1. Identification

Product identifier: KLONDIKE Soluble Cutting Oil
Other means of identification: CUTTING OIL
Product code: Soluble Cutting Oil
Recommended use: No restrictions on use known.
Chemical family: Petroleum hydrocarbon
Manufacturer: KLONDIKE Lubricants Corporation
3078 275th Street
Langley, BC, Canada
V4W 3L4
info@klondikelubricants.com
www.klondikelubricants.com

Supplier information:
General Information  1-877-293-4691
Chemtrec (Within US) 1-800-424-9300
Chemtrec (International)  1-703-527-3887
Refer to Manufacturer

2. Hazard(s) Identification

This material is not classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Physical hazards
Not classified for physical hazards.

Health hazards
Not classified for health hazards.

Environmental hazards
Not currently regulated by Hazcom 2012 or WHMIS 2015. Consult section 12 for details.

OSHA defined hazards
No OSHA defined hazard classes.

Label elements
None required according to OSHA Hazcom 2012.

Signal Word
None.

Hazard statement(s)
The mixture does not meet the criteria for classification.

Precautionary statement(s)
Prevention
None required.
Response
None required.
Storage
None required.
Disposal
None required.

Hazard(s) not otherwise Classified (HNOC)
Other hazards which do not result in classification: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Contact with eyes or skin may cause mild irritation.

Supplemental Information
None reported by the manufacturer.
3. Composition/information on ingredients

Mixture

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrotreated heavy naphthenic distillate</td>
<td>Mineral oil</td>
<td>64742-52-5</td>
<td>80.0 - 90.0</td>
</tr>
<tr>
<td>Diethylene glycol monobutyl ether</td>
<td>Glycol DB Ether</td>
<td>112-34-5</td>
<td>3.0 - 5.0</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>TEA</td>
<td>102-71-6</td>
<td>3.0 - 5.0</td>
</tr>
</tbody>
</table>

The % concentrations for the above listed chemicals will vary from batch to batch. Concentrations listed represent the actual concentration range for each chemical.

4. First-aid measures

Inhalation

If breathing is difficult, trained personnel should give oxygen. If breathing stops, provide artificial respiration. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact

For skin contact, flush with water for at least 15 minutes, while removing contaminated clothing. If skin irritation occurs, get medical advice/attention.

Eye contact

Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. Get medical attention if symptoms persist.

Ingestion

Do NOT induce vomiting. Rinse mouth. If irritation or symptoms develop, seek medical attention.

May be mildly irritating to skin, eyes and respiratory system. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Treat symptomatically.

None reported by the manufacturer.

5. Fire-fighting measures

Suitable extinguishing media


Unsuitable extinguishing media

Do not use water jet as extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

Thermal decomposition or combustion may liberate toxic gases or fumes.

Special protective equipment and precautions for fire-fighters

Firefighters should wear an approved full-face, self-contained breathing apparatus (SCBA) and impervious clothing.

Use water spray to cool unopened containers.

Avoid release to the environment.

No unusual fire or explosion hazards noted.

Carbon oxides.

Nitrogen oxides (NOx).

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, see section 8 of the SDS.
SAFETY DATA SHEET

Methods and materials for containment and cleaning up

Remove all sources of ignition. Ventilate area of release. Stop the spill at source if it is safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13).

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Use only with adequate ventilation. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Keep cool. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits

U.S. OSHA Exposure Limits (29 CFR 1910)

<table>
<thead>
<tr>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrotreated heavy naphthenic distillate (CAS 64742-52-5)</td>
<td>TWA 5 mg/m³ (As 'Oil mist, mineral')</td>
</tr>
</tbody>
</table>

US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrotreated heavy naphthenic distillate</td>
<td>TWA 5 mg/m³ (As 'Oil mist, mineral')</td>
</tr>
<tr>
<td>(CAS 64742-52-5)</td>
<td></td>
</tr>
<tr>
<td>Diethylene glycol monobutyl ether</td>
<td>TWA 10 ppm (inhalable) (vapor)</td>
</tr>
<tr>
<td>(CAS 112-34-5)</td>
<td></td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>TWA 5 mg/m³</td>
</tr>
<tr>
<td>(CAS 102-71-6)</td>
<td></td>
</tr>
</tbody>
</table>

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Eye / face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Chemical resistant gloves recommended.

