
SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier
Trade name: Valvoline™ EXTRA STRENGTH STARTING FLUID

Recommended use of the chemical and restrictions on use

Details of the supplier of the safety data sheet
Niteo Products, LLC
P.O. Box 191629
Dallas TX 75219
United States of America

Emergency telephone number
CHEMTREC DIRECT 1-800-424-9300
Product Information
1-844-696-4836

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Flammable aerosols: Category 1
Acute toxicity (Oral): Category 4
Carcinogenicity: Category 2
Reproductive toxicity: Category 2
Specific target organ systemic toxicity - single exposure: Category 3 (Central nervous system)
Aspiration hazard: Category 1

GHS Label element
Hazard pictograms:

Signal Word: Danger
Hazard Statements: Extremely flammable aerosol.
Harmful if swallowed.  
May be fatal if swallowed and enters airways.  
May cause drowsiness or dizziness.  
Suspected of causing cancer.  
Suspected of damaging fertility or the unborn child.

Precautionary Statements:  
Prevention:  
Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Do not spray on an open flame or other ignition source.  
Pressurized container: Do not pierce or burn, even after use.  
Avoid breathing dust/ fume/ gas/ mist/ vapor/ spray.  
Wash skin thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves/ protective clothing/ eye protection/ face protection.  
Response:  
IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.  
IF exposed or concerned: Get medical advice/ attention.  
Do NOT induce vomiting.  
Storage:  
Store in a well-ventilated place. Keep container tightly closed.  
Store locked up.  
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.  
Disposal:  
Dispose of contents/ container to an approved waste disposal plant.

Other hazards  
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture  
Chemical nature : Static Accumulator  
Chemical nature : Defatter  

Hazardous components
<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Classification</th>
<th>Concentration (%)</th>
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</thead>
<tbody>
<tr>
<td>SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC</td>
<td>64742-89-8</td>
<td>Flam. Liq.; H225; STOT SE 3; H336</td>
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<td>Asp. Tox.; Aquatic Acute 2; H401</td>
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<td>Aquatic Chronic 2; H411</td>
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<td>n-HEPTANE</td>
<td>142-82-5</td>
<td>Flam. Liq.; H225; Skin Irrit. 2; H315</td>
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<td>STOT SE 3; H336</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Asp. Tox.; H304</td>
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</tr>
<tr>
<td>CARBON DIOXIDE</td>
<td>124-38-9</td>
<td>Press. Gas Liquefied gas; H280</td>
<td>2.01</td>
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<td>ETHANOL</td>
<td>64-17-5</td>
<td>Flam. Liq.; H225; Eye Irrit. 2A; H319</td>
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<td>STOT SE 3; H336</td>
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<tr>
<td>ETHYL CHLORIDE</td>
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<td>Flam. Gas 1; H220; Carc. 2; H351</td>
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<td>TOLUENE</td>
<td>108-88-3</td>
<td>Flam. Liq.; H225</td>
<td>0.18</td>
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</tbody>
</table>
SECTION 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.

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

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.

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.

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
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.
Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.
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: No hazards which require special first aid measures.

SECTION 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: Product is compatible with standard fire-fighting agents.
Further information : 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.

SECTION 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.

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

SECTION 7. HANDLING AND STORAGE

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.

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.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
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</thead>
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<tr>
<td>SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC</td>
<td>64742-89-8</td>
<td>TWA</td>
<td>500 ppm</td>
<td>OSHA_TRANS</td>
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<td></td>
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<td>TWA</td>
<td>300 ppm</td>
<td>ACGIH</td>
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<td></td>
<td>TWA</td>
<td>2,000 mg/m³</td>
<td>OSHA_TRANS</td>
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<td>STEL</td>
<td>500 ppm</td>
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<tr>
<td></td>
<td></td>
<td>PEL</td>
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<td>Ceil_Time</td>
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<td>PEL</td>
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<td>OSHA_TRANS</td>
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<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>400 ppm</td>
<td>ACGIH</td>
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<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>500 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td>CARBON DIOXIDE</td>
<td>124-38-9</td>
<td>TWA</td>
<td>5,000 ppm</td>
<td>ACGIH</td>
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<td>STEL</td>
<td>30,000 ppm</td>
<td>ACGIH</td>
</tr>
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<td>STEL</td>
<td>30,000 ppm 54,000 mg/m³</td>
<td>NIOSH/GUIDE</td>
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<td></td>
<td></td>
<td>PEL</td>
<td>5,000 ppm 9,000 mg/m³</td>
<td>OSHA_TRANS</td>
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<tr>
<td>ETHANOL</td>
<td>64-17-5</td>
<td>REL</td>
<td>1,000 ppm 1,900 mg/m³</td>
<td>NIOSH/GUIDE</td>
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</tbody>
</table>
SAFETY DATA SHEET

