# SAFETY DATA SHEET

# Octamar™ ecopower

## SECTION 1: Identification of the substance/mixture and of the company/ undertaking

### 1.1 Product identifier

| | | |
|---|---|---|
| **Product name** | : | Octamar™ ecopower |
| **Product code** | : | VG-001401 |
| **Internal code** | : | VG-001401 |
| **Date of issue/ Date of revision** | : | 3/12/2024 |
| **Date of previous issue** | : | 3/11/2024 |
| **Version** | : | 2.06 |
| **Product description** | : | Mixture |
| **Physical state** | : | Liquid. |
| **Chemical identity** | : | Not available. |

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

**Identified uses**

Petrochemical industry: Fuel additive.

### 1.3 Details of the supplier of the safety data sheet

| | | |
|---|---|---|
| **UK Supplier** | : | Innospec Limited<br>Innospec Manufacturing Park<br>Oil Sites Road, Ellesmere Port<br>Cheshire CH65 4EY<br>United Kingdom |
| **Telephone no.:** | : | +44 (0)151 355 3611 |
| **Fax no.** | : | +44 (0)151 356 2349 |
| **e-mail address of person responsible for this SDS** | : | sdsinfo@innospecinc.com |
| **EU Supplier** | : | Innospec Limited<br>Boite Postale 19, F-55300 St. Mihiel<br>Han-sur-Meuse, Meuse, France<br>+ 33 3 2991 7300 |

### 1.4 Emergency telephone number

**In Europe, Middle East, Africa, Asia Pacific and South America 24 hour / 7 day emergency response for our products is provided by the NCEC CARECHEM 24 global network**

The main regional centres are listed here in Section 1. Other local contact numbers for specific language support in Asia Pacific are listed in Section 16.

| Country information | | Emergency telephone number | Location |
|---|---|---|---|
| **Europe ( all countries, all languages )** | : | +44 (0) 1235 239 670 | London, UK |

## SECTION 1: Identification of the substance/mixture and of the company/ undertaking

| | | |
|---|---|---|
| **Middle East, Africa ( Arabic, French, English , Portuguese, Farsi)** | : +44 (0) 1235 239 671 | London, UK |
| **Asia Pacific ( all countries except China )** | : +65 3158 1074 | Singapore |
| **China** | : 400 120 6011 | Beijing China |
| **Brazil** | : +55 11 3197 5891 | Brazil |
| **Mexico** | : +52 555 004 8763 | Mexico |

In USA, Canada and North America, 24 h/7 days of emergency response for our product is provided by the CHEMTREC(R) Emergency Call Center based in the USA.

| | |
|---|---|
| **Country information** | : **Emergency telephone number** |
| **USA** | : 800 424 9300 |
| **Canada, Puerto Rico, Virgin Islands** | : +1 800 424 9300 |
| **In case of difficulty using the toll-free number, or for ships at sea, call** | : +1 703 527 3887 |

See section 16.

Indicates information that has changed from previously issued version.

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

Carc. 2, H351
Repr. 1B, H360FD
STOT SE 3, H336
Asp. Tox. 1, H304
Aquatic Chronic 1, H410

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Hazard pictograms** :

**Signal word** : Danger

**Hazard statements** :
H304 - May be fatal if swallowed and enters airways.
H336 - May cause drowsiness or dizziness.
H351 - Suspected of causing cancer.
H360FD - May damage fertility. May damage the unborn child.
H410 - Very toxic to aquatic life with long lasting effects.

**Supplemental label elements** : Contains Amines, polyethylenepoly-, tetraethylenepentamine fraction and maleic anhydride. May produce an allergic reaction.

**Precautionary statements**

**General** :
P103 - Read carefully and follow all instructions.
P102 - Keep out of reach of children.
P101 - If medical advice is needed, have product container or label at hand.

## SECTION 2: Hazards identification

**Prevention** : P201 - Obtain special instructions before use.
P280 - Wear protective gloves, protective clothing, eye protection, face protection, or hearing protection.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P261 - Avoid breathing vapour.

**Response** : P391 - Collect spillage.
P308 + P313 - IF exposed or concerned: Get medical advice or attention.
P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell.
P301 + P310, P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting.

**Storage** : P405 - Store locked up.
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

**Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Hazardous ingredients** : Hydrocarbons C10, Aromatics, <1% Naphthalene, [Solvent naphtha (petroleum), heavy arom.]; Hydrocarbons, C10, aromatics, >1% naphthalene [Solvent naphtha (petroleum), heavy arom.]; dicyclopentadienyl iron and naphthalene

**Special packaging requirements**

**Containers to be fitted with child-resistant fastenings** : Yes, applicable.

**Tactile warning of danger** : Yes, applicable.

### 2.3 Other hazards

**Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

**Other hazards which do not result in classification** : None known.

## SECTION 3: Composition/information on ingredients

**3.2 Mixtures** : Mixture

| Product/ingredient name | Identifiers | % | Classification | Specific Conc. Limits, M-factors and ATEs | Type |
|---|---|---|---|---|---|
| Hydrocarbons C10, Aromatics, <1% Naphthalene, [Solvent naphtha (petroleum), heavy arom.] | REACH #: 01-2119463583-34<br>EC: 918-811-1<br>CAS: 64742-94-5<br>Index: 649-424-00-3 | ≥25 - ≤50 | STOT SE 3, H336<br>Asp. Tox. 1, H304<br>Aquatic Chronic 2, H411<br>EUH066 | - | [1] [2] |
| 2-ethylhexyl nitrate | REACH #: 01-2119539586-27<br>EC: 248-363-6<br>CAS: 27247-96-7 | ≥10 - <15 | Acute Tox. 4, H302<br>Acute Tox. 4, H312<br>Acute Tox. 4, H332<br>Aquatic Chronic 2, H411<br>EUH044<br>EUH066 | ATE [Oral] = 500 mg/kg<br>ATE [Dermal] = 1100 mg/kg<br>ATE [Inhalation (vapours)] = 11 mg/l<br>EUH044: C ≥ 15% | [1] [2] |
| Hydrocarbons, C10, aromatics, >1% naphthalene [Solvent naphtha (petroleum), heavy arom.] | REACH #: 01-2119463588-24<br>EC: 919-284-0<br>CAS: 64742-94-5 | ≥10 - ≤25 | STOT SE 3, H336<br>Asp. Tox. 1, H304<br>Aquatic Chronic 2, H411<br>EUH066 | - | [1] [2] |
| Camphor | REACH #: 01-2119966156-31 | ≤5 | Flam. Sol. 2, H228<br>Acute Tox. 4, H302 | ATE [Oral] = 500 mg/kg | [1] |

