(2)	0	1			ED	2
tert-Amyl methyl ether	2210		**RTECS No**						**CAS No**							
Amyl propionate	1484	2	NI	2	R	2	NI	0	0	(2)	2	1			F	2
n-Pentyl propionate	484		**RTECS No**						**CAS No**		624-54-4					
Aniline	261	0	0	0	R	3	2	2	2	3	1	3	CTS	NT	FD	3
Aniline	127		**RTECS No**		BW6650000				**CAS No**		62-53-3					
Apple juice	275	0	NI	0	R	0	0	0	0	0	0	0			D	0
Apple juice	130		**RTECS No**						**CAS No**							
Aryl polyolefin (C11-C50) (LOA)	1979	NI	NI	0	NR	0	NI	0	0	0	0	0			Fp	2
Aryl polyolefins (C11-C50)	131		**RTECS No**						**CAS No**							
L-Aspartic acid, homopolymer, sodium salt (aqueous solution)	2421	0	0	0	NR	0	NI	0	(0)	0	0	0			D	0
L-Aspartic acid, homopolymer, sodium salt (aqueous solution)	3697		**RTECS No**						**CAS No**							
Aviation alkylates (C8 paraffins and iso-paraffins BPt 95-120 Celcius)	286	(5)	NI	(5)	(R)	(4)	NI	0	0	(0)	(0)	(0)			FE	2

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Aviation alkylates (C8 paraffins and iso-paraffins BPT 95 - 120°C)	132		**RTECS No**						**CAS No**							
Aziridine polymer with methyloxirane (78% in diethylene glycol monoethyl ether)	2436	0	NI	0	NR	2	0	0	0	0	1	0			Fp	2
Aziridine polymer with methyloxirane (78% in diethylene glycol monoethyl ether)	3751		**RTECS No**						**CAS No**							
Barium long chain alkaryl sulphonate (C11-C50) (LOA)	1978	4	NI	4	NR	3	NI	2	0	(2)	0	0			S	2
Barium long chain (C11-C50) alkaryl sulphonate	2370		**RTECS No**						**CAS No**							
Benzene	324	2	1	1	R	2	NI	1	0	0	2	2	CTM	NT	E	3
Benzene and mixtures having 10% benzene or more (i)	133		**RTECS No**		CY1400000				**CAS No**		71-43-2					
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl), 4-hydroxy-C7-C9 alcohols branched and linear	2378	0	3	3	NR	3	0	0	0	(0)	0	0			Fp	2
3,5-bis(1,1-dimethylethyl)-4-hydroxybenzenepropanoic acid, (C7-C9)-branched alkyl esters	3405		**RTECS No**						**CAS No**							
Benzene sulphonyl chloride	320	1	1	1	R	3	NI	1	(2)	(3)	3	3	S		SD	3
Benzene sulphonyl chloride	134		**RTECS No**		DB8750000				**CAS No**		98-09-9					
1,2,4-Benzene tricarboxylic acid, trioctyl ester	1733	0	0	0	NR	0	NI	0	(0)	2	1	1			Fp	2
Benzenetricarboxylic acid, trioctyl ester	136		**RTECS No**						**CAS No**							
Benzyl acetate	348	1	NI	1	R	3	1	1	0	2	1	1			SD	2
Benzyl acetate	138		**RTECS No**		AF5075000				**CAS No**		140-11-4					
Benzyl alcohol	349	1	NI	1	R	2	NI	1	1	2	2	2			SD	2
Benzyl alcohol	139		**RTECS No**		DN3150000				**CAS No**		100-51-6					
Benzyl chloride	352	NI	1	1	R	3	1	1	(2)	3	3	3	CSA		S	3
Benzyl chloride	140		**RTECS No**		XS8925000				**CAS No**		100-44-7					
Bis(2-ethylhexyl) terephthalate	2437	0	3	3	R	0	0	0	0	(1)	1	1			Fp	2
Bis(2-ethylhexyl) terephthalate	3752		**RTECS No**						**CAS No**							
N,N-Bis(2-hydroxyethyl)oleamide (LOA)	2110	5	NI	5	NR	NI	NI	0	0	(2)	2	2			Fp	2
N,N-bis(2-hydroxyethyl) oleamide	2201		**RTECS No**						**CAS No**							
Bis[3-(triethoxysilyl)propyl]amine	2444	1	NI	1	R	1	NI	0	0	(2)	2	2			D	2
	3823		**RTECS No**						**CAS No**		13497-18-2					
Borax, anhydrous or hydrated, crude or refined	359	Inorg	0	0	Inorg	1	0	0	0	(1)	1	1	R		S	3
Borax	143		**RTECS No**		VZ2275000				**CAS No**		1303-96-4					
Boric acid	360	Inorg	0	0	Inorg	1	0	0	(0)	(1)	1	1	R		S	3
Boric acid	2254		**RTECS No**		ED4550000				**CAS No**		10043-35-3					
Bromochloromethane	2084	1	1	1	NR	1	NI	0	0	0	1	0			SD	1

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Bromochloromethane	145		**RTECS No**		PA5250000				**CAS No**		74-97-5					
1-Bromopropane	2229	2	NI	2	NI	NI	NI	0	(0)	0	(2)	(2)			SD	2
1-Bromopropane	2696		**RTECS No**						**CAS No**							
Butanol	381	0	(0)	0	R	0	NI	0	0	0	2	3		NT	D	3
n-Butyl alcohol	474		**RTECS No**		EO1400000				**CAS No**		71-36-3					
Butanol	381	0	(0)	0	R	0	NI	0	0	0	2	3		NT	D	3
Butyl alcohol (all isomers)	2216		**RTECS No**		EO1400000				**CAS No**		71-36-3					
sec-Butanol	383	0	(0)	0	R	0	NI	0	0	0	0	2		NT	D	2
sec-Butyl alcohol	638		**RTECS No**		EO1750000				**CAS No**		78-92-2					
tert-Butanol	384	0	0	0	NR	1	NI	0	0	0	1	3		NT	D	3
tert-Butyl alcohol	686		**RTECS No**		EO1925000				**CAS No**		75-65-0					
2-Butanone	385	0	NI	0	R	1	0	0	0	1	2	2			DE	2
Methyl ethyl ketone	446		**RTECS No**		EL6475000				**CAS No**		78-93-3					
Butene oligomer	386	0	NI	0	NR	(4)	0	0	0	0	0	1			FE	2
Butene oligomer	146		**RTECS No**						**CAS No**							
2-Butoxyethanol/hyperbranched polyesteramide mixture	2446	NI	NI	(0)	NR	(2)	NI	1	2	2	1	2			D	2
	3731		**RTECS No**						**CAS No**							
Butyl acetate	387	1	NI	1	R	2	NI	0	0	0	0	1			FED	2
Butyl acetate (all isomers)	147		**RTECS No**		AF7350000				**CAS No**		123-86-4					
Butyl acrylate	390	2	NI	2	R	3	NI	1	1	1	2	2	SA		FED	2
Butyl acrylate (all isomers)	148		**RTECS No**		UD3150000				**CAS No**		141-32-2					
Butylamine	392	0	NI	0	R	2	NI	2	2	3	3C	3			DE	3
Butylamine (all isomers)	154		**RTECS No**		EO2975000				**CAS No**		109-73-9					
Butyl benzene	1774	4	NI	4	NI	4	1	0	0	(2)	2	1			Fp	2
Butylbenzene (all isomers)	155		**RTECS No**		CY9070000				**CAS No**		104-51-8					
Butyl benzyl phthalate	398	4	4	4	R	4	2	0	0	(0)	(0)	(0)	R		S	3
Butyl benzyl phthalate	149		**RTECS No**		TH9990000				**CAS No**		85-68-7					
Butyl butyrate	399	2	NI	2	(R)	2	NI	0	0	(1)	1	NI			FE	2
Butyl butyrate (all isomers)	150		**RTECS No**		ES8120000				**CAS No**		109-21-7					
Butyl/Decyl/Cetyl/Eicosyl methacrylate mixture	2295	(5)	NI	(5)	(R)	(3)	NI	0	0	0	2	2	S		FE	2

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Butyl/Decyl/Cetyl/Eicosyl methacrylate mixture	153		**RTECS No**						**CAS No**							
Butylene glycol(s)	402	0	NI	0	R	1	NI	1	0	0	0	0			D	1
Butylene glycol	156		**RTECS No**		EK0525000				**CAS No**		110-63-4					
Butylene glycol methyl ether acetate	953	1	1	1	R	3	NI	0	(0)	(1)	1	1			FED	1
3-Methoxybutyl acetate	58		**RTECS No**		EL4725000				**CAS No**		4435-53-4					
Butylene glycol monomethyl ether	952	0	NI	0	R	1	NI	0	0	(1)	0	1			D	1
3-Methoxy-1-butanol	57		**RTECS No**						**CAS No**		2517-43-3					
1,2-Butylene oxide	403	0	NI	0	NR	2	NI	1	1	2	1	1	C		DE	3
1,2-Butylene oxide	8		**RTECS No**		EK3675000				**CAS No**		106-88-7					
Butyl methacrylate	409	2	NI	2	NR	1	NI	0	0	0	2	2	S		FE	2
Butyl methacrylate	151		**RTECS No**		OZ3675000				**CAS No**		97-88-1					
Butyl octyl phthalate	410	5	NI	5	(R)	0	2	0	(0)	(1)	(1)	(1)			Fp	2
Butyl octyl phthalate	2749		**RTECS No**						**CAS No**		84-78-6					
Butyl phosphate/dibutyl phosphate mixture	2434	2	NI	2	R	1	0	0	(0)	(3)	2	3			D	3
Butyl phosphate/dibutyl phosphate mixture	3749		**RTECS No**						**CAS No**							
Butyl propionate	1483	2	NI	2	R	2	NI	0	0	0	1	1			FED	2
n-Butyl propionate	476		**RTECS No**		UE8245000				**CAS No**		590-01-2					
Butyl stearate	413	0	NI	0	(R)	0	NI	0	NI	NI	2	NI			Fp	2
Butyl stearate	152		**RTECS No**		WI2900000				**CAS No**		123-95-5					
Butyraldehyde	416	1	NI	1	R	2	0	0	1	0	3	3			DE	3
Butyraldehyde (all isomers)	157		**RTECS No**		ES2275000				**CAS No**		123-72-8					
Butyric acid	418	0	NI	0	R	2	0	0	0	0	3A	3			D	3
Butyric acid	158		**RTECS No**		ES5425000				**CAS No**		107-92-6					
Butyrolactone	420	0	NI	0	R	(3)	NI	1	(0)	0	0	1	C		D	3
gamma-Butyrolactone	360		**RTECS No**		LU3500000				**CAS No**		96-48-0					
Calcium alkyl (long chain) salicylate (overbased) in mineral oil (LOA)	70	0	NI	0	NR	2	NI	0	0	(1)	(1)	(1)	S		Fp	3
Calcium long-chain alkyl salicylate (C13+)	166		**RTECS No**						**CAS No**							
Calcium alkyl phenol sulphide,polyolefin phosphorosulphide mixture (LOA)	1435	NI	NI	NI	NR	4	NI	0	0	(0)	NI	NI			NI	NI
Calcium alkyl (C9) phenol sulphide/Polyolefin phosphorosulphide mixture	160		**RTECS No**						**CAS No**							
Calcium alkyl salicylate	2015	3	NI	3	NR	2	NI	0	0	(2)	2	2			Fp	2

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Calcium alkyl (C10-C28) salicylate	3152		**RTECS No**						**CAS No**							
Calcium bromide (solutions)	427	Inorg	NI	0	Inorg	0	0	(0)	(0)	(2)	(1)	(2)			D	2
Drilling brines, including:calcium bromide solution, calcium chloride solution and sodium chloride solution	308		**RTECS No**		EV9328000				**CAS No**		7789-41-5					
Calcium carbonate slurry	2016	Inorg	0	0	Inorg	0	NI	0	(0)	(0)	0	0			S	0
Calcium carbonate slurry	161		**RTECS No**		FF9335000				**CAS No**		471-34-1					
Calcium hydroxide	431	Inorg	0	0	Inorg	2	NI	0	(0)	(2)	1	2			S	2
Calcium hydroxide slurry	162		**RTECS No**		EW2800000				**CAS No**		1305-62-0					
Calcium hypochlorite solutions containing 15% Ca(OCl)2 or more	432	Inorg	0	0	Inorg	5	NI	1	0	2	3A	3			D	3
Calcium hypochlorite solution (more than 15%)	164		**RTECS No**		NH3485000				**CAS No**		7778-54-3					
Calcium hypochlorite solutions containing less than 15% but more than 1.5% Ca(OCl)2	2073	Inorg	0	0	Inorg	(4)	NI	1	0	2	3A	3			D	3
Calcium hypochlorite solution (15% or less)	163		**RTECS No**		NH3485000				**CAS No**		7778-54-3					
Calcium lignosulphonate (52% solution in water)	2087	0	NI	0	NR	0	NI	0	(0)	(0)	0	0			D	0
Calcium lignosulphonate solutions	165		**RTECS No**						**CAS No**		8061-52-7					
Calcium long chain alkaryl sulphonate (C11-C50) (LOA)	1973	NI	0	0	NR	0	NI	0	0	(1)	1	1	S		FD	2
Calcium alkaryl sulphonate (C11-C50)	169		**RTECS No**						**CAS No**							
Calcium long chain alkyl (C5-C10) phenate (LOA)	2106	0	NI	0	NR	2	NI	0	0	(0)	0	0			FD	1
Calcium long-chain alkyl(C5-C10) phenate	168		**RTECS No**						**CAS No**							
Calcium long chain alkyl (C11-C40) phenate (LOA)	2097	0	NI	0	NR	0	NI	0	0	(1)	1	1			Fp	2
Calcium long-chain alkyl(C11-C40) phenate	167		**RTECS No**						**CAS No**							
Calcium long chain alkyl phenate sulphide (C8-C40) (LOA)	1756	0	NI	0	NR	1	NI	0	0	(1)	1	1			Fp	2
Calcium long-chain alkyl phenate sulphide (C8-C40)	170		**RTECS No**						**CAS No**							
Calcium long-chain alkyl 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 (C18-C28) salicylate	2383	0	NI	0	NR	0	NI	0	0	(1)	1	0	S		Fp	3
Calcium long-chain alkyl (C18-C28) salicylate	3426		**RTECS No**						**CAS No**							
Calcium nitrate	1803	Inorg	0	0	Inorg	0	NI	0	(0)	(1)	1	1			D	1
Calcium nitrate solutions (50% or less)	172		**RTECS No**		EW2985000				**CAS No**		10124-37-5					
Calcium nitrate/ Magnesium nitrate/Potassium chloride solution	1734	Inorg	0	0	Inorg	1	0	0	(0)	(1)	(1)	1			D	1
Calcium nitrate/Magnesium nitrate/Potassium chloride solution	173		**RTECS No**						**CAS No**							
Camelina oil	2440	(0)	NI	(0)	(R)	(0)	(0)	(0)	(0)	(1)	(0)	(1)			Fp	2

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EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Camelina oil	3767		**RTECS No**						**CAS No**		68956-68-3					
Camphor oil, white	1897	NI	NI	NI	NI	NI	NI	2	NI	(2)	1	NI		(T)	FE	2
Camphor oil	174		**RTECS No**		EX1490000				**CAS No**		8008-51-3					
Caprolactam	436	0	NI	0	R	1	0	1	1	2	1	2			D	3
epsilon-Caprolactam (molten or aqueous solutions)	310		**RTECS No**		CM3675000				**CAS No**		105-60-2					
Carbolic oil	437	(3)	3	(3)	(NR)	(3)	(1)	2	2	3	3	3	ATNCM		FED	3
Carbolic oil	176		**RTECS No**						**CAS No**							
Carbon disulphide	439	2	1	1	NR	3	NI	2	(3)	4	3A	3	RN		SD	3
Carbon disulphide	177		**RTECS No**		FF6650000				**CAS No**		75-15-0					
Cashew nut shell oil (untreated)	443	0	NI	0	R	0	NI	(0)	(0)	(2)	2	(2)	S		Fp	3
Cashew nut shell oil (untreated)	179		**RTECS No**						**CAS No**							
Castor oil (containing less than 10% free fatty acids)	2314	0	NI	0	R	(2)	NI	0	0	(1)	1	1			Fp	2
Castor oil	3044		**RTECS No**						**CAS No**							
Cesium Formate, drilling brines	2384	0	3	3	Inorg	2	NI	1	0	(2)	2	2			D	2
Cesium formate solution (*)	3421		**RTECS No**						**CAS No**		3495-36-1					
Cetyl/Eicosyl methacrylate (mixture)	445	0	NI	0	(NR)	(0)	NI	0	(0)	(1)	(1)	(1)			Fp	2
Cetyl/Eicosyl methacrylate mixture	180		**RTECS No**						**CAS No**							
Chlorinated paraffins (C18 and above) with any level of chlorine	2024	0	4	4	NR	0	2	0	0	(1)	(1)	(1)	C		S	3
Chlorinated paraffins (C18+) with any level of chlorine	183		**RTECS No**						**CAS No**							
Chlorinated paraffins (C10-C13) with 60% chlorine or more	2021	5	5	5	NR	5	2	0	0	(1)	1	1	C		S	3
Chlorinated paraffins (C10-C13)	181		**RTECS No**						**CAS No**							
Chlorinated paraffins (C10- C13) with less than 60% chlorine	2020	5	5	5	NR	5	3	(0)	(0)	(1)	(1)	(1)	C		S	3
Chlorinated paraffins (C10-C13) (60% chlorine or less)	2832		**RTECS No**						**CAS No**							
Chlorinated paraffins (C14-C17) with less than 1% shorter chain length	2112	5	4	4	NR	6	3	0	0	(2)	2	2	C		S	3
Chlorinated paraffins (C14-C17) (with 50% chlorine or more, and less than 1% C13 or shorter chains)	182		**RTECS No**						**CAS No**							
Chloroacetic acid	450	0	NI	0	R	2	0	2	3	(4)	3C	3	A		D	3
Chloroacetic acid (80% or less)	184		**RTECS No**		AF8575000				**CAS No**		79-11-8					
Chlorobenzene	456	2	2	2	NR	3	0	1	0	2	2	0			S	2
Chlorobenzene	185		**RTECS No**		CZ0175000				**CAS No**		108-90-7					
Chlorohydrins	463	0	NI	0	R	0	NI	(2)	(2)	(3)	(3A)	3	CS		D	3

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Chlorohydrins (crude)	187		**RTECS No**		TY4025000				**CAS No**		96-24-2					
N-(3-Chloro-2-hydroxypropyl) trimethylammonium chloride solution (75% or less)	2286	0	0	0	NR	1	NI	0	0	(2)	0	(2)	SC		D	3
N-(3-Chloro-2-hydroxypropyl)trimethyl ammonium chloride solution (75% or less)	2579		**RTECS No**						**CAS No**							
4-Chloro-2-methylphenoxyacetic acid, dimethylamine salt solution	1536	2	NI	2	NI	2	NI	1	0	2	1	1	S		S	2
4-Chloro-2-methylphenoxyacetic acid, dimethylamine salt solution	62		**RTECS No**						**CAS No**							
Chloronitrobenzenes	467	2	2	2	NR	3	NI	2	2	2	1	1			S	2
o-Chloronitrobenzene	533		**RTECS No**		CZ0855000				**CAS No**		25167-93-5					
1-(4-Chlorophenyl)-4,4-dimethyl-3-pentanone	1772	3	3	3	NR	3	NI	0	0	(1)	1	0			S	1
1-(4-Chlorophenyl)-4,4- dimethyl-pentan-3-one	21		**RTECS No**						**CAS No**							
2-Chloropropionic acid	474	0	NI	0	R	1	NI	1	(3)	2	3A	3			D	3
2- or 3-Chloropropionic acid	36		**RTECS No**		UE8570000				**CAS No**		598-78-7					
3-Chloropropylene	478	1	1	1	R	3	NI	1	0	2	1	3	T		E	3
Allyl chloride	106		**RTECS No**		UC7350000				**CAS No**		107-05-1					
Chlorosulphonic acid	479	Inorg	0	0	Inorg	2	NI	(2)	(3)	4	3C	3			D	3
Chlorosulphonic acid	188		**RTECS No**		FX5730000				**CAS No**		7790-94-5					
m-Chlorotoluene	481	3	NI	3	NR	2	NI	2	0	(2)	1	1			S	2
m-Chlorotoluene	426		**RTECS No**		XS8990000				**CAS No**		108-41-8					
o-Chlorotoluene	480	3	3	3	NR	3	1	0	0	0	1	1			S	1
o-Chlorotoluene	534		**RTECS No**		XS9000000				**CAS No**		95-49-8					
o-Chlorotoluene	480	3	3	3	NR	3	1	0	0	0	1	1			S	1
Chlorotoluenes (mixed isomers)	189		**RTECS No**		XS9000000				**CAS No**		95-49-8					
p-Chlorotoluene	482	3	3	3	NR	3	0	0	0	0	1	1			S	2
p-Chlorotoluene	551		**RTECS No**		XS9010000				**CAS No**		106-43-4					
Choline chloride, solutions	485	0	NI	0	R	1	NI	0	(0)	(0)	0	0			D	0
Choline chloride solutions	190		**RTECS No**		KH2975000				**CAS No**		67-48-1					
Citric acid	493	0	NI	0	R	1	0	0	(0)	(3)	1	3			D	3
Citric acid (70% or less)	748		**RTECS No**		GE7350000				**CAS No**		77-92-9					
Citric juices	494	0	0	0	Inorg	0	0	0	0	0	0	0			D	0
Water	740		**RTECS No**						**CAS No**							
Clay	495	Inorg	0	0	Inorg	0	0	0	0	0	0	0			S	0

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Clay slurry	191		**RTECS No**						**CAS No**							
Coal slurry	498	Inorg	0	0	Inorg	0	0	0	0	0	0	0			S	0
Coal slurry	192		**RTECS No**						**CAS No**							
Coal tar	499	(4)	4	4	NR	3	1	0	0	0	2	2	CMR	(T)	S	3
Coal tar	193		**RTECS No**		GF8600000				**CAS No**		8007-45-2					
Coal tar naphtha	500	3	NI	3	NR	3	NI	0	0	(1)	1	1	C	(T)	FE	3
Coal tar naphtha solvent	194		**RTECS No**		DE3030000				**CAS No**		8030-30-6					
Coal tar pitch (molten)	491	3	(3)	(3)	NR	(4)	(2)	0	0	(1)	1	0	CM		S	3
Coal tar pitch (molten)	195		**RTECS No**		GF8655000				**CAS No**		65996-93-2					
Cobalt naphthenate in solvent naphtha	501	NI	NI	NI	NR	3	NI	0	(0)	(1)	NI	1	C		FE	3
Cobalt naphthenate in solvent naphtha	196		**RTECS No**						**CAS No**							
Cocoa butter	2342	0	NI	0	R	0	NI	(0)	(0)	(1)	(0)	(1)			Fp	2
Cocoa butter	3096		**RTECS No**						**CAS No**							
Coconut acid oil	2370	0	0	0	R	3	NI	(0)	(0)	(1)	(1)	(1)			Fp	2
Coconut acid oil	3139		**RTECS No**						**CAS No**							
Coconut fatty acid distillate	2366	0	NI	0	R	(3)	NI	0	(0)	(1)	(1)	(1)			Fp	2
Coconut fatty acid distillate	3130		**RTECS No**						**CAS No**							
Coconut oil	503	0	NI	0	R	1	NI	0	(0)	(1)	0	(1)			Fp	2
Coconut oil	2772		**RTECS No**		GG6040000				**CAS No**		8001-31-8					
Coconut oil fatty acid	505	0	0	0	(R)	(3)	NI	0	(0)	(1)	(1)	(1)			Fp	2
Coconut oil fatty acid	197		**RTECS No**						**CAS No**		61788-47-4					
Coconut oil fatty acid methyl ester	506	5	0	0	R	0	NI	(0)	(0)	(0)	(0)	(1)			Fp	2
Coconut oil fatty acid methyl ester	198		**RTECS No**						**CAS No**		61788-59-8					
Copper salt of long chain(>C17) alkanoic acid (LOA)	2111	0	NI	0	(R)	2	NI	0	0	(0)	0	0			Fp	2
Copper salt of long chain (C17+) alkanoic acid	2214		**RTECS No**						**CAS No**							
Corn oil	521	0	NI	0	R	(2)	NI	0	(0)	(1)	1	1			Fp	2
Corn Oil	2781		**RTECS No**		GM4800000				**CAS No**		8001-30-7					
Cotton seed oil	523	0	NI	0	R	(2)	NI	(0)	(0)	(1)	0	1			Fp	2
Cotton seed oil	2783		**RTECS No**		GN2815000				**CAS No**		8001-29-4					
Creosote (coal tar)	524	(4)	(4)	(4)	NR	4	(2)	1	0	2	2	1	CM	(T)	S	3

