

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

OilPerm A&B Blend

Revision Date: 25-Sep-2013

Revision Number: 3

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product Name OilPerm A&B Blend

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Surfactant
Sector of use SU2 - Mining, (including offshore industries)
Product category PC20 - Products such as pH-regulators, flocculants, precipitants, neutralization agents, other unspecific
Process categories PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises

1.3 Details of the supplier of the safety data sheet

Halliburton Energy Services
Halliburton House, Howemoss Place
Kirkhill Industrial Estate
Dyce
Aberdeen, AB21 0GN
United Kingdom

Emergency Phone Number: +44 1224 795277 or +1 281 575 5000

www.halliburton.com

For further information, please contact

E-Mail address: fdunexchem@halliburton.com

1.4 Emergency telephone number

+44 1224 795277 or +1 281 575 5000

| Emergency telephone - §45 - (EC)1272/2008 | |
|---|---|
| Europe | 112 |
| Denmark | Poison Control Hotline (DK): +45 82 12 12 12 |
| France | ORFILA (FR): + 01 45 42 59 59 |
| Germany | Poison Center Berlin (DE): +49 030 30686 790 |
| Italy | Poison Center, Milan (IT): +39 02 6610 1029 |
| Netherlands | National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals) |
| Norway | Poisons Information (NO):+ 47 22 591300 |
| Poland | Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97 |
| Spain | Poison Information Service (ES): +34 91 562 04 20 |
| United Kingdom | NHS Direct (UK): +44 0845 46 47 |

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

| | |
|-------------------------------------|-------------------|
| Skin Corrosion / irritation | Category 2 - H315 |
| Serious Eye Damage / Eye Irritation | Category 1 - H318 |
| Skin Sensitization | Category 1 - H317 |

| | |
|--------------------------|-------------------|
| Carcinogenicity | Category 2 - H351 |
| Acute Aquatic Toxicity | Acute 1 - H400 |
| Chronic Aquatic Toxicity | Chronic 1 - H410 |
| Flammable liquids. | Category 2 - H225 |

Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R-phrases mentioned in this Section, see Section 16

Classification Flammable
 Xn - Harmful.
 N - Dangerous For The Environment.

Risk Phrases R10 Flammable.
 R38 Irritating to skin.
 R41 Risk of serious damage to eyes.
 R43 May cause sensitization by skin contact.
 R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2 Label Elements**Hazard Pictograms****Signal Word****Danger****Hazard Statements**

H225 - Highly flammable liquid and vapor
 H318 - Causes serious eye damage
 H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H351 - Suspected of causing cancer

Precautionary Statements - EU (§28, 1272/2008)

P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P370 + P 378 - In case of fire: Use CO2, dry chemical, or foam
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P310 - Immediately call a POISON CENTER or doctor/physician
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 P332 + P313 - If skin irritation occurs: Get medical advice/attention

Contains

Substances
 Ethanol

CAS Number
 64-17-5

| | |
|---|-------------|
| Citrus, extract | 94266-47-4 |
| Terpenes and Terpenoids, sweet orange-oil | 68647-72-3 |
| Isopropanol | 67-63-0 |
| Heavy aromatic petroleum naphtha | 64742-94-5 |
| Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched | 127087-87-0 |
| Naphthalene | 91-20-3 |
| 1,2,4 Trimethylbenzene | 95-63-6 |