## SECTION 3: Composition/information on ingredients

| | | | | | |
|---|---|---|---|---|---|
| | EC: 200-945-0<br>CAS: 76-22-2 | | Acute Tox. 4, H332<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>STOT SE 2, H371 | ATE [Inhalation (vapours)] = 11 mg/l | |
| dicyclopentadienyl iron | REACH #: 01-2119978280-34<br>EC: 203-039-3<br>CAS: 102-54-5 | ≤2.8 | Flam. Sol. 1, H228<br>Acute Tox. 4, H302<br>Acute Tox. 4, H332<br>Repr. 1B, H360FD (oral)<br>STOT RE 2, H373 (liver) (oral, inhalation)<br>Aquatic Chronic 1, H410 | ATE [Oral] = 1320 mg/kg<br>ATE [Inhalation (vapours)] = 11 mg/l<br>M [Chronic] = 10 | [1] |
| naphthalene | EC: 202-049-5<br>CAS: 91-20-3<br>Index: 601-052-00-2 | ≤1.9 | Acute Tox. 4, H302<br>Carc. 2, H351<br>Aquatic Acute 1, H400<br>Aquatic Chronic 1, H410 | ATE [Oral] = 490 mg/kg<br>M [Acute] = 1<br>M [Chronic] = 1 | [1] [2] |
| Amines, polyethylenepoly-, tetraethylenepentamine fraction | REACH #: 01-2119487290-37<br>EC: 203-986-2<br>CAS: 112-57-2<br>Index: 612-060-00-0 | ≤0.3 | Acute Tox. 4, H302<br>Acute Tox. 4, H312<br>Skin Corr. 1B, H314<br>Eye Irrit. 2, H319<br>Skin Sens. 1, H317<br>Aquatic Chronic 2, H411 | ATE [Oral] = 500 mg/kg<br>ATE [Dermal] = 1260 mg/kg | [1] |
| maleic anhydride | REACH #: 01-2119472428-31<br>EC: 203-571-6<br>CAS: 108-31-6<br>Index: 607-096-00-9 | <0.001 | Acute Tox. 4, H302<br>Skin Corr. 1B, H314<br>Eye Dam. 1, H318<br>Resp. Sens. 1, H334<br>Skin Sens. 1A, H317<br>STOT RE 1, H372 (respiratory system) (inhalation)<br>EUH071<br>**See Section 16 for the full text of the H statements declared above.** | ATE [Oral] = 400 mg/kg<br>Skin Sens. 1, H317: C ≥ 0.001% | [1] |

### Additional CAS # used in National Inventories

| | | |
|---|---|---|
| Solvent naphtha (petroleum), heavy arom. | - | 64742-94-5 |
| 2-ethylhexyl nitrate | - | 27247-96-7 |
| Solvent naphtha (petroleum), heavy arom. | - | 64742-94-5 |
| Camphor | - | 76-22-2 |
| dicyclopentadienyl iron | - | 102-54-5 |
| naphthalene | - | 91-20-3 |
| Polyalkylenepolyamine | - | 112-57-2 |

### Additional information

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

# SECTION 3: Composition/information on ingredients

Our REACH (pre-) registrations DO NOT cover the following:
1. The manufacture of these products by our company outside the EU unless covered by the Only Representative provisions, and
2. The importation of these products into Europe by other companies. Re-importation by other companies is not covered by our (pre-) registrations
Customers and other third parties importing and/or re-importing our products into Europe will need either:
- Their own (pre-) registration for substances contained in the imported product, or constituent monomers (imported above 1 tonne per year and >2% by weight) in the case of imported polymers, or
- In the case of importation only, to make use of the "Only Representative" provisions, if available.

# SECTION 4: First aid measures

## 4.1 Description of first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : Get medical attention immediately. Call a poison center or physician. Remove dentures if any. Wash out mouth with water. Stop if the exposed person feels sick as vomiting may be dangerous. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

## 4.2 Most important symptoms and effects, both acute and delayed

### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

### Over-exposure signs/symptoms

**Eye contact** : No specific data.

**Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced foetal weight

## SECTION 4: First aid measures

increase in foetal deaths
skeletal malformations

**Skin contact** : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

**Ingestion** : Adverse symptoms may include the following:
nausea or vomiting
reduced foetal weight
increase in foetal deaths
skeletal malformations

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

### 5.2 Special hazards arising from the substance or mixture

**Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
metal oxide/oxides

### 5.3 Advice for firefighters

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Fight fire from protected location or maximum possible distance. Cool containing vessels with flooding quantities of water until well after fire is out.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

## SECTION 6: Accidental release measures

**6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### 6.3 Methods and material for containment and cleaning up

**Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

**6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not swallow. Avoid breathing vapour or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### 7.2 Conditions for safe storage, including any incompatibilities

**Storage** : Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

: Storage Temperature: Ambient.

