12/22/2025: File reviewed, more current MSDS/SDS not available. CAS

## 1. PRODUCT AND COMPANY IDENTIFICATION

| | | |
|---|---|---|
| Product name | : | Valvoline™ EXTRA STRENGTH STARTING FLUID |
| Product code | : | 602373 |
| Company | : | Niteo Products, LLC<br>United States of America<br>Dallas TX 75219<br><br>P.O. Box 191629 |
| E-mail address | : | |
| Telephone | : | 1-844-696-4836 |
| Telefax | : | |
| Emergency telephone number | : | CHEMTREC DIRECT 1-800-424-9300 |

## 2. HAZARDS IDENTIFICATION

### GHS Classification

| | | |
|---|---|---|
| Aerosols | : | Category 1 |
| Acute toxicity (Oral) | : | Category 4 |
| Skin corrosion/irritation | : | Category 3 |
| Carcinogenicity | : | Category 2 |
| Reproductive toxicity | : | Category 2 |
| Specific target organ toxicity - single exposure | : | Category 3 (Central nervous system) |
| Acute aquatic toxicity | : | Category 2 |
| Chronic aquatic toxicity | : | Category 2 |

### GHS-Labelling

Hazard pictograms :

Signal word : Danger

Hazard statements : H222 Extremely flammable aerosol.
H229 Pressurised container: May burst if heated.
H302 Harmful if swallowed.
H316 Causes mild skin irritation.

H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H361 Suspected of damaging fertility or the unborn child.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Do not pierce or burn, even after use.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
**Response:**
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P391 Collect spillage.
**Storage:**
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.
**Disposal:**
P501 Dispose of contents/ container to an approved waste disposal plant.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Static Accumulator

**Hazardous components**

| Chemical Name | CAS-No. | Concentration |
|---|---|---|
| SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC | 64742-89-8 | >=50 - <70 % |
| ETHYL ETHER | 60-29-7 | >=20 - <30 % |
| n-HEPTANE | 142-82-5 | >=1 - <10 % |
| CARBON DIOXIDE | 124-38-9 | >=1 - <10 % |
| ETHANOL | 64-17-5 | >=1 - <10 % |
| ETHYL CHLORIDE | 75-00-3 | >=0.1 - <1 % |
| TOLUENE | 108-88-3 | >=0.1 - <1 % |

## 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Call a POISON CENTRE or doctor/physician if exposed or you feel unwell.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

First aid measures for different exposure routes

In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
If eye irritation persists, consult a specialist.

In case of skin contact : Remove contaminated clothing. If irritation develops, get medical attention.
If on skin, rinse well with water.
Wash contaminated clothing before re-use.

If inhaled : Move to fresh air.
If unconscious place in recovery position and seek medical advice.
Consult a physician after significant exposure.

If swallowed : Obtain medical attention.
Rinse mouth with water.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

Most important symptoms and effects, both acute and delayed (new) : Inhalation of high concentrations of this material, as could occur in enclosed spaces or during deliberate abuse, may be associated with cardiac arrhythmias. Sympathomimetic drugs may initiate cardiac arrhythmias in persons exposed to this material.

Harmful if swallowed.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.
May cause cancer.
Repeated exposure may cause skin dryness or cracking.

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:
stomach or intestinal upset (nausea, vomiting, diarrhea)
irritation (nose, throat, airways)
Cough
loss of appetite
confusion
irregular heartbeat
respiratory failure

Notes to physician (new) :

No hazards which require special first aid measures.

## 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Water spray
Foam
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products :

Aldehydes

carbon dioxide and carbon monoxide
organic compounds
Hydrocarbons
formaldehyde-like

Specific extinguishing methods : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Use a water spray to cool fully closed containers.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

## 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Evacuate personnel to safe areas.
Remove all sources of ignition.
Use personal protective equipment.
Ensure adequate ventilation.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

Additional advice : Comply with all applicable federal, state, and local regulations.
Suppress (knock down) gases/vapours/mists with a water spray jet.