2.3 Other Hazards

None known

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Substances | EINECS | CAS Number | PERCENT (w/w) | EEC Classification | EU - CLP Substance Classification | REACH No. |
|--|-----------|-------------|---------------|--|--|-------------------|
| Ethanol | 200-578-6 | 64-17-5 | 10 - 30% | F; R11 | Flam. Liq. 2 (H225) | No data available |
| Citrus, extract | 304-454-3 | 94266-47-4 | 5 - 10% | R10 Xi; R38-43 Xn; R65 N; R50/53 | Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) Skin Sens. 1 (H317) Aquatic Acute 3 (H402) Aquatic Chronic 3 (H412) Flam. Liq. 3 (H226) | 01-21119493353-35 |
| Terpenes and Terpenoids, sweet orange-oil | 232-433-8 | 68647-72-3 | 5 - 10% | R10 Xn; R65 Xi; R38-R43 N;50/53 | Asp. Tox. 1 (H304) Skin Irrit. 2 (H315) Skin Sens. 1 (H317) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) Flam. Liq. 3 (H226) | No data available |
| Isopropanol | 200-661-7 | 67-63-0 | 5 - 10% | F; R11 Xi; R36 R67 | Eye Irrit. 2 (H319) STOT SE 3 (H336) Flam. Liq. 2 (H225) | 01-2119457558-25 |
| Heavy aromatic petroleum naphtha | 265-198-5 | 64742-94-5 | 1 - 5% | Xn; R65 | Asp. Tox. 1 (H304) | No data available |
| Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched | 500-315-8 | 127087-87-0 | 1 - 5% | Xn; R22 Xi; R38-41 N: R51/53 | Acute Tox 4 (H302) Eye Damage 1 (H318) Skin Irrit. 2 (H315) | No data available |
| Naphthalene | 202-049-5 | 91-20-3 | 0 - 1% | Carc.Cat.3; R40 Xn; R22 N; R50-53 | Acute Tox. 4 (H302) Carc. 2 (H351) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410) | No data available |
| 1,2,4 Trimethylbenzene | 202-436-9 | 95-63-6 | 0 - 1% | R10 Xn; R20 Xi; R36/37/38 N; R51-53 | Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335) Aquatic Chronic 2 (H411) Flam. Liq. 3 (H226) | No data available |

For the full text of the R-phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES**4.1 Description of first aid measures****Inhalation**

If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.

Eyes

Check for and remove contact lenses if present. In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

Skin

In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.

Ingestion

Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person. Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration.

4.2 Most important symptoms and effects, both acute and delayed

May cause severe eye irritation. May cause skin irritation. May cause allergic skin reaction. May be harmful if swallowed. Potential carcinogen.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

5. FIREFIGHTING MEASURES

5.1 Extinguishing media**Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2 Special hazards arising from the substance or mixture**Special Exposure Hazards**

May be ignited by heat, sparks or flames. Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. Decomposition in fire may produce toxic gases.

5.3 Advice for firefighters**Special Protective Equipment for Fire-Fighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Wear self-contained breathing apparatus in enclosed areas. See Section 12 for additional information

6.2 Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3 Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Remove ignition sources and work with non-sparking tools. Scoop up and remove. Contain spill with sand or other inert materials.

6.4 Reference to other sections

See Section 12 for additional information.

7. HANDLING AND STORAGE

7.1 Precautions for Safe Handling

Ground and bond containers when transferring from one container to another. Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Avoid breathing mist. Wash hands after use. Launder contaminated clothing before reuse.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

7.2 Conditions for safe storage, including any incompatibilities

Store away from oxidizers. Keep from heat, sparks, and open flames. Keep container closed when not in use. Terpene containing products should be stored in phenolic-lined metal, stainless steel, PET, or fluorinated plastic containers. Product has a shelf life of 24 months.

7.3 Specific End Use(s)

Exposure Scenario No information available

Other Guidelines No information available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters**Exposure Limits**

| Substances | CAS Number | EU | UK OEL | Netherlands | France OEL |
|-----------------|------------|----------------|--|--|----------------|
| Ethanol | 64-17-5 | Not applicable | STEL: 3000 ppm STEL: 5760 mg/m ³ TWA: 1000 ppm TWA: 1920 mg/m ³ | TWA: 260 mg/m ³ STEL: 1900 mg/m ³ | 100 ppm |
| Citrus, extract | 94266-47-4 | Not applicable | Not applicable | Not applicable | Not applicable |