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Creosote (coal tar)	199		**RTECS No**		GF8615000				**CAS No**		8001-58-9					
Creosote (wood tar)	525	NI	NI	NI	NR	5	NI	1	0	2	2	1	CM	(T)	SD	3
Creosote (wood)	200		**RTECS No**		GO5870000				**CAS No**		8021-39-4					
Cresols (mixed isomers)	527	2	2	2	R	3	0	2	2	4	3A	3		T	SD	3
Cresols (all isomers)	201		**RTECS No**		GO5950000				**CAS No**		1319-77-3					
Cresylic acids, dephenolized	1875	2	2	2	R	3	0	(2)	(2)	(3)	(3A)	(3)		(T)	S	3
Cresylic acid, dephenolized	202		**RTECS No**						**CAS No**							
Cresylic acid, sodium salt solution	1914	(2)	(2)	(2)	(R)	(3)	(0)	1	(1)	(3)	3	3	TCM	(T)	D	3
Cresylic acid, sodium salt solution	203		**RTECS No**						**CAS No**							
Crotonaldehyde	528	0	NI	0	NR	4	1	2	4	4	2	3	S		D	3
Crotonaldehyde	204		**RTECS No**		GP9499000				**CAS No**		4170-30-3					
Crude Piperazine	2331	0	NI	0	R	2	NI	(1)	(2)	(3)	3	3	S		D	3
Crude Piperazine	2810		**RTECS No**						**CAS No**							
Crude Tall Oil	2357	4	NI	4	R	2	0	0	0	(0)	0	0	S		Fp	3
Tall oil, crude	3118		**RTECS No**						**CAS No**							
1,5,9-Cyclododecatriene	534	5	5	5	NR	4	NI	0	0	1	2	1	SA		F	3
1,5,9-Cyclododecatriene	17		**RTECS No**		GU2308000				**CAS No**		4904-61-4					
Cycloheptane	535	4	NI	4	(NR)	4	NI	(0)	0	(1)	(0)	(1)			FE	2
Cycloheptane	205		**RTECS No**		GU3140000				**CAS No**		291-64-5					
Cyclohexane	536	3	3	3	NR	3	NI	0	0	1	0	1			E	2
Cyclohexane	206		**RTECS No**		GU6300000				**CAS No**		110-82-7					
Cyclohexanol	537	1	NI	1	R	2	NI	0	0	0	2	2			Fp	2
Cyclohexanol	207		**RTECS No**		GV7875000				**CAS No**		108-93-0					
Cyclohexanone	539	0	1	1	R	1	0	1	1	1	2	2			FE	2
Cyclohexanone	208		**RTECS No**		GW1050000				**CAS No**		108-94-1					
Cyclohexanone/Cyclohexanol mixture	1436	1	1	1	R	2	NI	1	1	1	2	2			FED	2
Cyclohexanone, Cyclohexanol mixture	209		**RTECS No**						**CAS No**							
Cyclohexyl acetate	541	2	NI	2	(R)	(2)	NI	0	0	(2)	2	1			FED	2
Cyclohexyl acetate	210		**RTECS No**		AG5075000				**CAS No**		622-45-7					
Cyclohexylamine	542	1	NI	1	R	2	NI	2	2	3	3	3	S		D	3

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Cyclohexylamine	211		**RTECS No**		GX0700000				**CAS No**		108-91-8					
1,3-Cyclopentadiene dimer (molten)	545	3	3	3	NR	3	NI	2	0	2	2	2			Fp	2
1,3-Cyclopentadiene dimer (molten)	11		**RTECS No**		PC1050000				**CAS No**		77-73-6					
Cyclopentane	546	3	NI	3	NR	3	NI	(0)	(0)	0	1	(1)			E	2
Cyclopentane	212		**RTECS No**		GY2390000				**CAS No**		287-92-3					
Cyclopentene	547	2	NI	2	(R)	3	NI	1	1	0	NI	NI			E	2
Cyclopentene	213		**RTECS No**		GY5950000				**CAS No**		142-29-0					
Decahydronaphthalene	551	4	4	4	NR	3	NI	0	0	2	2	1			F	1
Decahydronaphthalene	214		**RTECS No**		QJ3150000				**CAS No**		91-17-8					
Decane	554	5	NI	5	R	0	0	0	0	0	1	0			F	1
Decane	2620		**RTECS No**		HD6550000				**CAS No**		124-18-5					
Decanoic acid	555	4	NI	4	R	4	1	0	0	(2)	2	2			Fp	2
Decanoic acid	215		**RTECS No**		HD9100000				**CAS No**		334-48-5					
1-Decene	558	5	NI	5	R	4	2	0	0	0	2	0	A		F	3
Decene	216		**RTECS No**						**CAS No**		872-05-9					
Decyl acetate	1767	4	NI	4	NI	NI	NI	0	0	(1)	(1)	(1)			F	1
Decyl acetate	217		**RTECS No**						**CAS No**		112-17-4					
Decyl acrylate	559	5	NI	5	(R)	5	NI	0	0	(2)	2	1			Fp	2
Decyl acrylate	218		**RTECS No**		AS7400000				**CAS No**		2156-96-9					
Decyloxytetrahydrothiophene dioxide	1859	3	NI	3	NR	4	NI	0	0	(1)	1	0			Fp	2
Decyloxytetrahydrothiophene dioxide	220		**RTECS No**						**CAS No**							
Dextrose solution	562	0	0	0	R	0	NI	0	0	0	0	(0)			D	0
Glucose solution	361		**RTECS No**		LZ6600000				**CAS No**		50-99-7					
Dextrose solution	562	0	0	0	R	0	NI	0	0	0	0	(0)			D	0
Dextrose solution	221		**RTECS No**		LZ6600000				**CAS No**		50-99-7					
Diacetone alcohol	563	0	NI	0	R	1	0	0	0	(2)	2	2			D	2
Diacetone alcohol	226		**RTECS No**		SA9100000				**CAS No**		123-42-2					
Dialkyldiphenylamines (LOA)	1852	5	NI	5	NR	1	0	0	0	(0)	0	0			FD	0
Dialkyl (C8-C9) diphenylamines	2255		**RTECS No**						**CAS No**							
Dialkyl (C9 - C10) phthalates	2359	(0)	(0)	(0)	(R)	(0)	(0)	(0)	(0)	(1)	(1)	(1)			Fp	2

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Dialkyl (C9 - C10) phthalates	3121		**RTECS No**						**CAS No**							
Dialkyl phthalates C9-C13	566	(0)	(4)	(4)	(NR)	(0)	(2)	(0)	(0)	(1)	(1)	(1)	R		Fp	3
Dialkyl (C7-C13) phthalates	227		**RTECS No**						**CAS No**							
Diammonium hydrogen phosphate	98	0	0	0	Inorg	1	NI	0	0	(0)	(1)	(1)			D	1
Ammonium hydrogen phosphate solution	117		**RTECS No**						**CAS No**		7783-28-0					
Dibromomethane	574	1	NI	1	NR	(2)	NI	1	0	0	(2)	(2)			SD	2
Dibromomethane	228		**RTECS No**		PA7350000				**CAS No**		74-95-3					
Di-n-butylamine	577	2	NI	2	R	3	NI	2	2	3	3	3			FD	3
Dibutylamine	231		**RTECS No**		HR7780000				**CAS No**		111-92-2					
Di-butyl ether	578	3	3	3	NR	2	NI	0	0	0	1	1			FE	2
n-Butyl ether	475		**RTECS No**		EK5425000				**CAS No**		142-96-1					
Dibutyl hydrogen phosphonate	1857	1	NI	1	NI	2	NI	0	0	(3)	3	3			F	3
Dibutyl hydrogen phosphonate	229		**RTECS No**						**CAS No**		1809-19-4					
2,4-Di-tert-butyl phenol	2083	5	4	4	NR	4	NI	NI	NI	NI	NI	NI			NI	NI
2,4-Di-tert-butylphenol	2339		**RTECS No**		SK8260000				**CAS No**		96-76-4					
2,6-Di-tert-butyl phenol	2082	4	NI	4	NR	4	NI	0	0	(1)	1	1			Fp	2
2,6-Di-tert-butylphenol	2250		**RTECS No**		SK8265000				**CAS No**		128-39-2					
Di-n-butyl phthalate	582	4	4	4	R	4	1	0	0	1	0	1	R		S	3
Dibutyl phthalate	230		**RTECS No**		TI0875000				**CAS No**		84-74-2					
Dibutyl terephthalate	2430	5	(3)	(3)	R	4	2	0	0	(0)	0	0			S	0
Dibutyl terephthalate	3596		**RTECS No**						**CAS No**							
Dichlorobenzene (all isomers)	333	3	4	4	NR	3	1	1	0	1	(2)	2	CMR	T	S	3
Dichlorobenzene (all isomers)	232		**RTECS No**						**CAS No**							
3,4-Dichlorobut-1-ene	2079	2	2	2	NR	3	NI	1	0	2	2	3			S	3
3,4-Dichloro-1-butene	56		**RTECS No**		EM4740000				**CAS No**		760-23-6					
1,1-Dichloroethane	590	1	NI	1	NR	1	NI	1	(1)	0	2	2			SD	2
1,1-Dichloroethane	4		**RTECS No**		KI0175000				**CAS No**		75-34-3					
1,2-Dichloroethane	591	1	1	1	NR	2	0	1	0	2	1	2	C		SD	3
Ethylene dichloride	330		**RTECS No**		KI0525000				**CAS No**		107-06-2					
1,6-Dichlorohexane	593	3	NI	3	NR	3	NI	0	(0)	(0)	0	0			S	0

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
1,6-Dichlorohexane	19		**RTECS No**						**CAS No**		2163-00-0					
Dichloromethane	594	1	2	2	NR	1	0	1	0	0	2	2	C		SD	3
Dichloromethane	234		**RTECS No**		PA8050000				**CAS No**		75-09-2					
2,4-Dichlorophenol	596	3	2	2	NR	3	2	3	2	3	3	3		T	S	3
2,4-Dichlorophenol	30		**RTECS No**		SK8575000				**CAS No**		120-83-2					
2,4-Dichlorophenoxyacetic acid, diethanolamine salt, solution	599	0	1	1	R	2	NI	1	0	(3)	1	3		(T)	D	3
2,4-Dichlorophenoxyacetic acid, diethanolamine salt solution	32		**RTECS No**						**CAS No**							
2,4-Dichlorophenoxyacetic acid, dimethylamine salt, 70 % or less solution	600	0	1	1	R	3	NI	1	0	(3)	1	3		(T)	D	3
2,4-Dichlorophenoxyacetic acid, dimethylamine salt solution (70% or less)	33		**RTECS No**						**CAS No**							
2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt soln.	602	0	NI	0	R	2	NI	1	0	(3)	(1)	3		(T)	D	3
2,4-Dichlorophenoxyacetic acid, triisopropanolamine salt solution	34		**RTECS No**						**CAS No**							
1,1-Dichloropropane	605	2	1	1	NR	2	1	0	0	1	1	1			SD	1
1,1-Dichloropropane	5		**RTECS No**		TX9450000				**CAS No**		78-99-9					
1,2-Dichloropropane	606	2	1	1	NR	2	0	1	0	2	2	2			SD	2
1,2-Dichloropropane	9		**RTECS No**		TX9625000				**CAS No**		78-87-5					
1,3-Dichloropropane	607	2	1	1	NR	2	1	0	NI	NI	NI	NI			SD	NI
1,3-Dichloropropane	12		**RTECS No**		TX9660000				**CAS No**		142-28-9					
Dichloropropane and dichloropropene, mixture	608	(2)	(1)	(1)	(NR)	(4)	(1)	2	1	2	3	3	CS		SD	3
Dichloropropene/Dichloropropane mixtures	235		**RTECS No**		TX9800000				**CAS No**		8003-19-8					
1,3-Dichloropropene	612	1	NI	1	NR	4	1	2	1	2	3	3	CS		SD	3
1,3-Dichloropropene	13		**RTECS No**		UC8310000				**CAS No**		542-75-6					
2,2-Dichloropropionic acid	609	2	2	2	NR	2	NI	1	0	(3)	3	3			D	3
2,2-Dichloropropionic acid	28		**RTECS No**		UF0690000				**CAS No**		75-99-0					
Di-(2-chloro-iso-propyl) ether	615	2	2	2	NR	2	NI	2	0	2	0	2			SD	2
2,2'-Dichloroisopropyl ether	25		**RTECS No**		KN1750000				**CAS No**		108-60-1					
Dicyclopentadiene(80-90%)/Co-dimers(10-20%), mixtures	2389	2	3	3	NR	3	0	2	0	3	2	2	AR		FED	3
Dicyclopentadiene, Resin Grade, 81-89%	3559		**RTECS No**						**CAS No**							
Diethanolamine	620	0	NI	0	R	1	0	1	0	0	2	3	T		D	3
Diethanolamine	236		**RTECS No**		KL2975000				**CAS No**		111-42-2					
Diethylamine	621	0	NI	0	R	2	NI	1	2	3	3C	3			DE	3

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EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Diethylamine	240		**RTECS No**		HZ8750000				**CAS No**		109-89-7					
2,6-Diethylaniline	1437	3	3	3	NR	2	NI	1	1	(2)	1	2			FD	2
2,6-Diethylaniline	35		**RTECS No**		BX3500000				**CAS No**		579-66-8					
Diethyl benzene (mixed isomers)	624	4	4	4	NR	3	NI	0	(0)	(2)	2	1			F	2
Diethylbenzene	242		**RTECS No**		CZ5600000				**CAS No**		25340-17-4					
Di-(2-ethylbutyl) phthalate	625	5	NI	5	R	0	2	0	0	(1)	1	(1)	R		Fp	3
Di-(2-ethylbutyl) phthalate	2750		**RTECS No**		TI1100000				**CAS No**		84-75-3					
Diethylene glycol	628	0	NI	0	R	0	0	1	0	2	1	1			D	2
Diethylene glycol	243		**RTECS No**		ID5950000				**CAS No**		111-46-6					
Diethylene glycol di-n-butyl ether	629	2	NI	2	NI	1	NI	0	0	(1)	1	1			FD	1
Diethylene glycol dibutyl ether	244		**RTECS No**		KN0350000				**CAS No**		112-73-2					
Diethylene glycol diethyl ether	630	0	NI	0	NR	0	NI	1	0	(2)	(2)	2			D	2
Diethylene glycol diethyl ether	245		**RTECS No**		KN3160000				**CAS No**		112-36-7					
Diethylene glycol initiated polyoxypropylene diamine	2353	0	NI	0	NR	2	NI	0	0	(3)	3B	(3)			D	3
Diethylene glycol initiated polyoxypropylene diamine	3113		**RTECS No**						**CAS No**							
Diethylene glycol initiated polyoxypropylene diamine	2353	0	NI	0	NR	2	NI	0	0	(3)	3B	(3)			D	3
Polyetheramine	2946		**RTECS No**						**CAS No**							
Diethylene glycol phthalate	1438	2	NI	2	NR	1	NI	0	0	(2)	(1)	2			S	2
Diethylene glycol phthalate	247		**RTECS No**						**CAS No**							
Diethylene triamine	638	0	1	1	(R)	2	NI	1	3	3	3A	3	S		FD	3
Diethylenetriamine	248		**RTECS No**		IE1225000				**CAS No**		111-40-0					
Diethylenetriamine pentaacetic acid, pentasodium salt (40% solution in water)	2076	0	NI	0	NR	0	NI	0	(0)	(0)	0	0			D	0
Diethylenetriaminepentaacetic acid, pentasodium salt solution	249		**RTECS No**						**CAS No**							
Diethyl ethanolamine	622	0	NI	0	NR	3	NI	1	1	2	3	3			D	3
Diethylaminoethanol	241		**RTECS No**		KK5075000				**CAS No**		100-37-8					
Diethyl ether	640	0	1	1	NR	0	NI	1	0	0	1	1			DE	2
Diethyl ether	237		**RTECS No**		KI5775000				**CAS No**		60-29-7					
Di-(2-ethylhexyl) adipate	641	0	2	2	R	4	2	0	0	0	1	1	R		Fp	3
Di-(2-ethylhexyl) adipate	222		**RTECS No**		AU9700000				**CAS No**		103-23-1					
Di-(2-ethylhexyl) phosphoric acid	643	(2)	1	1	NR	2	NI	0	1	(2)	2	2			Fp	2

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EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Di-(2-ethylhexyl) phosphoric acid	223		**RTECS No**		TB7875000				**CAS No**		298-07-7					
Di-(2-ethylhexyl) phthalate	642	0	4	4	R	0	0	0	0	1	1	1	R		Fp	3
Di-(2-ethylhexyl) phthalate	2751		**RTECS No**		TI0350000				**CAS No**		117-81-7					
Diethyl phthalate	648	3	3	3	R	2	0	0	0	(1)	1	1			S	1
Diethyl phthalate	238		**RTECS No**		TI1050000				**CAS No**		84-66-2					
Diethyl sulphate	649	1	NI	1	R	(2)	NI	1	2	3	2	3	CM		SD	3
Diethyl sulphate	239		**RTECS No**		WS7875000				**CAS No**		64-67-5					
Diglycidyl ether of Bisphenol A	653	3	NI	3	NR	4	NI	0	0	(2)	1	2	S		S	2
Diglycidyl ether of bisphenol A	250		**RTECS No**		TX3800000				**CAS No**		1675-54-3					
Diglycidyl ether of Bisphenol F	728	0	NI	0	NR	3	NI	0	(0)	(2)	1	(2)	SR		S	3
Diglycidyl ether of bisphenol F	251		**RTECS No**						**CAS No**		55492-52-9					
Diheptyl phthalate	655	0	(4)	(4)	R	0	NI	0	0	(1)	1	1			Fp	3
Diheptyl phthalate	252		**RTECS No**		TI1090000				**CAS No**		3648-21-3					
Di-n-hexyl adipate	656	5	NI	5	(NR)	5	0	0	0	(1)	0	1			FE	1
Di-n-hexyl adipate	224		**RTECS No**		AV1150000				**CAS No**		110-33-8					
Di-hexyl phthalate	2125	5	NI	5	R	0	2	0	0	(1)	1	1	R		Fp	3
Dihexyl phthalate	253		**RTECS No**		TI1100000				**CAS No**		84-75-3					
1,4-Dihydro-9,10-dihydroxy anthracene disodium salt (soln.)	657	1	NI	1	NI	1	NI	0	NI	NI	NI	NI			D	NI
1,4-Dihydro-9,10-dihydroxyanthracene, disodium salt solution	15		**RTECS No**						**CAS No**							
Diisobutene	575	4	4	4	NR	3	NI	0	0	0	1	0			FE	2
Diisobutylene	257		**RTECS No**		SB2715000				**CAS No**		11071-47-9					
Diisobutylamine	576	(2)	NI	(2)	(R)	(3)	NI	2	(2)	2	(3)	(3)			FED	3
Diisobutylamine	256		**RTECS No**		TX1750000				**CAS No**		110-96-3					
Diisobutyl ketone	579	3	NI	3	R	2	NI	0	0	2	2	2			F	2
Diisobutyl ketone	254		**RTECS No**		MJ5775000				**CAS No**		108-83-8					
Diisobutyl phthalate	581	4	(4)	4	R	(4)	1	0	0	1	0	0	R		S	3
Diisobutyl phthalate	255		**RTECS No**		TI1225000				**CAS No**		84-69-5					
Diisodecyl phthalate	619	0	0	0	(R)	0	(0)	0	0	(1)	0	1			Fp	2
Diisodecyl phthalate	3119		**RTECS No**		TI1270000				**CAS No**		26761-40-0					
Diisoheptyl phthalate	2391	0	(4)	(4)	R	0	0	0	0	(1)	1	1	R		Fp	3

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Diisoheptyl phthalate	3561		**RTECS No**						**CAS No**							
Diisononyl adipate	690	0	NI	0	R	0	0	0	0	(1)	1	1			Fp	2
Diisononyl adipate	258		**RTECS No**						**CAS No**		33703-08-1					
Diisononyl phthalate	691	0	0	0	R	0	0	0	0	(0)	0	0			Fp	2
Diisononyl phthalate	3120		**RTECS No**						**CAS No**							
Diisooctyl phthalate	693	0	4	4	(R)	0	0	0	0	(1)	1	0			Fp	2
Diisooctyl phthalate	259		**RTECS No**		TI1300000				**CAS No**		27554-26-3					
Diisopropanolamine	703	0	NI	0	NR	1	NI	0	0	0	2	3			FD	3
Diisopropanolamine	260		**RTECS No**		UB6600000				**CAS No**		110-97-4					
Diisopropylamine	705	1	NI	1	NR	2	0	1	1	2	3	3			ED	3
Diisopropylamine	261		**RTECS No**		IM4025000				**CAS No**		108-18-9					
Diisopropyl benzene (mixed isomers)	2220	5	4	4	NR	4	NI	0	0	2	2	1		(T)	F	2
Diisopropylbenzene (all isomers)	262		**RTECS No**						**CAS No**							
1,3-Diisopropylbenzene	706	5	4	4	NR	4	NI	0	0	2	2	1			F	2
1,3-Diisopropyl benzene	2626		**RTECS No**		CZ6330000				**CAS No**		25321-09-9					
Diisopropyl ether	711	1	NI	1	NR	2	NI	0	0	0	1	2			E	2
Isopropyl ether	406		**RTECS No**		TZ5425000				**CAS No**		108-20-3					
Diisopropylnaphthalene, mixed isomers	712	5	4	4	NR	3	NI	0	0	(1)	1	1			Fp	2
Diisopropylnaphthalene	263		**RTECS No**		QJ1527000				**CAS No**		38640-62-9					
Dimethoxymethane	2405															
Methylal (>=85%)	3662		**RTECS No**						**CAS No**							
Dimethyl acetamide	658	0	NI	0	R	1	NI	0	0	2	1	2			D	2
N,N-Dimethylacetamide solution (40% or less)	466		**RTECS No**		AB7700000				**CAS No**		127-19-5					
Dimethyl acetamide	658	0	NI	0	R	1	NI	0	0	2	1	2			D	2
N,N-Dimethylacetamide	2730		**RTECS No**		AB7700000				**CAS No**		127-19-5					
Dimethyl adipate	659	1	NI	1	(R)	4	NI	0	0	(0)	1	1			SD	2
Dimethyl adipate	264		**RTECS No**		AV1645000				**CAS No**		627-93-0					
Dimethylamine (40-50% aq.sol.)	661	0	NI	0	R	3	0	2	0	2	3B	3	S	NT	DE	3
Dimethylamine solution (greater than 45% but not greater than 55%)	271		**RTECS No**		IP8750000				**CAS No**		124-40-3					
Dimethylamine (40-50% aq.sol.)	661	0	NI	0	R	3	0	2	0	2	3B	3	S	NT	DE	3