## 7. HANDLING AND STORAGE

**Handling**

Technical measures : Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours).
No sparking tools should be used.
Keep away from open flames, hot surfaces and sources of ignition.
Use only explosion-proof equipment.

Advice on safe handling : Open drum carefully as content may be under pressure.
Provide sufficient air exchange and/or exhaust in work rooms.
Do not breathe vapours/dust.
Do not smoke.
Container hazardous when empty.
Take precautionary measures against static discharges.
Avoid exposure - obtain special instructions before use.

Avoid contact with skin and eyes.
Smoking, eating and drinking should be prohibited in the application area.
For personal protection see section 8.
Dispose of rinse water in accordance with local and national regulations.
Container may be opened only under exhaust ventilation hood.

Avoidance of contact : Acids
Alkali metals
Ammonia
Bases
halogens
inorganic materials
Oxidizing agents
sodium
Sulphur compounds

**Storage**

Conditions for safe storage : BEWARE: Aerosol is pressurized. Keep away from direct sun exposure and temperatures over 50 °C. Do not open by force or throw into fire even after use. Do not spray on flames or red-hot objects.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
No smoking.
Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid : Acids, Alkali metals, Ammonia, Bases, halogens, inorganic materials, Oxidizing agents, sodium, Sulphur compounds

Other data : No decomposition if stored and applied as directed.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Components with workplace control parameters**

| Components | CAS-No. | Value (Form of exposure) | Control parameters / Permissible concentration | Basis |
|---|---|---|---|---|
| ETHANOL | 64-17-5 | STEL | 1,000 ppm | UY OEL |
| ETHANOL | 64-17-5 | STEL | 1,000 ppm | PY OEL |