| | | | | | |
|---|-------------|----------------|---|---|----------------|
| Terpenes and Terpenoids, sweet orange-oil | 68647-72-3 | Not applicable | Not applicable | Not applicable | Not applicable |
| Isopropanol | 67-63-0 | Not applicable | STEL: 500 ppm STEL: 1250 mg/m ³ TWA: 400 ppm TWA: 999 mg/m ³ | Not applicable | Not applicable |
| Heavy aromatic petroleum naphtha | 64742-94-5 | Not applicable | Not applicable | Not applicable | Not applicable |
| Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-ome ga-hydroxy-, branched | 127087-87-0 | Not applicable | Not applicable | Not applicable | Not applicable |
| Naphthalene | 91-20-3 | Not applicable | 10 ppm | TWA: 50 mg/m ³ STEL: 80 mg/m ³ | 10 ppm |
| 1,2,4 Trimethylbenzene | 95-63-6 | Not applicable | 25 ppm | TWA: 100 mg/m ³ STEL: 200 mg/m ³ | 20 ppm |

| Substances | CAS Number | Germany MAK/TRK | Spain | Portugal | Finland |
|---|-------------|--|--|-------------------------------|--|
| Ethanol | 64-17-5 | TWA: 500 ppm TWA: 960 mg/m ³ MAK: 500 ppm MAK: 960 mg/m ³ | VLA-ED: 1000 ppm VLA-ED: 1910 mg/m ³ | TWA: 1000 ppm | STEL: 1300 ppm STEL: 2500 mg/m ³ TWA: 1000 ppm TWA: 1900 mg/m ³ |
| Citrus, extract | 94266-47-4 | Not applicable | Not applicable | Not applicable | Not applicable |
| Terpenes and Terpenoids, sweet orange-oil | 68647-72-3 | Not applicable | Not applicable | Not applicable | Not applicable |
| Isopropanol | 67-63-0 | TWA: 200 ppm TWA: 500 mg/m ³ MAK: 200 ppm MAK: 500 mg/m ³ | 500 ppm VLA-EC; 1250 mg/m ³ VLA-EC VLA-ED: 400 ppm VLA-ED: 998 mg/m ³ | STEL: 400 ppm TWA: 200 ppm | STEL: 250 ppm STEL: 620 mg/m ³ TWA: 200 ppm TWA: 500 mg/m ³ |
| Heavy aromatic petroleum naphtha | 64742-94-5 | Not applicable | Not applicable | Not applicable | Not applicable |
| Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-ome ga-hydroxy-, branched | 127087-87-0 | Not applicable | Not applicable | Not applicable | Not applicable |
| Naphthalene | 91-20-3 | 10 ppm | 15 ppm VLA-EC; 80 mg/m ³ VLA-EC VLA-ED: 10 ppm VLA-ED: 53 mg/m ³ | STEL: 15 ppm TWA: 10 ppm | STEL: 2 ppm STEL: 10 mg/m ³ TWA: 1 ppm TWA: 5 mg/m ³ |
| 1,2,4 Trimethylbenzene | 95-63-6 | TWA: 20 ppm TWA: 100 mg/m ³ MAK: 20 ppm MAK: 100 mg/m ³ | VLA-ED: 20 ppm VLA-ED: 100 mg/m ³ | TWA: 25 ppm | TWA: 20 ppm TWA: 100 mg/m ³ |

| Substances | CAS Number | Austria | Ireland | Switzerland | Norway |
|---|-------------|----------------|----------------|----------------|---|
| Ethanol | 64-17-5 | Not applicable | Not applicable | Not applicable | STEL: 625 ppm STEL: 1187.5 mg/m ³ TWA: 500 ppm TWA: 950 mg/m ³ |
| Citrus, extract | 94266-47-4 | Not applicable | Not applicable | Not applicable | Not applicable |
| Terpenes and Terpenoids, sweet orange-oil | 68647-72-3 | Not applicable | Not applicable | Not applicable | Not applicable |
| Isopropanol | 67-63-0 | Not applicable | Not applicable | Not applicable | STEL: 150 ppm STEL: 306.25 mg/m ³ TWA: 100 ppm TWA: 245 mg/m ³ |
| Heavy aromatic petroleum naphtha | 64742-94-5 | Not applicable | Not applicable | Not applicable | Not applicable |
| Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-ome ga-hydroxy-, branched | 127087-87-0 | Not applicable | Not applicable | Not applicable | Not applicable |
| Naphthalene | 91-20-3 | Not applicable | Not applicable | Not applicable | STEL: 20 ppm STEL: 75 mg/m ³ TWA: 10 ppm TWA: 50 mg/m ³ |
| 1,2,4 Trimethylbenzene | 95-63-6 | Not applicable | Not applicable | Not applicable | STEL: 30 ppm STEL: 150 mg/m ³ TWA: 20 ppm TWA: 100 mg/m ³ |