Valvoline™ EXTRA STRENGTH STARTING FLUID

602373

Components | CAS-No. | Control parameters | Biological specimen | Sampling time | Permissible concentration | Basis |
--- | --- | --- | --- | --- | --- | --- |
DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC | 64742-53-6 | | | | | |
PEL | 500 ppm | | | | | OSHA_TRA NS |
1,900 mg/m³ | | | | | | ACGIH |
STEL | 1,000 ppm | | | | | |
TWA | 1,000 ppm | | | | | Z1A |
1,900 mg/m³ | | | | | | |
ETHYL CHLORIDE | 75-00-3 | | | | | |
TWA | 100 ppm | | | | | ACGIH |
PEL | 1,000 ppm | | | | | OSHA_TRA NS |
2,600 mg/m³ | | | | | | |
TWA | 1,000 ppm | | | | | Z1A |
2,600 mg/m³ | | | | | | |
TOLUENE | 108-88-3 | | | | | |
REL | 100 ppm | | | | | NIOSH/GUID E |
375 mg/m³ | | | | | | |
STEL | 150 ppm | | | | | NIOSH/GUID E |
560 mg/m³ | | | | | | |
TWA | 200 ppm | | | | | OSHA/Z2 |
Ceiling | 300 ppm | | | | | OSHA/Z2 |
MAX. CONC | 500 ppm | | | | | OSHA/Z2 |

Biological occupational exposure limits

| Components | CAS-No. | Control parameters | Biological specimen | Sampling time | Permissible concentration | Basis |
--- | --- | --- | --- | --- | --- | --- |
TOLUENE | 108-88-3 | o-Cresol, with hydrolysis | Creatinine in urine | Sampling time: End of shift. | 0.3 mg/g |

Remarks: Background

toluene | Urine | Sampling time: End of shift. | 0.03 mg/l |
toluene | Blood | Sampling time: Prior to last shift of work week. | 0.02 mg/l |

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.

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

Hand protection

Material: Nitrile rubber

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

Eye protection

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

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.

Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures

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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>Physical state</td>
<td>aerosol</td>
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<tr>
<td>Colour</td>
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<tr>
<td>Odour</td>
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<td>Odour Threshold</td>
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<tr>
<td>pH</td>
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<tr>
<td>Boiling point/boiling range</td>
<td>94.3 °F / 34.6 °C</td>
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</table>
Flash point: -49 °F / -45 °C
Evaporation rate: No data available
Flammability (solid, gas): No data available
Upper explosion limit: 36.5 % (V)
Lower explosion limit: 1.05 % (V)
Vapour pressure: 717.2616 hPa (25 °C)
Relative vapour density: No data available
Relative density: No data available
Density: 0.706 g/cm³ (15.56 °C)
Water solubility: No data available
Solubility in other solvents: No data available
Partition coefficient: n-octanol/water: No data available
Thermal decomposition: No data available
Viscosity, dynamic: No data available
Viscosity, kinematic: No data available
Oxidizing properties: No data available

SECTION 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
- Alkali metals
- Ammonia
- Bases
- Halogens
- Inorganic materials
- Oxidizing agents
- Sodium
- Sulphur compounds

Hazardous decomposition products

- Aldehydes
- Carbon dioxide and carbon monoxide
- Formaldehyde-like
- Hydrocarbons
- Organic compounds

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

- Inhalation
- Skin contact
- Eye contact
- Ingestion

**Acute toxicity**
Harmful if swallowed.

**Components:**

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

- **Acute oral toxicity**: LD 50 (Rat): > 8,000 mg/kg

- **Acute inhalation toxicity**
  - LC 50 (Rat): 3400 ppm
  - Exposure time: 4 h
  - Test atmosphere: vapour

- **Acute dermal toxicity**: LD 50 (Rat): > 4,000 mg/kg

**ETHYL ETHER:**

- **Acute oral toxicity**: LD50 (Rat): 1,200 - 1,700 mg/kg

- **Acute inhalation toxicity**
  - LC 50 (Rat): 32,000 mg/l
  - Exposure time: 4 h

**n-HEPTANE:**

- **Acute oral toxicity**
  - LD 50 (Rat): Expected > 5,000 mg/kg
  - Remarks: Information given is based on data obtained from similar substances.

- **Acute inhalation toxicity**
  - LC 50 (Rat, male and female): > 29.29 mg/l
  - Exposure time: 4 h
  - Test atmosphere: vapour
Method: OECD Test Guideline 403

Assessment: No adverse effect has been observed in acute inhalation toxicity tests.