### 7.3 Specific end use(s)

**Recommendations** : Not available.

**Industrial sector specific solutions** : Not available.

# SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

## 8.1 Control parameters

### Occupational exposure limits

| Product/ingredient name | Exposure limit values |
|---|---|
| Solvent naphtha (petroleum), heavy arom. | **Supplier/Manufacturer (Europe, 2015).**<br>EU HSPA (RCP Aromatic solvents 180 - 215): 151 mg/m³ 8 hours. |
| 2-ethylhexyl nitrate | **Innospec Inc. (Europe, 1/2013). Absorbed through skin.**<br>TWA: 1 ppm 8 hours.<br>STEL: 1 ppm 15 minutes. |
| Solvent naphtha (petroleum), heavy arom. | **Supplier/Manufacturer (Europe, 2015).**<br>EU HSPA (RCP Aromatic solvents 180 - 215): 151 mg/m³ 8 hours. |
| Camphor | **EH40/2005 WELs (United Kingdom (UK), 1/2020).**<br>STEL: 19 mg/m³ 15 minutes.<br>STEL: 3 ppm 15 minutes.<br>TWA: 2 ppm 8 hours.<br>TWA: 13 mg/m³ 8 hours. |
| naphthalene | **EU OEL (Europe, 1/2022). Notes: list of indicative occupational exposure limit values**<br>TWA: 10 ppm 8 hours.<br>TWA: 50 mg/m³, 0 times per shift, 8 hours. |
| 1,2,4-trimethylbenzene | **EH40/2005 WELs (United Kingdom (UK), 1/2020). [trimethylbenzenes, all isomers or mixtures]**<br>TWA: 25 ppm 8 hours.<br>TWA: 125 mg/m³ 8 hours. |
| Reaction mass of ethylbenzene and xylene | **EH40/2005 WELs (United Kingdom (UK), 1/2020). [xylene, o-,m-, p- or mixed isomers] Absorbed through skin.**<br>STEL: 441 mg/m³ 15 minutes.<br>TWA: 50 ppm 8 hours.<br>TWA: 220 mg/m³ 8 hours.<br>STEL: 100 ppm 15 minutes. |
| mesitylene | **EH40/2005 WELs (United Kingdom (UK), 1/2020). [trimethylbenzenes, all isomers or mixtures]**<br>TWA: 25 ppm, 0 times per shift, 8 hours.<br>TWA: 125 mg/m³, 0 times per shift, 8 hours. |
| cumene | **EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.**<br>STEL: 250 mg/m³, 0 times per shift, 15 minutes.<br>STEL: 50 ppm, 0 times per shift, 15 minutes.<br>TWA: 25 ppm, 0 times per shift, 8 hours.<br>TWA: 125 mg/m³, 0 times per shift, 8 hours. |
| maleic anhydride | **EH40/2005 WELs (United Kingdom (UK), 1/2020). Inhalation sensitiser.**<br>STEL: 3 mg/m³ 15 minutes.<br>TWA: 1 mg/m³ 8 hours. |

**Recommended monitoring procedures** : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

### DNELs/DMELs

## SECTION 8: Exposure controls/personal protection

| Product/ingredient name | Type | Exposure | Value | Population | Effects |
|---|---|---|---|---|---|
| Hydrocarbons C10, Aromatics, <1% Naphthalene, [Solvent naphtha (petroleum), heavy arom.] | DNEL | Long term Dermal | 12.5 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Inhalation | 151 mg/m³ | Workers | Systemic |
| | DNEL | Long term Dermal | 7.5 mg/kg bw/day | Consumers | Systemic |
| | DNEL | Long term Inhalation | 32 mg/m³ | Consumers | Systemic |
| | DNEL | Long term Oral | 7.5 mg/kg bw/day | Consumers | Systemic |
| | DNEL | Long term Oral | 2.1 mg/kg bw/day | General population | Systemic |
| | DMEL | Long term Inhalation | 3.25 mg/m³ | Workers | Systemic |
| | DNEL | Long term Inhalation | 10.2 mg/m³ | General population | Systemic |
| | DMEL | Long term Dermal | 23.4 mg/kg bw/day | Workers | Systemic |
| | DMEL | Long term Dermal | 42.4 mg/kg bw/day | General population | Systemic |
| 2-ethylhexyl nitrate | DNEL | Long term Dermal | 1 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Inhalation | 0.35 mg/m³ | Workers | Systemic |
| | DNEL | Long term Dermal | 0.044 mg/cm² | Workers | Local |
| | DNEL | Long term Dermal | 0.52 mg/kg bw/day | General population [Consumers] | Systemic |
| | DNEL | Long term Inhalation | 0.087 mg/m³ | General population [Consumers] | Systemic |
| | DNEL | Long term Oral | 0.025 mg/kg bw/day | General population [Consumers] | Systemic |
| | DNEL | Long term Dermal | 0.022 mg/cm² | General population [Consumers] | Local |
| | DNEL | Long term Oral | 25 µg/kg bw/day | General population | Systemic |
| | DNEL | Long term Inhalation | 87 µg/m³ | General population | Systemic |
| | DNEL | Long term Inhalation | 0.35 mg/m³ | Workers | Systemic |
| | DNEL | Long term Dermal | 0.52 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Dermal | 1 mg/kg bw/day | Workers | Systemic |
| Hydrocarbons, C10, aromatics, >1% naphthalene [Solvent naphtha (petroleum), heavy arom.] | DNEL | Long term Dermal | 12.5 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Inhalation | 151 mg/m³ | Workers | Systemic |
| | DNEL | Long term Dermal | 7.5 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Inhalation | 32 mg/m³ | General population | Systemic |
| | DNEL | Long term Oral | 7.5 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Oral | 0.03 mg/kg bw/day | General population | Systemic |