| Substances | CAS Number | Italy | Poland | Hungary | Czech Republic |
|-----------------|------------|----------------|-----------------------------|---|-----------------------------|
| Ethanol | 64-17-5 | Not applicable | NDS: 1900 mg/m ³ | TWA: 1900 mg/m ³ STEL: 7600 mg/m ³ | TWA: 1000 mg/m ³ |
| Citrus, extract | 94266-47-4 | Not applicable | Not applicable | Not applicable | Not applicable |

| | | | | | |
|--|-------------|---|---|--|----------------------------|
| Terpenes and Terpenoids, sweet orange-oil | 68647-72-3 | Not applicable | Not applicable | Not applicable | Not applicable |
| Isopropanol | 67-63-0 | Not applicable | NDSch: 1200 mg/m ³ NDS: 900 mg/m ³ | TWA: 500 mg/m ³ STEL: 2000 mg/m ³ | TWA: 500 mg/m ³ |
| Heavy aromatic petroleum naphtha | 64742-94-5 | Not applicable | Not applicable | Not applicable | Not applicable |
| Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched | 127087-87-0 | Not applicable | Not applicable | Not applicable | Not applicable |
| Naphthalene | 91-20-3 | Not applicable | NDSch: 50 mg/m ³ NDS: 20 mg/m ³ | TWA: 50 mg/m ³ | TWA: 50 mg/m ³ |
| 1,2,4 Trimethylbenzene | 95-63-6 | TWA: 20 ppm TWA: 100 mg/m ³ | NDSch: 170 mg/m ³ NDS: 100 mg/m ³ | TWA: 100 mg/m ³ | TWA: 100 mg/m ³ |

| Substances | CAS Number | Denmark |
|--|-------------|---|
| Ethanol | 64-17-5 | TWA: 1000 ppm TWA: 1900 mg/m ³ |
| Citrus, extract | 94266-47-4 | Not applicable |
| Terpenes and Terpenoids, sweet orange-oil | 68647-72-3 | 25 ppm |
| Isopropanol | 67-63-0 | TWA: 200 ppm TWA: 490 mg/m ³ |
| Heavy aromatic petroleum naphtha | 64742-94-5 | Not applicable |
| Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched | 127087-87-0 | Not applicable |
| Naphthalene | 91-20-3 | TWA: 10 ppm TWA: 50 mg/m ³ |
| 1,2,4 Trimethylbenzene | 95-63-6 | TWA: 20 ppm TWA: 100 mg/m ³ |

**Derived No Effect Level (DNEL)
Worker**

No information available.

General Population

Predicted No Effect Concentration (PNEC)

No information available.

8.2 Exposure controls

Engineering Controls

Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

Personal protective equipment

Respiratory Protection

If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional.

Organic vapor respirator.

In high concentrations, supplied air respirator or a self-contained breathing apparatus.

Hand Protection

Nitrile gloves. Impervious rubber gloves.

Skin Protection

Rubber apron.

Eye Protection

Chemical goggles; also wear a face shield if splashing hazard exists.

Other Precautions

Eyewash fountains and safety showers must be easily accessible.

Environmental Exposure Controls

No information available

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical State: Liquid

Color: Light amber

Odor: Citrus

Odor Threshold: No information available

Property

Values

Remarks/ - Method

pH:

7.85

Freezing Point/Range

No information available.

