
SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier
Trade name: Pyroil™
STARTING FLUID

Recommended use of the chemical and restrictions on use
Details of the supplier of the safety data sheet
Ashland
P.O. Box 2219
Columbus, OH 43216
United States of America

Emergency telephone number
1-800-ASHLAND (1-800-274-5263)

Regulatory Information Number
1-800-325-3751

Product Information
614-790-3333

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Flammable aerosols: Category 1
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.
May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.
Suspected of causing cancer.
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/ vapors/ spray.
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.

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**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical nature</td>
<td>Defatter</td>
</tr>
</tbody>
</table>

**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. 2; H225</td>
<td>77.53</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STOT SE 3; H336</td>
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<tr>
<td></td>
<td></td>
<td>Asp. Tox. 1; H304</td>
<td></td>
</tr>
<tr>
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<td></td>
<td>Aquatic Acute 2; H401</td>
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<tr>
<td></td>
<td></td>
<td>Aquatic Chronic 2;</td>
<td></td>
</tr>
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<td>Chemical</td>
<td>UN Number</td>
<td>Flammable Properties</td>
<td>Hazards</td>
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<tr>
<td>-----------------------</td>
<td>-----------</td>
<td>----------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>ETHYL ETHER</td>
<td>60-29-7</td>
<td>Flam. Liq. 1; H224</td>
<td>Acute Tox. 4; H302; STOT SE 3; H336</td>
</tr>
<tr>
<td>n-HEPTANE</td>
<td>142-82-5</td>
<td>Flam. Liq. 2; H225</td>
<td>Skin Irrit. 2; H315; STOT SE 3; H336; Asp. Tox. 1; H304</td>
</tr>
<tr>
<td>CARBON DIOXIDE</td>
<td>124-38-9</td>
<td>Press. Gas Liquefied</td>
<td></td>
</tr>
<tr>
<td>ETHANOL</td>
<td>64-17-5</td>
<td>Flam. Liq. 2; H225</td>
<td>Eye Irrit. 2A; H319; STOT SE 3; H336</td>
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<tr>
<td>ETHYL CHLORIDE</td>
<td>75-00-3</td>
<td>Flam. Gas 1; H220</td>
<td>Carc. 2; H351</td>
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<tr>
<td>TOLUENE</td>
<td>108-88-3</td>
<td>Flam. Liq. 2; H225</td>
<td>Skin Irrit. 2; H315; Eye Irrit. 2A; H319; Repr. 2; H361; STOT SE 3; H336; STOT RE 2; H373</td>
</tr>
</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.
Symptoms of poisoning may appear several hours later.
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.
Do NOT induce vomiting.
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.

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
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.

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: Evacuate personnel to safe areas. Remove all sources of ignition.
emergency procedures

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.

Methods and materials for containment and cleaning up

Suppress (knock down) gases/vapours/mists with a water spray jet.
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

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>
</tr>
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<tbody>
<tr>
<td>TOLUENE</td>
<td>108-88-3</td>
<td>TWA</td>
<td>20 ppm</td>
<td>ACGIH</td>
</tr>
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<td></td>
<td></td>
<td>REL</td>
<td>100 ppm 375 mg/m³</td>
<td>NIOSH/GUID E</td>
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<td>STEL</td>
<td>150 ppm 560 mg/m³</td>
<td>NIOSH/GUID E</td>
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<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>200 ppm</td>
<td>OSHA/Z2</td>
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<td>Ceiling</td>
<td>300 ppm</td>
<td>OSHA/Z2</td>
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<td></td>
<td>MAX. CONC</td>
<td>500 ppm</td>
<td>OSHA/Z2</td>
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<td>SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC</td>
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<td>TWA</td>
<td>500 ppm</td>
<td>OSHA_TRANS</td>
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<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>300 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>2,000 mg/m³</td>
<td>OSHA_TRANS</td>
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<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>1,370 mg/m³</td>
<td>ACGIH</td>
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<tr>
<td>ETHYL ETHER</td>
<td>60-29-7</td>
<td>TWA</td>
<td>400 ppm</td>
<td>ACGIH</td>
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<td></td>
<td>STEL</td>
<td>500 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PEL</td>
<td>400 ppm 1,200 mg/m³</td>
<td>OSHA_TRANS</td>
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<td></td>
<td></td>
<td>TWA</td>
<td>400 ppm 1,200 mg/m³</td>
<td>TN OEL</td>
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<tr>
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<td></td>
<td>STEL</td>
<td>500 ppm 1,500 mg/m³</td>
<td>TN OEL</td>
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<tr>
<td>n-HEPTANE</td>
<td>142-82-5</td>
<td>REL</td>
<td>85 ppm 350 mg/m³</td>
<td>NIOSH/GUID E</td>
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<td>Ceil_Time</td>
<td>440 ppm 1,800 mg/m³</td>
<td>NIOSH/GUID E</td>
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<tr>
<td></td>
<td></td>
<td>PEL</td>
<td>500 ppm 2,000 mg/m³</td>
<td>OSHA_TRANS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>400 ppm</td>
<td>ACGIH</td>
</tr>
<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>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>30,000 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>REL</td>
<td>5,000 ppm 9,000 mg/m³</td>
<td>NIOSH/GUID E</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>30,000 ppm 54,000 mg/m³</td>
<td>NIOSH/GUID E</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>
</tr>
<tr>
<td>ETHANOL</td>
<td>64-17-5</td>
<td>REL</td>
<td>1,000 ppm</td>
<td>NIOSH/GUID</td>
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</table>
SAFETY DATA SHEET