**Acute dermal toxicity**

LD 50 (Rabbit): Expected > 2,000 mg/kg
Assessment: Not classified as acutely toxic by dermal absorption under GHS.
Remarks: Information given is based on data obtained from similar substances.

**ETHANOL:**

Acute oral toxicity: LD 50 (Rat): 7,060 mg/kg

Acute inhalation toxicity: LC 50 (Rat): 117 - 125 mg/l
Exposure time: 4 h

LC 50 (Mouse): 39 mg/l
Exposure time: 4 h

Acute dermal toxicity: LD Lo (Rabbit): 20 g/kg

**ETHYL CHLORIDE:**

Acute inhalation toxicity: LC 50 (Rat): > 19000 ppm
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403

**TOLUENE:**

Acute oral toxicity: LD 50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity: LC 50 (Rat): 8000 ppm
Exposure time: 4 h

Acute dermal toxicity: LD 50 (Rabbit): 12,124 mg/kg

**Skin corrosion/irritation**

Not classified based on available information.

**Product:**

Result: Repeated exposure may cause skin dryness or cracking.

**Components:**

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

Result: Mildly irritating to skin

**ETHYL ETHER:**

Result: Irritating to skin

**n-HEPTANE:**

Result: Irritating to skin

**CARBON DIOXIDE:**

Result: Not irritating to skin
ETHANOL:
Result: Slightly irritating to skin

ETHYL CHLORIDE:
Result: Mildly irritating to skin

TOLUENE:
Result: Irritating to skin

**Serious eye damage/eye irritation**
Not classified based on available information.

**Product:**
Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin.

**Components:**
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC:
Result: Mildly irritating to eyes

ETHYL ETHER:
Result: Severely irritating to eyes

n-HEPTANE:
Result: Mildly irritating to eyes

CARBON DIOXIDE:
Result: Not irritating to eyes

ETHANOL:
Result: Irritating to eyes

ETHYL CHLORIDE:
Result: Mildly irritating to eyes

TOLUENE:
Result: Irritating to eyes

**Respiratory or skin sensitisation**
Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.

**Components:**
n-HEPTANE:
Test Type: Maximisation Test (GPMT)
Species: Guinea pig
Result: Did not cause sensitisation on laboratory animals.

**Germ cell mutagenicity**
Not classified based on available information.

**Components:**
n-HEPTANE:
Genotoxicity in vitro: Test Type: Chromosome aberration test in vitro
Test species: rat hepatocytes
Method: OECD Test Guideline 473
Result: negative

: Test Type: Ames test
  Method: OECD Test Guideline 471
  Result: negative

Carcinogenicity
Suspected of causing cancer.

Component:
ETHYL CHLORIDE:
  Carcinogenicity - Assessment: Limited evidence of carcinogenicity in animal studies

Reproductive toxicity
Suspected of damaging fertility or the unborn child.

Component:
TOLUENE:
  Reproductive toxicity - Assessment: Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure
May cause drowsiness or dizziness.

Component:
ETHYL ETHER:
  Assessment: May cause drowsiness or dizziness.

n-HEPTANE:
  Assessment: May cause drowsiness or dizziness.

ETHANOL:
  Assessment: May cause drowsiness or dizziness.

TOLUENE:
  Exposure routes: Inhalation
  Target Organs: Central nervous system
  Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure
Not classified based on available information.

Component:
TOLUENE:
  Exposure routes: Inhalation
  Target Organs: Neurologic: other (neuropsychological effects, auditory dysfunction and effects on colour vision)
  Assessment: May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity
May be fatal if swallowed and enters airways.

Component:
SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC:
  May be fatal if swallowed and enters airways.

n-HEPTANE:
May be fatal if swallowed and enters airways.

TOLUENE:
May be fatal if swallowed and enters airways.

**Further information**

**Product:**
Remarks: 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:**

**ETHYL CHLORIDE:**
Remarks: Liver

Remarks: Central nervous system

**Carcinogenicity:**

**IARC**
Group 1: Carcinogenic to humans

**DISTILLATES** 64742-53-6
(PETROLEUM),
HYDROTREATED LIGHT NAPHTHENIC

**OSHA**
No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**NTP**
Known to be human carcinogen

**DISTILLATES** 64742-53-6
(PETROLEUM),
HYDROTREATED LIGHT NAPHTHENIC

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**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**n-HEPTANE:**
Toxicity to daphnia and other aquatic invertebrates: EC 50 (Water flea (Daphnia magna)): 1.5 mg/l
Exposure time: 48 h
Test Type: static test