Melting Point/Range

No data available

Boiling Point/Range

No data available

Flash Point

17.5 °C PMCC

Evaporation rate

No data available

| | |
|--|--------------------------|
| Vapor Pressure | No data available |
| Vapor Density | No data available |
| Specific Gravity | 0.91 |
| Water Solubility | No data available |
| Solubility in other solvents | No data available |
| Partition coefficient: n-octanol/water | No data available |
| Autoignition Temperature | No data available |
| Decomposition Temperature | No data available |
| Viscosity | No data available |
| Explosive Properties | No information available |
| Oxidizing Properties | No information available |

9.2 Other information

| | |
|-----------------|-------------------|
| VOC Content (%) | No data available |
|-----------------|-------------------|

10. STABILITY AND REACTIVITY

10.1 Reactivity

Not applicable

10.2 Chemical Stability

Stable

10.3 Possibility of Hazardous Reactions

Will Not Occur

10.4 Conditions to Avoid

Keep away from heat, sparks and flame.

10.5 Incompatible Materials

Iodine pentafluorethylene Strong acids. Strong alkalis. Strong oxidizers.

10.6 Hazardous Decomposition Products

Carbon monoxide and carbon dioxide. Oxides of nitrogen.

11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects**Acute Toxicity****Inhalation**

May cause respiratory irritation. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.

Eye Contact

May cause severe eye irritation.

Skin Contact

May cause skin irritation. May cause skin defatting with prolonged exposure. May cause an allergic skin reaction. May be absorbed through the skin and produce effects similar to those caused by inhalation and/or ingestion.

Ingestion

Irritation of the mouth, throat, and stomach. May cause abdominal pain, vomiting, nausea, and diarrhea. May cause central nervous system depression including headache, dizziness, drowsiness, muscular weakness, incoordination, slowed reaction time, fatigue blurred vision, slurred speech, giddiness, tremors and convulsions. Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

Chronic Effects/Carcinogenicity Repeated overexposure may cause liver and kidney effects.

The International Agency for Research on Cancer (IARC) has evaluated naphthalene and determined it to be a possible carcinogen to humans (Group 2B, based on sufficient evidence in experimental animals and inadequate evidence in humans).

Toxicology data for the components

| Substances | CAS Number | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|------------|--------------------|-------------------|------------------------|
| Ethanol | 64-17-5 | 7060 mg/kg (Rat) | No data available | 124.7 mg/L (Rat) 4 h |
| Citrus, extract | 94266-47-4 | > 5000 mg/kg | No data available | No data available |
| Terpenes and Terpenoids, sweet orange-oil | 68647-72-3 | No data available | No data available | No data available |

| | | | | |
|--|-------------|--|---|-----------------------------------|
| Isopropanol | 67-63-0 | 4396 mg/kg (Rat) 3600 mg/kg (mouse) | 12800 mg/kg (Rat) 12870 mg/kg (Rabbit) | 72.6 mg/L (Rat) 4 h |
| Heavy aromatic petroleum naphtha | 64742-94-5 | 5000 mg/kg (Rat) | 2000 mg/kg (Rabbit) | 590 mg/m ³ (Rat) 4 h |
| Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched | 127087-87-0 | 1310 mg/kg (Rat) | LD50: > 2500 mg/kg | No data available |
| Naphthalene | 91-20-3 | 490 mg/kg (Rat) | 2500 mg/kg (Rat) 20 g/kg (Rabbit) 1120 mg/kg (Rabbit) | 340 mg/m ³ (Rat) 1 h |
| 1,2,4 Trimethylbenzene | 95-63-6 | 3400 mg/kg (Rat) 8970 mg/kg (Rat) | 3160 mg/kg (Rabbit) | 18 g/m ³ (Rat) 4 h |