## SECTION 8: Exposure controls/personal protection

| | | | | | |
|---|---|---|---|---|---|
| | DNEL | Long term Dermal | 0.28 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Inhalation | 0.69 mg/m³ | General population | Local |
| | DNEL | Long term Inhalation | 0.69 mg/m³ | General population | Systemic |
| | DNEL | Long term Dermal | 0.95 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Inhalation | 2.31 mg/m³ | Workers | Local |
| | DNEL | Long term Inhalation | 2.31 mg/m³ | Workers | Systemic |
| | DNEL | Short term Oral | 25.6 mg/kg bw/day | General population | Systemic |
| | DNEL | Short term Inhalation | 143.5 mg/m³ | General population | Local |
| | DNEL | Short term Inhalation | 160.23 mg/m³ | Workers | Local |
| | DNEL | Short term Inhalation | 226 mg/m³ | General population | Systemic |
| | DNEL | Short term Inhalation | 384 mg/m³ | Workers | Systemic |
| Camphor | DNEL | Long term Inhalation | 4.3478 mg/m³ | General population | Systemic |
| | DNEL | Long term Oral | 5 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Dermal | 5 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Dermal | 10 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Inhalation | 17.6316 mg/m³ | Workers | Systemic |
| dicyclopentadienyl iron | DNEL | Long term Inhalation | 0.005 mg/m³ | General population | Systemic |
| | DNEL | Long term Oral | 0.013 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Dermal | 0.013 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Inhalation | 0.02 mg/m³ | Workers | Systemic |
| | DNEL | Long term Dermal | 0.025 mg/kg bw/day | Workers | Systemic |
| | DNEL | Short term Inhalation | 0.04 mg/m³ | Workers | Systemic |
| naphthalene | DNEL | Long term Dermal | 3.57 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Inhalation | 25 mg/m³ | Workers | Systemic |
| | DNEL | Long term Inhalation | 25 mg/m³ | Workers | Local |
| | DNEL | Long term Dermal | 3.57 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Inhalation | 25 mg/m³ | Workers | Local |
| | DNEL | Long term Inhalation | 25 mg/m³ | Workers | Systemic |
| Amines, polyethylenepoly-, tetraethylenepentamine fraction | DNEL | Short term Inhalation | 6940 mg/m³ | Workers | Systemic |
| | DNEL | Long term Dermal | 0.74 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Inhalation | 1.29 mg/m³ | Workers | Systemic |
| | DNEL | Short term Dermal | 10 mg/kg bw/day | General population | Systemic |

## SECTION 8: Exposure controls/personal protection

| | | | | | |
|---|---|---|---|---|---|
| | | | | [Consumers] | |
| | DNEL | Short term Inhalation | 2071 mg/m³ | General population [Consumers] | Systemic |
| | DNEL | Short term Oral | 26 mg/kg bw/day | General population [Consumers] | Systemic |
| | DNEL | Short term Oral | 1.29 mg/cm² | General population [Consumers] | Local |
| | DNEL | Long term Dermal | 0.32 mg/kg bw/day | General population [Consumers] | Systemic |
| | DNEL | Long term Inhalation | 0.38 mg/m³ | General population [Consumers] | Systemic |
| | DNEL | Long term Oral | 0.53 mg/kg bw/day | General population [Consumers] | Systemic |
| | DNEL | Long term Dermal | 0.56 mg/cm² | General population [Consumers] | Local |
| maleic anhydride | DNEL | Long term Inhalation | 0.05 mg/m³ | General population | Systemic |
| | DNEL | Long term Oral | 0.06 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Inhalation | 0.08 mg/m³ | General population | Local |
| | DNEL | Short term Oral | 0.1 mg/kg bw/day | General population | Systemic |
| | DNEL | Short term Dermal | 0.1 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Dermal | 0.1 mg/kg bw/day | General population | Systemic |
| | DNEL | Long term Inhalation | 0.19 mg/m³ | Workers | Systemic |
| | DNEL | Short term Dermal | 0.2 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Dermal | 0.2 mg/kg bw/day | Workers | Systemic |
| | DNEL | Long term Inhalation | 0.32 mg/m³ | Workers | Local |
| | DNEL | Short term Inhalation | 0.8 mg/m³ | Workers | Local |
| | DNEL | Short term Inhalation | 0.8 mg/m³ | Workers | Systemic |

**PNECs**

| Product/ingredient name | Type | Compartment Detail | Value | Method Detail |
|---|---|---|---|---|
| 2-ethylhexyl nitrate | PNEC | Fresh water | 0.8 µg/l | Assessment Factors |
| | PNEC | Marine | 0.08 µg/l | Assessment Factors |
| | PNEC | Sediment | 0.00074 mg/kg dwt | Equilibrium Partitioning |
| | PNEC | Soil | 0.000191 mg/kg dwt | Equilibrium Partitioning |
| naphthalene | PNEC | Fresh water | 2.4 µg/l | - |
| | PNEC | Marine | 0.24 µg/l | - |
| | PNEC | Sewage Treatment Plant | 2.9 mg/l | - |
| | PNEC | Fresh water sediment | 67.2 µg/kg dwt | - |
| | PNEC | Marine water sediment | 67.2 µg/kg dwt | - |
| | PNEC | Soil | 53.3 µg/kg dwt | - |
| Amines, polyethylenepoly-, | PNEC | Fresh water | 6.8 µg/l | - |

## SECTION 8: Exposure controls/personal protection

| | | | | |
|---|---|---|---|---|
| tetraethylenepentamine fraction | | | | |
| | PNEC | Marine | 0.68 µg/l | - |
| | PNEC | Sewage Treatment Plant | 9.73 mg/l | - |
| | PNEC | Fresh water sediment | 3.43 mg/kg dwt | - |
| | PNEC | Marine water sediment | 0.343 mg/kg dwt | - |
| | PNEC | Soil | 0.683 mg/kg dwt | - |