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Dimethylamine solution (greater than 55% but not greater than 65%)	272		**RTECS No**		IP8750000				**CAS No**		124-40-3					
Dimethylamine (40-50% aq.sol.)	661	0	NI	0	R	3	0	2	0	2	3B	3	S	NT	DE	3
Dimethylamine solution (45% or less)	270		**RTECS No**		IP8750000				**CAS No**		124-40-3					
N,N-Dimethyl cyclohexylamine	665	2	NI	2	NR	2	NI	1	2	3	3C	3			FD	3
N,N-Dimethylcyclohexylamine	467		**RTECS No**		GX1198000				**CAS No**		98-94-2					
Dimethyl disulphide	1616	1	NI	1	NR	3	2	2	0	2	1	1			SD	2
Dimethyl disulphide	2504		**RTECS No**		JO1927500				**CAS No**		624-92-0					
N,N-Dimethyldodecylamine	2126	3	NI	3	R	4	NI	1	(1)	(3)	3	3			F	3
N,N-Dimethyldodecylamine	468		**RTECS No**		JR6600000				**CAS No**		112-18-5					
Dimethylethanolamine	667	0	NI	0	R	2	NI	1	1	2	3	3			D	3
Dimethylethanolamine	273		**RTECS No**		KK6125000				**CAS No**		108-01-0					
Dimethyl formamide	676	0	0	0	R	1	0	0	1	2	1	2	R		D	3
Dimethylformamide	274		**RTECS No**		LQ2100000				**CAS No**		68-12-2					
Dimethyl glutarate	670	0	NI	0	R	3	NI	0	0	2	3	2	A		SD	3
Dimethyl glutarate	265		**RTECS No**						**CAS No**		26717-67-9					
Dimethyl hydrogen phosphite	673	0	NI	0	NR	2	NI	1	0	0	1	1			D	1
Dimethyl hydrogen phosphite	266		**RTECS No**		SZ7710000				**CAS No**		868-89-9					
2,2-Dimethyloctanoic acid	675	3	NI	3	R	4	1	0	0	(2)	2	2			Fp	2
Dimethyl octanoic acid	267		**RTECS No**						**CAS No**		29662-90-6					
Dimethyl phthalate	678	2	2	2	R	2	0	0	0	(1)	0	1			SD	1
Dimethyl phthalate	268		**RTECS No**		TI1575000				**CAS No**		131-11-3					
2,2-Dimethylpropane-1,3-diol	679	0	0	0	NR	0	0	0	0	0	2	2			FD	2
2,2-Dimethylpropane-1,3-diol (molten or solution)	29		**RTECS No**		TY5775000				**CAS No**		126-30-7					
Dimethyl succinate	681	0	NI	0	NI	2	NI	0	0	0	0	2			SD	2
Dimethyl succinate	269		**RTECS No**		WM7675000				**CAS No**		106-65-0					
Dinitrotoluene	688	2	2	2	NR	4	2	2	(2)	(2)	1	0	CMR		S	3
Dinitrotoluene (molten)	276		**RTECS No**		XT1300000				**CAS No**		25321-14-6					
Dinonyl phthalate	689	0	NI	0	R	0	0	0	0	(1)	1	1			Fp	2
Dinonyl phthalate	2993		**RTECS No**		TI1800000				**CAS No**		84-76-4					
Di-n-octyl phthalate	692	0	(4)	(4)	(R)	0	0	0	0	(1)	1	(1)			Fp	2

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Dioctyl phthalate	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
1,4-Dioxane	16		**RTECS No**		JG8225000				**CAS No**		123-91-1					
Dipentene	686	4	NI	4	NR	2	NI	0	0	(2)	2	2	S		F	3
Dipentene	278		**RTECS No**		OS8100000				**CAS No**		138-86-3					
Diphenyl	694	3	4	4	R	4	1	0	0	(1)	0	1			S	1
Diphenyl	279		**RTECS No**		DU8050000				**CAS No**		92-52-4					
Diphenylamine (molten)	2186	3	3	3	NR	3	1	0	0	(1)	1	1			S	1
Diphenylamine (molten)	285		**RTECS No**						**CAS No**							
Diphenylamine, reaction product with 2,4,4-trimethylpentene	1500	NI	1	1	NR	3	NI	0	0	(1)	1	1	S		Fp	3
Diphenylamine, reaction product with 2,2,4-Trimethylpentene	286		**RTECS No**						**CAS No**							
Diphenylamines, alkylated	1770	5	NI	5	NR	(3)	NI	0	0	(1)	(1)	(1)	S		F	3
Diphenylamines, alkylated	287		**RTECS No**						**CAS No**							
Diphenyl/Diphenyl ether (mixtures)	698	NI	NI	4	NR	4	1	0	0	(1)	1	1		(T)	S	1
Diphenyl/Diphenyl ether mixtures	283		**RTECS No**		DV1500000				**CAS No**		8004-13-5					
Diphenyl ether	699	4	4	4	NR	4	NI	0	0	0	1	1		T	S	1
Diphenyl ether	281		**RTECS No**		KN8970000				**CAS No**		101-84-8					
Diphenyl ether/ Biphenyl phenyl ether mixtures	702	5	NI	5	NR	4	NI	0	0	0	1	1		(T)	S	1
Diphenyl ether/Diphenyl phenyl ether mixture	282		**RTECS No**						**CAS No**							
Diphenylmethane-4,4'-diisocyanate (#)	700	5	2	2	NR	0	0	0	0	3	2	2	S		S	3
Diphenylmethane diisocyanate	288		**RTECS No**		NQ9350000				**CAS No**		101-68-8					
Diphenylol propane-epichlorohydrin resins	2237	3	NI	3	NR	4	NI	0	0	(2)	1	2			S	2
Diphenylol propane-epichlorohydrin resins	290		**RTECS No**						**CAS No**							
Di-n-propylamine	704	1	NI	1	NR	3	NI	2	2	2	3C	3			FED	3
Di-n-propylamine	225		**RTECS No**		JL9200000				**CAS No**		142-84-7					
Dipropylene glycol	707	0	1	1	NR	0	NI	0	0	0	1	1			D	1
Dipropylene glycol	291		**RTECS No**		UB8785000				**CAS No**		110-98-5					
Dipropylene glycol dibenzoate	708	3	NI	3	R	3	NI	0	0	0	0	0			S	0
Dipropylene glycol dibenzoate	2431		**RTECS No**		UB8787500				**CAS No**		94-51-9					
Di-n-propyl phthalate	713	3	NI	3	(R)	3	NI	(0)	(0)	(1)	(1)	(1)	R		S	3

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Di-n-propyl phthalate	2752		**RTECS No**		TI1940000				**CAS No**		131-16-8					
Distilled Resin Oil, DRO	2299	(3)	NI	(3)	(NR)	(3)	NI	0	0	(2)	2	1	MN		FE	3
Resin oil, distilled	2958		**RTECS No**						**CAS No**							
Dithocarbamate ester (C7-C35)	2185	NI	2	2	NR	4	NI	0	0	(1)	1	1			S	1
Dithiocarbamate ester (C7-C35)	2371		**RTECS No**						**CAS No**							
Ditridecyl adipate	2351	0	NI	0	NR	0	NI	0	0	(2)	2	1	S		Fp	2
Ditridecyl adipate	293		**RTECS No**						**CAS No**							
Ditridecyl phthalate	714	0	(0)	0	NR	0	(0)	0	0	(1)	1	(1)			Fp	2
Ditridecyl phthalate	2994		**RTECS No**		TI1950000				**CAS No**		119-06-2					
Diundecyl phthalate	715	0	(0)	0	NR	0	0	0	0	(1)	1	1			Fp	2
Diundecyl phthalate	294		**RTECS No**		TI1980000				**CAS No**		3648-20-2					
Dodecane	718	5	NI	5	(R)	0	NI	0	0	(1)	(1)	(0)			Fp	2
Dodecane (all isomers)	295		**RTECS No**		JR2125000				**CAS No**		112-40-3					
tert-Dodecanethiol	2233	5	NI	5	NR	4	2	0	0	(2)	2	1	S		F	3
tert-Dodecanethiol	2418		**RTECS No**						**CAS No**							
1-Dodecanol	719	5	2	2	R	4	1	0	0	(1)	1	(1)			Fp	2
Dodecyl alcohol	298		**RTECS No**		JR5775000				**CAS No**		112-53-8					
Dodecene (all isomers)	720	5	NI	5	NR	4	NI	0	0	(2)	2	1	A		F	3
Dodecene (all isomers)	296		**RTECS No**		UD1950000				**CAS No**		6842-15-5					
2-Dodecenyl succinic acid, dipotassium salt, solution	727	4	NI	4	NR	1	NI	(0)	(0)	NI	NI	NI			D	NI
Dodecenylsuccinic acid, dipotassium salt solution	297		**RTECS No**						**CAS No**		57195-28-5					
Dodecylamine/Tetradecylamine mixture	721	3	NI	3	R	4	NI	1	0	(3)	3	3			F	3
Dodecylamine/Tetradecylamine mixture	303		**RTECS No**						**CAS No**							
Dodecyl benzene	126	0	NI	0	NR	0	3	0	0	(2)	(2)	(1)			F	2
Dodecylbenzene	304		**RTECS No**		CZ9540000				**CAS No**		123-01-3					
Dodecyl benzene sulphonic acid (contains 1.5% Sulphuric acid)	1739	NI	NI	3	R	3	1	1	(1)	(2)	(1)	(1)			D	2
Alkyl (C11-C17) benzene sulphonic acid	101		**RTECS No**						**CAS No**							
Dodecyl diphenyl oxide disulphonate (solns.)	723	(5)	NI	5	NR	4	1	1	0	(3)	1	3			D	3
Dodecyl diphenyl ether disulphonate solution	299		**RTECS No**		JR8050000				**CAS No**							
Dodecyl hydroxypropyl sulphide (LOA)	1861	5	NI	5	NI	4	NI	0	0	(0)	0	0			FD	0

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Dodecyl hydroxypropyl sulphide	2252		**RTECS No**						**CAS No**							
Dodecyl/octadecyl methacrylate (mixtures)	2116	(5)	NI	(5)	(NR)	(0)	NI	0	0	(1)	1	(1)			Fp	2
Dodecyl/Octadecyl methacrylate mixture	1717		**RTECS No**						**CAS No**							
Dodecyl/pentadecyl methacrylate (mixture)	724	(5)	NI	(5)	(NR)	(0)	NI	0	(0)	(1)	(1)	(1)			Fp	2
Dodecyl/Pentadecyl methacrylate mixture	302		**RTECS No**						**CAS No**							
Dodecyl phenol	725	0	4	4	NI	4	NI	0	0	(3)	3	2			Fp	3
Dodecyl phenol	301		**RTECS No**		SL3675000				**CAS No**		27193-86-8					
Dodecyl-, Tetradecyl-, Hexadecyl-dimethylamine mixture	2248	3	NI	3	R	5	2	1	(1)	(3)	3C	3			F	3
Alkyl (C12+) dimethylamine	2485		**RTECS No**						**CAS No**							
Dodecylxylene	1763	0	NI	0	NI	0	NI	0	0	(1)	1	1			Fp	2
Dodecyl Xylene	306		**RTECS No**						**CAS No**							
Epichlorohydrin	731	0	0	0	R	2	NI	2	2	3	3A	3	CS		D	3
Epichlorohydrin	309		**RTECS No**		TX4900000				**CAS No**		106-89-8					
Ethanol	732	0	NI	0	R	0	NI	0	0	0	1	2			D	2
Ethyl alcohol	315		**RTECS No**		KQ6300000				**CAS No**		64-17-5					
Ethanolamine	733	0	NI	0	R	2	0	1	1	3	3A	3			D	3
Ethanolamine	311		**RTECS No**		KJ5775000				**CAS No**		141-43-5					
Ethanoltriazine (aqueous solution)	2411	(0)	NI	(0)	R	3	NI	1	0	4	0	2	S		D	3
1,3,5-Hexahydrotriethanol-1,3,5-triazine	3687		**RTECS No**						**CAS No**		4719-04-4					
Ethoxylated long chain (>C16)alkyloxyalkanamine (LOA)	2103	5	NI	5	NR	1	NI	0	0	(3)	3	(3)			Fp	3
Ethoxylated long chain (C16+) alkyloxyalkylamine	2203		**RTECS No**						**CAS No**							
Ethoxylated tallow amine (>95%)	2313	0	NI	0	NR	4	NI	1	(1)	3	2	3	S		Fp	3
Ethoxylated tallow amine (> 95%)	2959		**RTECS No**						**CAS No**							
Ethoxylated tallow amine, glycol mixture	2252	2	NI	2	NR	6	NI	1	0	3	2	3	S		D	3
Ethoxylated tallow amine, glycol mixture	2476		**RTECS No**						**CAS No**							
Ethyl acetate	735	0	2	2	R	1	0	0	0	1	0	1			DE	2
Ethyl acetate	312		**RTECS No**		AH5425000				**CAS No**		141-78-6					
Ethyl acetoacetate	736	0	0	0	R	1	NI	0	0	(1)	1	1			D	1
Ethyl acetoacetate	313		**RTECS No**		AK5250000				**CAS No**		141-97-9					
Ethyl acrylate	734	1	NI	1	R	3	1	1	2	2	2	2	SC	T	ED	3

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Ethyl acrylate	314		**RTECS No**		AT0700000				**CAS No**		140-88-5					
Ethylamine	1016	0	NI	0	R	2	NI	2	2	1	3	3			GD	3
Ethylamine	322		**RTECS No**		KH2100000				**CAS No**		75-04-7					
Ethylamine solutions (72% or less)	2219	NI	NI	0	R	2	NI	2	2	1	3	3			DE	3
Ethylamine solutions (72% or less)	323		**RTECS No**						**CAS No**							
Ethyl amyl ketone	1784	2	NI	2	NI	2	NI	0	0	(2)	2	NI			FD	2
Ethyl amyl ketone	316		**RTECS No**		RH1485000				**CAS No**		106-68-3					
Ethylbenzene	740	3	2	2	R	3	(1)	0	0	0	2	2	C		FE	3
Ethylbenzene	324		**RTECS No**		DA070000				**CAS No**		100-41-4					
N-Ethyl butylamine	745	1	NI	1	NI	NI	NI	1	1	2	3	3			FED	3
N-Ethylbutylamine	477		**RTECS No**		EO4880000				**CAS No**		13360-63-9					
Ethyl tert-butyl ether	2085	1	NI	1	NI	2	NI	0	0	2	2	2			E	2
Ethyl tert-butyl ether	320		**RTECS No**		KN4730200				**CAS No**		637-92-3					
Ethyl butyrate	748	1	NI	1	NI	2	NI	0	0	(2)	2	NI			FED	2
Ethyl butyrate	317		**RTECS No**		ET1660000				**CAS No**		105-54-4					
Ethyl cyclohexane	751	4	4	4	NR	3	NI	(0)	(0)	(1)	(1)	(1)			FE	2
Ethylcyclohexane	325		**RTECS No**		GV1140000				**CAS No**		1678-91-7					
N-Ethyl cyclohexylamine	752	2	NI	2	NI	(3)	NI	1	2	2	3	3			FED	3
N-Ethylcyclohexylamine	478		**RTECS No**		GX1225000				**CAS No**		5459-93-8					
S-Ethyl dipropylthiocarbamate	2081	3	2	2	NI	3	NI	1	1	2	2	(2)	N		F	3
S-Ethyl dipropylthiocarbamate	2302		**RTECS No**						**CAS No**		759-94-4					
Ethylene carbonate	755	0	NI	0	R	0	NI	0	0	(2)	1	2			SD	2
Ethylene carbonate	326		**RTECS No**		FF9550000				**CAS No**		96-49-1					
Ethylene chlorohydrin	756	0	0	0	R	3	NI	2	3	4	2	3			D	3
Ethylene chlorohydrin	327		**RTECS No**		KK0875000				**CAS No**		107-07-3					
Ethylene cyanohydrin	757	0	0	0	NI	2	NI	1	0	(2)	1	2			D	2
Ethylene cyanohydrin	328		**RTECS No**		MU5250000				**CAS No**		109-78-4					
Ethylene diamine	758	0	1	1	R	3	1	1	2	1	3	3	S		D	3
Ethylenediamine	343		**RTECS No**		KH8575000				**CAS No**		107-15-3					
Ethylene diamine, tetra acetic acid, di- and tetra-sodium salt	759	0	NI	0	NR	2	0	1	(1)	(2)	1	2			D	2

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Ethylenediaminetetraacetic acid, tetrasodium salt solution	344		**RTECS No**		AH4375000				**CAS No**		#Error					
Ethylene dibromide	760	1	2	2	NR	3	NI	2	2	2	3	3	CRT		SD	3
Ethylene dibromide	329		**RTECS No**		KH9275000				**CAS No**		106-93-4					
Ethylene glycol	761	0	NI	0	R	0	NI	1	(1)	(1)	0	0			D	1
Ethylene glycol	331		**RTECS No**		KW2975000				**CAS No**		107-21-1					
Ethylene glycol acrylate	869	0	NI	0	R	4	NI	1	3	3	3	3	SM		D	3
2-Hydroxyethyl acrylate	51		**RTECS No**		AT1750000				**CAS No**		818-61-1					
Ethylene glycol butyl ether acetate	764	1	NI	1	R	2	NI	0	1	(1)	1	1			FD	1
Ethylene glycol butyl ether acetate	334		**RTECS No**		KJ8925000				**CAS No**		112-07-2					
Ethylene glycol diacetate	765	0	NI	0	NI	2	NI	0	0	(1)	1	NI			D	1
Ethylene glycol diacetate	335		**RTECS No**		KW4025000				**CAS No**		111-55-7					
Ethylene glycol ethyl ether acetate	767	0	NI	0	R	2	0	1	0	1	1	2	R		D	3
2-Ethoxyethyl acetate	41		**RTECS No**		KK8225000				**CAS No**		111-15-9					
Ethylene glycol methyl butyl ether	772	1	NI	1	NI	1	NI	NI	NI	NI	NI	NI			D	NI
Ethylene glycol methyl butyl ether	336		**RTECS No**						**CAS No**		13343-98-1					
Ethylene glycol methyl ether acetate	773	0	NI	0	R	2	NI	0	0	(0)	(1)	1	R		D	3
Ethylene glycol methyl ether acetate	337		**RTECS No**		KL5950000				**CAS No**		110-49-6					
Ethylene glycol monoacetate	762	0	NI	0	R	2	NI	0	0	(3)	NI	(3)			D	3
Ethylene glycol acetate	333		**RTECS No**		KW7175000				**CAS No**		542-59-6					
Ethylene glycol monoalkyl ethers	2268	0	NI	0	R	2	NI	1	2	2	1	2			D	2
Ethylene glycol monoalkyl ethers	338		**RTECS No**						**CAS No**							
Ethylene glycol monoethyl ether	766	0	NI	0	R	0	0	0	0	1	2	2			D	3
2-Ethoxyethanol	40		**RTECS No**		KK8050000				**CAS No**		110-80-5					
Ethylene glycol phenyl ether	775	1	NI	1	R	1	0	1	0	(2)	1	2			SD	2
Ethylene glycol phenyl ether	339		**RTECS No**		KM0350000				**CAS No**		122-99-6					
Ethylene glycol phenyl ether/Diethylene glycol phenyl ether, mixture	1740	NI	NI	1	R	1	NI	1	0	(2)	(2)	(2)			SD	2
Ethylene glycol phenyl ether/Diethylene glycol phenyl ether mixture	340		**RTECS No**						**CAS No**							
Ethylene oxide	77	NI	NI	NI	NI	NI	NI	1	(1)	3	3	3	CMRS		GD	3
Ethylene oxide	2744		**RTECS No**		KX2450000				**CAS No**		75-21-8					
Ethylene-propylene copolymer	1508	NI	NI	NI	NI	NI	NI	(0)	(0)	(0)	(0)	(0)			NI	0

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Propylene-Butylene copolymer	633		**RTECS No**						**CAS No**							
Ethylene vinyl acetate copolymer (emulsion)	779	0	1	1	NR	0	0	0	(0)	(2)	2	0			S	2
Ethylene-vinyl acetate copolymer (emulsion)	342		**RTECS No**						**CAS No**							
Ethyl 3-ethoxypropionate	1439	1	NI	1	NR	2	NI	0	0	0	1	1			FD	1
Ethyl-3-ethoxypropionate	321		**RTECS No**		UF3325000				**CAS No**		763-69-9					
2-Ethylhexanoic acid	776	2	NI	2	R	2	NI	0	0	(2)	2	2			FD	3
2-Ethylhexanoic acid	45		**RTECS No**		MO7700000				**CAS No**		149-57-5					
2-Ethylhexyl acrylate	782	3	NI	3	R	2	NI	0	0	(2)	2	2	S		F	3
2-Ethylhexyl acrylate	46		**RTECS No**		AT0855000				**CAS No**		103-11-7					
2-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 (LOA)	2054	0	NI	0	R	0	NI	0	(0)	(0)	0	(0)			Fp	2
2-Ethyl-2-(hydroxymethyl) propane-1,3-diol (C8-C10) ester	42		**RTECS No**						**CAS No**							
5-Ethylidene-2-norbornene	783	3	3	3	NR	3	0	0	0	2	1	2			FE	2
Ethylidene norbornene	345		**RTECS No**		RB9450000				**CAS No**		16219-75-3					
Ethyl isoamyl ketone	737	NI	NI	NI	NI	NI	NI	0	0	(1)	1	(2)			FD	2
Ethyl isoamyl ketone	2618		**RTECS No**		MJ7350000				**CAS No**		541-85-5					
Ethyl methacrylate	785	1	NI	1	R	2	0	0	0	0	(2)	(2)	S		FE	2
Ethyl methacrylate	318		**RTECS No**		OZ4550000				**CAS No**		97-63-2					
N-Ethyl-2-methallylamine	2228	0	NI	0	NR	2	NI	3	2	2	3A	3			D	3
N-Ethylmethylallylamine	2417		**RTECS No**						**CAS No**							
o-Ethyl phenol	788	2	NI	2	NI	(2)	NI	1	NI	NI	NI	NI			S	NI
o-Ethylphenol	535		**RTECS No**		SL4025000				**CAS No**		90-00-6					
Ethyl propionate	790	1	NI	1	NI	2	0	0	(1)	(2)	2	2			ED	2
Ethyl propionate	319		**RTECS No**		UF3675000				**CAS No**		105-37-3					
2-Ethyl-3-propylacrolein	791	2	NI	2	R	3	NI	0	0	1	3	3			F	3
2-Ethyl-3-propylacrolein	43		**RTECS No**		MP6300000				**CAS No**		645-62-5					
Ethyl toluene (all isomers)	2297	3	NI	3	NI	(3)	NI	0	0	0	2	2			F	2
Ethyl toluene	346		**RTECS No**						**CAS No**							
Fatty acid methyl esters	2362	0	NI	0	R	2	NI	0	(0)	(2)	2	2			Fp	2

