

1. Identification

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

Other means of identification

Product code 0W-40 CK-4 Full Syn

Recommended use Heavy Duty Engine Oil

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name KLONDIKE Lubricants Corporation
Address 3078 275th Street
 Langley, BC V4W 3L4
 Canada
Telephone General Information 1-877-293-4691
Website www.klondikelubricants.com
E-mail info@klondikelubricants.com
Emergency phone number Chemtrec (Within US) 1-800-424-9300
 Chemtrec (International) 1-703-527-3887

Supplier Refer to Manufacturer

2. Hazard(s) identification

Physical hazards This mixture does not meet the classification criteria according to OSHA HazCom 2012.

Health hazards Aspiration hazard Category 1

Environmental hazards This mixture does not meet the classification criteria according to OSHA HazCom 2012.

OSHA defined hazards This mixture does not meet the classification criteria according to OSHA HazCom 2012.

Label elements



Signal word Danger

Hazard statement May be fatal if swallowed and enters airways.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting.

Storage Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) May cause mild skin and eye irritation. May cause respiratory irritation. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Prolonged or repeated overexposure may cause liver effects.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
1-decene Tetramer, Mixed With 1-decene Trimer,hydrogenated	REACTION PRODUCTS OF 1-DECENE, HYDROGENATED	68649-12-7	40 - 70
1-decene, Homopolymer, Hydrogenated	HYDROGENATED POLYDECENE	68037-01-4	10 - 30

Chemical name	Common name and synonyms	CAS number	%
1-decene, Dimers, Hydrogenated	Dec-1-ene, dimers, hydrogenated	68649-11-6	7 - 13
Zinc, Dithiophosphate Di-c1-14-alkyl Esters	PHOSPHORODITHIOIC ACID, O,O-DI-C1-14-ALKYL ESTERS, ZINC SALTS.	68649-42-3	3 - < 5

The exact concentrations of the above listed chemicals are being withheld as a trade secret as allowed by 29CFR1910.1200.

4. First-aid measures

Inhalation	Move to fresh air. Oxygen or artificial respiration if needed. Get medical attention if symptoms occur.
Skin contact	Wash off with soap and plenty of water. Get medical attention if irritation develops and persists.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
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.
Most important symptoms/effects, acute and delayed	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.
Indication of immediate medical attention and special treatment needed	Aspiration hazard. Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

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.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of 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.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.
Hazardous combustion products	Carbon oxides. Formaldehyde. Hydrocarbons. Other irritating fumes and smoke.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	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. Prevent entry into waterways, sewer, basements or confined areas. 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 SDS.

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

7. Handling and storage

Precautions for safe 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.

Conditions for safe storage, including any incompatibilities 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 SDS).

8. Exposure controls/personal protection

Occupational exposure limits

U.S. - OSHA

Components

Type

Value

Form

Zinc, Dithiophosphate
Di-c1-14-alkyl Esters (CAS
68649-42-3)

TWA

None

Biological limit values

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

Appropriate 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.

Individual protection measures, such as 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

Hand protection

Wear appropriate chemical resistant gloves. Advice should be sought from glove suppliers.

Other

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.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not eat, drink or smoke. 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

Physical state

Liquid.

Form

Liquid.

Color

Amber.

Odor

Mild petroleum odor.

Odor threshold

Not available.

pH

Not available.

Melting point/freezing point

Not available.

Initial boiling point and boiling range

280 °C (536 °F)

Flash point

200.0 °C (392 °F)

Evaporation rate

Not available.

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)

Not available.

Flammability limit - upper (%)

Not available.

Explosive limit - lower (%)

Not available.

Explosive limit - upper (%)	Not available.
Vapor pressure	< 0.01 kPa
Vapor density	10
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Kinematic viscosity	20 cSt
Kinematic viscosity temperature	40 °C
Percent volatile	Nil
Specific gravity	0.84

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
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.

11. Toxicological information

Information on likely routes of exposure

Ingestion	May be fatal if swallowed and enters airways. May cause irritation of the gastrointestinal tract.
Inhalation	May cause irritation to the respiratory system.
Skin contact	May be irritating to the skin.
Eye contact	May be irritating to eyes.

Symptoms related to the physical, chemical and toxicological characteristics 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.

Information on toxicological effects

Acute toxicity	May be fatal if swallowed and enters airways. May cause mild irritation to skin, eyes and respiratory system. May cause irritation of the gastrointestinal tract.
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Components	Species	Test Results
1-decene Tetramer, Mixed With 1-decene Trimer,hydrogenated (CAS 68649-12-7)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg
<i>Inhalation</i>		
LC50	Rat	1.17 mg/l, 4 hours Mist
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg

Components	Species	Test Results
1-decene, Dimers, Hydrogenated (CAS 68649-11-6)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 3000 mg/kg
<i>Inhalation</i>		
LC50	Rat	1.17 mg/l, 4 Hours Mist
<i>Oral</i>		
LD50	Rat	> 2000 mg/kg
1-decene, Homopolymer, Hydrogenated (CAS 68037-01-4)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 3000 mg/kg
<i>Inhalation</i>		
LC50	Rat	1.17 mg/l, 4 hours Mist
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg
Zinc, Dithiophosphate Di-c1-14-alkyl Esters (CAS 68649-42-3)		
Acute		
<i>Dermal</i>		
LC50	Rabbit	No data in literature
<i>Inhalation</i>		
LC50	Rat	No data in literature
<i>Oral</i>		
LD50	Rat	26100 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation May be irritating to the skin.

Serious eye damage/eye irritation May be irritating to eyes.

Respiratory or skin sensitization

Respiratory sensitization This product is not expected to cause respiratory sensitization.

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

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental 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 a specific target organ toxicity -repeated exposure.

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.

Aspiration toxicity Aspiration Toxicity Category 1
May be fatal if swallowed and enters airways.

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.

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

Product		Species	Test Results
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			
<i>Acute</i>			
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
<i>Chronic</i>			
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			
<i>Acute</i>			
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
<i>Chronic</i>			
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			
<i>Acute</i>			
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
<i>Chronic</i>			
Algae	NOEC	Green algae (Selenastrum capricornutum)	1000 mg/l, 72 hours
Crustacea	NOEC	Water flea (Daphnia magna)	125 mg/l, 21 days
Zinc, Dithiophosphate Di-c1-14-alkyl Esters (CAS 68649-42-3)			
Aquatic			
<i>Acute</i>			
Algae	EC50	Green algae (Selenastrum capricornutum)	1 - 5 mg/l, 96 hours
Crustacea	EC50	Water flea (Daphnia magna)	1 - 1.5 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	1 - 5 mg/l, 96 hours
<i>Chronic</i>			
Algae	NOEC	Green algae (Selenastrum capricornutum)	1 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data 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 considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

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

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

15. Regulatory information

US federal regulations This product is 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.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Zinc, Dithiophosphate Di-c1-14-alkyl Esters (CAS 68649-42-3) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Zinc, Dithiophosphate Di-c1-14-alkyl Esters	68649-42-3	3 - < 5

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Zinc, Dithiophosphate Di-c1-14-alkyl Esters (CAS 68649-42-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Zinc, Dithiophosphate Di-c1-14-alkyl Esters (CAS 68649-42-3)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

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, including date of preparation or last revision

Issue date 03-14-2017

Version # 02

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