| | | | | |
|---|---|---|---|---|
| ETHANOL | 64-17-5 | STEL | 1,000 ppm | EC OEL |
| ETHANOL | 64-17-5 | STEL | 1,000 ppm | CR OEL |
| ETHANOL | 64-17-5 | CMP | 1,000 ppm | AR OEL |
| ETHANOL | 64-17-5 | STEL | 1,000 ppm | CO OEL |
| ETHANOL | 64-17-5 | TWA | 1,000 ppm<br>1,884 mg/m3 | PE OEL |
| ETHANOL | 64-17-5 | STEL | 1,000 ppm | NI OEL |
| ETHANOL | 64-17-5 | STEL | 1,000 ppm | DO OEL |
| ETHYL CHLORIDE | 75-00-3 | TWA | 100 ppm | UY OEL |
| ETHYL CHLORIDE | 75-00-3 | TWA | 100 ppm | PY OEL |
| ETHYL CHLORIDE | 75-00-3 | TWA | 100 ppm | EC OEL |
| ETHYL CHLORIDE | 75-00-3 | TWA | 100 ppm | CR OEL |
| ETHYL CHLORIDE | 75-00-3 | CMP | 100 ppm | AR OEL |
| ETHYL CHLORIDE | 75-00-3 | TWA | 100 ppm | CO OEL |
| ETHYL CHLORIDE | 75-00-3 | TWA | 100 ppm<br>264 mg/m3 | PE OEL |
| ETHYL CHLORIDE | 75-00-3 | TWA | 100 ppm | NI OEL |
| ETHYL CHLORIDE | 75-00-3 | TWA | 100 ppm | DO OEL |
| ETHYL ETHER | 60-29-7 | STEL | 500 ppm | UY OEL |
| ETHYL ETHER | 60-29-7 | TWA | 400 ppm | UY OEL |
| ETHYL ETHER | 60-29-7 | TWA | 400 ppm | PY OEL |
| ETHYL ETHER | 60-29-7 | STEL | 500 ppm | PY OEL |
| ETHYL ETHER | 60-29-7 | TWA | 400 ppm | EC OEL |
| ETHYL ETHER | 60-29-7 | STEL | 500 ppm | EC OEL |
| ETHYL ETHER | 60-29-7 | TWA | 400 ppm | CR OEL |
| ETHYL ETHER | 60-29-7 | STEL | 500 ppm | CR OEL |
| n-HEPTANE | 142-82-5 | STEL | 500 ppm | UY OEL |
| n-HEPTANE | 142-82-5 | TWA | 400 ppm | UY OEL |
| n-HEPTANE | 142-82-5 | TWA | 400 ppm | PY OEL |
| n-HEPTANE | 142-82-5 | STEL | 500 ppm | PY OEL |
| n-HEPTANE | 142-82-5 | TWA | 400 ppm | EC OEL |
| n-HEPTANE | 142-82-5 | STEL | 500 ppm | EC OEL |
| n-HEPTANE | 142-82-5 | TWA | 400 ppm | CR OEL |
| n-HEPTANE | 142-82-5 | STEL | 500 ppm | CR OEL |
| n-HEPTANE | 142-82-5 | TWA | 400 ppm | NI OEL |
| n-HEPTANE | 142-82-5 | STEL | 500 ppm | NI OEL |
| n-HEPTANE | 142-82-5 | TWA | 400 ppm | DO OEL |
| n-HEPTANE | 142-82-5 | STEL | 500 ppm | DO OEL |
| CARBON DIOXIDE | 124-38-9 | STEL | 30,000 ppm | UY OEL |
| CARBON DIOXIDE | 124-38-9 | TWA | 5,000 ppm | UY OEL |
| CARBON DIOXIDE | 124-38-9 | TWA | 5,000 ppm | PY OEL |
| CARBON DIOXIDE | 124-38-9 | STEL | 30,000 ppm | PY OEL |
| CARBON DIOXIDE | 124-38-9 | TWA | 5,000 ppm | EC OEL |
| CARBON DIOXIDE | 124-38-9 | STEL | 30,000 ppm | EC OEL |
| CARBON DIOXIDE | 124-38-9 | TWA | 5,000 ppm | CR OEL |
| CARBON DIOXIDE | 124-38-9 | STEL | 30,000 ppm | CR OEL |
| CARBON DIOXIDE | 124-38-9 | TWA | 5,000 ppm | NI OEL |
| CARBON DIOXIDE | 124-38-9 | STEL | 30,000 ppm | NI OEL |
| CARBON DIOXIDE | 124-38-9 | TWA | 5,000 ppm | DO OEL |
| CARBON DIOXIDE | 124-38-9 | STEL | 30,000 ppm | DO OEL |

| | | | | |
|---|---|---|---|---|
| TOLUENE | 108-88-3 | TWA | 20 ppm | UY OEL |
| TOLUENE | 108-88-3 | TWA | 20 ppm | PY OEL |
| TOLUENE | 108-88-3 | TWA | 20 ppm | EC OEL |
| TOLUENE | 108-88-3 | TWA | 20 ppm | CR OEL |
| TOLUENE | 108-88-3 | TWA | 20 ppm | NI OEL |
| TOLUENE | 108-88-3 | TWA | 20 ppm | DO OEL |

**US. ACGIH Threshold Limit Values**

| Components | CAS-No. | Value (Form of exposure) | Control parameters / Permissible concentration | Basis |
|---|---|---|---|---|
| ETHANOL | 64-17-5 | STEL | 1,000 ppm | ACGIH |
| ETHYL CHLORIDE | 75-00-3 | TWA | 100 ppm | ACGIH |
| ETHYL ETHER | 60-29-7 | TWA | 400 ppm | ACGIH |
| ETHYL ETHER | 60-29-7 | STEL | 500 ppm | ACGIH |
| n-HEPTANE | 142-82-5 | TWA | 400 ppm | ACGIH |
| n-HEPTANE | 142-82-5 | STEL | 500 ppm | ACGIH |
| CARBON DIOXIDE | 124-38-9 | TWA | 5,000 ppm | ACGIH |
| CARBON DIOXIDE | 124-38-9 | STEL | 30,000 ppm | ACGIH |
| TOLUENE | 108-88-3 | TWA | 20 ppm | ACGIH |