LC 50 (Mysidopsis bahia (opossum shrimp)): 0.1 mg/l
Exposure time: 96 h
Test Type: semi-static test

Toxicity to daphnia and other aquatic invertebrates: NOELR (Water flea (Daphnia magna)): 1 mg/l
Exposure time: 21 d
### Ecotoxicology Assessment

#### Acute aquatic toxicity
- **ETHANOL:**
  - **Toxicity to fish**
    - LC 50 (Rainbow trout, donaldson trout (Oncorhynchus mykiss)): 12,000 - 16,000 mg/l
    - Exposure time: 96 h
    - Test Type: static test
  - **Toxicity to daphnia and other aquatic invertebrates**
    - EC 50 (Water flea (Daphnia magna)): > 10,000 mg/l
    - Exposure time: 48 h
    - Test Type: static test

#### Chronic aquatic toxicity
- **ETHANOL:**
  - Very toxic to aquatic life with long lasting effects.

### Toxicity to daphnia and other aquatic invertebrates
- **ETHYL CHLORIDE:**
  - **Toxicity to daphnia and other aquatic invertebrates**
    - EC50 (Water flea (Daphnia magna)): 58 mg/l
    - Exposure time: 48 h
    - Test Type: static test

### Toxicity to algae
- **TOLUENE:**
  - **Toxicity to daphnia and other aquatic invertebrates**
    - EC50 (Water flea (Ceriodaphnia dubia)): 3.78 mg/l
    - Exposure time: 48 h
    - Remarks: Mortality
  - **Toxicity to algae**
    - EC50 (Pseudokirchneriella subcapitata (microalgae)): > 433 mg/l
    - End point: Growth inhibition
    - Exposure time: 96 h

    - NOEC (Scenedesmus quadricauda (Green algae)): > 400 mg/l
    - End point: Growth inhibition
    - Exposure time: 7 d
Toxicity to fish (Chronic toxicity): NOEC (Oncorhynchus mykiss (rainbow trout)): 1.39 mg/l
Exposure time: 40 d
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity): NOEC (Water flea (Ceriodaphnia dubia)): 0.74 mg/l
Exposure time: 7 d

Persistence and degradability
n-HEPTANE:
Biodegradability: Result: Readily biodegradable

ETHYL CHLORIDE:
Biodegradability: Inoculum: activated sludge
Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d

TOLUENE:
Biodegradability: Result: Readily biodegradable

Bioaccumulative potential
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)
Bioconcentration factor (BCF): 94
Exposure time: 3 d
Concentration: 0.05 mg/l
Method: Not reported
Partition coefficient: n-octanol/water: log Pow: 2.73

Mobility in soil
No data available
Other adverse effects
No data available

Product:
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.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
General advice: 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.

Dispose of in accordance with all applicable local, state and federal regulations.

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.

SECTION 14. TRANSPORT INFORMATION

International transport regulations

REGULATION

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

<table>
<thead>
<tr>
<th>ID NUMBER</th>
<th>PROPER SHIPPING NAME</th>
<th>HAZARD CLASS</th>
<th>SUBSIDIARY HAZARDS</th>
<th>PACKING GROUP</th>
<th>MARINE POLLUTANT / LTD. QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1950</td>
<td>Aerosols</td>
<td>2</td>
<td></td>
<td>LIMITED QUANTITY</td>
</tr>
</tbody>
</table>

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

<table>
<thead>
<tr>
<th>ID NUMBER</th>
<th>PROPER SHIPPING NAME</th>
<th>HAZARD CLASS</th>
<th>SUBSIDIARY HAZARDS</th>
<th>PACKING GROUP</th>
<th>MARINE POLLUTANT / LTD. QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1950</td>
<td>Aerosols</td>
<td>2.1</td>
<td></td>
<td>LIMITED QUANTITY</td>
</tr>
</tbody>
</table>

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

<table>
<thead>
<tr>
<th>ID NUMBER</th>
<th>PROPER SHIPPING NAME</th>
<th>HAZARD CLASS</th>
<th>SUBSIDIARY HAZARDS</th>
<th>PACKING GROUP</th>
<th>MARINE POLLUTANT / LTD. QTY.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1950</td>
<td>Aerosols</td>
<td>2.1</td>
<td></td>
<td>LIMITED QUANTITY</td>
</tr>
</tbody>
</table>
### INTERNATIONAL MARITIME DANGEROUS GOODS

<table>
<thead>
<tr>
<th>UN</th>
<th>AEROSOLS</th>
<th>2.1</th>
<th>LIMITED QUANTITY</th>
</tr>
</thead>
</table>

