MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product identifier **KLONDIKE SAE 0W-40 CJ-4 Full Synthetic Heavy Duty Engine Oil**

Version # 01

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CAS # Mixture

Product code 0W-40 CJ-4 Full Syn

Product use Heavy Duty Engine Oil

Manufacturer information

KLONDIKE Lubricants Corporation
3078 275th Street
Langley, BC V4W 3L4
Canada
info@klondikelubricants.com
www.klondikelubricants.com

General Information	1-877-293-4691
Chemtrec (Within US)	1-800-424-9300
Chemtrec (International)	1-703-527-3887

Supplier Refer to Manufacturer

2. Hazards Identification

Emergency overview WARNING

May cause mild skin and eye irritation. May cause respiratory irritation. May be fatal if swallowed and enters airways. Aspiration hazard. Prolonged or repeated overexposure may cause liver effects.

Potential health effects

Routes of exposure Eye contact. Skin contact. Ingestion. Inhalation.

Eyes May cause mild eye irritation.

Skin May cause mild skin irritation.

Inhalation May cause irritation of respiratory tract.

Ingestion May cause irritation of the gastrointestinal tract. Aspiration hazard.

Chronic effects Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Prolonged or repeated overexposure may cause liver effects.

Signs and symptoms May be mildly irritating to skin, eyes and respiratory system. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Symptoms may include coughing, choking and wheezing. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be an aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.

Potential environmental effects Components of this product are hazardous to aquatic life. May cause long-term adverse effects in the environment.

3. Composition / Information on Ingredients

Non-hazardous components	CAS #	Percent
1-decene Tetramer, Mixed With 1-decene Trimer,hydrogenated	68649-12-7	40 - 70
1-decene, Homopolymer, Hydrogenated	68037-01-4	10 - 30
1-decene, Dimers, Hydrogenated	68649-11-6	7 - 13

4. First Aid Measures

First aid procedures

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin contact Wash off with soap and plenty of water. Get medical attention if irritation develops and persists.

Inhalation	Move to fresh air. Oxygen or artificial respiration if needed. Get medical attention if symptoms occur.
Ingestion	Call a physician or poison control center immediately. Do not induce vomiting. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration. Never give anything by mouth to a victim who is unconscious or is having convulsions.
Notes to physician	Aspiration hazard.
General advice	If you feel unwell, seek medical advice (show the label where possible). Show this safety data sheet to the doctor in attendance.

5. Fire Fighting Measures

Flammable properties	Not flammable by WHMIS criteria. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.
Extinguishing media	
Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Fire fighting equipment/instructions	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Evacuate area and fight fire from a safe distance. Ventilate the contaminated area. Cool containers exposed to heat with water spray and remove container, if no risk is involved. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Explosion data	
Sensitivity to static discharge	Not expected to be sensitive to static discharge.
Sensitivity to mechanical impact	Not expected to be sensitive to mechanical impact.
Hazardous combustion products	Carbon oxides. Formaldehyde. Hydrocarbons. Other irritating fumes and smoke.

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. For personal protection, see section 8 of the MSDS.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.
Methods for containment	Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.
Methods for cleaning up	Should not be released into the environment. The product is immiscible with water and will spread on the water surface. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Absorb in vermiculite, dry sand or earth and place into containers. Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the MSDS.

7. Handling and Storage

Handling	Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Avoid contact with eyes, skin, and clothing. Avoid breathing mist or vapor. Do not taste or swallow. Eliminate all sources of ignition. Do not use in areas without adequate ventilation. When using, do not eat, drink or smoke. Wear suitable protective equipment. Wash hands after handling and before eating.
Storage	Store in tightly closed original container in a dry, cool and well-ventilated place. Store locked up. Store away from incompatible materials (see Section 10 of the MSDS).

8. Exposure Controls / Personal Protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).

Engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Personal protective equipment	
Eye/face protection	Wear safety goggles or glasses as appropriate for the job. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
Skin protection	Wear appropriate chemical resistant clothing.
Respiratory protection	Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Advice should be sought from respiratory protection specialists.
Hand protection	Wear appropriate chemical resistant gloves. Advice should be sought from glove suppliers.

9. Physical & Chemical Properties

Appearance	
Physical state	Liquid.
Form	Liquid.
Color	Amber.
Odor	Mild petroleum odor.
Odor threshold	Not available.
pH	Not available.
Vapor pressure	< 0.01 kPa
Vapor density	10
Boiling point	280 ºC (536 ºF)
Melting point/Freezing point	Not available.
Solubility (water)	Insoluble
Specific gravity	0.84
Relative density	Not available.
Flash point	200.0 ºC (392 ºF)
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Auto-ignition temperature	Not available.
Evaporation rate	Not available.
Percent volatile	Nil
Partition coefficient (n-octanol/water)	Not available.
Other data	
Kinematic viscosity	20 cSt
Kinematic viscosity temp	40 ºC

10. Chemical Stability & Reactivity Information

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Avoid temperatures exceeding the flash point. Direct sources of heat. Contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	None known, refer to hazardous combustion products in Section 5.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.