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Fatty acid methyl esters (m)	3125		**RTECS No**						**CAS No**							
Fatty acids, essentially linear, C6-C18, 2-ethylhexyl ester	2253	0	NI	0	R	1	NI	0	0	(1)	1	0			Fp	2
Fatty acid (C8-C16) ethyl hexyl esters	2759		**RTECS No**						**CAS No**							
Fatty acids, essentially linear, C6-C18, 2-ethylhexyl ester	2253	0	NI	0	R	1	NI	0	0	(1)	1	0			Fp	2
Fatty acids, essentially linear (C6-C18) 2-ethylhexyl ester	1914		**RTECS No**						**CAS No**							
Fatty acids, linear, C8-C18 saturated with C18 unsaturated	2260	(4)	NI	(4)	R	(4)	(1)	(0)	(0)	(1)	(1)	(1)			Fp	3
Fatty acids, (C8-C18)	2779		**RTECS No**						**CAS No**							
Fatty acids, linear C12+ saturated with C12+ unsaturated	2261	5	0	0	(R)	0	NI	(0)	(0)	(1)	(1)	(1)			NI	2
Fatty acids, (C12+)	2780		**RTECS No**						**CAS No**							
Fatty acids saturated, C8-C10	2324	0	NI	0	R	4	NI	0	0	(3)	3C	3			NI	NI
Fatty acids, (C8-C10)	3079		**RTECS No**						**CAS No**							
Fatty acids, unsaturated, linear, C16+	2259	0	0	0	R	(0)	NI	0	0	(0)	0	0			Fp	2
Fatty acids, (C16+)	2778		**RTECS No**						**CAS No**							
Fatty alcohols, linear, (C12+)	2326	(5)	(2)	(2)	(R)	(4)	(1)	0	0	(1)	1	1			Fp	2
Alcohols (C12+), primary, linear	3081		**RTECS No**						**CAS No**							
Fatty alcohols, linear, (C16+)	2327	(5)	(2)	(2)	(R)	(0)	(1)	0	0	(1)	1	1			Fp	2
Alcohols, linear (C16+)	3082		**RTECS No**						**CAS No**							
Ferric chloride	339	Inorg	5	5	Inorg	2	0	1	(0)	(3)	2	3			D	3
Ferric chloride solutions	348		**RTECS No**		LJ9100000				**CAS No**		7705-08-0					
Ferric hydroxyethyl ethylene diamine triacetic acid, tri- sodium salt, solution	796	NI	NI	NI	NI	NI	NI	0	0	(1)	(0)	1			D	1
Ferric hydroxyethylethylenediaminetriacetic acid, trisodium salt solution	349		**RTECS No**						**CAS No**							
Ferric nitrate/nitric acid solution	337	Inorg	(5)	(5)	Inorg	(2)	(0)	0	(0)	(3)	3	3			D	3
Ferric nitrate/Nitric acid solution	350		**RTECS No**						**CAS No**							
Fish oil (containing less than 10% free fatty acids)	2316	0	NI	0	R	2	NI	(0)	(0)	(1)	(0)	(1)			Fp	2
Fish oil	3046		**RTECS No**						**CAS No**							
Fish solubles	1509	NI	NI	NI	NI	NI	NI	(0)	(0)	(0)	(0)	(0)			NI	NI
Fish solubles (water-based fish meal extract)	351		**RTECS No**						**CAS No**							
Fluorosilicic acid	806	Inorg	0	0	Inorg	2	NI	2	(2)	4	3	3			D	3
Fluorosilicic acid	2716		**RTECS No**		VV8225000				**CAS No**		16961-83-4					
Fluorosilicic acid (20-30%) in water solution	2240	Inorg	0	0	Inorg	2	NI	(1)	(1)	4	3	3			D	3

ANNEX 6 - GESAMP/EHS COMPOSITE LIST
GESAMP Hazard Profiles

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Fluorosilicic acid (20-30%) in water solution	353		**RTECS No**						**CAS No**							
Formaldehyde (37%-50% solution)	807	0	NI	0	R	2	NI	2	2	3	3	3	CSM	NT	D	3
Formaldehyde solutions (45% or less)	354		**RTECS No**		LP8925000				**CAS No**		50-00-0					
Formaldehyde, polymer with isobutylenated phenol	2377	NI	NI	NI	NR	NI	NI	NI	NI	NI	NI	NI			Fp	NI
Formaldehyde, polymer with isobutylenated phenol	1203		**RTECS No**						**CAS No**							
Formamide	808	0	NI	0	NR	1	NI	0	0	1	1	2	R		D	3
Formamide	355		**RTECS No**		LQ0525000				**CAS No**		75-12-7					
Formic acid	809	0	NI	0	R	2	NI	1	(1)	2	3C	3			D	3
Formic acid (85% or less acid)	356		**RTECS No**		LQ4900000				**CAS No**		64-18-6					
Formic acid mixture (containing up to 18% propionic acid and up to 25% sodium formate)	2408	0	NI	0	R	1	NI	(0)	(0)	(2)	(2)	(3)			D	3
Formic acid mixture (containing up to 18% propionic acid and up to 25% sodium formate)	3684		**RTECS No**						**CAS No**							
Fumaric adduct of rosin (water dispersion)	810	3	NI	3	NR	3	NI	0	(0)	(3)	0	3	S		D	3
Fumaric adduct of rosin, water dispersion	357		**RTECS No**						**CAS No**		65997-04-8					
Furfural	812	0	NI	0	R	2	1	2	(2)	3	2	2	C		D	3
Furfural	358		**RTECS No**		LT7000000				**CAS No**		98-01-1					
Furfuryl alcohol	813	0	NI	0	R	1	NI	2	2	3	2	2			D	2
Furfuryl alcohol	359		**RTECS No**		LU9100000				**CAS No**		98-00-0					
Glucitol/glycerol blend propoxylated (containing 10% or more amines)	2441	2	NI	2	NR	1	1	1	0	(2)	1	0			D	2
	3762		**RTECS No**						**CAS No**							
Glucitol/glycerol blend, propoxylated (containing less than 10% amines)	2368	0	NI	0	NR	1	NI	1	0	(2)	(1)	(1)			SD	2
Glucitol/glycerol blend propoxylated (containing less than 10% amines)	3074		**RTECS No**						**CAS No**							
Glycerine	814	0	NI	0	R	0	0	0	0	(1)	0	1			D	1
Glycerine	363		**RTECS No**		MA8050000				**CAS No**		56-81-5					
Glycerine (83%)/ Dioxane-dimethanol (17%) mixture	1743	NI	NI	NI	R	1	NI	0	(0)	(1)	(0)	1			D	1
Glycerine (83%), Dioxanedimethanol (17%) mixture	364		**RTECS No**						**CAS No**							
Glycerol ethoxylated	2360	0	NI	0	R	0	NI	0	0	(0)	0	0			D	0
Glycerol ethoxylated	3123		**RTECS No**						**CAS No**							
Glycerol monooleate	1898	0	0	0	R	0	NI	0	(0)	(1)	1	1			Fp	2
Glycerol monooleate	365		**RTECS No**		RK1300000				**CAS No**		25496-72-4					
Glycerol propoxylated	2346	0	NI	0	NR	1	NI	1	0	(2)	1	0			D	2

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Glycerol propoxylated	3110		**RTECS No**						**CAS No**							
Glycerol, propoxylated and ethoxylated	2276	0	NI	0	NR	1	0	0	0	0	0	0			SD	2
Glycerol, propoxylated and ethoxylated	2872		**RTECS No**						**CAS No**							
Glycerol/sorbitol blend, propoxylated and ethoxylated	2372	0	NI	0	NR	2	NI	NI	NI	NI	NI	NI			NI	NI
Glycerol/sorbitol blend, propoxylated and ethoxylated	3136		**RTECS No**						**CAS No**							
Glycerol/sucrose blend, propoxylated and ethoxylated	2361	0	NI	0	NR	1	NI	0	0	0	0	0			SD	0
Glycerol/sucrose blend propoxylated and ethoxylated	3124		**RTECS No**						**CAS No**							
Glyceryl triacetate	816	0	NI	0	R	1	0	1	0	0	0	1			D	1
Glyceryl triacetate	367		**RTECS No**		AK3675000				**CAS No**		102-76-1					
Glycidyl ester of C10 trialkyl acetic acid	441	3	NI	3	NR	3	NI	0	0	(2)	2	1			F	2
Glycidyl ester of C10 trialkylacetic acid	368		**RTECS No**						**CAS No**							
Glycine, Sodium salt, solution	817	0	NI	0	NI	0	NI	0	(0)	(1)	(0)	(1)			D	1
Glycine, sodium salt solution	369		**RTECS No**		MB7600000				**CAS No**		56-40-6					
Glycolic acid	2218	0	0	0	R	1	NI	1	(1)	2	3C	3			D	3
Glycolic acid solution (70% or less)	2539		**RTECS No**						**CAS No**							
Glyoxal solutions (40% or less)	84	0	NI	0	R	1	NI	0	0	2	2	3	MS		D	3
Glyoxal solution (40% or less)	370		**RTECS No**		MD2700000				**CAS No**		107-22-2					
Glyoxylic acid	1535	0	NI	0	R	2	0	0	0	(3)	0	3	S		D	3
Glyoxylic acid solution (50 % or less)	371		**RTECS No**		MD4550000				**CAS No**		298-12-4					
Glyphosate solution, without surfactant	1765	0	0	0	NR	3	0	0	0	(3)	0	3			D	3
Glyphosate solution (not containing surfactant)	2204		**RTECS No**		MC1075000				**CAS No**		1071-83-6					
Grape Seed Oil	2442	(0)	NI	(0)	(R)	(0)	(0)	(0)	(0)	(1)	(0)	(1)			Fp	2
Grape Seed Oil	3643		**RTECS No**						**CAS No**		8024-22-4					
Groundnut oil	820	0	NI	0	R	(2)	NI	(0)	(0)	(0)	(0)	0			Fp	2
Groundnut oil	2769		**RTECS No**		RX2830000				**CAS No**		8002-03-7					
Heptane	827	4	NI	4	R	4	NI	0	0	0	(1)	1	A		E	2
Heptane (all isomers)	372		**RTECS No**		MI7700000				**CAS No**		142-82-5					
Heptanoic acid	831	2	NI	2	R	1	NI	0	0	1	3B	(3)			FD	3
n-Heptanoic acid	479		**RTECS No**		MJ1575000				**CAS No**		111-14-8					
Heptanol (all isomers)	2223	2	NI	2	R	(2)	NI	0	0	(2)	(1)	(2)			FD	2

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Heptanol (all isomers) (d)	373		**RTECS No**						**CAS No**							
1-Heptanol	828	2	NI	2	R	2	0	1	0	2	(2)	(2)			FD	2
1-Heptanol	2688		**RTECS No**		MK0350000				**CAS No**		111-70-6					
Heptene (all isomers)	2225	3	NI	3	NI	2	NI	(0)	(0)	(0)	(2)	(1)			E	2
Heptene (all isomers)	374		**RTECS No**						**CAS No**							
1-Heptene	832	3	NI	3	NI	2	NI	(0)	(0)	(0)	(2)	(1)			E	2
1-Heptene	2685		**RTECS No**		MJ8815000				**CAS No**							
Heptyl acetate	833	3	NI	3	(R)	(3)	NI	0	0	(2)	1	2			F	2
Heptyl acetate	375		**RTECS No**		AH9901000				**CAS No**		112-06-1					
Hexadecyl naphthalene/dihexadecyl naphthalene mixture	2159	0	NI	0	NR	0	NI	0	0	(1)	1	1			Fp	2
1-Hexadecylnaphthalene / 1,4-bis(hexadecyl)naphthalene mixture	2373		**RTECS No**						**CAS No**							
Hexamethylene diamine	845	0	NI	0	R	2	NI	1	1	(3)	3A	3	SR		D	3
Hexamethylenediamine	377		**RTECS No**		MO1180000				**CAS No**		124-09-4					
Hexamethylene diamine	845	0	NI	0	R	2	NI	1	1	(3)	3A	3	SR		D	3
Hexamethylenediamine solution	380		**RTECS No**		MO1180000				**CAS No**		124-09-4					
Hexamethylene diamine	845	0	NI	0	R	2	NI	1	1	(3)	3A	3	SR		D	3
Hexamethylenediamine (molten)	378		**RTECS No**		MO1180000				**CAS No**		124-09-4					
Hexamethylene diamine adipate, 50% in water	846	0	NI	0	R	1	NI	0	(0)	(0)	0	0			D	0
Hexamethylenediamine adipate (50% in water)	379		**RTECS No**		AV1940000				**CAS No**		3323-53-3					
Hexamethylene diisocyanate	2142	3	0	0	NR	2	NI	1	2	4	3	3	S		S	3
Hexamethylene diisocyanate	18		**RTECS No**						**CAS No**		822-06-0					
Hexamethylene glycol	847	0	NI	0	R	1	NI	0	0	(1)	0	1			D	1
Hexamethylene glycol	376		**RTECS No**		MO2100000				**CAS No**		629-11-8					
Hexamethyleneimine	848	1	NI	1	NI	2	NI	3	1	2	2	2			FED	2
Hexamethyleneimine	381		**RTECS No**		CM3150000				**CAS No**		111-49-9					
Hexamethylene tetramine (40% solution)	849	0	NI	0	R	0	NI	0	0	(1)	0	1	S		D	2
Hexamethylenetetramine solutions	382		**RTECS No**		MN4725000				**CAS No**		100-97-0					
Hexane	850	3	NI	3	R	4	NI	0	0	0	2	2	NA		E	2
Hexane (all isomers)	383		**RTECS No**		MN9275000				**CAS No**		100-54-3					
Hexane	850	3	NI	3	R	4	NI	0	0	0	2	2	NA		E	2

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Hexane	2683		**RTECS No**		MN9275000				**CAS No**		100-54-3					
1,6-Hexanediol, distillation overheads	2143	4	NI	4	NR	2	NI	0	0	2	1	2			FED	2
1,6-Hexanediol, distillation overheads	2641		**RTECS No**						**CAS No**							
Hexanoic acid	853	2	NI	2	R	2	NI	0	0	(3)	(3)	3			FD	3
Hexanoic acid	384		**RTECS No**		MO5250000				**CAS No**		142-62-1					
1-Hexanol	854	1	0	0	(R)	2	NI	1	0	(3)	1	3			FD	3
Hexanol	385		**RTECS No**		MQ4025000				**CAS No**		111-27-3					
Hexene (all isomers)	2224	3	NI	3	R	3	NI	(0)	(0)	(1)	(1)	(1)			E	2
Hexene (all isomers)	386		**RTECS No**						**CAS No**							
1-Hexene	855	3	NI	3	R	3	NI	0	0	0	1	1			E	2
1-Hexene	2681		**RTECS No**		MP6600100				**CAS No**		592-41-6					
2-Hexene (mixed isomers)	856	3	NI	3	R	3	NI	(0)	(0)	0	(1)	(1)			E	2
2-Hexene (mixed isomers)	2682		**RTECS No**						**CAS No**							
Hexyl acetate	857	2	NI	2	NI	3	NI	0	0	(1)	1	1			FE	2
Hexyl acetate	387		**RTECS No**		AI0875000				**CAS No**		142-92-7					
sec-Hexyl acetate	858	2	NI	2	NI	3	NI	0	0	0	1	(2)			FED	2
Methylamyl acetate	456		**RTECS No**		SA7525000				**CAS No**		108-84-9					
Hexylene glycol	859	0	NI	0	R	0	0	0	0	(3)	2	3			D	2
Hexylene glycol	388		**RTECS No**		SA0810000				**CAS No**		107-41-5					
Hydrocarbon waxes	2278	0	NI	0	NR	0	0	0	0	(0)	1	1			Fp	2
Hydrocarbon waxes	2886		**RTECS No**						**CAS No**							
Hydrochloric acid	864	Inorg	0	0	Inorg	1	NI	1	1	3	3C	3			DE	3
Hydrochloric acid	389		**RTECS No**		MW4025000				**CAS No**		7647-01-0					
Hydrogenated Starch Hydrolysate	2347	0	NI	0	R	0	NI	0	0	(0)	0	0			D	0
Hydrogenated starch hydrolysate	3077		**RTECS No**						**CAS No**							
Hydrogen peroxide, more than 60%	867	Inorg	0	0	Inorg	3	NI	1	0	2	3	3			D	3
Hydrogen peroxide, more than 60%	2689		**RTECS No**		MX0900000				**CAS No**		7722-84-1					
Hydrogen peroxide, more than 60%	867	Inorg	0	0	Inorg	3	NI	1	0	2	3	3			D	3
Hydrogen peroxide solutions (over 60% but not over 70% by mass)	390		**RTECS No**		MX0900000				**CAS No**		7722-84-1					
Hydrogen peroxide, more than 8% but not more than 60%	2231	Inorg	0	0	Inorg	3	NI	1	0	(2)	3	3			D	3

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Hydrogen peroxide solutions (over 8% but not over 60% by mass)	391		**RTECS No**						**CAS No**							
Hydrogen peroxide, more than 8% but not more than 60%	2231	Inorg	0	0	Inorg	3	NI	1	0	(2)	3	3			D	3
Hydrogen peroxide, more than 8% but not more than 60%	2690		**RTECS No**						**CAS No**							
N-(2-Hydroxyethyl) ethylene diamine triacetic acid, trisodium salt (solution)	870	0	NI	0	NI	1	NI	0	0	(1)	1	1	R		D	3
N-(Hydroxyethyl)ethylenediaminetriacetic acid, trisodium salt solution	470		**RTECS No**		MB9185000				**CAS No**		150-30-0					
2-Hydroxy-4-(methylthio) butanoic acid	871	1	NI	1	R	1	NI	0	0	(3)	1	3			D	3
2-Hydroxy-4-(methylthio)butanoic acid	49		**RTECS No**		ET4761500				**CAS No**		583-91-5					
Icosa(oxypropane-2,3-diyl)s	2092	NI	NI	NI	NI	NI	NI	0	(0)	(2)	2	(2)			Fp	2
Icosa(oxypropane-2,3-diyl)s	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
Icosa(oxypropane-2,3-diyl)s	2691		**RTECS No**						**CAS No**							
Illipe oil (containing less than 10% free fatty acids)	2304	(0)	NI	(0)	(R)	(0)	NI	(0)	(0)	(0)	(0)	(0)			Fp	2
Illipe oil	3034		**RTECS No**						**CAS No**							
Interesterified Mixed Vegetable Oils	2355	0	NI	0	R	(0)	NI	(0)	(0)	(1)	(1)	(1)			Fp	2
Interesterified vegetable oils	3115		**RTECS No**						**CAS No**							
Isobutanol	382	0	NI	0	R	1	0	0	0	1	2	3			D	3
Isobutyl alcohol	397		**RTECS No**		NP9625000				**CAS No**		78-83-1					
Isobutyl formate	405	1	NI	1	NI	1	NI	0	(0)	0	(1)	(2)			E	2
Isobutyl formate	398		**RTECS No**		LQ8650000				**CAS No**		542-55-2					
Isobutyl methacrylate	408	2	NI	2	NR	1	NI	0	0	0	2	2	S		FED	2
Isobutyl methacrylate	2673		**RTECS No**		OZ4900000				**CAS No**		97-86-9					
Isobutyric acid	419	0	NI	0	R	2	NI	2	2	(3)	3	3			E	NI
Isobutyric acid	2459		**RTECS No**		NQ4375000				**CAS No**		79-31-2					
Isodecanol	557	3	2	2	R	3	NI	0	0	0	2	1			Fp	2
Decyl alcohol (all isomers)	219		**RTECS No**		NR0960000				**CAS No**		25339-17-7					
Isononanol	1059	3	NI	3	NR	3	1	0	0	(2)	2	2			Fp	2
Nonyl alcohol (all isomers)	510		**RTECS No**		RH1400000				**CAS No**		2430-22-0					
Isononylaldehyde	2300	3	NI	3	NR	(3)	NI	0	0	(2)	2	1			F	2
Isononylaldehyde	2754		**RTECS No**						**CAS No**							
Isooctaldehyde	1071	2	NI	2	NI	3	NI	0	0	(1)	1	1			F	1

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Octyl aldehydes	542		**RTECS No**						**CAS No**		63885-09-6					
Isooctanol	1076	3	NI	3	R	2	0	1	0	(2)	2	(2)			F	2
iso-Octanol	2675		**RTECS No**		NS7700000				**CAS No**		26952-21-6					
Isooctylamine	1081	2	NI	2	NI	3	NI	1	1	3	3	3			FD	3
2-Ethylhexylamine	48		**RTECS No**		MQ5250000				**CAS No**		104-75-6					
Isopentene	1113	2	NI	2	NI	2	NI	(0)	(0)	(0)	(0)	(1)			E	2
iso-Pentene	2677		**RTECS No**		EM7600000				**CAS No**		563-45-1					
Isophorone	879	1	1	1	R	2	0	1	1	(2)	1	2			FD	2
Isophorone	399		**RTECS No**		GW7700000				**CAS No**		78-59-1					
Isophorone diamine	880	0	0	0	NR	2	0	1	(1)	(3)	3	3	S		D	3
Isophoronediamine	401		**RTECS No**		GV6129000				**CAS No**		2855-13-2					
Isophorone diisocyanate	881	1	NI	1	NR	3	NI	0	0	3	3	3	SA		S	3
Isophorone diisocyanate	400		**RTECS No**		NQ9370000				**CAS No**		4098-71-9					
Isoprene	882	2	2	2	NR	2	NI	0	0	0	1	2	CM		E	3
Isoprene	402		**RTECS No**		NT4037000				**CAS No**		78-79-5					
Isopropanol	1181	0	NI	0	R	0	0	0	0	0	1	2			D	2
Isopropyl alcohol	405		**RTECS No**		NT8050000				**CAS No**		67-63-0					
Isopropanolamine	1182	0	NI	0	R	2	NI	0	1	0	3	3			D	3
Isopropanolamine	403		**RTECS No**		UA5775000				**CAS No**		78-96-6					
Isopropyl acetate	1192	1	NI	1	R	1	NI	0	0	0	1	2			ED	2
Isopropyl acetate	404		**RTECS No**		AI4930000				**CAS No**		108-21-4					
Isopropylamine	1195	0	NI	0	R	2	NI	2	2	1	3	3			DE	3
Isopropylamine	407		**RTECS No**		NT8400000				**CAS No**		75-31-0					
Isopropylamine (70%)	2350	0	NI	0	R	2	NI	2	2	1	3	3			DE	3
Isopropylamine (70% or less) solution	395		**RTECS No**						**CAS No**							
Isopropyl benzene	1197	3	2	2	R	3	NI	0	0	0	2	1			FE	2
Propylbenzene (all isomers)	623		**RTECS No**		GR8575000				**CAS No**		98-82-8					
Isopropyl benzene	1197	3	2	2	R	3	NI	0	0	0	2	1			FE	2
Isopropylbenzene	2687		**RTECS No**		GR8575000				**CAS No**		98-82-8					
Isopropyl cyclohexane	1199	4	NI	4	(NR)	(3)	NI	(0)	(0)	(1)	(0)	(1)			FE	2