Hand protection

Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health or safety professional or manufacturer for specific information.

Other

Respiratory protection

Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

Thermal hazards

Not available.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Form</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid.</td>
<td>Oily liquid</td>
<td>Brown</td>
</tr>
</tbody>
</table>

Material name: KLONDIKE Soluble Cutting Oil
Version #: 1 Issue date:01-06-2020
# SAFETY DATA SHEET

**Odor**
Mild petroleum odour.

**Odor threshold**
Not available.

**pH**
Not available.

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

**Initial boiling point and boiling range**
300°C (572°F)

**Flash point**
>200°C Cleveland closed cup

**Evaporation rate**
Not available.

**Flammability (solid, gas)**
Not applicable.

**Lower flammability/explosive limit**
Not available.

**Upper flammability/explosive limit**
Not available.

**Vapour pressure**
<0.01

**Vapour density**
>1 (Air = 1)

**Relative density**
0.927

**Solubility(ies)**
Soluble

**Partition coefficient (n-octanol/water)**
Not available.

**Auto-ignition temperature**
Not available.

**Decomposition temperature**
Not available.

**Viscosity**
Not available.

**Other information**

**Explosive properties**
Not explosive

**Oxidizing properties**
Not available.

**Specific gravity**
0.927

**Critical temperature**
Not available.

**VOC**
Not available.

**Volatilities %**
Nil

**Flame projection length**
Not available.

**Flashback observed**
Not available.

**Absolute pressure of container**
Not available.

**Other physical/chemical data**
None known or reported by the manufacturer.

## 10. Stability and reactivity

### Reactivity
The product is stable and non-reactive under normal conditions of use, storage and transport.

### Chemical stability
Stable under normal conditions.

### Possibility of hazardous reactions
Hazardous polymerization does not occur.

### Conditions to avoid
High temperatures, flame, sparks, high humidity, light, water, and moisture.

### Incompatible materials
Oxidizing agents
SAFETY DATA SHEET

Hazardous decomposition products
Carbon oxides.
Nitrogen oxides (NOx).

11. Toxicological information

Information on likely routes of exposure

Routes of entry inhalation YES
Routes of entry skin & eye YES
Routes of entry Ingestion YES
Routes of exposure skin absorption YES

Most important symptoms/effects, acute and delayed
May be mildly irritating to skin, eyes and respiratory system. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Information on toxicological effects

Acute toxicity
See below for toxicological data on the substance.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hydrotreated heavy naphthenic distillate</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td>LC50</td>
<td>Rat</td>
<td>&gt; 5 mg/L (mist)</td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>&gt; 5000 mg/kg</td>
</tr>
<tr>
<td><strong>Diethylene glycol monobutyl ether</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>2764 mg/kg</td>
</tr>
<tr>
<td>LC50</td>
<td>Rat</td>
<td>N/Av</td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>6560 mg/kg</td>
</tr>
<tr>
<td><strong>Triethanolamine</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>&gt; 19870 mg/kg</td>
</tr>
<tr>
<td>LC50</td>
<td>Rat</td>
<td>N/Av</td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>6110 mg/kg</td>
</tr>
</tbody>
</table>

Skin Corrosion/Irritation
May cause mild skin irritation.

Serious eye damage/Irritation
May cause mild eye irritation.

Respiratory or skin sensitization
Not expected to be a skin or respiratory sensitizer.

Germ cell mutagenicity
Not expected to be mutagenic.

Carcinogenicity
No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

IARC Monographs. Overall Evaluation of Carcinogenicity
Triethanolamine(CAS 102-71-6) Group 3 (Not Classifiable)

Material name: KLONDIKE Soluble Cutting Oil
Version #: 1    Issue date:01-06-2020
SAFETY DATA SHEET

Reproductive toxicity
This product is not expected to cause reproductive effects.