11. Toxicological Information

Toxicological data

Components	Species	Test Results
1-decene Tetramer, Mixed With 1-decene Trimer,hydrogenated (CAS 68649-12-7)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Inhalation		
LC50	Rat	1.17 mg/l, 4 hours Mist
Oral		
LD50	Rat	> 5000 mg/kg
1-decene, Dimers, Hydrogenated (CAS 68649-11-6)		
Acute		
Dermal		
LD50	Rabbit	> 3000 mg/kg
Inhalation		
LC50	Rat	1.17 mg/l, 4 Hours Mist
Oral		
LD50	Rat	> 2000 mg/kg
1-decene, Homopolymer, Hydrogenated (CAS 68037-01-4)		
Acute		
Dermal		
LD50	Rabbit	> 3000 mg/kg
Inhalation		
LC50	Rat	1.17 mg/l, 4 hours Mist
Oral		
LD50	Rat	> 5000 mg/kg

Acute effects May cause mild irritation to skin, eyes and respiratory system. May cause irritation of the gastrointestinal tract.

Sensitization Not expected to be a skin or respiratory sensitizer.

Chronic effects Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Prolonged or repeated overexposure may cause liver effects.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Skin corrosion/irritation May be irritating to the skin.

Serious eye damage/irritation May be irritating to eyes.

Mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductive effects This product is not expected to cause reproductive or developmental effects.

Teratogenicity This product is not expected to be a teratogen.

Symptoms and target organs May cause mild skin and eye irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Symptoms may include coughing, choking and wheezing. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be an aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.

Synergistic materials Not available.

12. Ecological Information

Ecotoxicological data

Product		Species	Test Results
KLONDIKE SAE 0W-40 CJ-4 Full Synthetic Heavy Duty Engine Oil (CAS Mixture)			
Aquatic			
Acute			
Crustacea	EC50	Daphnia	28.5251 mg/l, 48 hours estimated
Fish	LC50	Fish	28.5251 mg/l, 96 hours estimated

Components		Species	Test Results
1-decene Tetramer, Mixed With 1-decene Trimer,hydrogenated (CAS 68649-12-7)			
Aquatic			
Acute			
Algae	EC50	Green algae (Selenastrum capricornutum)	> 1000 mg/l, 72 hours
Crustacea	EC50	Water flea (Daphnia magna)	> 1000 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	> 1000 mg/l, 96 hours
Chronic			
Algae	NOEC	Green algae (Selenastrum capricornutum)	1000 mg/l, 72 hours
Crustacea	NOEC	Water flea (Daphnia magna)	125 mg/l, 21 days
1-decene, Dimers, Hydrogenated (CAS 68649-11-6)			
Aquatic			
Acute			
Algae	EC50	Green algae (Selenastrum capricornutum)	> 1000 mg/l, 72 hours
Crustacea	EC50	Water flea (Daphnia magna)	> 1000 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	> 1000 mg/l, 96 hours
Chronic			
Algae	NOEC	Green algae (Selenastrum capricornutum)	1000 mg/l, 72 hours
Crustacea	NOEC	Water flea (Daphnia magna)	125 mg/l, 21 days
1-decene, Homopolymer, Hydrogenated (CAS 68037-01-4)			
Aquatic			
Acute			
Algae	EC50	Green algae (Selenastrum capricornutum)	> 1000 mg/l, 72 hours
Crustacea	EC50	Water flea (Daphnia magna)	> 1000 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	> 1000 mg/l, 96 hours
Chronic			
Algae	NOEC	Green algae (Selenastrum capricornutum)	1000 mg/l, 72 hours
Crustacea	NOEC	Water flea (Daphnia magna)	125 mg/l, 21 days

Ecotoxicity Components of this product are hazardous to aquatic life.

Environmental effects Harmful to aquatic organisms. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Aquatic toxicity Not available.

Persistence and degradability Not available.

Mobility in environmental media The product is immiscible with water and will spread on the water surface.

13. Disposal Considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.
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

TDG

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

15. Regulatory Information

Canadian regulations	This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.
WHMIS status	Non-controlled

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other Information

HMIS® ratings	Health: 1 Flammability: 1 Physical hazard: 0
NFPA ratings	Health: 0 Flammability: 1 Instability: 0
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