**Biological occupational exposure limits**

| Components | CAS-No. | Control parameters | Biological specimen | Sampling time | Concentration | Basis |
|---|---|---|---|---|---|---|
| TOLUENE | 108-88-3 | Hippuric acid | Creatinine in urine | EOS | 1.6 g/g | AR IBE |
| Remarks: Background, Nonspecific | | | | | | |
| TOLUENE | 108-88-3 | toluene | Blood | PSW | 0.05 mg/l | AR IBE |
| TOLUENE | 108-88-3 | o-cresol | Urine | EOS | 0.5 mg/l | AR IBE |
| Remarks: Background | | | | | | |
| TOLUENE | 108-88-3 | Hippuric acid | Creatinine in urine | EOS | 1.6 g/g | UY BEI |
| Remarks: Semiannual | | | | | | |
| TOLUENE | 108-88-3 | o-cresol | Urine | EOS | 0.5 mg/l | UY BEI |

**Biological occupational exposure limits - ACGIH**

| Components | CAS-No. | Control parameters | Biological specimen | Sampling time | Concentration | Basis |
|---|---|---|---|---|---|---|
| TOLUENE | 108-88-3 | o-Cresol, with hydrolysis | Creatinine in urine | EOS | 0.3 mg/g | ACGIH BEL |
| Remarks: Background | | | | | | |
| TOLUENE | 108-88-3 | toluene | Urine | EOS | 0.03 mg/l | ACGIH |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | BEL |
| TOLUENE | 108-88-3 | toluene | Blood | PSW | 0.02 mg/l | ACGIH BEL |

**Engineering measures** : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

**Personal protective equipment**

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.
In the case of dust or aerosol formation use respirator with an approved filter.

Eye protection : Not required under normal conditions of use. Wear splash-proof safety goggles if material could be misted or splashed into eyes.

Material : polyvinyl alcohol

Nitrile rubber

Hand protection : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection : Wear as appropriate:
impervious clothing
Safety shoes
Flame-resistant clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : Wash hands before breaks and at the end of workday.
When using do not eat or drink.
When using do not smoke.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Appearance | : | aerosol |
| Colour | : | colourless |
| Odour | : | ether-like |
| Odour Threshold | : | No data available |
| pH | : | No data available |
| Freezing point | : | No data available |

| | | |
|---|---|---|
| Boiling point | : | 34.6 °C (1,013.232 hPa)<br>Calculated Phase Transition Liquid/Gas |
| Flash point | : | -45 °C Calculated Flash Point |
| Evaporation rate | : | No data available |
| Flammability (solid, gas) | : | No data available |
| Self-ignitable | : | No data available |
| Upper explosion limit | : | 36.5 %(V)<br>Calculated Explosive Limit |
| Lower explosion limit | : | 1.05 %(V)<br>Calculated Explosive Limit |
| Vapour pressure | : | 717.2616 hPa (25 °C)<br>Calculated Vapor Pressure |
| Relative vapour density | : | No data available |
| Density | : | 0.706 g/cm3 (15.56 °C) |
| Solubility(ies) | | |
| Water solubility | : | No data available |
| Solubility in other solvents | : | No data available |
| Relative vapour density | : | No data available |
| Relative density | : | No data available |
| Partition coefficient: n-octanol/water | : | No data available |
| Auto-ignition temperature | : | No data available |
| Thermal decomposition | : | No data available |
| Viscosity, dynamic | : | No data available |
| Viscosity, kinematic | : | No data available |
| Oxidizing properties | : | No data available |

## 10. STABILITY AND REACTIVITY

| | | |
|---|---|---|
| Reactivity | : | No decomposition if stored and applied as directed. |
| Chemical stability | : | Stable under recommended storage conditions. |
| Possibility of hazardous reactions | : | Vapours may form explosive mixture with air. |
| Conditions to avoid | : | Heat, flames and sparks. |

excessive heat

| | | |
|---|---|---|
| Incompatible materials | : | Acids<br>Alkali metals<br>Ammonia<br>Bases<br>halogens<br>inorganic materials<br>Oxidizing agents<br>sodium<br>Sulphur compounds |
| Hazardous decomposition products | : | Aldehydes<br>carbon dioxide and carbon monoxide<br>formaldehyde-like<br>Hydrocarbons<br>organic compounds |
| Thermal decomposition | : | No data available |