Specific target organ toxicity - single exposure
Not classified as a specific target organ toxicity-single exposure.

Specific target organ toxicity - repeated exposure
Not classified as specific target organ toxicity-repeated exposure.

Chronic effects
Prolonged or repeated skin contact may cause defatting and drying resulting in irritation and possible dermatitis.

Aspiration toxicity
Not expected to be an aspiration hazard.

Further information
None reported by the manufacturer.

12. Ecological information
Ecotoxicity
The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Ecotoxicity data:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS No</th>
<th>Toxicity to Fish</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>LC50 / 96h    NOEC / 21 day  M Factor</td>
</tr>
<tr>
<td>Hydrotreated heavy naphthenic distillate</td>
<td>64742-52-5</td>
<td>&gt; 5000 mg/L (Rainbow trout) N/Av None.</td>
</tr>
<tr>
<td>Diethylene glycol monobutyl ether</td>
<td>112-34-5</td>
<td>1300 mg/L (Bluegill sunfish) N/Av None.</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>102-71-6</td>
<td>11 800 mg/L (Fathead minnow) N/Av None.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS No</th>
<th>Toxicity to Daphnia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>EC50 / 48h    NOEC / 21 day  M Factor</td>
</tr>
<tr>
<td>Hydrotreated heavy naphthenic distillate</td>
<td>64742-52-5</td>
<td>&gt; 1000 mg/L (Daphnia magna) N/Av None.</td>
</tr>
<tr>
<td>Diethylene glycol monobutyl ether</td>
<td>112-34-5</td>
<td>&gt; 100 mg/L (Daphnia magna) N/Av None.</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>102-71-6</td>
<td>1386 mg/L/24hr (Daphnia magna) 16 mg/L None.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS No</th>
<th>Toxicity to Algae</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>EC50 / 96h or 72h NOEC / 96h or 72h M Factor</td>
</tr>
<tr>
<td>Hydrotreated heavy naphthenic distillate</td>
<td>64742-52-5</td>
<td>&gt; 1000 mg/L/96hr (Green algae) N/Av None.</td>
</tr>
<tr>
<td>Diethylene glycol monobutyl ether</td>
<td>112-34-5</td>
<td>&gt; 100 mg/L/96hr (Green algae) N/Av None.</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>102-71-6</td>
<td>169 mg/L/96hr (Green algae) N/Av None.</td>
</tr>
</tbody>
</table>

Persistence and degradability
Not readily biodegradable.

Bioaccumulation potential
Not available.

Components	| Partition coefficient n-octanol/water (log Kow) | Bioconcentration factor (BCF) |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrotreated heavy naphthenic distillate (CAS 64742-52-5)</td>
<td>&gt;20</td>
<td>N/Av</td>
</tr>
<tr>
<td>Diethylene glycol monobutyl ether (CAS 112-34-5)</td>
<td>1.0</td>
<td>no bioconcentration expected</td>
</tr>
<tr>
<td>Triethanolamine (CAS 102-71-6)</td>
<td>-2.53</td>
<td>&lt;3.9 BCF method: OECD 305C</td>
</tr>
</tbody>
</table>

Material name: KLONDIKE Soluble Cutting Oil
Version #: 1 Issue date: 01-06-2020
SAFETY DATA SHEET

Mobility in soil Not available.
Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal consideration

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Local disposal regulations Dispose in accordance with all applicable regulations.
Hazardous waste code The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

49CFR/DOT Not regulated as dangerous goods
ICAO/IATA Not regulated as dangerous goods
IMDG Not regulated as dangerous goods
TDG Not regulated as dangerous goods

General information Keep away from heat, sparks and open flame. - No smoking.
Transport in bulk according to Not established.
Annex II of MARPOL 73/78 and the IBC Code

15. Regulatory information

US Federal Information: This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory list.