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Isopropylcyclohexane	408		**RTECS No**						**CAS No**		696-29-7					
Isopropyltoluenes	549	4	4	4	(NR)	3	NI	0	(0)	1	2	(1)			FE	2
p-Cymene	552		**RTECS No**		GZ5950000				**CAS No**		99-87-6					
Isovaleraldehyde	1390	1	NI	1	R	3	NI	0	0	0	2	2			D	2
Valeraldehyde (all isomers)	731		**RTECS No**		ES3450000				**CAS No**		590-86-3					
Jatropha oil	2402	0	NI	(0)	(R)	(2)	NI	(0)	(0)	(0)	(0)	(0)			Fp	2
Jatropha oil	3637		**RTECS No**						**CAS No**							
Kaolin slurry	883	Inorg	NI	0	Inorg	0	NI	0	0	0	0	0			S	0
Kaolin slurry	409		**RTECS No**		GF1670500				**CAS No**		1332-58-7					
Lactic acid	886	0	NI	0	R	1	NI	0	0	(3)	2	3			D	3
Lactic acid	410		**RTECS No**		OD2800000				**CAS No**		50-21-5					
Lactonitrile solution (80% or less)	887	0	NI	0	R	4	NI	3	4	(4)	NI	NI			D	3
Lactonitrile solution (80% or less)	411		**RTECS No**		OD8225000				**CAS No**		78-97-7					
Lard (containing less than 10% free fatty acids)	2317	0	NI	0	R	0	NI	0	(0)	(1)	0	1			Fp	2
Lard	3047		**RTECS No**						**CAS No**							
Latex, ammonia inhibited	889	0	NI	0	NI	(2)	NI	0	0	(1)	0	1			D	1
Latex, ammonia (1% or less)- inhibited	413		**RTECS No**						**CAS No**							
Lauric acid	891	4	NI	4	R	4	1	0	(0)	(2)	1	2			Fp	2
Lauric acid	415		**RTECS No**		OE9800000				**CAS No**		143-07-7					
Lauryl methacrylate	893	0	2	2	R	0	0	0	(0)	(1)	1	1			F	1
Dodecyl methacrylate	300		**RTECS No**		OZ4300000				**CAS No**		142-90-5					
Lecithin (soybeans)	2146	0	NI	0	R	0	NI	0	0	(0)	0	(0)			SD	0
Lecithin	417		**RTECS No**						**CAS No**							
Lignin sulphonic acid, salt solution	34	0	NI	0	(NR)	(0)	NI	0	(0)	(0)	(0)	(0)			D	0
Ligninsulphonic acid, sodium salt solution	419		**RTECS No**						**CAS No**							
Linear alkyl (C12-16) propoxyamine ethoxylate	2380	3	0	3	NR	4	NI	1	(1)	(3)	3	(3)	S		D	3
Alkyl(C12-C16) propoxyamine ethoxylate	3423		**RTECS No**						**CAS No**							
Linseed oil (containing less than 4% free fatty acids)	2318	0	NI	0	R	(2)	NI	0	(0)	(1)	0	(1)			Fp	2
Linseed oil	3048		**RTECS No**						**CAS No**							
Long chain alkaryl polyether (C11-C20) (LOA)	1982	(4)	NI	(4)	NR	3	(1)	0	0	(2)	0	2			Fp	2

ANNEX 6 - GESAMP/EHS COMPOSITE LIST
GESAMP Hazard Profiles

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Long-chain alkaryl polyether (C11-C20)	421		**RTECS No**						**CAS No**							
Long chain alkaryl sulphonic acid (C16-C60) (LOA)	1966	0	NI	0	(NR)	0	NI	0	0	(2)	(1)	2			Fp	2
Long-chain alkaryl sulphonic acid (C16-C60)	424		**RTECS No**						**CAS No**							
Long-chain alkylphenate/Phenol sulphide mixture	1754	(0)	NI	(0)	(NR)	0	NI	0	0	(2)	2	2	S		Fp	3
Long-chain alkylphenate/Phenol sulphide mixture	425		**RTECS No**						**CAS No**							
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**							
Lubrizol polyolefin anhydride	1865	0	NI	0	NR	1	NI	0	0	(2)	1	(2)			Fp	2
Polyolefin anhydride	605		**RTECS No**						**CAS No**							
L-Lysine solution (50% or less)	2199	0	0	0	R	1	0	0	0	0	1	NI			D	1
L-Lysine solution (60% or less)	2306		**RTECS No**						**CAS No**							
Magnesium alkyl (long chain) salicylate (overbased) in mineral oil (LOA)	71	(0)	NI	(0)	NR	(2)	NI	0	0	(1)	(1)	(1)	S		S	2
Magnesium long-chain alkyl salicylate (C11+)	429		**RTECS No**						**CAS No**							
Magnesium chloride	915	Inorg	0	0	Inorg	1	0	0	0	(0)	0	0			D	0
Magnesium chloride solution	427		**RTECS No**		OM2800000				**CAS No**		7786-30-3					
Magnesium hydroxide slurry	916	Inorg	0	0	Inorg	0	NI	0	0	(1)	(0)	1			S	1
Magnesium hydroxide slurry	428		**RTECS No**		OM3570000				**CAS No**		1309-42-8					
Magnesium lignosulphonate solutions	2356	(0)	NI	(0)	(NR)	(0)	NI	0	0	(0)	(0)	(0)			D	0
Ligninsulphonic acid, magnesium salt solution	3116		**RTECS No**						**CAS No**							
Magnesium long chain alkaryl sulphonate (C11-C50) (LOA)	1967	0	NI	0	NR	0	NI	0	0	(2)	1	2	S		Fp	3
Magnesium long-chain alkaryl sulphonate (C11-C50)	430		**RTECS No**						**CAS No**							
Maleic acid/allyl sulfonic acid copolymer with phosphonate groups, partial sodium salt (aqueous solution)	2412	0	NI	0	NR	0	NI	(0)	(0)	(0)	(0)	(0)			D	0
Maleic acid/allyl sulfonic acid copolymer, containing carboxylate, phosphonate & sulfonate groups, partial sodium salt	3688		**RTECS No**						**CAS No**							
Maleic anhydride	921	1	NI	1	R	2	0	1	2	(3)	3	3	S		D	3
Maleic anhydride	431		**RTECS No**		ON3675000				**CAS No**		108-31-6					
Maleic anhydride - sodium allylsulfonate copolymer(aqueous solution)	2410	0	NI	0	NR	1	NI	0	0	(0)	(0)	0			D	0
Maleic anhydride–sodium allylsulfonate copolymer solution	3686		**RTECS No**						**CAS No**							
Maltitol Syrup	2348	0	NI	0	R	0	NI	0	0	(0)	0	0			D	0
Maltitol solution	3078		**RTECS No**						**CAS No**							

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Mango kernal oil (containing less than 10% free fatty acids)	2305	(0)	NI	(0)	(R)	(0)	NI	(0)	(0)	(0)	(0)	(0)			Fp	2
Mango kernel oil	3035		**RTECS No**						**CAS No**							
2-Mercaptobenzothiazol	925	2	1	1	NR	4	2	0	0	(0)	0	0	S		S	2
Mercaptobenzothiazol, sodium salt solution	432		**RTECS No**		DL6475000				**CAS No**		149-30-4					
Mesityl oxide	946	1	NI	1	R	(1)	NI	1	0	2	2	2			D	2
Mesityl oxide	433		**RTECS No**		SB4200000				**CAS No**		141-79-7					
Metam-sodium (ISO)	202	0	NI	0	NR	4	NI	1	2	(2)	2	1	S		D	2
Metam sodium solution	434		**RTECS No**		FC2100000				**CAS No**		137-42-8					
Methacrylic acid-alkoxypoly (alkylene oxide) methacrylate co-polymer sodium salt (45% or less solution)	2288	NI	0	0	NR	1	NI	0	(0)	(1)	1	0			D	1
Methacrylic acid - alkoxypoly (alkylene oxide) methacrylate copolymer, sodium salt aqueous solution (45% or less)	2819		**RTECS No**						**CAS No**							
Methacrylic acid, inhibited	948	0	NI	0	R	2	0	1	2	2	3	3			D	3
Methacrylic acid	435		**RTECS No**		OZ2975000				**CAS No**		79-41-4					
Methacrylic resin in 1,2 Dichloroethane soln.	2046	1	1	1	NR	2	0	(1)	(0)	(2)	(1)	(2)	C		SD	3
Methacrylic resin in ethylene dichloride	436		**RTECS No**						**CAS No**							
Methacrylonitrile	949	0	NI	0	R	2	0	2	2	3	1	1	S	NT	ED	3
Methacrylonitrile	437		**RTECS No**		UD1400000				**CAS No**		126-98-7					
Methanol	951	0	NI	0	R	0	0	(2)	(2)	(2)	2	2	T		DE	3
Methyl alcohol	441		**RTECS No**		PC1400000				**CAS No**		67-56-1					
(2-Methoxymethylethoxy)propanols	2452	0	NI	0	R	0	(0)	0	0	(0)	0	0			D	0
	3870		**RTECS No**						**CAS No**							
Methyl acetate	954	0	NI	0	R	1	NI	0	0	0	1	2			DE	2
Methyl acetate	438		**RTECS No**		AI9100000				**CAS No**		79-20-9					
Methyl acetoacetate	335	0	NI	0	R	1	NI	0	0	(2)	1	2			D	2
Methyl acetoacetate	439		**RTECS No**		AK5775000				**CAS No**		105-45-3					
Methyl acrylate	955	0	NI	0	R	3	NI	1	1	2	2	3	MS		D	3
Methyl acrylate	440		**RTECS No**		AT2800000				**CAS No**		96-33-3					
Methylamine solution 42% or less	957	0	NI	0	R	2	NI	2	(2)	3	3	3	M	NT	DE	3
Methylamine solutions (42% or less)	455		**RTECS No**		PF6300000				**CAS No**		74-89-5					
Methyl amyl alcohol	958	1	NI	1	R	1	NI	1	0	2	1	3			FED	3
Methylamyl alcohol	457		**RTECS No**		SA7350000				**CAS No**		108-11-2					

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Methyl amyl ketone	959	1	NI	1	NI	1	NI	1	0	0	1	1			FED	2
Methyl amyl ketone	442		**RTECS No**		MJ5075000				**CAS No**		110-43-0					
N-Methyl aniline	961	1	NI	1	(NR)	3	1	1	1	(2)	(1)	1			FD	2
N-Methylaniline	3107		**RTECS No**		BY4550000				**CAS No**		100-61-8					
alpha-Methylbenzyl alcohol with acetophenone (15% or less)	2399	1	NI	1	(R)	(1)	NI	(1)	(0)	(3)	(2)	(3)	R		Fp	3
alpha-Methylbenzyl alcohol with acetophenone (15% or less)	3634		**RTECS No**						**CAS No**		98-85-1					
2-Methyl-2-butanol	964	1	1	1	(R)	(1)	0	1	1	1	3	2			D	3
tert-Amyl alcohol	685		**RTECS No**		SC0175000				**CAS No**		75-85-4					
3-Methyl-1-butanol	965	1	1	1	(R)	1	0	1	0	(2)	2	2			FED	2
Isoamyl alcohol	396		**RTECS No**		EL5425000				**CAS No**		123-51-3					
3-Methyl-1-butanol	965	1	1	1	(R)	1	0	1	0	(2)	2	2			FED	2
Amyl alcohol, primary	126		**RTECS No**		EL5425000				**CAS No**		123-51-3					
Methyl butenol	967	0	NI	0	R	2	NI	1	0	(2)	2	2			D	2
Methylbutenol	458		**RTECS No**		EM9472500				**CAS No**		556-82-1					
Methyl tert-butyl ether	969	1	NI	1	NR	1	0	0	0	0	2	1		T	ED	2
Methyl tert-butyl ether	454		**RTECS No**		KN5250000				**CAS No**		1634-04-4					
Methyl butyl ketone	970	1	NI	1	(R)	1	(0)	0	0	0	1	1	RN		FED	3
Methyl butyl ketone	443		**RTECS No**		MP1400000				**CAS No**		591-78-6					
Methylbutynol	968	0	NI	0	NR	1	NI	1	1	0	0	2			D	2
2-Methyl-2-hydroxy-3-butyne	52		**RTECS No**		ES0810000				**CAS No**		115-19-5					
Methylbutynol	968	0	NI	0	NR	1	NI	1	1	0	0	2			D	2
Methylbutynol	459		**RTECS No**		ES0810000				**CAS No**		115-19-5					
Methyl butyrate	973	1	NI	1	NI	(2)	NI	0	0	2	2	(2)			ED	2
Methyl butyrate	444		**RTECS No**		ET5500000				**CAS No**		623-42-7					
Methyl cyclohexane	976	3	3	3	NR	3	1	0	0	1	1	1	A		E	2
Methylcyclohexane	460		**RTECS No**		GV6125000				**CAS No**		108-87-2					
Methyl cyclopentadiene, dimer	977	4	NI	4	(NR)	(3)	NI	0	(0)	(2)	(2)	(2)			F	2
Methylcyclopentadiene dimer	461		**RTECS No**		PC1075000				**CAS No**		26472-00-4					
Methyl cyclopentadienyl manganese tricarbonyl (60-70%) in mineral oil	2213	3	NI	3	NR	4	NI	2	3	4	1	1			S	3
Methylcyclopentadienyl manganese tricarbonyl	2692		**RTECS No**						**CAS No**							

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
N-Methyldiethanolamine	1491	0	NI	0	R	2	NI	1	0	(2)	1	2			D	2
Methyl diethanolamine	445		**RTECS No**		KL7525000				**CAS No**		105-59-9					
Methylene dithiocyanate	2235	2	NI	2	NR	5	NI	2	0	4	3	3	S		NI	3
Methylene bisthiocyanate	2693		**RTECS No**						**CAS No**		6317-18-6					
2-Methyl-6-ethylaniline	984	2	NI	2	NR	2	NI	1	1	(2)	0	2			FD	2
2-Methyl-6-ethyl aniline	54		**RTECS No**		BY5600000				**CAS No**		24549-06-2					
2-Methyl-5-ethylpyridine	986	2	NI	2	R	2	0	1	2	(3)	3	3			FD	3
2-Methyl-5-ethyl pyridine	53		**RTECS No**		TJ6825000				**CAS No**		104-90-5					
Methyl formate	987	0	NI	0	R	1	NI	1	0	2	0	2			DE	2
Methyl formate	447		**RTECS No**		LQ8925000				**CAS No**		107-31-3					
N-Methylglucamine, 60% aqueous solution	2048	0	NI	0	R	0	NI	1	0	(3)	0	3			D	3
N-Methylglucamine solution (70% or less)	482		**RTECS No**		000000000				**CAS No**		6284-40-8					
2-Methylglutaronitrile with 2-Ethylsuccinonitrile (12% or less)	2397	0	NI	0	R	0	NI	2	2	3	0	1			FD	2
2-Methylglutaronitrile with 2-Ethylsuccinonitrile (12% or less)	3632		**RTECS No**						**CAS No**		4553-62-2					
Methyl heptyl ketone	988	3	NI	3	R	3	NI	0	0	NI	NI	NI			FED	NI
Methyl heptyl ketone	448		**RTECS No**		RA8225000				**CAS No**		821-55-6					
Methyl isobutyl ketone	971	1	NI	1	R	1	0	1	0	2	2	3			FED	3
Methyl isobutyl ketone	449		**RTECS No**		SA9275000				**CAS No**		108-10-1					
Methyl methacrylate	995	1	NI	1	R	2	NI	0	0	0	2	2	S		ED	2
Methyl methacrylate	450		**RTECS No**		OZ5075000				**CAS No**		80-62-6					
3-Methyl-3-methoxy butanol	996	1	NI	1	NR	0	NI	0	(0)	(2)	1	(2)			FD	2
3-Methyl-3-methoxybutanol	59		**RTECS No**						**CAS No**							
3-Methyl-3-methoxybutyl acetate	997	1	NI	1	NR	0	NI	0	(0)	NI	NI	NI			F	NI
3-Methyl-3-methoxybutyl acetate	60		**RTECS No**						**CAS No**							
Methyl naphthalenes	1999	4	NI	4	(NR)	(4)	NI	1	0	(2)	1	1		T	F	2
Methyl naphthalene (molten)	451		**RTECS No**						**CAS No**							
2-Methyl pentane	1000	3	NI	3	NI	4	NI	(0)	(0)	(2)	(2)	(2)			E	2
2-Methylpentane	2684		**RTECS No**		SA2995000				**CAS No**		107-83-5					
2-Methyl-1,3-propanediol	2200	0	0	0	NR	0	0	0	0	(0)	0	0			D	0
2-Methyl-1,3-propanediol	2213		**RTECS No**						**CAS No**							

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EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Methyl propyl ketone	1003	0	NI	0	(R)	0	NI	1	0	(2)	1	2			FED	2
Methyl propyl ketone	452		**RTECS No**		SA7875000				**CAS No**		107-87-9					
2-Methyl pyridine	1005	1	NI	1	R	1	NI	1	2	1	3A	3			D	3
2-Methylpyridine	55		**RTECS No**		TJ4900000				**CAS No**		109-06-8					
3-Methylpyridine	1006	1	NI	1	R	1	NI	1	2	2	3	3			D	3
3-Methylpyridine	61		**RTECS No**		TJ5000000				**CAS No**		108-99-6					
4-Methylpyridine	1007	1	NI	1	(R)	1	NI	1	2	2	3	3			D	3
4-Methylpyridine	63		**RTECS No**		UT5425000				**CAS No**		108-89-4					
N-Methylpyrrolidone	1008	0	NI	0	R	1	NI	0	0	2	1	2	R		D	3
N-Methyl-2-pyrrolidone	481		**RTECS No**		UY5790000				**CAS No**		872-50-4					
Methyl salicylate	86	2	NI	2	R	2	NI	1	1	(2)	2	1	R		SD	3
Methyl salicylate	453		**RTECS No**		VO4725000				**CAS No**		119-36-8					
alpha-Methylstyrene	1010	3	3	3	NR	3	NI	0	0	1	2	1	M	(T)	FE	3
alpha-Methylstyrene	107		**RTECS No**		WL5075300				**CAS No**		98-83-9					
3-(Methylthio) propionaldehyde	993	0	NI	0	R	3	1	1	1	2	2	3	NS	T	D	3
3-(methylthio)propionaldehyde	2368		**RTECS No**		UE2285000				**CAS No**		3268-49-3					
Metolachlor (ISO)	113	2	2	2	NR	5	1	1	0	(2)	1	0	S		S	2
N-(2-Methoxy-1-methyl ethyl)-2-ethyl-6-methyl chloroacetanilide	469		**RTECS No**		AN3430000				**CAS No**		51218-45-2					
Mixed acid oil	2306	(0)	NI	(0)	(R)	(0)	NI	0	(0)	(1)	(1)	1			Fp	2
Acid oil mixture from soyabean, corn (maize) and sunflower oil refining	3036		**RTECS No**						**CAS No**							
Mixture of dithiophosphate salts in water	2381	1	0	1	NR	2	NI	0	0	(2)	2	2			D	2
Dialkyl thiophosphates sodium salts solution	3424		**RTECS No**						**CAS No**							
Molasses	1013	0	NI	0	R	0	NI	0	0	0	0	0			D	0
Molasses	462		**RTECS No**						**CAS No**							
Molybdenum polysulfide long chain alkyl dithiocarbamide complex	2344	4	2	2	NR	2	0	0	0	(2)	2	2			Fp	2
Molybdenum polysulfide long chain alkyl dithiocarbamide complex	3108		**RTECS No**						**CAS No**							
Mononitrobenzene	1017	1	1	1	R	3	(4)	(2)	2	2	1	1	CRT		SD	3
Nitrobenzene	501		**RTECS No**		DA6475000				**CAS No**		98-95-3					
Morpholine	1018	0	0	0	R	2	NI	1	2	2	3	3			D	3
Morpholine	463		**RTECS No**		QD6475000				**CAS No**		110-91-8					

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EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Myrcene	1019	4	NI	4	R	4	1	0	0	(2)	2	NI			F	2
Myrcene	465		**RTECS No**		RG5365000				**CAS No**		123-35-3					
Naphthalene	1	3	3	3	NR	4	1	1	0	(2)	1	1	C	T	S	3
Naphthalene (molten)	493		**RTECS No**		QJ0525000				**CAS No**		91-20-3					
Naphthalene sulphonic acid condensed with formaldehyde, sodium salt, solution	1020	0	1	1	(NR)	1	NI	0	(0)	(1)	0	1			D	1
Naphthalenesulphonic acid-Formaldehyde copolymer, sodium salt solution	494		**RTECS No**		EC4850000				**CAS No**		9084-06-4					
Neodecanoic acid	1025	4	NI	4	NR	2	NI	0	0	(2)	0	2			Fp	2
Neodecanoic acid	496		**RTECS No**						**CAS No**		26896-20-8					
Nitric acid (90% or less)	1029	Inorg	NI	0	Inorg	2	NI	(3)	(1)	3	3C	3			D	3
Nitric acid (less than 70%)	499		**RTECS No**		QU5775000				**CAS No**		7697-37-2					
Nitric acid (90% or less)	1029	Inorg	NI	0	Inorg	2	NI	(3)	(1)	3	3C	3			D	3
Nitric acid (70% and over)	498		**RTECS No**		QU5775000				**CAS No**		7697-37-2					
Nitrilotriacetic acid,trisodium salt	1030	0	NI	0	R	1	0	1	(0)	0	1	1	CMR		D	3
Nitrilotriacetic acid, trisodium salt solution	500		**RTECS No**		MB8400000				**CAS No**		5094-31-3					
Nitroethane	1037	0	NI	0	NR	2	NI	1	0	(2)	(0)	(1)			SD	2
Nitroethane	502		**RTECS No**		KI5600000				**CAS No**		79-24-3					
Nitroethane (80%)/Nitropropane (20%)	2245	0	1	1	NR	2	NI	1	1	2	0	1			E	2
Nitroethane(80%)/ Nitropropane(20%)	503		**RTECS No**						**CAS No**							
Nitroethane, 1-Nitropropane (each 15% or more) mixture	2270	(0)	(1)	(1)	(NR)	(2)	NI	1	1	2	0	1			FED	2
Nitroethane, 1-Nitropropane (each 15% or more) mixture	2212		**RTECS No**						**CAS No**							
2-Nitrophenol	1041	1	2	2	R	3	(2)	0	0	(1)	1	1			S	1
o-Nitrophenol (molten)	536		**RTECS No**		SM2100000				**CAS No**		88-75-5					
1-Nitropropane	1044	0	1	1	NR	1	NI	1	0	2	0	1			FED	2
1-Nitropropane	2747		**RTECS No**		TZ5075000				**CAS No**		108-03-2					
1- or 2- Nitropropane	2242	0	1	1	NR	1	NI	2	0	2	0	1	C		FED	3
1- or 2-Nitropropane	20		**RTECS No**						**CAS No**							
2-Nitropropane	1045	0	1	1	NR	2	NI	2	0	2	0	0	C		FED	3
2-Nitropropane	2748		**RTECS No**		TZ5250000				**CAS No**		79-46-9					
Nitropropane (60%) Nitroethane (40%) (mixture)	1046	0	1	1	NR	2	NI	1	0	2	0	1	C		FED	3
Nitropropane (60%)/Nitroethane (40%) mixture	504		**RTECS No**						**CAS No**							