### 8.2 Exposure controls

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

**Appearance**

**Physical state** : Liquid.

**Colour** : Clear. Orange.

**Odour** : Not available.

**Odour threshold** : Not available.

**pH** : Not available.

**Melting point/freezing point** : Not available.

## SECTION 9: Physical and chemical properties

| | | |
|---|---|---|
| **Initial boiling point and boiling range** | : | Lowest known value: 178 to 215°C (352.4 to 419°F)(Solvent naphtha (petroleum), heavy arom.). Weighted average: 196.5°C (385.7°F) |
| **Flash point** | : | Closed cup: 67°C (152.6°F) [Pensky-Martens] |
| **Evaporation rate** | : | Highest known value: <1 (2-ethylhexyl nitrate) Weighted average: 0.24compared with butyl acetate |
| **Flammability (solid, gas)** | : | Not available. |
| **Burning time** | : | Not applicable. |
| **Burning rate** | : | Not applicable. |
| **Upper/lower flammability or explosive limits** | : | Greatest known range: Lower: 0.6% Upper: 7% (Solvent naphtha (petroleum), heavy arom.) |
| **Vapour pressure** | : | Highest known value: 0.1 kPa (0.8 mm Hg) (at 20°C) (Solvent naphtha (petroleum), heavy arom.). Weighted average: 0.08 kPa (0.6 mm Hg) (at 20°C) |
| **Vapour density** | : | Highest known value: 4.6 to 5.5 (Air = 1) (Solvent naphtha (petroleum), heavy arom.). Weighted average: 4.18 (Air = 1) |
| **Relative density** | : | Not available. |
| **Density** | : | 0.926 g/cm³ [15°C (59°F)] |
| **Solubility(ies)** | : | |
| **Miscible with water** | : | No. |
| **Partition coefficient: n-octanol/ water** | : | Not available. |
| **Auto-ignition temperature** | : | Lowest known value: 215°C (419°F) (2-ethylhexyl nitrate). |
| **Decomposition temperature** | : | Not available. |
| **Viscosity** | : | Kinematic (40°C (104°F)): 6.8 $mm^2/s$ (6.8 cSt) |
| **Explosive properties** | : | Slightly explosive in the presence of the following materials or conditions: heat. |
| **Oxidising properties** | : | Not available. |
| **Particle characteristics** | | |
| **Median particle size** | : | Not applicable. |

**9.2 Other information**

## SECTION 10: Stability and reactivity

| | | |
|---|---|---|
| **10.1 Reactivity** | : | No specific test data related to reactivity available for this product or its ingredients. |
| **10.2 Chemical stability** | : | This mixture contains materials which are unstable under the following conditions: heat |
| **10.3 Possibility of hazardous reactions** | : | Under normal conditions of storage and use, hazardous reactions will not occur. |
| **10.4 Conditions to avoid** | : | No specific data. |
| **10.5 Incompatible materials** | : | No specific data. |
| **10.6 Hazardous decomposition products** | : | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

# SECTION 11: Toxicological information

## 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

### Acute toxicity

| Product/ingredient name | Test | Species | Result type | Dose |
|---|---|---|---|---|
| Hydrocarbons C10, Aromatics, <1% Naphthalene, [Solvent naphtha (petroleum), heavy arom.] | - | Rat | LC50 Inhalation Vapour | >590 mg/m³ |
| | - | Rabbit | LD50 Dermal | >2 mL/kg |
| | - | Rabbit | LD50 Dermal | >2000 mg/kg |
| | - | Rat | LDLo Oral | 5 mL/kg |
| 2-ethylhexyl nitrate | - | Rat | LCLo Inhalation Vapour | >4.6 mg/l |
| | - | Rabbit | LD50 Dermal | >4820 mg/kg |
| | - | Rat | LD50 Oral | >9640 mg/kg |
| Hydrocarbons, C10, aromatics, >1% naphthalene [Solvent naphtha (petroleum), heavy arom.] | - | Rat | LC50 Inhalation Vapour | >590 mg/m³ |
| | - | Rabbit | LD50 Dermal | >2 mL/kg |
| | - | Rabbit | LD50 Dermal | >2000 mg/kg |
| | - | Rat | LDLo Oral | 5 mL/kg |
| Camphor | OECD 402 Acute Dermal Toxicity | Rat | LD50 Dermal | >2000 mg/kg |
| | - | Mouse | LD50 Oral | 1310 mg/kg |
| | OECD 423 Acute Oral toxicity - Acute Toxic Class Method | Rat | LD50 Oral | >5000 mg/kg |
| dicyclopentadienyl iron | OECD 402 Acute Dermal Toxicity | Rat - Male, Female | LD50 Dermal | >3000 mg/kg |
| | OECD 401 Acute Oral Toxicity | Rat | LD50 Oral | 1320 mg/kg |
| naphthalene | - | Rat | LC50 Inhalation Vapour | >340 mg/m³ |
| | - | Rabbit | LD50 Dermal | >2000 mg/kg |
| | - | Rat | LD50 Oral | 490 mg/kg |
| Amines, polyethylenepoly-, tetraethylenepentamine fraction | - | Rat | LD50 Dermal | 1260 mg/kg |
| | - | Rat | LD50 Oral | 2100 to 3990 mg/kg |
| maleic anhydride | - | Rabbit | LD50 Dermal | 2620 mg/kg |
| | - | Rat | LD50 Oral | 400 mg/kg |

### Acute toxicity estimates (ATE)

| Route | ATE value |
|---|---|
| Oral | 2249.6 mg/kg |
| Dermal | 7382.55 mg/kg |
| Inhalation (vapours) | 50.07 mg/l |

### Irritation/Corrosion

| Product/ingredient name | Test | Species | Result | |
|---|---|---|---|---|
| Hydrocarbons C10, Aromatics, <1% Naphthalene, [Solvent naphtha (petroleum), heavy arom.] | - | Mammal - species unspecified | Eyes - Mild irritant | - |
| | - | Rabbit | Skin - Mild irritant | - |
| 2-ethylhexyl nitrate | OECD 437 Bovine Corneal Opacity and | Mammal - species | Eyes - Mild irritant | - |