Components listed below are present on the following U.S. Federal chemical lists:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS #</th>
<th>TSCA Inventory</th>
<th>CERCLA Reportable Quantity(RQ) (40 CFR 117.302):</th>
<th>SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:</th>
<th>SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical</th>
<th>Toxic Chemical</th>
<th>de minimus Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrotreated heavy naphthenic distillate</td>
<td>64742-52-5</td>
<td>Yes</td>
<td>None.</td>
<td>None.</td>
<td>No</td>
<td>N/Ap</td>
<td></td>
</tr>
<tr>
<td>Diethylene glycol monobutyl ether</td>
<td>112-34-5</td>
<td>Yes</td>
<td>None.</td>
<td>None.</td>
<td>No</td>
<td>N/Ap</td>
<td></td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>102-71-6</td>
<td>Yes</td>
<td>N/Ap</td>
<td>N/Ap</td>
<td>No</td>
<td>N/Ap</td>
<td></td>
</tr>
</tbody>
</table>

Superfund Amendments and Reauthorization Act of 1986 (SARA)
SAFETY DATA SHEET

Hazard categories
Immediate Hazard - NO
Delayed Hazard - NO
Fire Hazard - NO
Pr NO

US state regulations
The following chemicals are specifically listed by individual States:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS #</th>
<th>California Proposition 65</th>
<th>State &quot;Right to Know&quot; Lists</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Listed</td>
<td>Type of Toxicity</td>
</tr>
<tr>
<td>Hydrotreated heavy naphthenic distillate</td>
<td>64742-52-5</td>
<td>No</td>
<td>N/Ap</td>
</tr>
<tr>
<td>Diethylene glycol monobutyl ether</td>
<td>112-34-5</td>
<td>No</td>
<td>N/Ap</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>102-71-6</td>
<td>No</td>
<td>N/Ap</td>
</tr>
</tbody>
</table>

Not Regulated.

Canadian Information:
Not regulated.

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

International Inventories
Components listed below are present on the following International Inventory lists:

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS #</th>
<th>European EINECs</th>
<th>Australia AICS</th>
<th>Philippines PICCS</th>
<th>Japan ENCS</th>
<th>Korea KECI/KECL</th>
<th>China IECSC</th>
<th>NewZealand IOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrotreated heavy naphthenic distillate</td>
<td>64742-52-5</td>
<td>265-155-0</td>
<td>Present</td>
<td>Present</td>
<td>(9)-1689</td>
<td>KE-12543</td>
<td>Present</td>
<td>May be used as a single component chemical under an appropriate group standard</td>
</tr>
<tr>
<td>Diethylene glycol monobutyl ether</td>
<td>112-34-5</td>
<td>203-961-6</td>
<td>Present</td>
<td>Present</td>
<td>(7)-97; (2)-422</td>
<td>KE-10466</td>
<td>Present</td>
<td>HSR001075</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>102-71-6</td>
<td>203-049-8</td>
<td>Present</td>
<td>Present</td>
<td>(2)-308</td>
<td>KE-25940</td>
<td>Present</td>
<td>HSR002785</td>
</tr>
</tbody>
</table>

16. Other information, including date of preparation or last revision

Issue date 01/06/2020
Version # 1

Legend
ACGIH: American Conference of Governmental Industrial Hygienists
CA: California
CAS: Chemical Abstract Services
CEPA: Canadian Environmental Protection Act
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
CPR: Controlled Products Regulation
CSA: Canadian Standards Association
DOT: Department of Transportation
DSL: Domestic Substances List
EPA: Environmental Protection Agency

Material name: KLONDIKE Soluble Cutting Oil
Version #: 1 Issue date:01-06-2020
Other special considerations for handling:

- Provide adequate information, instruction and training for operators.

Disclaimer

The information in this document was written based on the best knowledge and experience currently available, and is offered for your consideration and guidance when exposed to this product. KLONDIKE Lubricants Corporation disclaim all expressed or implied warranties and assume no responsibilities for the accuracy or completeness of the data contained herein. The data in this document does not apply to use with any other product or in any other process. This document may not be changed, or altered in any way without the expressed knowledge and permission of KLONDIKE Lubricants Corporation.

Bibliography

1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2016
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2016 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists - 2016 version.