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EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
o-Nitrotoluene	1049	2	2	2	NR	2	(1)	1	0	(2)	0	1	CMR		S	3
o-Nitrotoluene	2745		**RTECS No**		XT3150000				**CAS No**		88-72-2					
p-Nitrotoluene	1051	2	1	1	NR	3	0	1	0	(2)	0	1	R		S	3
p-Nitrotoluene	2746		**RTECS No**		XT3325000				**CAS No**		99-99-0					
o- or p-Nitrotoluenes	2241	2	2	2	NR	3	(1)	1	0	(2)	0	1	CMR		S	3
o- or p-Nitrotoluenes	532		**RTECS No**						**CAS No**							
Nonane	1054	4	NI	4	R	4	NI	0	0	1	1	1	A		FE	2
Nonane (all isomers)	506		**RTECS No**		RA6115000				**CAS No**		111-84-2					
Nonanoic acid	1055	3	NI	3	R	2	NI	0	0	(3)	2	3			F	3
Nonanoic acid (all isomers)	507		**RTECS No**		RA6650000				**CAS No**		112-05-0					
Nonene (all isomers)	2222	4	NI	4	NI	3	NI	0	0	0	1	1	A		FE	2
Nonene (all isomers)	508		**RTECS No**						**CAS No**							
1-Nonene	1060	4	NI	4	NI	3	NI	0	0	0	1	1	A		FE	2
1-Nonene	2680		**RTECS No**						**CAS No**		27215-95-8					
Nonyl acetate	1766	4	NI	4	NI	NI	NI	0	0	NI	NI	NI			F	NI
Nonyl acetate	509		**RTECS No**						**CAS No**		143-13-5					
Nonyl methacrylate monomer	1061	5	NI	5	R	3	NI	(0)	(0)	(1)	(1)	(1)			F	1
Nonyl methacrylate monomer	511		**RTECS No**						**CAS No**		2696-43-7					
Nonyl phenol	1062	5	4	4	NR	5	3	1	0	(3)	3	3			Fp	3
Nonylphenol	512		**RTECS No**		SM5600000				**CAS No**		25154-52-3					
Nonyl(C6-C12)phenol poly(4-12)ethoxylate	1063	4	NI	4	NR	3	1	0	0	(2)	2	1			D	2
Nonylphenol poly(4+)ethoxylate	513		**RTECS No**						**CAS No**							
Nonyl(C6-C12)phenol poly(4-12)ethoxylate	1063	4	NI	4	NR	3	1	0	0	(2)	2	1			D	2
Alkyl(C7-C11)phenol poly(4-12) ethoxylate	97		**RTECS No**						**CAS No**							
Octamethylcyclotetrasiloxane	2398	5	5	5	NR	0	3	0	0	0	0	0			F	1
Octamethylcyclotetrasiloxane	3633		**RTECS No**						**CAS No**							
Octane	1072	5	NI	5	(R)	4	NI	(0)	(0)	0	0	0	A		FE	2
Octane (all isomers)	538		**RTECS No**		RG8400000				**CAS No**		111-65-9					
Octanoic acid (Caprylic acid)	1074	3	NI	3	R	1	NI	0	0	(3)	3	3			F	3
Octanoic acid (all isomers)	539		**RTECS No**		RH0175000				**CAS No**		134-07-2					

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
1-Octanol	1075	3	NI	3	R	2	0	1	0	(2)	2	2			Fp	2
1-Octanol	2676		**RTECS No**		RH6550000				**CAS No**		111-87-5					
1-Octanol	1075	3	NI	3	R	2	0	1	0	(2)	2	2			Fp	2
Octanol (all isomers)	540		**RTECS No**		RH6550000				**CAS No**		111-87-5					
Octene (all isomers)	1079	4	NI	4	NR	3	NI	0	0	0	2	1	A		FE	2
Octene (all isomers)	541		**RTECS No**						**CAS No**							
Octyl acetate	1080	3	NI	3	R	2	NI	0	0	(1)	1	NI			FD	1
n-Octyl acetate	483		**RTECS No**		AJ1400000				**CAS No**		112-14-1					
Octyl decyl adipate	1082	0	NI	0	(R)	(0)	(0)	(0)	(0)	(1)	(1)	(1)			Fp	2
Octyl decyl adipate	543		**RTECS No**						**CAS No**		110-29-2					
Olefin/Alkyl ester copolymer (molecular weight 2000+) (LOA)	1965	NI	NI	0	NR	0	NI	0	0	(0)	0	0			Fp	2
Olefin-Alkyl ester copolymer (molecular weight 2000+)	546		**RTECS No**						**CAS No**							
Olefin mixture (C7-C9)	2385	5	4	4	NR	4	NI	(0)	0	0	2	1	A		E	2
Olefin Mixture (C7-C9) C8 rich, stabilised	3548		**RTECS No**						**CAS No**		97593-00-5					
Olefin mixtures (C5-C7)	2243	3	NI	3	R	3	NI	(0)	(0)	(1)	(2)	(1)			E	2
Olefin mixtures (C5-C7)	545		**RTECS No**						**CAS No**							
Olefin mixtures (C5-C15)	2321	(5)	NI	(5)	NR	(4)	NI	(0)	(0)	(2)	(2)	(1)	A		FE	2
Olefin mixtures (C5-C15)	544		**RTECS No**						**CAS No**							
Olefins C13 and above, all isomers	2028	5	NI	5	NR	0	NI	0	0	(0)	0	0			Fp	2
Olefins (C13+, all isomers)	547		**RTECS No**						**CAS No**							
alpha-Olefins (C6-C18),mixture	2030	(5)	NI	(5)	NR	(4)	NI	(0)	(0)	(2)	(2)	(1)	A		FE	2
alpha-Olefins (C6-C18) mixtures	108		**RTECS No**						**CAS No**							
Oleic acid	1089	0	NI	0	R	0	NI	0	1	(2)	1	1			Fp	2
Oleic acid	548		**RTECS No**		RG2275000				**CAS No**		112-80-1					
Oleylamine	1862	0	NI	0	NR	4	NI	1	(1)	(3)	3B	3			Fp	3
Oleylamine	550		**RTECS No**						**CAS No**							
Olive oil	1090	0	NI	0	R	(2)	NI	(0)	(0)	(1)	1	1			Fp	2
Olive oil	2771		**RTECS No**		RK4300000				**CAS No**		8001-25-0					
Orange juice	2375	0	0	0	R	0	0	0	0	(0)	0	0			D	0
Orange juice	3151		**RTECS No**						**CAS No**							

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Orange juice (not concentrated)	2382	0	0	0	R	0	0	0	0	(0)	0	0			D	0
Orange juice (not concentrated)	3425		**RTECS No**						**CAS No**							
Oxatetra-azahydroxyalkanoic acid, substituted with acetic acid / acetoxyethanolamine	2413	1	NI	1	R	1	NI	0	0	0	0	0			D	0
Oxatetra-azahydroxyalkanoic acid, substituted with acetic acid / acetoxyethanolamine	3689		**RTECS No**						**CAS No**							
Oxygenated aliphatic hydrocarbon mixture	2266	5	2	(2)	NR	1	NI	0	0	(1)	1	1			FE	2
Oxygenated aliphatic hydrocarbon mixture	2825		**RTECS No**						**CAS No**							
Palm acid oil	2307	(0)	NI	(0)	(R)	(0)	NI	0	(0)	(1)	0	1			Fp	2
Palm acid oil	3037		**RTECS No**						**CAS No**							
Palm fatty acid distillate	2310	NI	NI	(0)	(R)	(0)	NI	0	(0)	(1)	0	1			Fp	2
Palm fatty acid distillate	3040		**RTECS No**						**CAS No**							
Palm kernel fatty acid distillate	2335	(0)	0	0	R	(3)	NI	0	(0)	(2)	1	2			Fp	2
Palm kernel fatty acid distillate	3111		**RTECS No**						**CAS No**							
Palm kernel olein (containing less than 5 % free fatty acids)	2308	(0)	NI	(0)	(R)	1	NI	(0)	(0)	(0)	(0)	(0)			Fp	2
Palm kernel olein	3038		**RTECS No**						**CAS No**							
Palm kernel stearin (containing less than 5% free fatty acids)	2309	0	(0)	(0)	(R)	0	NI	(0)	(0)	(0)	(0)	(0)			Fp	2
Palm kernel stearin	3039		**RTECS No**						**CAS No**							
Palm Mid Fraction	2363	(0)	NI	(0)	(R)	(0)	NI	0	0	(0)	(0)	(0)			Fp	2
Palm mid-fraction	3126		**RTECS No**						**CAS No**							
Palm nut oil	1094	0	NI	0	R	1	NI	(0)	(0)	(1)	(0)	(1)			Fp	2
Palm kernel oil	2766		**RTECS No**						**CAS No**							
Palm nut oil fatty acid	1095	0	NI	0	R	(3)	NI	0	0	(2)	1	2			Fp	2
Palm kernel acid oil	553		**RTECS No**						**CAS No**							
Palm oil (containing less than 15% free fatty acids)	2249	0	NI	0	R	0	NI	0	(0)	(0)	0	0			Fp	2
Palm oil	2764		**RTECS No**						**CAS No**							
Palm oil (containing more than 15% and less than 30% free fatty acids)	2364	0	NI	0	R	0	NI	0	0	(2)	(2)	(2)			Fp	2
Non-edible industrial grade palm oil	3127		**RTECS No**						**CAS No**							
Palm oil fatty acid methyl ester	1097	0	NI	0	R	0	NI	0	0	0	0	1			Fp	2
Palm oil fatty acid methyl ester	554		**RTECS No**						**CAS No**							
Palm olein	2250	0	NI	0	R	0	NI	0	(0)	(0)	0	0			Fp	2
Palm olein	2765		**RTECS No**						**CAS No**							

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Palm stearin	2251	0	NI	0	R	0	NI	0	(0)	(0)	0	0			Fp	2
Palm stearin	555		**RTECS No**						**CAS No**							
Paraffin wax	1086	0	NI	0	R	0	NI	(0)	(0)	(1)	1	1			Fp	2
Paraffin wax	556		**RTECS No**		RV0350000				**CAS No**		8002-74-2					
Paraldehyde	1098	0	0	0	NR	0	NI	1	0	0	1	3			D	3
Paraldehyde	557		**RTECS No**		YK0525000				**CAS No**		123-63-7					
Pentachloroethane	1099	3	2	2	NI	3	1	1	(1)	1	(1)	(1)	CT		S	3
Pentachloroethane	558		**RTECS No**		KI6300000				**CAS No**		76-01-7					
1,3-Pentadiene	1102	2	NI	2	NR	2	NI	0	0	0	1	(2)			E	2
1,3-Pentadiene	14		**RTECS No**		RZ2464000				**CAS No**		504-60-9					
1,3-Pentadiene (greater than 50%), cyclopentene and isomers, mixtures.	2390	NI	NI	(3)	(NR)	(3)	NI	(2)	(1)	(3)	(2)	(2)	CMR		E	3
1,3-Pentadiene (greater than 50%), cyclopentene and isomers, mixtures	3560		**RTECS No**						**CAS No**							
Pentaethylene hexamine	1103	0	NI	0	NI	4	NI	1	(2)	(3)	3	(3)	S		D	3
Pentaethylenehexamine	560		**RTECS No**		RZ2680000				**CAS No**		4067-16-7					
Pentane	1105	3	NI	3	R	3	NI	0	0	0	1	1			E	2
Pentane (all isomers)	561		**RTECS No**		RZ9450000				**CAS No**		109-66-0					
1,5-Pentanedial solution, (5-50%)	1107	0	NI	0	R	3	0	1	0	4	3	3	S		D	3
Glutaraldehyde solutions (50% or less)	362		**RTECS No**		MA2450000				**CAS No**		111-30-8					
Pentanoic acid	1109	1	NI	1	NI	2	NI	1	2	(3)	3	3			FD	3
Pentanoic acid	562		**RTECS No**		YV6100000				**CAS No**		109-52-4					
Pentanoic acid (64%)/2-methyl butyric acid (36%) mixture	2144	(1)	NI	(1)	NI	(2)	NI	(1)	(2)	(3)	3	(3)			FD	3
n-Pentanoic acid (64%)/2-Methyl butyric acid (36%) mixture	2211		**RTECS No**						**CAS No**							
1-Pentanol	1110	1	1	1	(R)	1	0	1	0	(3)	2	3			FED	3
n-Amyl alcohol	473		**RTECS No**		SB9800000				**CAS No**		71-41-0					
2-Pentanol	1111	1	1	1	R	1	0	0	(0)	(2)	2	2			D	2
sec-Amyl alcohol	637		**RTECS No**		SA4900000				**CAS No**		6032-29-7					
Pentasodium triphosphate (*)	2418	Inorg	0	0	Inorg	1	NI	NI	NI	NI	NI	NI			NI	NI
	3694		**RTECS No**						**CAS No**							
Pentene (all isomers)	1992	2	NI	2	NI	(2)	NI	(0)	(0)	(0)	(0)	(1)			E	2
Pentene (all isomers)	563		**RTECS No**						**CAS No**							

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
1-Pentene	1114	2	NI	2	NI	(2)	NI	(0)	(0)	0	(0)	(1)			E	2
1-Pentene	2679		**RTECS No**						**CAS No**		109-67-1					
2-Pentene	1115	2	NI	2	NI	2	NI	(0)	(0)	(0)	(0)	(1)			E	2
2-Pentene	2678		**RTECS No**						**CAS No**		109-68-2					
Pentylol	2447	(1)	(1)	(1)	(R)	(2)	(0)	(1)	(1)	(2)	(2)	(3)			FED	3
	3825		**RTECS No**						**CAS No**							
Petrolatum	2244	0	NI	0	NR	0	NI	0	0	2	1	1			Fp	2
Petrolatum	565		**RTECS No**						**CAS No**							
Petroleum wax	1122	0	NI	0	NR	0	NI	0	0	(0)	0	0			Fp	2
Waxes	741		**RTECS No**		RV0350000				**CAS No**		8002-74-2					
Phenol	1124	1	2	2	R	3	0	2	2	(3)	3	3		NT	S	3
Phenol	566		**RTECS No**		SJ3325000				**CAS No**		108-95-2					
Phenylxylylethane	1135	5	4	4	NR	(2)	NI	1	0	(1)	(0)	0			F	1
1-Phenyl-1-xylyl ethane	23		**RTECS No**		CZ7300000				**CAS No**		40766-31-2					
Phosphate esters, alkyl(C12-C14)amine (LOA)	1854	2	NI	2	NR	3	NI	0	(0)	(2)	1	2			FD	2
Phosphate esters, alkyl (C12-C14) amine	1345		**RTECS No**						**CAS No**							
Phosphoric acid	1138	0	NI	0	Inorg	1	NI	(3)	(3)	3	3	3			D	3
Phosphoric acid	567		**RTECS No**		TB6300000				**CAS No**		7664-38-2					
Phosphorus (elemental yellow)	1139	Inorg	(3)	(3)	Inorg	6	4	0	0	0	2	1			S	2
Phosphorus, yellow or white	568		**RTECS No**		TH3500000				**CAS No**		7732-14-0					
Phthalic anhydride (molten)	1146	1	NI	1	R	2	0	1	0	(3)	1	3	S		S	3
Phthalic anhydride (molten)	569		**RTECS No**		TI3150000				**CAS No**		85-44-9					
alpha-Pinene	40	4	NI	4	R	4	NI	0	0	0	1	(1)		T	F	3
alpha-Pinene	109		**RTECS No**		DT7000000				**CAS No**		80-56-8					
beta-Pinene	41	4	NI	4	(R)	4	NI	0	0	0	1	(1)	S	NT	F	3
beta-Pinene	141		**RTECS No**		DT5078500				**CAS No**		1330-16-1					
Pine oil	1148	4	NI	4	NR	4	NI	0	0	(1)	(1)	(1)	S	(T)	Fp	3
Pine oil	570		**RTECS No**		TK5100000				**CAS No**		8002-09-3					
Piperazine, 68% Aqueous	2433	0	NI	0	NR	2	NI	0	0	2	3A	3	SN		SD	3
Piperazine, 68% Aqueous	3748		**RTECS No**						**CAS No**		110-85-0					

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Pol (2-8) alkylene (C2-C3) glycols/ Polyalkylene (C2-C10) glycols monoalkyl ethers and their borate esters	2358	(1)	NI	(1)	(R)	(1)	(0)	0	0	0	2	2			D	2
Brake fluid base mix: Poly(2-8)alkylene (C2-C3) glycols/Polyalkylene (C2-C10) glycols monoalkyl (C1-C4) ethers and their borate esters	144		**RTECS No**						**CAS No**							
Polyacrylic acid (40% solution)	2302	(2)	NI	(2)	NR	1	NI	0	0	(1)	1	1			D	1
Polyacrylic acid solution (40% or less)	2709		**RTECS No**						**CAS No**							
Poly(C18-C22)alkyl acrylate in xylene	1151	(3)	NI	(3)	NR	2	NI	0	0	(2)	2	1			Fp	2
Polyalkyl (C18-C22) acrylate in xylene	580		**RTECS No**						**CAS No**							
Polyalkylalkenaminesuccinimide, molybdenum oxysulphide	2379	NI	0	0	NR	0	NI	0	0	(0)	0	0			Fp	2
Polyalkylalkenaminesuccinimide, molybdenum oxysulphide	3422		**RTECS No**						**CAS No**							
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	1152	1	NI	1	R	1	0	0	0	0	2	2			D	2
Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether	576		**RTECS No**						**CAS No**							
Poly(2-8)alkylene glycol monoalkyl (C1-C6) ether acetate	2254	1	NI	1	NR	2	1	0	0	0	2	2			D	2
Poly(2-8)alkylene glycol monoalkyl (C1-C6) ether acetate	575		**RTECS No**						**CAS No**							
Poly alkyl methacrylate (C1-C20) (LOA)	1984	(5)	NI	(5)	NR	0	NI	0	0	0	0	0			Fp	2
Polyalkyl (C10-C20) methacrylate	2189		**RTECS No**						**CAS No**							
Poly alkyl(C10-C18) methacrylate/ethylene-propylene copolymeer mixture	2201	0	0	0	NR	0	0	0	0	(1)	1	1	A		Fp	3
Polyalkyl (C10-C18) methacrylate/ethylene-propylene copolymer mixture	2188		**RTECS No**						**CAS No**							
Polyaluminium chloride (sol.)	1136	Inorg	0	0	Inorg	0	NI	(0)	(0)	(1)	(0)	(1)			D	1
Polyaluminium chloride solution	584		**RTECS No**		BD0549500				**CAS No**		1327-41-9					
Polybutene	1154	0	NI	0	(NR)	(0)	(0)	(0)	(0)	(0)	(0)	(0)			Fp	2
Polybutene	585		**RTECS No**		EM9032000				**CAS No**		9003-29-6					
Polybutenylsuccinimide in oil	2055	5	NI	5	NR	0	NI	(0)	(0)	(0)	0	(0)			Fp	2
Polybutenyl succinimide	586		**RTECS No**						**CAS No**							
Poly(2+)cyclic aromatics	2246	4	4	4	NR	(4)	NI	(1)	(1)	(2)	(1)	(1)	CM		S	3
Poly(2+)cyclic aromatics	574		**RTECS No**						**CAS No**							
Polyether, borated	1863	0	NI	0	NR	3	1	0	(0)	(1)	1	0			D	1
Polyether, borated	572		**RTECS No**						**CAS No**							
Polyether (molecular weight 2000+) (LOA)	1975	0	NI	0	NR	1	NI	0	(0)	(0)	0	0			Fp	2
Polyether (molecular weight 1350+)	587		**RTECS No**						**CAS No**							
Polyethylene amines / paraffin mixtures	1991	(5)	NI	(5)	NR	3	0	0	(1)	(3)	(2)	(3)	S		Fp	0

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EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Polyethylene polyamines (more than 50% C5 -C20 paraffin oil)	591		**RTECS No**						**CAS No**							
Polyethylene glycol	1157	0	NI	0	NR	0	NI	0	0	0	1	1			D	1
Polyethylene glycol	589		**RTECS No**		TQ3500000				**CAS No**		25322-68-3					
Polyethylene glycol dimethyl ether	1158	0	NI	0	NR	0	NI	0	0	(1)	1	(1)			D	1
Polyethylene glycol dimethyl ether	590		**RTECS No**		MC9630000				**CAS No**		24991-55-7					
Poly(ethylene glycol) methylbutenyl ether (MW >1000)	2395	NI	0	0	R	1	NI	0	0	(0)	0	0			D	0
Poly(ethylene glycol) methylbutenyl ether (MW>1000)	3501		**RTECS No**						**CAS No**							
Polyethylene polyamines	2367	0	NI	0	NR	3	0	1	0	(3)	2	(3)	S		D	0
Polyethylene polyamines	3131		**RTECS No**						**CAS No**							
Polyferric sulphate solution	338	Inorg	0	0	Inorg	(2)	NI	1	(1)	(3)	3	(3)			D	3
Polyferric sulphate solution	592		**RTECS No**						**CAS No**							
Polyglycerine, sodium salt, solution	1874	0	NI	0	R	0	NI	0	0	(3)	(2)	3			D	3
Polyglycerin, sodium salt solution (containing less than 3% sodium hydroxide)	593		**RTECS No**						**CAS No**							
Polyglycerol	1511	NI	NI	NI	NI	NI	NI	0	(0)	(0)	(0)	(0)			D	0
Polyglycerol	594		**RTECS No**						**CAS No**							
Poly (iminoethylene)-graft-N-poly (ethyleneoxy) solution (90% or less)	2287	0	0	0	NR	0	NI	0	0	(1)	0	1			D	1
Poly(iminoethylene)-graft-N-poly(ethyleneoxy) solution (90% or less)	2537		**RTECS No**						**CAS No**							
Polyisobutenamine in aliphatic (C10-C14) solvent	2192	0	0	0	NR	2	NI	0	(0)	(2)	2	1			FED	2
Polyisobutenamine in aliphatic (C10-C14) solvent	2374		**RTECS No**						**CAS No**							
(Polyisobutene)amino products in aliphatic hydrocarbons	2455	0	NI	(5)	NR	2	NI	0	0	(1)	1	0	A		Fp	3
Polymeric amine in aliphatic hydrocarbons	3811		**RTECS No**						**CAS No**							
Polyisobutenyl anhydride adduct	2127	0	NI	0	NR	0	NI	0	0	(1)	0	1			FD	1
Polyisobutenyl anhydride adduct	2256		**RTECS No**						**CAS No**							
Poly(4+)isobutylene	2264	0	NI	0	NR	0	NI	(0)	(0)	(0)	(0)	(0)			Fp	2
Poly(4+)isobutylene	578		**RTECS No**						**CAS No**							
Polymethylene polyphenyl isocyanate	1153	NI	(2)	(2)	NR	0	0	0	0	(2)	2	2	S		S	2
Polymethylene polyphenyl isocyanate	595		**RTECS No**		TR0350000				**CAS No**		9016-87-9					
Polyolefin acid, potassium salt	1895	NI	NI	NI	NR	0	NI	0	0	(0)	0	0			NI	0
Potassium salt of polyolefin acid	2199		**RTECS No**						**CAS No**							
Polyolefinamide alkene(C16+)amine (LOA)	2104	5	NI	5	NR	0	NI	0	0	(1)	1	(1)			Fp	2