## SECTION 11: Toxicological information

| | | | | |
|---|---|---|---|---|
| | Permeability Test | unspecified | | |
| | OECD 405 Acute Eye Irritation/Corrosion | Rabbit | Eyes - Mild irritant | - |
| Hydrocarbons, C10, aromatics, >1% naphthalene [Solvent naphtha (petroleum), heavy arom.] | - | Mammal - species unspecified | Eyes - Mild irritant | - |
| | - | Rabbit | Skin - Mild irritant | - |
| Camphor | OECD 437 Bovine Corneal Opacity and Permeability Test | Isolated bovine cornea | Eyes - Severe irritant | - |
| | OECD 439 In Vitro Skin Irritation: Human Skin Model Test | Human | Skin - Irritant | - |
| | OECD 431 In Vitro Skin Corrosion: Human Skin Model Test | Human | Skin - Not irritant | - |
| Amines, polyethylenepoly-, tetraethylenepentamine fraction | - | Rabbit | Eyes - Moderate irritant | - |
| | - | Rabbit | Skin - Severe irritant | - |
| maleic anhydride | - | Rabbit | Eyes - Severe irritant | - |

### Sensitisation

| Product/ingredient name | Test | Species | Result |
|---|---|---|---|
| 2-ethylhexyl nitrate | OECD 406 Skin Sensitization | Guinea pig | Not sensitizing - |
| Amines, polyethylenepoly-, tetraethylenepentamine fraction | - | Guinea pig | Sensitising - |

### Potential chronic health effects

| Product/ingredient name | Test | Species | Result | Dose |
|---|---|---|---|---|
| Amines, polyethylenepoly-, tetraethylenepentamine fraction | - | Rabbit | Sub-chronic LOAEL Dermal | 50 mg/kg |
| | - | Rat | Sub-chronic LOAEL Oral | 43 mg/kg |

### Mutagenicity

| Product/ingredient name | Test | Experiment | Result |
|---|---|---|---|
| 2-ethylhexyl nitrate | OECD 473 In vitro Mammalian Chromosomal Aberration Test | Experiment: In vitro Subject: Mammalian-Human | Negative OECD 473 In vitro Mammalian Chromosomal Aberration Test |
| Amines, polyethylenepoly-, tetraethylenepentamine fraction | - | Experiment: In vivo Subject: Mammalian-Animal | Negative - |

### Reproductive toxicity

## SECTION 11: Toxicological information

| Product/ingredient name | Test | Species | Result | Dose |
|---|---|---|---|---|
| 2-ethylhexyl nitrate | OECD 421 Reproduction/ Developmental Toxicity Screening Test | Rat - Male, Female | - | Oral: 20 mg/kg Parental toxicity. |
| | OECD 421 Reproduction/ Developmental Toxicity Screening Test | Rat - Male, Female | | Oral: 100 mg/kg F1 |
| dicyclopentadienyl iron | OECD 421 Reproduction/ Developmental Toxicity Screening Test | Rat - Male, Female | - | Oral: 10 mg/kg |
| | OECD 421 Reproduction/ Developmental Toxicity Screening Test | Rat - Male, Female | | Oral: 25 mg/kg |
| Amines, polyethylenepoly-, tetraethylenepentamine fraction | - | Mammal - species unspecified | - | Dermal: 161 NOAEL |
| | - | Mammal - species unspecified | | Oral: 970 NOAEL |

### Specific target organ toxicity (single exposure)

| Product/ingredient name | Category | Route of exposure | Target organs |
|---|---|---|---|
| Hydrocarbons C10, Aromatics, <1% Naphthalene, [Solvent naphtha (petroleum), heavy arom.] | Category 3 | - | Narcotic effects |
| Hydrocarbons, C10, aromatics, >1% naphthalene [Solvent naphtha (petroleum), heavy arom.] | Category 3 | - | Narcotic effects |
| Camphor | Category 2 | - | - |

**Information on likely routes of exposure** : Not available.

### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : No specific data.

**Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced foetal weight
increase in foetal deaths
skeletal malformations

**Skin contact** : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

## SECTION 11: Toxicological information

**Ingestion** : Adverse symptoms may include the following:
nausea or vomiting
reduced foetal weight
increase in foetal deaths
skeletal malformations

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Short term exposure**

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**Long term exposure**

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : May damage the unborn child.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : May damage fertility.

### 11.2 Information on other hazards

#### 11.2.1 Endocrine disrupting properties

No known significant effects or critical hazards.

#### 11.2.2 Other information

Not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

| Product/ingredient name | Test | Species | Exposure | Result |
|---|---|---|---|---|
| Hydrocarbons C10, Aromatics, <1% Naphthalene, [Solvent naphtha (petroleum), heavy arom.] | - | Algae | 72 hours | Acute EC50 1 to 3 mg/l |
| | - | Daphnia | 48 hours | Acute EC50 3 to 10 mg/l |
| | - | Fish | 96 hours | Acute LC50 2 to 5 mg/l |
| 2-ethylhexyl nitrate | OECD 201 Alga, Growth Inhibition Test | Algae | 72 hours | Acute EC50 1 to 10 mg/l Estimated. Nominal Concentration |
| | OECD 202 Daphnia sp. Acute Immobilisation Test | Daphnia | 48 hours | Acute EC50 >10 mg/l Estimated. |
| | OECD 203 Fish, Acute Toxicity Test | Fish - *Danio rerio* | 96 hours | Acute LC50 2 mg/l |
| Hydrocarbons, C10, aromatics, >1% naphthalene [Solvent naphtha (petroleum), heavy arom.] | - | Algae | 72 hours | Acute EC50 1 to 3 mg/l |
| | - | Daphnia | 48 hours | Acute EC50 3 to 10 mg/l |
| | - | Fish | 96 | Acute LC50 2 to 5 mg/l |