## 11. TOXICOLOGICAL INFORMATION

| | | |
|---|---|---|
| Information on likely routes of exposure | : | Inhalation<br>Skin contact<br>Eye Contact<br>Ingestion |

**Product**

| | | |
|---|---|---|
| Acute oral toxicity | : | No data available |
| Acute inhalation toxicity | : | No data available |
| Acute dermal toxicity | : | No data available |
| Skin corrosion/irritation | : | Result: Repeated exposure may cause skin dryness or cracking. |
| Serious eye damage/eye irritation | : | Vapours may cause irritation to the eyes, respiratory system and the skin. |
| Respiratory or skin sensitisation | : | No data available |
| Further information | : | Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause narcotic effects., Solvents may degrease the skin. |

**Components:**

**SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD 50 Rat: > 8,000 mg/kg |
| Acute inhalation toxicity | : | LC 50 Rat: 3400 ppm<br>Exposure time: 4 h<br>Test atmosphere: vapour |
| Acute dermal toxicity | : | LD 50 Rat: > 4,000 mg/kg |
| Aspiration toxicity | : | May be fatal if swallowed and enters airways. |

**ETHYL ETHER:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 Rat: 1,200 - 1,700 mg/kg |
| Acute inhalation toxicity | : | LC 50 Rat: 32,000 mg/l<br>Exposure time: 4 h |
| STOT - single exposure | : | Assessment: May cause drowsiness or dizziness. |

**n-HEPTANE:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD 50 Rat: Expected > 5,000 mg/kg<br>Information given is based on data obtained from similar substances. |
| Acute inhalation toxicity | : | LC 50 Rat, male and female: > 29.29 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour<br>Method: OECD Test Guideline 403<br>No adverse effect has been observed in acute inhalation toxicity tests. |
| Acute dermal toxicity | : | LD 50 Rabbit: Expected > 2,000 mg/kg<br>Not classified as acutely toxic by dermal absorption under GHS.<br>Information given is based on data obtained from similar substances. |
| Respiratory or skin sensitisation | : | Test Method: Maximisation Test (GPMT)<br>Species: Guinea pig<br>Result: Did not cause sensitisation on laboratory animals.<br>Information given is based on data obtained from similar substances. |

Germ cell mutagenicity

| | | |
|---|---|---|
| Genotoxicity in vitro | : | Type: Chromosome aberration test in vitro<br>Test species: rat hepatocytes<br>Result: negative<br>Method: OECD Test Guideline 473 |
| | : | Type: Ames test<br>Result: negative<br>Method: OECD Test Guideline 471 |
| STOT - single exposure | : | Assessment: May cause drowsiness or dizziness. |
| Aspiration toxicity | : | May be fatal if swallowed and enters airways. |

**ETHANOL:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD 50 Rat: 7,060 mg/kg |
| Acute inhalation toxicity | : | LC 50 Rat: 117 - 125 mg/l<br>Exposure time: 4 h<br><br>LC 50 Mouse: 39 mg/l<br>Exposure time: 4 h |
| Acute dermal toxicity | : | LD Lo Rabbit: 20 g/kg |
| STOT - single exposure | : | Assessment: May cause drowsiness or dizziness. |

**ETHYL CHLORIDE:**

| | | |
|---|---|---|
| Acute inhalation toxicity | : | LC 50 Rat: > 19000 ppm<br>Exposure time: 4 h<br>Test atmosphere: vapour<br>Method: OECD Test Guideline 403 |
| Carcinogenicity - Assessment | : | Limited evidence of carcinogenicity in animal studies |