Revision Date: 05/23/2015
Print Date: 6/30/2015
SDS Number: R0340954

Pyroil™ STARTING FLUID

PYSFR11

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Biological specimen</th>
<th>Samplin g time</th>
<th>Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOLUENE</td>
<td>108-88-3</td>
<td>o-Cresol, with hydrolysis</td>
<td>Creatinine in urine</td>
<td>Samplin g time: End of shift.</td>
<td>0.3 mg/g</td>
<td></td>
</tr>
</tbody>
</table>

Remarks: Background

toluene Urine Samplin g time: End of shift. 0.03 mg/l

toluene Blood Samplin g 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
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

Physical state: aerosol

Odour: No data available

Odour Threshold: No data available

pH: No data available

Boiling point/boiling range: 94.3 °F / 34.6 °C (1,013.232 hPa) Calculated Phase Transition Liquid/Gas

Flash point: -49 °F / -45 °C Calculated Flash Point

Evaporation rate: No data available

Flammability (solid, gas): No data available

Upper explosion limit: 36.5 % (V) Calculated Explosive Limit

Lower explosion limit: 1.05 % (V) Calculated Explosive Limit

Vapour pressure: 717.2616 hPa (25 °C) Calculated Vapor Pressure

Relative vapour density: No data available

Relative density: No data available
Density : 0.7114 g/cm³ (15.56 °C)

Solubility(ies)
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
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
Not classified based on available information.

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.

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

**Reproductive toxicity**
Suspected of damaging fertility or the unborn child.

**Components:**
TOLUENE:
Reproductive toxicity - Assessment:
  Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

**STOT - single exposure**
May cause drowsiness or dizziness.
Components:
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.

Components:
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.

Product:
May be fatal if swallowed and enters airways.

Components:
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
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed
human carcinogen by IARC.

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

### 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 (Chronic toxicity):
- NOELR (Water flea (Daphnia magna)): 1 mg/l
  - Exposure time: 21 d
  - Test Type: static test
  - Test substance: WAF
  - Method: OECD Test Guideline 211
  - Remarks: 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
  - 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

**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: EC50 (Desmodesmus subspicatus (green algae)): 118 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test

TOLUENE:
Toxicity to fish: LC50 (Oncomorhynchus kisutch (coho salmon)): 5.5 mg/l
Exposure time: 96 h
Test Type: flow-through test

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 (Oncomorhynchus 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**

<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>U.S. DOT - ROAD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UN 1950</td>
<td>Aerosols</td>
<td>2.1</td>
<td></td>
<td></td>
<td>LIMITED QUANTITY</td>
</tr>
<tr>
<td>U.S. DOT - RAIL</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UN 1950</td>
<td>Aerosols</td>
<td>2.1</td>
<td></td>
<td></td>
<td>LIMITED QUANTITY</td>
</tr>
<tr>
<td>U.S. DOT - INLAND WATERWAYS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UN 1950</td>
<td>Aerosols</td>
<td>2.1</td>
<td></td>
<td></td>
<td>LIMITED QUANTITY</td>
</tr>
<tr>
<td>TRANSPORT CANADA - ROAD</td>
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<tr>
<td>UN 1950</td>
<td>AEROSOLS</td>
<td>2.1</td>
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<td>LIMITED QUANTITY</td>
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<tr>
<td>TRANSPORT CANADA - RAIL</td>
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<tr>
<td>UN 1950</td>
<td>AEROSOLS</td>
<td>2.1</td>
<td></td>
<td></td>
<td>LIMITED QUANTITY</td>
</tr>
<tr>
<td>TRANSPORT CANADA - INLAND WATERWAYS</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UN 1950</td>
<td>AEROSOLS</td>
<td>2.1</td>
<td></td>
<td></td>
<td>LIMITED QUANTITY</td>
</tr>
<tr>
<td>INTERNATIONAL MARITIME DANGEROUS GOODS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UN 1950</td>
<td>AEROSOLS</td>
<td>2.1</td>
<td></td>
<td></td>
<td>MARINE POLLUTANT:( ALIPHATIC PETROLEUM NAPHTHA)LIMITED QUANTITY</td>
</tr>
<tr>
<td>INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>UN 1950</td>
<td>Aerosols, flammable (engine starting fluid)</td>
<td>2.1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

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

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

| UN  | 1950 | AEROSOLES | 2 |

*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>511.380779</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazards

- Chronic Health Hazard
- Fire Hazard
- Acute Health Hazard

SARA 313 Component(s) SARA 313

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 | 70.00 - 90.00 % |
| ETHYL ETHER | 60-29-7 | 10.00 - 20.00 % |
| 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
 ETHYL ETHER
 n-HEPTANE
 CARBON DIOXIDE
 ETHANOL
 DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC
 TOLUENE

64742-89-8  70.00 - 90.00 %
 60-29-7  10.00 - 20.00 %
 142-82-5  1.00 - 5.00 %
 124-38-9  1.00 - 5.00 %
 64-17-5  1.00 - 5.00 %
 64742-53-6  0.10 - 1.00 %
 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.
AUSTR : 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: 05/23/2015

NFPA:

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</tbody>
</table>

HMIS III:

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

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.
- **H336**: May cause drowsiness or dizziness.
- **H351**: Suspected of causing cancer.
- **H361**: Suspected of damaging fertility or the unborn child.
- **H373**: May cause damage to organs through prolonged or repeated exposure if inhaled.
- **H401**: Toxic to aquatic life.
- **H411**: Toxic to aquatic life with long lasting effects.

Sources of key data used to compile the Safety Data Sheet
Ashland internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

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 Ashland's Environmental Health and Safety Department (1-800-325-3751).

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
HMIRS: 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