## SECTION 12: Ecological information

| | | | | |
|---|---|---|---|---|
| | | | hours | |
| naphthalene | - | Daphnia - Water flea - *Daphnia magna* | 48 hours | Acute EC50 1.96 mg/l Fresh water |
| | - | Crustaceans - Daggerblade grass shrimp - *Palaemonetes pugio* | 48 hours | Acute LC50 2350 µg/l Marine water |
| | - | Fish - Oncorhynchus mykiss | 96 hours | Acute LC50 1.6 mg/l |
| | - | Crustaceans - Fiddler crab - *Uca pugnax* - Adult | 3 weeks | Chronic NOEC 0.5 mg/l Marine water |
| | - | Fish - Mozambique tilapia - *Oreochromis mossambicus* | 60 days | Chronic NOEC 1.5 mg/l Fresh water |
| Amines, polyethylenepoly-, tetraethylenepentamine fraction | - | Algae | 72 hours | Acute EC50 6.8 mg/l |
| | - | Daphnia | 48 hours | Acute EC50 24.1 mg/l |
| | - | Fish | 96 hours | Acute LC50 420 mg/l |
| | - | Algae | - | Acute NOEC 0.5 mg/l |
| maleic anhydride | - | Fish - Western mosquitofish - *Gambusia affinis* - Adult | 96 hours | Acute LC50 230 ppm Fresh water |

### 12.2 Persistence and degradability

| Product/ingredient name | Test | Result |
|---|---|---|
| 2-ethylhexyl nitrate | OECD 310 Ready Biodegradability - CO2 in Sealed Vessels (Headspace Test) | 0 % - Not readily - 28 days |

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| Hydrocarbons C10, Aromatics, <1% Naphthalene, [Solvent naphtha (petroleum), heavy arom.] | - | - | Inherent |
| 2-ethylhexyl nitrate | Fresh water 10 to 15 days, pH 4, 25°C<br>Fresh water 7 days, pH 7, 25°C<br>Fresh water 4 to 6 days, pH 9, 25°C | - | Not readily |
| Hydrocarbons, C10, aromatics, >1% naphthalene [Solvent naphtha (petroleum), heavy arom.] | - | - | Inherent |
| Amines, polyethylenepoly-, tetraethylenepentamine fraction | - | - | Not readily |

### 12.3 Bioaccumulative potential

## SECTION 12: Ecological information

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| Hydrocarbons C10, Aromatics, <1% Naphthalene, [Solvent naphtha (petroleum), heavy arom.] | 2.8 to 6.5 | <100 | Low |
| 2-ethylhexyl nitrate | 5.24 | 1332 | High |
| Hydrocarbons, C10, aromatics, >1% naphthalene [Solvent naphtha (petroleum), heavy arom.] | - | <100 | Low |
| naphthalene | 3.4 | 36.5 to 168 | Low |
| Amines, polyethylenepoly-, tetraethylenepentamine fraction | -3.16 | - | Low |
| maleic anhydride | -2.78 | - | Low |

### 12.4 Mobility in soil

**Soil/water partition coefficient ($K_{OC}$)** : Not available.

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

**PBT** : Not applicable.

**vPvB** : Not applicable.

### 12.6 Endocrine disrupting properties

No known significant effects or critical hazards.

### 12.7 Other adverse effects

No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 13.1 Waste treatment methods

**Product**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

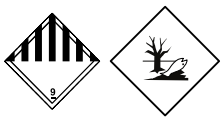
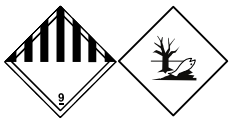
**Hazardous waste** : The classification of the product may meet the criteria for a hazardous waste.

**Packaging**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

| | ADR/RID | ADN | IMDG | IATA |
|---|---|---|---|---|
| **14.1 UN number** | UN3082 | UN3082 | UN3082 | UN3082 |
| **14.2 UN proper shipping name** | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Solvent naphtha (petroleum), heavy arom., 2-ethylhexyl nitrate) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Solvent naphtha (petroleum), heavy arom., 2-ethylhexyl nitrate) | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Solvent naphtha (petroleum), heavy arom., 2-ethylhexyl nitrate). Marine pollutant (Solvent naphtha (petroleum), heavy arom., 2-ethylhexyl nitrate) | Environmentally hazardous substance, liquid, n.o.s. (Solvent naphtha (petroleum), heavy arom., 2-ethylhexyl nitrate) |
| **14.3 Transport hazard class(es)** | 9  | 9  | 9  | 9  |
| **14.4 Packing group** | III | III | III | III |
| **14.5 Environmental hazards** | Yes. | Yes. | Yes. | Yes. |
| **Additional information** | This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. **Hazard identification number** 90 **Limited quantity** 5 L **Special provisions** 274, 335, 601, 375 **Tunnel code** (-) | This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. **Special provisions** 274, 335, 375, 601 | This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. **Emergency schedules** F-A, S-F **Special provisions** 274, 335, 969 | |
| **14.6 Special precautions for user** | | | | |
| **14.7 Maritime transport in bulk according to IMO instruments** | | | | |

## SECTION 15: Regulatory information

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

**EU Regulation (EC) No. 1907/2006 (REACH)**

**Annex XIV - List of substances subject to authorisation**

**Annex XIV**

None of the components are listed.

**Substances of very high concern**

None of the components are listed.

## SECTION 15: Regulatory information

### Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

| Product/ingredient name | % | Designation [Usage] |
|---|---|---|
| Octamar™ ecopower | ≥90 | 3<br>3 [Lamp fuel]<br>3 [Grill lighter fluid]<br>30 |
| dicyclopentadienyl iron | ≤2.8 | 30 |

**Labelling** : Restricted to professional users.

### Other EU regulations

**VOC** : The provisions of Directive 2004/42/EC on VOC apply to this product. Refer to the product label and/or technical data sheet for further information.

**VOC for Ready-for-Use Mixture** : Not available.

**Industrial emissions (integrated pollution prevention and control) - Air** : Not listed

**Industrial emissions (integrated pollution prevention and control) - Water** : Not listed

**Explosive precursors** : Not applicable.

### Seveso Directive - Reporting thresholds (in tonnes)

#### Danger criteria

| Category | Notification and MAPP threshold | Safety report threshold |
|---|---|---|
| E1 | 100 | 200 |

### Ozone depleting substances (1005/2009/EU)

Not listed.

### Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

### Persistent Organic Pollutants

Not listed.

### National regulations

**Chemical Weapons Convention List Schedule I Chemicals** :Not listed

**Chemical Weapons Convention List Schedule II Chemicals** :Not listed

**Chemical Weapons Convention List Schedule III Chemicals** :Not listed

### International lists

**Australia inventory (AIIC)** :All components are listed or exempted.

**Canada inventory** :All components are listed or exempted.

**China inventory (IECSC)** :All components are listed or exempted.

**EU REACH Status** :Please contact your supplier for information on the REACH status of this material.

**Japan inventory** :All components are listed or exempted.

**Korea REACH Status** :Please contact your supplier for information on the REACH status of this material.

## SECTION 15: Regulatory information

**New Zealand Inventory of Chemicals (NZIoC)** :All components are listed or exempted.

**Philippines inventory (PICCS)** :All components are listed or exempted.

**Taiwan REACH Status** :Please contact your supplier for information on the REACH status of this material.

**Turkey REACH Status** :Please contact your supplier for information on the REACH status of this material.

**United States inventory (TSCA 8b)** :All components are listed or exempted.

**15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments are still required.

Not to be used for hydraulic fracking applications

## SECTION 16: Other information

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number

**Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

| Classification | Justification |
|---|---|
| Carc. 2, H351 | Calculation method |
| Repr. 1B, H360FD | Calculation method |
| STOT SE 3, H336 | Calculation method |
| Asp. Tox. 1, H304 | Calculation method |
| Aquatic Chronic 1, H410 | Calculation method |

**Full text of abbreviated H statements** :

| | |
|---|---|
| H226 | Flammable liquid and vapour. |
| H228 | Flammable solid. |
| H302 | Harmful if swallowed. |
| H304 | May be fatal if swallowed and enters airways. |
| H312 | Harmful in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H335 | May cause respiratory irritation. |
| H336 | May cause drowsiness or dizziness. |

## SECTION 16: Other information

| | |
|---|---|
| H350 | May cause cancer. |
| H351 | Suspected of causing cancer. |
| H360FD | May damage fertility. May damage the unborn child. |
| H371 | May cause damage to organs. |
| H372 | Causes damage to organs through prolonged or repeated exposure. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| H411 | Toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |
| EUH044 | Risk of explosion if heated under confinement. |
| EUH066 | Repeated exposure may cause skin dryness or cracking. |
| EUH071 | Corrosive to the respiratory tract. |

**Full text of classifications [CLP/GHS]** :

| | |
|---|---|
| Acute Tox. 4 | ACUTE TOXICITY - Category 4 |
| Aquatic Acute 1 | SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1 |
| Aquatic Chronic 1 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1 |
| Aquatic Chronic 2 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 |
| Aquatic Chronic 3 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3 |
| Asp. Tox. 1 | ASPIRATION HAZARD - Category 1 |
| Carc. 1B | CARCINOGENICITY - Category 1B |
| Carc. 2 | CARCINOGENICITY - Category 2 |
| Eye Dam. 1 | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 |
| Eye Irrit. 2 | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 |
| Flam. Liq. 3 | FLAMMABLE LIQUIDS - Category 3 |
| Flam. Sol. 1 | FLAMMABLE SOLIDS - Category 1 |
| Flam. Sol. 2 | FLAMMABLE SOLIDS - Category 2 |
| Repr. 1B | REPRODUCTIVE TOXICITY - Category 1B |
| Resp. Sens. 1 | RESPIRATORY SENSITISATION - Category 1 |
| Skin Corr. 1B | SKIN CORROSION/IRRITATION - Category 1B |
| Skin Irrit. 2 | SKIN CORROSION/IRRITATION - Category 2 |
| Skin Sens. 1 | SKIN SENSITISATION - Category 1 |
| Skin Sens. 1A | SKIN SENSITISATION - Category 1A |
| STOT RE 1 | SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1 |
| STOT RE 2 | SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2 |
| STOT SE 2 | SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 2 |
| STOT SE 3 | SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3 |

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## Emergency contact numbers for local language support in Asia Pacific region

| Country information | Languages supported | Telephone no.: | Location |
|---|---|---|---|
| Australia | English | +61 2 8014 4558 | Australia |
| Bangladesh | Bengali, English | +65 3158 1200 | Singapore |
| China | Mandarin, English | 400 120 6011 | Beijing China |
| India | Hindi, English | +65 3158 1198 | Singapore |
| India ( local toll free number ) | Hindi, English | 000800 100 7479 | India |
| Indonesia (local toll free number) | Bahasa Indonesian, English | 00780 3011 0293 | Indonesia |

## SECTION 16: Other information

| | | | |
|---|---|---|---|
| Japan | Japanese, English | +81 3 4578 9341 | Japan |
| Korea | Korean, English | +65 3158 1285 | Singapore |
| Malaysia | Bahasa Malaysian, English | +60 3 6207 4347 | Malaysia |
| New Zealand | English | +64 9929 1483 | New Zealand |
| Pakistan | Urdu, English | +65 3158 1329 | Singapore |
| Philippines | Tagalog, English | +63 2 8231 2149 | Singapore |
| Sri Lanka | Sinhalese, English | +65 3158 1195 | Singapore |
| Thailand (local toll free number) | Thai, English | 001800 1 2066 6751 | Thailand |
| Vietnam | Vietnamese, English | +65 3158 1255 | Singapore |

**Notice to reader**

**The information in this Safety Data Sheet is based on the present state of knowledge and current legislation. It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications. The product should not be used for purposes other than those shown in Section 1 without first referring to the supplier and obtaining written handling instructions. As the specific conditions of use of the product are outside the supplier's control, the user is responsible for ensuring that the requirements of relevant legislation are complied with. The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation.**