**TOLUENE:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD 50 Rat: > 5,000 mg/kg |
| Acute inhalation toxicity | : | LC 50 Rat: 8000 ppm<br>Exposure time: 4 h |
| Acute dermal toxicity | : | LD 50 Rabbit: 12,124 mg/kg |
| Reproductive toxicity - Assessment | : | Some evidence of adverse effects on development, based on animal experiments. |

| | | |
|---|---|---|
| STOT - single exposure | : | Exposure routes: Inhalation<br>Target Organs: Central nervous system<br>Assessment: May cause drowsiness or dizziness. |
| STOT - repeated exposure | : | Exposure routes: Inhalation<br>Target Organs: Neurologic: other (neuropsychological effects, auditory dysfunction and effects on colour vision)<br>Assessment: May cause damage to organs through prolonged or repeated exposure. |
| Aspiration toxicity | : | May be fatal if swallowed and enters airways. |

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Product:**

No data available

**Components:**

**n-HEPTANE:**

| | | |
|---|---|---|
| Toxicity to daphnia and other aquatic invertebrates | : | EC 50 (Water flea (Daphnia magna)): 1.5 mg/l<br>Exposure time: 48 h<br>Test Method: static test<br><br>LC 50 (Mysidopsis bahia (opossum shrimp)): 0.1 mg/l<br>Exposure time: 96 h<br>Test Method: semi-static test |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOELR: 1 mg/l<br>Exposure time: 21 d<br>Species: Water flea (Daphnia magna)<br>Test Method: static test<br>Test substance: WAF<br>Method: OECD Test Guideline 211<br>Information given is based on data obtained from similar substances. |

**Ecotoxicology Assessment**

| | | |
|---|---|---|
| Acute aquatic toxicity | : | Very toxic to aquatic life. |
| Chronic aquatic toxicity | : | Very toxic to aquatic life with long lasting effects. |

**ETHANOL:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC 50 (Rainbow trout,donaldson trout (Oncorhynchus |

| | | |
|---|---|---|
| | | mykiss)): 12,000 - 16,000 mg/l<br>Exposure time: 96 h<br>Test Method: static test |
| Toxicity to daphnia and other aquatic invertebrates | : | EC 50 (Water flea (Daphnia magna)): > 10,000 mg/l<br>Exposure time: 48 h<br>Test Method: static test |

**ETHYL CHLORIDE:**

| | | |
|---|---|---|
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Water flea (Daphnia magna)): 58 mg/l<br>Exposure time: 48 h<br>Test Method: static test<br>Method: Directive 67/548/EEC, Annex V, C.2. |
| Toxicity to algae | : | EC50 (Desmodesmus subspicatus (green algae)): 118 mg/l<br>Exposure time: 72 h<br>Test Method: static test<br>Method: Directive 67/548/EEC, Annex V, C.3. |

**TOLUENE:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus kisutch (coho salmon)): 5.5 mg/l<br>Exposure time: 96 h<br>Test Method: flow-through test |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Water flea (Ceriodaphnia dubia)): 3.78 mg/l<br>Exposure time: 48 h<br>Mortality |
| Toxicity to algae | : | EC50 (Pseudokirchneriella subcapitata (microalgae)): > 433 mg/l<br>Exposure time: 96 h<br><br>NOEC (Scenedesmus quadricauda (Green algae)): > 400 mg/l<br>Exposure time: 7 d |
| Toxicity to fish (Chronic toxicity) | : | NOEC: 1.39 mg/l<br>Exposure time: 40 d<br>Species: Oncorhynchus mykiss (rainbow trout)<br>Test Method: flow-through test |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: 0.74 mg/l<br>Exposure time: 7 d<br>Species: Water flea (Ceriodaphnia dubia) |

**Persistence and degradability**

**Product:**

No data available

**Components:**

**n-HEPTANE:**

| | | |
|---|---|---|
| Biodegradability | : | Result: Readily biodegradable |

**ETHYL CHLORIDE:**

| | | |
|---|---|---|
| Biodegradability | : | activated sludge<br>Result: Not readily biodegradable.<br>Biodegradation: 0 %<br>Exposure time: 28 d<br>Method: Directive 67/548/EEC Annex V, C.4.E. |