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EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Polyolefin amide alkeneamine (C17+)	597		**RTECS No**						**CAS No**							
Polyolefin amide alkeneamine (C28+) (LOA)	1971	0	NI	0	NR	0	NI	0	0	(0)	1	(1)			NI	1
Polyolefin amide alkeneamine (C28+)	598		**RTECS No**						**CAS No**							
Polyolefin amide alkeneamine borate (C28-C250) (LOA)	1970	0	NI	0	NR	0	NI	0	0	(0)	0	(0)			Fp	2
Polyolefin amide alkeneamine borate (C28-C250)	600		**RTECS No**						**CAS No**							
Polyolefin amide alkeneamine/molybden oxysulphide mi	2256	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI			NI	NI
Polyolefin amide alkeneamine/molybdenum oxysulphide mixture	603		**RTECS No**						**CAS No**							
Polyolefin amide alkylene amine polyol	1989	0	2	2	NR	0	NI	0	0	(0)	0	0			Fp	3
Polyolefin amide alkeneamine polyol	602		**RTECS No**						**CAS No**							
Poly (17+) olefin amine	2049	0	NI	0	NR	2	NI	0	(0)	(1)	(1)	(1)			Fp	2
Poly (17+) olefin amine	571		**RTECS No**						**CAS No**		98761-78-5					
Polyolefinamine (C28-C250) (LOA)	2107	0	NI	0	NR	2	NI	0	(0)	(2)	2	(1)			Fp	2
Polyolefinamine (C28-C250)	609		**RTECS No**						**CAS No**							
Polyolefinamine (C28-C250) (LOA)	2107	0	NI	0	NR	2	NI	0	(0)	(2)	2	(1)			Fp	2
Polyolefinamine in aromatic solvent	611		**RTECS No**						**CAS No**							
Polyolefinamine (C28-C250) (LOA)	2107	0	NI	0	NR	2	NI	0	(0)	(2)	2	(1)			Fp	2
Polyolefinamine in alkyl (C2-C4) benzenes	610		**RTECS No**						**CAS No**							
Polyolefin aminoester salt	2095	0	NI	0	NR	1	NI	0	0	(1)	1	(1)			Fp	2
Polyolefin aminoester salts (molecular weight 2000+)	604		**RTECS No**						**CAS No**							
Polyolefin ester (C28-C250) (LOA)	1969	0	NI	0	NR	0	NI	0	0	(0)	0	0			Fp	2
Polyolefin ester (C28-C250)	606		**RTECS No**						**CAS No**							
Polyolefin (molecular weight 300+) (LOA)	1968	0	NI	0	NR	0	NI	0	0	0	0	0			Fp	2
Polyolefin (molecular weight 300+)	596		**RTECS No**						**CAS No**							
Polyolefin phenolic amine (C28-C250) (LOA)	1980	0	NI	0	NI	0	NI	0	0	(1)	(1)	(1)			Fp	2
Polyolefin phenolic amine (C28-C250)	607		**RTECS No**						**CAS No**							
Polyolefin phosphoro sulphide - barium derivative (C28-C250) (LOA)	1976	0	NI	0	NI	2	NI	0	(0)	(0)	(0)	(0)			S	0
Polyolefin phosphorosulphide, barium derivative (C28-C250)	608		**RTECS No**						**CAS No**							
Polyoxyethylene sorbitan monooleate	1442	3	NI	3	NI	(3)	NI	0	(0)	(1)	0	1			D	1
Poly(20)oxyethylene sorbitan monooleate	577		**RTECS No**		WG2932500				**CAS No**		9005-65-6					
Polyoxypropylene diamine	2352	1	NI	1	NR	1	NI	0	0	(3)	3	3			D	3

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EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
	3112		**RTECS No**						**CAS No**							
Polypropylene	1512	0	NI	0	NR	(0)	NI	(0)	(0)	(0)	(0)	(0)			F	1
Poly(5+)propylene	579		**RTECS No**		UD1842000				**CAS No**		9003-07-0					
Polypropylene glycol	1159	0	NI	0	(NR)	1	NI	1	0	(1)	1	1			D	1
Polypropylene glycol	612		**RTECS No**		TR6125000				**CAS No**		25322-69-4					
Polysiloxane	1161	NI	4	4	NI	2	NI	0	(0)	(0)	0	0			F	1
Polysiloxane	613		**RTECS No**						**CAS No**							
Polysiloxane	1161	NI	4	4	NI	2	NI	0	(0)	(0)	0	0			F	1
Dimethylpolysiloxane	275		**RTECS No**						**CAS No**							
Poly (tetramethylene) ether glycol (mw 600-3000)	2147	2	NI	2	NR	3	NI	0	0	(0)	0	(0)			FD	0
Poly(tetramethylene ether) glycol (mw 600-3000)	2540		**RTECS No**						**CAS No**							
Potassium chloride brine (less than 26%)	2345	0	0	0	Inorg	0	0	0	(0)	(0)	0	0			D	0
Potassium chloride solution (less than 26%)	3109		**RTECS No**						**CAS No**							
Potassium chloride solution	1513	0	0	0	Inorg	1	0	0	(0)	(0)	0	0			D	0
Potassium chloride solution	614		**RTECS No**		TS8050000				**CAS No**		7447-40-7					
Potassium formate solution (75% or more)	2121	0	NI	0	R	0	NI	(0)	(0)	(2)	2	2			D	2
Potassium formate solutions	615		**RTECS No**		LQ9625000				**CAS No**		590-29-4					
Potassium hydroxide (sol.)	1171	Inorg	0	0	Inorg	2	NI	2	(2)	(3)	3C	3			D	3
Potassium hydroxide solution	616		**RTECS No**		TT2100000				**CAS No**		1310-58-3					
Potassium oleate	1497	3	NI	3	R	4	NI	(0)	(0)	(1)	1	1			FD	1
Potassium oleate	617		**RTECS No**		RK1150000				**CAS No**		143-18-0					
Potassium thiosulphate solution (50% or less)	2152	Inorg	0	0	Inorg	2	NI	0	0	(2)	2	(2)			D	2
Potassium thiosulphate (50% or less)	2335		**RTECS No**						**CAS No**							
Propanol	1180	0	NI	0	R	0	NI	1	0	0	1	2	R		D	3
n-Propyl alcohol	488		**RTECS No**		UH8225000				**CAS No**		71-23-8					
Propanolamine	1183	0	NI	0	R	2	NI	0	1	(3)	3	3			D	3
n-Propanolamine	485		**RTECS No**		UA5600000				**CAS No**		156-87-6					
2-Propene-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer (aqueous solution)	2420	0	NI	0	R	2	0	0	(0)	(0)	0	(0)			D	0
2-Propene-1-aminium, N,N-dimethyl-N-2-propenyl-, chloride, homopolymer	3696		**RTECS No**						**CAS No**							
2-Propenoic acid polymer with furandione (65% in 2-butoxyethanol)	2435	0	NI	0	NR	2	0	1	0	0	2	2			Fp	2

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
2-Propenoic acid polymer with furandione (65% in 2-butoxyethanol)	3750		**RTECS No**						**CAS No**							
beta-Propiolactone	1184	0	NI	0	R	(2)	NI	2	(2)	4	3B	3	CM		D	3
beta-Propiolactone	142		**RTECS No**		RQ7350000				**CAS No**		57-57-8					
Propionaldehyde	1185	0	NI	0	R	2	NI	1	0	1	2	2			DE	2
Propionaldehyde	619		**RTECS No**		UE0350000				**CAS No**		123-38-6					
Propionic acid	1186	0	NI	0	R	2	NI	0	0	(3)	3B	3			D	3
Propionic acid	620		**RTECS No**		UE5950000				**CAS No**		79-09-4					
Propionic anhydride	1187	0	NI	0	R	2	NI	0	0	(3)	2	3			FD	3
Propionic anhydride	621		**RTECS No**		UF9100000				**CAS No**		123-62-6					
Propionitrile	1188	0	NI	0	NI	0	NI	3	3	4	1	2	R		D	3
Propionitrile	622		**RTECS No**		UF9625000				**CAS No**		107-12-0					
Propyl acetate	1191	1	NI	1	R	2	NI	0	0	0	1	1			ED	1
n-Propyl acetate	487		**RTECS No**		AJ3675000				**CAS No**		109-60-4					
Propylamine	1194	0	NI	0	NI	1	NI	2	2	3	3	3			DE	3
n-Propylamine	490		**RTECS No**		UH9100000				**CAS No**		107-10-8					
Propyl benzene	1196	NI	NI	NI	NI	3	NI	NI	NI	NI	NI	NI		(T)	FE	NI
Propylbenzene	2686		**RTECS No**		DA8750000				**CAS No**		103-65-1					
Propyl chloride	1198	2	NI	2	NI	1	NI	0	NI	NI	NI	NI			FED	2
n-Propyl chloride	489		**RTECS No**		TX4400000				**CAS No**		540-54-5					
Propylene carbonate	2056	0	NI	0	R	0	NI	0	0	(3)	2	3			D	3
Propylene carbonate	624		**RTECS No**		FF9650000				**CAS No**		108-32-7					
Propylene dimer	1201	3	NI	3	R	3	NI	NI	NI	NI	NI	NI			E	2
Propylene dimer	625		**RTECS No**						**CAS No**							
1,2-Propylene glycol	1202	0	NI	0	R	0	0	0	0	(1)	0	1			D	1
Propylene glycol	626		**RTECS No**		TY2000000				**CAS No**		57-55-6					
Propylene glycol methyl ether acetate	1759	0	NI	0	NR	1	NI	0	0	0	0	1			D	1
Propylene glycol methyl ether acetate	627		**RTECS No**		AI8925000				**CAS No**		108-65-6					
Propylene glycol monoalkyl ether	1958	0	NI	0	NR	0	NI	0	1	0	2	3			D	3
Propylene glycol monoalkyl ether	628		**RTECS No**						**CAS No**							
Propylene glycol phenyl ether	2057	1	NI	1	NI	1	NI	0	0	(1)	(1)	(1)			SD	1

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Propylene glycol phenyl ether	629		**RTECS No**		UB8886000				**CAS No**		4169-04-4					
Propylene oxide	76	0	NI	0	R	2	NI	1	1	2	2	3	CMR		DE	3
Propylene oxide	630		**RTECS No**		TZ2975000				**CAS No**		75-56-9					
Propylene oxide/Ethylene oxide mixture	78	0	NI	0	R	1	NI	1	1	3	3	3	CMR		DE	3
Ethylene oxide/Propylene oxide mixture with an ethylene oxide content of not more than 30% by mass	341		**RTECS No**						**CAS No**							
Propylene tetramer	2255	NI	4	4	NR	(4)	NI	(0)	(0)	(1)	(1)	(1)			F	1
Propylene tetramer	631		**RTECS No**						**CAS No**							
Propylene trimer	1207	5	4	4	NR	3	2	(0)	(0)	(1)	(1)	(1)			FE	2
Propylene trimer	632		**RTECS No**		UD2794000				**CAS No**		13987-01-4					
Pyridine	1213	0	NI	0	R	3	0	1	1	2	1	3		NT	D	3
Pyridine	634		**RTECS No**		UR8400000				**CAS No**		110-86-1					
Pyridine bases	2131	1	NI	1	R	2	NI	2	1	(3)	3B	3			FED	3
Paraldehyde-ammonia reaction product	1989		**RTECS No**						**CAS No**							
Pyrolysis gasoline	2271	(4)	(3)	(3)	(R)	(3)	(1)	1	0	(2)	2	2	TCM		FE	3
Pyrolysis gasoline (containing benzene)	1990		**RTECS No**						**CAS No**							
Rapeseed oil (high erucic acid; containing less than 4% free fatty acids)	2315	0	NI	0	R	(2)	NI	(0)	(0)	(0)	(1)	(1)			Fp	2
Rapeseed oil	3045		**RTECS No**						**CAS No**							
Rapeseed oil (Low erucic acid containing less than 4% free fatty acids)	2296	0	NI	0	R	(2)	NI	0	0	0	(1)	(1)			Fp	2
Rapeseed oil (low erucic acid containing less than 4% free fatty acids)	2956		**RTECS No**						**CAS No**							
Rape seed oil fatty acid, methyl ester	2209	0	0	0	R	0	NI	0	(0)	(1)	1	1			Fp	2
Rape seed oil fatty acid methyl esters	2576		**RTECS No**						**CAS No**							
Rice bran oil (containing less than 15% of free fatty acids)	2312	(0)	NI	(0)	(R)	(0)	NI	0	(0)	(1)	0	1			Fp	2
Rice bran oil	3043		**RTECS No**						**CAS No**							
Rosin	1219	3	NI	3	NR	3	NI	0	0	2	(1)	1	S		S	2
Rosin	635		**RTECS No**						**CAS No**		8050-09-7					
Rosin soap (disproportionated solution)	1220	3	NI	3	NR	3	NI	0	NI	NI	NI	NI			S	NI
Rosin soap (disproportionated) solution	636		**RTECS No**						**CAS No**							
Safflower oil (containing less than 5% free fatty acids)	1222	(0)	NI	(0)	(R)	(0)	NI	(0)	(0)	(1)	1	1			Fp	2
Safflower oil	3041		**RTECS No**		VN2230000				**CAS No**		8001-23-8					
Saturated and unsaturated alkyl (C10-C20) phosphite (LOA)	2108	0	NI	0	R	1	NI	0	0	(0)	0	0			Fp	2

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Alkyl(C10-C20, saturated and unsaturated) phosphite	96		**RTECS No**						**CAS No**							
Shea butter (containing less than 15% free fatty acids)	2311	(0)	NI	(0)	NR	(0)	NI	(0)	(0)	(1)	(0)	(1)			Fp	2
Shea butter	3042		**RTECS No**						**CAS No**							
Silica slurry	1514	Inorg	0	0	Inorg	0	0	(0)	(0)	0	(0)	(0)			S	0
Microsilica slurry	2507		**RTECS No**						**CAS No**		7631-86-9					
Sodium acetate	1498	0	NI	0	R	0	NI	0	0	0	1	1			D	1
Sodium acetate solutions	639		**RTECS No**		AJ4375000				**CAS No**		127-09-3					
Sodium aluminate (solution)	1234	Inorg	0	0	Inorg	NI	NI	(0)	(0)	(3)	(3)	(3)			D	3
Sodium aluminate solution	641		**RTECS No**		BD1600000				**CAS No**		11138-49-1					
Sodium aluminosilicate slurry	1235	Inorg	0	0	Inorg	1	0	0	0	0	1	1			S	1
Sodium aluminosilicate slurry	643		**RTECS No**						**CAS No**		1344-00-9					
Sodium benzoate	1475	0	NI	0	R	1	NI	0	(0)	(1)	0	1			D	1
Sodium benzoate	644		**RTECS No**		DH6650000				**CAS No**		532-32-1					
Sodium bicarbonate solution (less than 10%)	2386	0	NI	0	Inorg	0	0	0	0	(0)	0	0			D	0
Sodium bicarbonate solution (less than 10%)	3558		**RTECS No**						**CAS No**		144-55-8					
Sodium borohydride/sodium hydroxide mixture (soln.)	1239	Inorg	0	0	Inorg	2	NI	(2)	(1)	(3)	(3)	(3)			D	3
Sodium borohydride (15% or less)/Sodium hydroxide solution	645		**RTECS No**						**CAS No**							
Sodium bromide solution (less than 50%)	2387	0	NI	0	Inorg	0	0	0	0	(1)	0	1	R		D	3
Sodium bromide solution (less than 50%) (*)	3410		**RTECS No**		VZ 315000				**CAS No**		7647-15-6					
Sodium carbonate	1243	Inorg	0	0	Inorg	1	NI	0	0	2	1	2			SD	2
Sodium carbonate solution	646		**RTECS No**		VZ4050000				**CAS No**		497-19-8					
Sodium chlorate solid and solutions (50% or less)	1244	Inorg	0	0	Inorg	1	NI	1	0	(2)	1	1	S		D	2
Sodium chlorate solution (50% or less)	647		**RTECS No**		FO0525000				**CAS No**		7775-09-9					
Sodium dichromate solution	487	Inorg	0	0	Inorg	4	1	2	2	4	2	3	CMS		D	3
Sodium dichromate solution (70% or less)	649		**RTECS No**		HX7700000				**CAS No**		10588-01-9					
Sodium dodecyl sulphate (*)	2451	0	NI	0	R	3	1	NI	NI	NI	NI	NI			NI	NI
	3869		**RTECS No**						**CAS No**							
Sodium hydrogen sulphide/Ammonium sulphide(mixture)	1253	Inorg	0	0	Inorg	3	NI	1	1	0	2	2			D	2
Sodium hydrosulphide/Ammonium sulphide solution	653		**RTECS No**						**CAS No**							
Sodium hydrogen sulphide (6% or less)/sodium carbonate (3% or less)	2262	0	NI	0	Inorg	1	NI	(0)	(0)	(1)	(1)	(1)			D	1

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Sodium hydrogen sulphide (6% or less)/Sodium carbonate (3% or less) solution	650		**RTECS No**						**CAS No**							
Sodium hydrogen sulphide,solutions	1252	Inorg	0	0	Inorg	1	NI	1	1	1	2	2			D	2
Sodium hydrosulphide solution (45% or less)	652		**RTECS No**		WE1900000				**CAS No**		16721-80-5					
Sodium hydrogen sulphite,solutions	1251	Inorg	0	0	Inorg	1	NI	0	(0)	(0)	0	0			D	0
Sodium hydrogen sulphite solution (45% or less)	651		**RTECS No**		VZ2000000				**CAS No**		7631-90-5					
Sodium hydroxide	1254	Inorg	0	0	Inorg	2	NI	1	1	(3)	3C	3			D	3
Sodium hydroxide solution	654		**RTECS No**		WB4900000				**CAS No**		1310-73-2					
Sodium hypochlorite solutions containing 20% and less but more than 2% NaOCl	1256	Inorg	0	0	Inorg	(4)	(1)	0	0	1	3	3	S		D	3
Sodium hypochlorite solution (15% or less)	2785		**RTECS No**		NH3486300				**CAS No**		7681-52-9					
Sodium hypochlorite solutions containing more than 20% Na0Cl	1255	Inorg	0	0	Inorg	5	2	0	0	1	3	3	S		D	3
Sodium hypochlorite solution (Full strength solution)	655		**RTECS No**		NH3486300				**CAS No**		7681-52-9					
Sodium methylate (**)	2443	NI	NI	(0)	(R)	(2)	NI	NI	NI	NI	NI	NI	T		DE	NI
Sodium methylate	3822		**RTECS No**						**CAS No**							
Sodium Methylate (21-30% in Methanol)	2427	0	NI	0	R	1	NI	2	(2)	(3)	3	3	T		D	3
Sodium methylate 21-30% in methanol	3608		**RTECS No**						**CAS No**							
Sodium nitrate	1259	Inorg	0	0	Inorg	0	NI	(0)	(0)	(0)	(1)	(1)			SD	1
Sodium nitrate	656		**RTECS No**		WC5600000				**CAS No**		7631-99-4					
Sodium nitrite	340	Inorg	0	0	Inorg	3	0	2	(2)	2	0	1			SD	2
Sodium nitrite solution	658		**RTECS No**		RA1225000				**CAS No**		7632-00-0					
Sodium perborate monohydrate	2284	Inorg	NI	NI	Inorg	3	NI	1	0	(3)	2	3			NI	3
Sodium perborate monohydrate	2948		**RTECS No**						**CAS No**							
Sodium petroleum sulphonate	1860	0	NI	0	(NR)	2	NI	0	(0)	(2)	1	2	S		S	2
Sodium petroleum sulphonate	660		**RTECS No**						**CAS No**							
Sodium polyacrylate solution	1487	0	NI	0	NR	1	0	0	(0)	(1)	1	1			D	1
Sodium poly(4+)acrylate solutions	826		**RTECS No**						**CAS No**							
Sodium silicate (solution)	1262	Inorg	0	0	Inorg	2	NI	1	0	(3)	3	3			D	3
Sodium silicate solution	661		**RTECS No**						**CAS No**		1344-09-8					
Sodium sulphate (solution)	1499	Inorg	0	0	Inorg	0	0	0	(0)	(1)	1	1			SD	1
Sodium sulphate solutions	662		**RTECS No**		WE1650000				**CAS No**		7757-82-6					
Sodium sulphide (solution)	1263	Inorg	0	0	Inorg	3	NI	1	1	(3)	3A	3			D	3

ANNEX 6 - GESAMP/EHS COMPOSITE LIST
GESAMP Hazard Profiles

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Sodium sulphide solution (15% or less)	663		**RTECS No**		WE1905000				**CAS No**		1313-82-2					
Sodium sulphite (solution)	9	Inorg	0	0	Inorg	2	NI	0	(0)	(1)	0	1			D	1
Sodium sulphite solution (25% or less)	664		**RTECS No**		WE2150000				**CAS No**		7757-83-7					
Sodium tartrate succinate/Sodium tartrate disuccinate mixtures	1771	NI	1	1	NI	1	NI	0	NI	NI	NI	NI			D	NI
Sodium tartrates/Sodium succinates solution	665		**RTECS No**						**CAS No**							
Sodium thiocyanate	1264	Inorg	0	0	Inorg	2	NI	1	(0)	(1)	0	0			D	1
Sodium thiocyanate solution (56% or less)	667		**RTECS No**		XL2275000				**CAS No**		540-72-7					
Sorbitan monooleate	2215	(5)	NI	(5)	R	3	NI	0	NI	NI	0	0			Fp	2
Sorbitan monooleate	2408		**RTECS No**						**CAS No**							
Sorbitol	1265	0	NI	0	R	0	NI	0	(0)	(0)	(0)	(0)			D	0
Sorbitol solution	668		**RTECS No**		LZ4290000				**CAS No**		50-70-4					
Soyabean oil (containing less than 4% free fatty acids)	2320	0	NI	0	R	0	NI	0	(0)	(1)	(0)	1			Fp	2
Soyabean oil	3050		**RTECS No**						**CAS No**							
Soybean oil fatty acids, methyl esters	2431	0	NI	0	R	2	NI	0	0	0	0	0			Fp	2
Soybean oil fatty acids, methyl esters	3737		**RTECS No**						**CAS No**							
Styrene (monomer)	1273	3	(2)	3	R	3	NI	1	0	2	2	2	CM		FE	3
Styrene monomer	669		**RTECS No**		WL3675000				**CAS No**		100-42-5					
Styrene butadiene rubber latex	1274	0	NI	0	NR	0	NI	0	0	(1)	0	1			D	1
Latex: Carboxylated styrene-Butadiene copolymer; Styrene-Butadiene rubber	414		**RTECS No**						**CAS No**							
Sulfurized fat(C14-C20) (LOA)	1853	0	NI	0	NR	1	NI	0	(0)	(1)	0	(1)			FD	1
Sulphurized fat (C14-C20)	2257		**RTECS No**						**CAS No**							
Sulfurized polyolefinamide alkene(C28-C250)amine (LOA)	1855	0	NI	0	NR	0	NI	0	0	(0)	0	0			FD	0
Sulphurized polyolefinamide alkene (C28-C250) amine	2258		**RTECS No**						**CAS No**							
Sulpho hydrocarbon (C3-C88) (LOA)	1972	4	NI	4	NR	2	NI	0	0	0	0	0			Fp	2
Sulphohydrocarbon (C3-C88)	672		**RTECS No**						**CAS No**							
Sulpholane	1277	0	1	1	NR	2	0	1	0	0	1	2			SD	2
Sulpholane	673		**RTECS No**		XN0700000				**CAS No**		126-33-0					
Sulphonated polyacrylate solution	1760	NI	0	0	NI	0	NI	(0)	(0)	(0)	(0)	(0)			D	0
Sulphonated polyacrylate solution	674		**RTECS No**						**CAS No**							
Sulphur	906	Inorg	0	0	Inorg	0	NI	0	0	(1)	1	1			S	1