### TRANSPORT CANADA - INLAND WATERWAYS

<table>
<thead>
<tr>
<th>UN</th>
<th>AEROSOLS</th>
<th>2.1</th>
<th>LIMITED QUANTITY</th>
</tr>
</thead>
</table>

### TRANSPORT CANADA - RAIL

<table>
<thead>
<tr>
<th>UN</th>
<th>AEROSOLS</th>
<th>2.1</th>
<th>LIMITED QUANTITY</th>
</tr>
</thead>
</table>

### TRANSPORT CANADA - ROAD

<table>
<thead>
<tr>
<th>UN</th>
<th>AEROSOLS</th>
<th>2.1</th>
<th>MARINE POLLUTANT: (ALIPHATIC PETROLEUM NAPHTHA) LIMITED QUANTITY</th>
</tr>
</thead>
</table>

### U.S. DOT - INLAND WATERWAYS

<table>
<thead>
<tr>
<th>UN</th>
<th>Aerosols, flammable (engine starting fluid)</th>
<th>2.1</th>
</tr>
</thead>
</table>

### U.S. DOT - RAIL

<table>
<thead>
<tr>
<th>UN</th>
<th>Aerosols, flammable (engine starting fluid)</th>
<th>2.1</th>
</tr>
</thead>
</table>

### U.S. DOT - ROAD

<table>
<thead>
<tr>
<th>UN</th>
<th>AEROSOLES</th>
<th>2.1</th>
</tr>
</thead>
</table>

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

| Marine pollutant | yes |

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.
SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
<th>Calculated product RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHYL ETHER</td>
<td>60-29-7</td>
<td>100</td>
<td>340.921101</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazards:
- Fire Hazard
- Chronic Health Hazard
- Acute Health Hazard

SARA 313 Component(s)
- This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Pennsylvania Right To Know

| SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC | 64742-89-8 | 50.00 - 70.00 % |
| ETHYL ETHER                                  | 60-29-7    | 20.00 - 30.00 % |
| n-HEPTANE                                    | 142-82-5   | 1.00 - 5.00 %   |
| CARBON DIOXIDE                               | 124-38-9   | 1.00 - 5.00 %   |
| ETHANOL                                      | 64-17-5    | 1.00 - 5.00 %   |

New Jersey Right To Know

| SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC | 64742-89-8 | 50.00 - 70.00 % |
| ETHYL ETHER                                  | 60-29-7    | 20.00 - 30.00 % |
| n-HEPTANE                                    | 142-82-5   | 1.00 - 5.00 %   |
| CARBON DIOXIDE                               | 124-38-9   | 1.00 - 5.00 %   |
| ETHANOL                                      | 64-17-5    | 1.00 - 5.00 %   |
| DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPTHENIC | 64742-53-6 | 0.10 - 1.00 % |
| TOLUENE                                      | 108-88-3   | 0.10 - 1.00 %   |

California Prop 65

Proposition 65 warnings are not required for this product based on the results of a risk assessment.

The components of this product are reported in the following inventories:
TSCA : On TSCA Inventory

DSL : All components of this product are on the Canadian DSL.

AICS : On the inventory, or in compliance with the inventory

NZIOC : On the inventory, or in compliance with the inventory

ENCS : Not in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

Inventories
AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information
Revision Date: 07/31/2015

<table>
<thead>
<tr>
<th>NFPA: Flammability</th>
<th>HMIS III:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>4</td>
</tr>
<tr>
<td>Flammability</td>
<td>1</td>
</tr>
<tr>
<td>Instability</td>
<td>0</td>
</tr>
<tr>
<td>Special hazard.</td>
<td></td>
</tr>
</tbody>
</table>

| HEALTH | 2 |
| FLAMMABILITY | 4 |
| PHYSICAL HAZARD | 0 |

0 = not significant, 1 =Slight, 2 = Moderate, 3 = High, 4 = Extreme, * = Chronic

NFPA Flammable and Combustible Liquids Classification
Not applicable

Full text of H-Statements referred to under sections 2 and 3.
H220 Extremely flammable gas.
H224 Extremely flammable liquid and vapor.
H225 Highly flammable liquid and vapor.
H280 Contains gas under pressure; may explode if heated.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H333 May be harmful if inhaled.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H361 Suspected of damaging fertility or the unborn child.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure if inhaled.
H400 Very toxic to aquatic life.
H401 Toxic to aquatic life.
H402 Harmful 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.

Sources of key data used to compile the Safety Data Sheet
Internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.
Cefic, the European Chemical Industry Council.
ESIS European Chemical Substances Information System

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Niteo’s Environmental Health and Safety Department (1-844-696-4836).

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