12. ECOLOGICAL INFORMATION

12.1 Toxicity Ecotoxicity Effects

| Substances | CAS Number | Toxicity to Algae | Toxicity to Fish | Toxicity to Microorganisms | Daphnia Magna (Water Flea) |
|--|-------------|--|--|----------------------------|--|
| Ethanol | 64-17-5 | No information available | LC50: > 100 mg/L (Pimephales promelas) | No information available | LC50: 9268 - 14221 mg/L (Daphnia magna) |
| Citrus, extract | 94266-47-4 | EC50: 20.41 mg/l (Skeletonema costatum) | LC50: >1000 mg/l (Scophthalmus maximus) | No information available | LC50: 34.73 mg/l (Acartia tonsa) |
| Terpenes and Terpenoids, sweet orange-oil | 68647-72-3 | No information available | No information available | No information available | No information available |
| Isopropanol | 67-63-0 | EC50: > 1000 mg/l (Desmodesmus subspicatus) | LC50: 9640 mg/l (Pimephales promelas) | No information available | EC50: 13299 mg/l (Daphnia magna) |
| Heavy aromatic petroleum naphtha | 64742-94-5 | EC50: < 1 mg/l (Skeletonema costatum) | LC50: 2.34 mg/L (Oncorhynchus mykiss) LC50: 41 mg/L (Pimephales promelas) LC50: 0.84 mg/L (Oncorhynchus mykiss) | No information available | EC50: 0.95 mg/L (Daphnia magna) EC50: 0.55 mg/L (Daphnia magna) |
| Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched | 127087-87-0 | No information available | No information available | No information available | No information available |
| Naphthalene | 91-20-3 | EC50: 0.4 mg/L (Skeletonema costatum) | 5.74-6.44 mg/L (Pimephales promelas) 1.2 mg/L (Oncorhynchus gorbuscha) | No information available | LC50: 2.16 mg/L (Daphnia magna) |
| 1,2,4 Trimethylbenzene | 95-63-6 | No information available | LC50: 7.19-8.28 mg/L (Pimephales promelas) | No information available | EC50: 6.14 mg/L (Daphnia magna) |

12.2 Persistence and degradability

No information available

12.3 Bioaccumulative potential

No information available

| Substances | Log Pow |
|----------------------------------|-----------|
| Ethanol | -0.32 |
| Citrus, extract | 4.23 |
| Heavy aromatic petroleum naphtha | 2.9 - 6.1 |
| Naphthalene | 3.28 |
| 1,2,4 Trimethylbenzene | 3.42 |

12.4 Mobility in soil

No information available

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Other adverse effects

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Disposal Method

Disposal should be made in accordance with federal, state, and local regulations.

Contaminated Packaging

Follow all applicable national or local regulations.

14. TRANSPORT INFORMATION

IMDG/IMO

UN Number: UN1993,
 UN Proper Shipping Name: Flammable Liquid, N.O.S.
 Transport Hazard Class(es): , 3
 Packing Group: , II
 EMS: EmS F-E, S-E

RID

UN Number: UN1993,
 UN Proper Shipping Name: Flammable Liquid, N.O.S.
 Transport Hazard Class(es): , 3
 Packing Group: , II

ADR

UN Number: UN1993,
 UN Proper Shipping Name: Flammable Liquid, N.O.S.
 Transport Hazard Class(es): , 3
 Packing Group: , II

IATA/ICAO

UN Number: UN1993,
 UN Proper Shipping Name: Flammable Liquid, N.O.S.
 Transport Hazard Class(es): , 3
 Packing Group: , II

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

All of the components in the product are on the following Inventory lists: All of the components in the product are on the following Inventory lists:.

EINECS Inventory This product does not comply with EINECS
US TSCA Inventory All components listed on inventory or are exempt.
Canadian DSL Inventory All components listed on inventory or are exempt.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

Germany, Water Endangering Classes (WGK)

WGK 2: Hazard to waters.

15.2 Chemical Safety Assessment

No information available

16. OTHER INFORMATION**Full text of R-phrases referred to under Sections 2 and 3**

R10 Flammable.

R38 Irritating to skin.

R41 Risk of serious damage to eyes.

R43 May cause sensitization by skin contact.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Key literature references and sources for datawww.ChemADVISOR.com/**Revision Date:** 25-Sep-2013**Revision Note**

Not applicable

This safety data sheet complies with the requirements of Regulation (EC) No. 453/2010**Disclaimer Statement**

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End of Safety Data Sheet