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Sulphur (molten)	675		**RTECS No**		WS4250000				**CAS No**		7704-34-9					
Sulphuric acid	1280	0	NI	0	Inorg	2	NI	0	(0)	3	3C	3	C		D	3
Sulphuric acid, spent	677		**RTECS No**		WS5600000				**CAS No**		7664-93-9					
Sulphuric acid	1280	0	NI	0	Inorg	2	NI	0	(0)	3	3C	3	C		D	3
Sulphuric acid	676		**RTECS No**		WS5600000				**CAS No**		7664-93-9					
Sulphuric acid	1280	0	NI	0	Inorg	2	NI	0	(0)	3	3C	3	C		D	3
Oleum	549		**RTECS No**		WS5600000				**CAS No**		7664-93-9					
Sunflower oil	1283	0	NI	0	R	0	NI	(0)	(0)	(1)	(0)	(1)			Fp	2
Sunflower seed oil	2782		**RTECS No**						**CAS No**		8001-21-6					
sym-Dichlorodiethyl ether	588	1	1	1	NR	1	0	2	3	4	1	3		T	SD	3
Dichloroethyl ether	233		**RTECS No**		KN0875000				**CAS No**		111-44-4					
Tall oil acids/linoleic acid dimer/polyalkylenepolyamines/dodecylbenzenesulphonic acid complexes in naphtha/isopropanol	2448	0	NI	0	NR	1	NI	0	0	(0)	0	0	CM		Fp	3
	3866		**RTECS No**						**CAS No**							
Tall oil, crude and distilled	1285	(4)	NI	(4)	(R)	(2)	NI	0	0	(0)	0	0	S		Fp	2
Tall oil (crude and distilled)	678		**RTECS No**						**CAS No**		68187-71-3					
Tall oil, distilled	2283	0	NI	0	R	0	NI	0	(0)	(0)	0	(0)			Fp	2
Tall oil, distilled	2890		**RTECS No**						**CAS No**							
Tall oil fatty acid (resin acids less than 2%)	1287	0	0	0	R	0	0	0	0	(1)	1	0			Fp	2
Tall oil fatty acid (resin acids less than 20%)	679		**RTECS No**						**CAS No**		61790-12-3					
Tall oil fatty acid, barium salt	1864	NI	NI	NI	NI	NI	NI	(1)	(0)	(2)	1	2			S	2
Tall oil fatty acid, barium salt	680		**RTECS No**						**CAS No**							
Tall oil pitch	2323	3	NI	3	NR	0	0	0	0	(0)	0	(0)			Fp	2
Tall oil pitch	3051		**RTECS No**						**CAS No**							
Tall oil soap (disproportionated solution)	1286	NI	NI	NI	NI	NI	NI	(1)	(0)	(2)	1	2			D	2
Tall oil soap (disproportionated) solution	681		**RTECS No**						**CAS No**							
Tall oil soap, crude	2432	0	NI	0	R	2	0	(0)	(0)	(3)	(3)	(3)	S		Fp	3
Tall oil soap, crude	3735		**RTECS No**						**CAS No**							
Tallow	1288	0	NI	0	R	0	NI	0	0	(0)	(0)	(0)			Fp	2
Tallow	682		**RTECS No**						**CAS No**		61789-21-6					
Tallow fatty acid	1289	0	NI	0	R	0	NI	0	(0)	(0)	(0)	(0)			Fp	2

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Tallow fatty acid	684		**RTECS No**						**CAS No**							
1,1,2,2-Tetrachloroethane	53	2	2	2	NR	3	0	2	0	2	2	2			SD	2
Tetrachloroethane	687		**RTECS No**		KI8575000				**CAS No**		79-34-5					
1,1,2,2-Tetrachloroethylene	1295	3	2	2	NR	(3)	2	0	0	0	2	1	C		S	3
Perchloroethylene	564		**RTECS No**		KX3850000				**CAS No**		127-18-4					
Tetrachloromethane	1296	2	2	2	NR	3	0	0	0	0	1	1	CT		S	3
Carbon tetrachloride	178		**RTECS No**		FG4900000				**CAS No**		56-23-5					
Tetradecanoic acid (Myristic acid)	1298	5	NI	0	R	0	NI	0	(0)	(1)	(1)	(1)			Fp	2
n-Tetradecanoic acid	491		**RTECS No**		QH4375000				**CAS No**		544-63-8					
Tetradecanoic acid (Myristic acid)	1298	5	NI	0	R	0	NI	0	(0)	(1)	(1)	(1)			Fp	2
Fatty acid (saturated C13+)	347		**RTECS No**		QH4375000				**CAS No**		544-63-8					
Tetraethylene glycol	1301	0	NI	0	NR	0	NI	0	0	0	1	1			D	1
Tetraethylene glycol	688		**RTECS No**		XC2100000				**CAS No**		112-60-7					
Tetraethylene pentamine	1302	0	NI	0	NR	3	NI	0	2	(3)	3	3	S		D	3
Tetraethylene pentamine	689		**RTECS No**		KH8585000				**CAS No**		112-57-2					
Tetraethyl lead	1303	4	5	5	NR	5	NI	3	2	4	2	2	NR		S	3
Motor fuel anti-knock compound (containing lead alkyls)	464		**RTECS No**		TP4550000				**CAS No**		78-00-2					
Tetrahydrofuran	1304	0	NI	0	R	0	NI	0	(0)	0	1	2			DE	2
Tetrahydrofuran	690		**RTECS No**		LU5950000				**CAS No**		109-99-9					
Tetrahydronaphthalene	1305	3	3	3	NR	3	NI	0	0	(2)	2	0			F	2
Tetrahydronaphthalene	691		**RTECS No**		QK3850000				**CAS No**		119-64-2					
1,2,3,4-Tetramethylbenzene	1307	4	NI	4	NI	4	NI	0	(0)	(1)	1	(1)			F	1
Tetramethylbenzene (all isomers)	692		**RTECS No**		DC0465000				**CAS No**		488-23-3					
Tetrapotassium pyrophosphate	2400	Inorg	0	0	Inorg	1	NI	0	NI	NI	NI	NI			D	NI
Tetrapotassium pyrophosphate	3635		**RTECS No**						**CAS No**		7320-34-5					
Thixatrol plus	2210	5	NI	5	R	3	NI	0	0	0	1	1			S	1
Thixatrol Plus	2699		**RTECS No**						**CAS No**							
Titanium dioxide (64 - 77% solution in water)	2080	Inorg	1	1	Inorg	1	NI	0	0	0	1	1			NI	1
Titanium dioxide slurry	2259		**RTECS No**						**CAS No**		13463-67-7					
Toluene	330	2	2	2	R	3	0	0	0	0	2	2	ANR	NT	E	3

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Toluene	693		**RTECS No**		XS5250000				**CAS No**		108-88-3					
Toluene diisocyanate	1315	(3)	1	1	NR	2	NI	0	(0)	4	3	3	SCL		S	3
Toluene diisocyanate	694		**RTECS No**		CZ6300000				**CAS No**		584-84-9					
Toluidines	1316	1	1	1	R	4	2	1	0	(2)	2	2	CM		FD	3
o-Toluidine	537		**RTECS No**						**CAS No**							
2,4-Tolylenediamine	1317	0	2	2	NR	3	0	2	2	4	2	3	CMS		Fp	3
Toluenediamine	695		**RTECS No**		XS9625000				**CAS No**		95-80-7					
Tolyl triazole	2292	1	NI	1	NR	2	0	1	0	(2)	(1)	2			S	2
Tolyl triazole	696		**RTECS No**						**CAS No**							
Tributyl phosphate	1319	4	2	2	R	3	0	1	0	2	2	2	S		F	3
Tributyl phosphate	697		**RTECS No**		TC7700000				**CAS No**		126-73-8					
1,2,3-Trichlorobenzene	2191	4	4	4	NR	4	2	1	0	(2)	2	2			S	2
1,2,3-Trichlorobenzene (molten)	2288		**RTECS No**						**CAS No**							
1,2,4-Trichlorobenzene	1323	4	5	5	NR	4	1	1	0	(2)	2	2	M		S	3
1,2,4-Trichlorobenzene	7		**RTECS No**		DC2100000				**CAS No**		120-82-1					
1,1,1-Trichloroethane	1326	2	NI	2	NR	2	NI	0	0	0	2	2			SD	2
1,1,1-Trichloroethane	1		**RTECS No**		KJ2975000				**CAS No**		71-55-6					
1,1,2-Trichloroethane	1327	2	1	1	NR	2	0	1	0	1	2	1			SD	2
1,1,2-Trichloroethane	3		**RTECS No**		KJ3150000				**CAS No**		79-00-5					
1,1,2-Trichloro-ethylene	329	2	2	2	NR	3	NI	0	0	0	2	2	MC		SD	3
Trichloroethylene	698		**RTECS No**		KX4550000				**CAS No**		79-01-6					
Trichloromethane	1328	1	1	1	NR	2	0	2	0	2	1	1	CT		SD	3
Chloroform	186		**RTECS No**		FS9100000				**CAS No**		67-66-3					
1,2,3-Trichloropropane	1329	2	2	2	NR	2	0	2	2	2	2	2	C		SD	3
1,2,3-Trichloropropane	6		**RTECS No**		TZ9275000				**CAS No**		96-18-4					
1,1,2-Trichloro-1,2,2-trifluoroethane	1330	3	2	2	NR	3	0	0	0	0	1	1			S	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	2		**RTECS No**		KJ4000000				**CAS No**		76-13-1					
Tricresyl phosphate (less than 1% ortho-isomers)	1331	5	(3)	(3)	(R)	(4)	(4)	0	1	0	1	1	N		S	2
Tricresyl phosphate (containing less than 1% ortho-isomer)	700		**RTECS No**		TD0175000				**CAS No**		1330-78-5					
Tricresyl phosphate (more than 1% ortho-isomers)	1332	5	3	3	R	4	4	0	1	0	1	1	N		S	2

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Tricresyl phosphate (containing 1% or more ortho-isomer)	699		**RTECS No**		TD0175000				**CAS No**		1330-78-5					
Tridecane	1333	0	NI	0	NI	0	NI	0	0	(1)	1	0			Fp	2
Tridecane	701		**RTECS No**		YD3025000				**CAS No**		629-50-5					
Tridecanoic acid	1334	5	NI	5	(R)	3	NI	(0)	(0)	(1)	(1)	(1)			Fp	2
Tridecanoic acid	702		**RTECS No**		YD3850000				**CAS No**		638-53-9					
Tridecyl acetate	1768	5	NI	5	NI	0	NI	0	(0)	(2)	2	2			F	2
Tridecyl acetate	703		**RTECS No**						**CAS No**		1072-33-9					
Triethanolamine	1338	0	0	0	R	1	NI	0	0	(2)	1	2			D	2
Triethanolamine	704		**RTECS No**		KL9275000				**CAS No**		102-71-6					
3-(Triethoxsilyl)propylamine	2445	1	1	1	R	1	NI	1	0	(3)	3B	3	S		D	3
	3824		**RTECS No**						**CAS No**		919-30-2					
Triethylamine	1339	1	0	0	R	3	0	1	2	2	2	3			D	3
Triethylamine	706		**RTECS No**		YE0175000				**CAS No**		121-44-8					
1,3,5-Triethylbenzene	1340	5	NI	5	NI	4	NI	0	(0)	(2)	(2)	(1)			F	2
Triethylbenzene	707		**RTECS No**		DC2490000				**CAS No**		25340-18-5					
Triethylene glycol	1341	0	NI	0	R	0	0	0	0	(1)	1	1			D	1
Triethylene glycol	708		**RTECS No**		YE4550000				**CAS No**		112-27-6					
Triethylenetetramine	1346	0	NI	0	NR	3	NI	0	2	(3)	3	3	S		D	3
Triethylenetetramine	709		**RTECS No**		YE6650000				**CAS No**		112-24-3					
Triethylenetetramine/2-piperazine-1-ylethylamine mixtures (#)	2456	0	NI	0	NR	2	NI	0	2	(3)	3	3	S		D	3
	3872		**RTECS No**						**CAS No**							
Triethyl phosphate	1348	0	0	0	NR	1	0	1	0	0	(2)	(2)			D	2
Triethyl phosphate	705		**RTECS No**		TC7900000				**CAS No**		78-40-0					
Triethyl phosphite	1349	0	NI	0	R	1	NI	1	0	2	1	2	S		FE	2
Triethyl phosphite	710		**RTECS No**		TH1130000				**CAS No**		122-52-1					
Triisopropanolamine	1370	0	0	0	NR	1	0	1	0	0	(2)	3			FD	3
Triisopropanolamine	711		**RTECS No**		UB8750000				**CAS No**		122-20-3					
Triisopropylated phenyl phosphates	1375	5	5	5	R	4	NI	0	0	0	0	0			S	0
Triisopropylated phenyl phosphates	712		**RTECS No**						**CAS No**		68937-41-7					
Trimethylacetic acid	1350	1	1	1	R	2	NI	1	1	(2)	2	2			Fp	2

ANNEX 6 - GESAMP/EHS COMPOSITE LIST
GESAMP Hazard Profiles

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Trimethylacetic acid	714		**RTECS No**		TO7700000				**CAS No**		75-98-9					
Trimethylamine	1353	0	NI	0	R	1	NI	1	0	2	3	3			DE	3
Trimethylamine solution (30% or less)	715		**RTECS No**		PA0350000				**CAS No**		75-50-3					
1,2,3-Trimethyl benzene	1354	3	3	3	NR	4	0	0	0	1	2	1			FE	2
Trimethylbenzene (all isomers)	716		**RTECS No**		DC3300000				**CAS No**		526-73-8					
2,4,4-Trimethyl hexamethylene diamine	1359	1	NI	1	NI	NI	NI	1	0	(3)	2	3	S		D	3
Trimethylhexamethylenediamine (2,2,4- and 2,4,4-isomers)	718		**RTECS No**		MO1451000				**CAS No**		26520-58-0					
Trimethyl hexamethylene diisocyanate	1360	0	NI	0	NI	3	NI	0	NI	NI	NI	NI	S		NI	2
Trimethylhexamethylene diisocyanate (2,2,4- and 2,4,4-isomers)	717		**RTECS No**		MO1760000				**CAS No**		28679-16-5					
Trimethylol propane polyethoxylate	1362	NI	NI	NI	NR	1	NI	0	0	NI	NI	NI			NI	NI
Trimethylolpropane polyethoxylate	719		**RTECS No**						**CAS No**							
Trimethylol propane, propoxylated	2274	0	NI	0	(NR)	1	0	0	0	(1)	0	1			SD	1
Trimethylol propane propoxylated	2870		**RTECS No**						**CAS No**							
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	1845	4	NI	4	NR	0	NI	0	0	(1)	1	0			F	1
2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	26		**RTECS No**						**CAS No**							
2,2,4-Trimethyl-1,3-pentanediol monoisobutyrate	1364	3	NI	3	NI	2	NI	0	0	(1)	1	1			Fp	2
2,2,4-Trimethyl-1,3-pentanediol-1-isobutyrate	27		**RTECS No**		UF6000000				**CAS No**		25264-77-4					
Trimethyl phosphite	1365	0	NI	0	R	NI	NI	NI	NI	NI	NI	NI			S	NI
Trimethyl phosphite	713		**RTECS No**		TH1400000				**CAS No**		121-45-9					
1,3,5-Trioxane	1844	0	NI	0	NI	0	NI	0	0	0	0	1	R		SD	3
1,3,5-Trioxane	10		**RTECS No**		YK0350000				**CAS No**		110-88-3					
Tripropylene glycol	1372	0	0	0	NR	0	NI	0	0	(0)	0	0			D	0
Tripropylene glycol	720		**RTECS No**		YK6825000				**CAS No**		24800-44-0					
Trixylenyl phosphate	1377	5	4	4	NR	4	1	(0)	(1)	(0)	(1)	(1)	R		S	3
Trixylyl phosphate	721		**RTECS No**		ZE8320000				**CAS No**		25155-23-1					
Tung oil	1378	0	NI	0	R	(2)	NI	(0)	(0)	(1)	(0)	(1)			Fp	2
Tung oil	2784		**RTECS No**						**CAS No**							
Turpentine (wood)	1379	4	NI	4	NI	4	NI	0	(0)	1	(2)	2	AS	(T)	D	2
Turpentine	722		**RTECS No**		YO8400000				**CAS No**		8006-64-2					
Undecanoic acid	1381	4	NI	4	(R)	3	NI	(0)	(0)	(2)	1	(2)			Fp	2

ANNEX 6 - GESAMP/EHS COMPOSITE LIST
GESAMP Hazard Profiles

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Undecanoic acid	723		**RTECS No**		YQ2275000				**CAS No**		112-37-8					
1-Undecanol	1382	4	NI	4	R	4	NI	0	0	(2)	2	(1)			Fp	2
Undecyl alcohol	724		**RTECS No**		YQ3155000				**CAS No**		112-42-5					
1-Undecene	1383	5	NI	5	NR	4	NI	(0)	(0)	(1)	(2)	(1)	A		F	3
1-Undecene	24		**RTECS No**						**CAS No**		821-95-4					
Urea	1384	0	0	0	R	1	NI	0	0	(1)	1	(1)			D	1
Urea solution	726		**RTECS No**		YR6250000				**CAS No**		57-13-6					
Urea	1384	0	0	0	R	1	NI	0	0	(1)	1	(1)			D	1
Urea	2627		**RTECS No**		YR6250000				**CAS No**		57-13-6					
Urea/Ammonium mono and dihydrogen phosphate/ Potassium chloride solution	1386	0	0	0	R	3	2	NI	NI	NI	NI	NI			NI	NI
Urea/Ammonium mono- and di-hydrogen phosphate/Potassium chloride solution	727		**RTECS No**						**CAS No**							
Urea/Ammonium nitrate solution (> 1% aq. ammonia)	2322	0	NI	0	R	3	NI	0	0	(2)	1	2			D	2
Urea/Ammonium nitrate solution	728		**RTECS No**						**CAS No**							
Urea/Ammonium nitrate solution (containing < 1% aq. ammonia)	1387	0	NI	0	R	1	2	0	0	(2)	1	2			D	2
Urea/Ammonium nitrate solution (containing less than 1% free ammonia)	729		**RTECS No**						**CAS No**							
Urea-ammonium phosphate solutions	2179	0	0	0	R	3	2	(0)	(0)	(2)	(2)	(2)			D	2
Urea/Ammonium phosphate solution	730		**RTECS No**						**CAS No**							
Urea-formaldehyde resin solution	1388	NI	NI	NI	NI	1	NI	1	1	NI	NI	NI	S		NI	2
Urea formaldehyde resin solution	725		**RTECS No**						**CAS No**							
Vegetable acid oils	2371	0	NI	0	R	0	NI	(0)	(0)	(1)	(1)	(1)			Fp	2
Vegetable acid oils (m)	3138		**RTECS No**						**CAS No**							
Vegetable oils fatty acid distillates	2369	0	NI	0	R	0	NI	(0)	(0)	(0)	(0)	(0)			Fp	2
Vegetable fatty acid distillates (m)	3137		**RTECS No**						**CAS No**							
Vegetable protein solution,hydrolyzed	1398	0	NI	0	R	0	NI	(0)	(0)	(0)	(0)	(0)			D	0
Vegetable protein solution (hydrolysed)	734		**RTECS No**						**CAS No**							
Vinyl acetate	1400	0	NI	0	R	2	NI	1	0	2	1	1	C		ED	3
Vinyl acetate	735		**RTECS No**		AK0875000				**CAS No**		108-05-4					
Vinyl ethyl ether	1405	1	NI	1	NR	1	NI	0	0	0	1	1			E	2
Vinyl ethyl ether	736		**RTECS No**		KO0710000				**CAS No**		109-92-2					
Vinylidene chloride	1406	2	1	1	NR	2	NI	2	0	(2)	2	2	M		SD	3

ANNEX 6 - GESAMP/EHS COMPOSITE LIST
GESAMP Hazard Profiles

EHS Name TRN Name	EHS TRN	A1a	A1b	A1	A2	B1	B2	C1	C2	C3	D1	D2	D3	E1	E2	E3
Vinylidene chloride	738		**RTECS No**		KV9275000				**CAS No**		75-35-4					
Vinyl neodecanoate	1404	5	NI	5	NR	3	NI	0	0	(3)	3	3			F	3
Vinyl neodecanoate	737		**RTECS No**						**CAS No**		45115-34-2					
Vinyl toluenes	1409	3	3	3	NR	3	NI	0	0	2	2	1	NM	(T)	F	3
Vinyltoluene	739		**RTECS No**		WL5075000				**CAS No**		25013-15-4					
White spirit, low (15-20%)aromatic	1411	(4)	NI	(4)	(R)	3	NI	(0)	(0)	(2)	(1)	(2)	A		F	3
White spirit, low (15-20%) aromatic	742		**RTECS No**						**CAS No**							
Wood lignin with sodium acetate/oxalate	2403	NI	NI	(0)	NR	(0)	NI	0	(0)	(1)	(1)	(1)			D	1
Wood lignin with sodium acetate/oxalate	3638		**RTECS No**						**CAS No**							
Xylene (mixed isomers)	1408	3	NI	3	NR	3	0	0	0	0	2	2		(T)	FE	2
Xylenes	743		**RTECS No**		ZE2275000				**CAS No**		133-20-7					
Xylenes/Ethyl benzene (10% or more) mixture	2269	3	2	2	NR	3	1	(0)	(0)	(2)	(2)	(2)		(T)	FE	2
Xylenes/ethylbenzene (10% or more) mixture	2337		**RTECS No**						**CAS No**							
Xylenols (mixtures)	1422	2	NI	2	R	3	NI	1	2	(3)	3	3		(T)	Fp	3
Xylenol	744		**RTECS No**		ZE5425000				**CAS No**		1300-71-6					
Yeast Extract Solution with Propylene Glycol (25% or less)	2396	NI	0	0	R	0	NI	0	0	(1)	0	1			D	1
Stabilized Yeast Extract Solution	3631		**RTECS No**						**CAS No**		8013-01-2					
Zinc alkaryl dithiophosphate (C7-C16) (LOA)	1977	0	NI	0	NR	3	NI	0	0	(0)	(0)	(0)			Fp	2
Zinc alkaryl dithiophosphate (C7-C16)	745		**RTECS No**						**CAS No**							
Zinc alkenylcarboxamide (LOA)	2053	NI	0	0	NR	0	NI	0	0	(1)	1	(1)			Fp	2
Zinc alkenyl carboxamide	746		**RTECS No**						**CAS No**							
Zinc alkyl dithiophosphate	1428	5	NI	5	NR	3	NI	0	0	0	2	2			S	2
Zinc alkyl dithiophosphate (C3-C14)	747		**RTECS No**						**CAS No**							
Zinc bromide solutions	2227	Inorg	4	4	Inorg	3	NI	1	(2)	(3)	3B	3	S		D	3
Zinc bromide solutions	2617		**RTECS No**						**CAS No**							
Zinc chloride	1425	Inorg	4	4	Inorg	4	1	(1)	(1)	(3)	(3)	(3)			D	3
Zinc chloride	2869		**RTECS No**		ZH1400000				**CAS No**		7646-85-7					
Zinc chloride	1425	Inorg	4	4	Inorg	4	1	(1)	(1)	(3)	(3)	(3)			D	3
Drilling brines (containing zinc salts)	307		**RTECS No**		ZH1400000				**CAS No**		7646-85-7					

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ANNEX 7

GESAMP REPORTS AND STUDIES NO.64 REVIEW

CEFIC comments on Inhalation Toxicity (C3)

In Section 4.3.1.1 in table 7 of GESAMP Report & Studies No.64 the heading for column C3 indicates that the values listed are for vapours. The values for aerosols are different. This is explained in section 4.3.1.2 point no.5: "GESAMP will evaluate data on substances known to form mists, dusts and gasses on a case by case basis, bearing the cut-off values contained in the GHS in mind."

These different thresholds are illustrated in following table:

Exposure route	**Category 1**	**Category 2**	**Category 3**	**Category 4**	**Category 5**
Vapours (mg/l) *See notes (a), (b), (c), (d) and (e)*	0.5	2.0	10	20	See detailed criteria in Note (g)
Dusts and Mists (mg/l) *See notes (a), (b), (c) and (f)*	0.05	0.5	1.0	5	

For aerosols, GHS thresholds are lower by up to a factor of 10.

It would be appreciated, if GESAMP could consider amending section 4.3 to elaborate on this issue and accordingly, then resolve the problem a number of substances are being confronted with when gas or vapour effects could not be produced at all.

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ANNEX 8

DRAFT WORK PROGRAMME FOR THE FIFTY-FIRST SESSION OF THE GESAMP/EHS WORKING GROUP

1 Adoption of the agenda

2 Matters arising from IMO and other Organizations relevant to the activities of the Working Group

3 Evaluation of new substances

4 Correspondence with industry

5 Consolidation of data files

6 Communication and publication

- GESAMP Reports and Studies No.64
- Read across in chemical hazard evaluation
- GHS classification of floating substances

7 Any other business

- Membership issues
- Review of funding arrangements