**TOLUENE:**

| | | |
|---|---|---|
| Biodegradability | : | Result: Readily biodegradable |

**Bioaccumulative potential**

**Product:**

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | No data available |

**Components:**

**ETHYL ETHER:**

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | log Pow: 0.89 |

**n-HEPTANE:**

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | log Pow: 4.66 |

**ETHANOL:**

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | log Pow: -0.31 |

**ETHYL CHLORIDE:**

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | log Pow: 1.43 |

**TOLUENE:**

| | | |
|---|---|---|
| Bioaccumulation | : | Species: Ide, silver or golden orfe (Leuciscus idus)<br>Exposure time: 3 d<br>Concentration: 0.05 mg/l |

| | | |
|---|---|---|
| | | Bioconcentration factor (BCF): 94<br>Method: Not reported |
| Partition coefficient: n-octanol/water | : | log Pow: 2.73 |

**Mobility in soil**

**Product:**

No data available

**Components:**

**ETHYL ETHER:**

| | | |
|---|---|---|
| Surface tension | : | 17.06 mN/m |

**CARBON DIOXIDE:**

| | | |
|---|---|---|
| Surface tension | : | 16.2 mN/m |

**ETHANOL:**

| | | |
|---|---|---|
| Surface tension | : | 22.75 mN/m |

**ETHYL CHLORIDE:**

| | | |
|---|---|---|
| Surface tension | : | 19.5 mN/m |

**TOLUENE:**

| | | |
|---|---|---|
| Surface tension | : | 28.93 mN/m |

**Other adverse effects**

**Product:**

| | | |
|---|---|---|
| Ozone-Depletion Potential | : | No data available |
| Additional ecological information | : | An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life with long lasting effects. |

**Components:**

No data available

## 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

**DISPOSAL CONSIDERATIONS**

Dispose of in accordance with local regulations.

## 14. TRANSPORT INFORMATION

**International transport regulations**

**REGULATION**

| ID NUMBER | PROPER SHIPPING NAME | *HAZARD CLASS | SUBSIDIARY HAZARDS | PACKING GROUP | MARINE POLLUTANT / LTD. QTY. |
|---|---|---|---|---|---|

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO**

| | | | | |
|---|---|---|---|---|
| UN | 1950 | Aerosols, flammable (engine starting fluid) | 2.1 | |

**INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER**

| | | | | |
|---|---|---|---|---|
| UN | 1950 | Aerosols, flammable (engine starting fluid) | 2.1 | |

**INTERNATIONAL MARITIME DANGEROUS GOODS**

| | | | | |
|---|---|---|---|---|
| UN | 1950 | AEROSOLS | 2.1 | MARINE POLLUTANT: (ALIPHATIC PETROLEUM NAPHTHA)LIMITED QUANTITY |

**UN_DG**

| | | | |
|---|---|---|---|
| UN | 1950 | AEROSOLS | 2.1 |

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

| | | |
|---|---|---|
| Marine pollutant | | yes |

## 15. REGULATORY INFORMATION

**Other international regulations**

**Notification status**

| | | |
|---|---|---|
| US. Toxic Substances Control Act | : | y (positive listing) |
| Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133) | : | y (positive listing) |
| Australia. Industrial Chemical (Notification and Assessment) Act | : | y (positive listing) |
| New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand | : | y (positive listing) |
| Japan. Kashin-Hou Law List | : | n (Negative listing) |
| Korea. Toxic Chemical Control Law (TCCL) List | : | y (positive listing) |
| Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act | : | y (positive listing) |
| China. Inventory of Existing Chemical Substances | : | y (positive listing) |

## 16. OTHER INFORMATION

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :
ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.
H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the “International Air Transport Association” (IATA).

ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the “International Civil Aviation Organization”
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient
LCxx : Lethal Concentration, for xx percent of test population
LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement

PBT : Persistent , Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value
TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System