# SAFETY DATA SHEET

## 1. Identification

**Product identifier** **KLONDIKE 5W-40 CK-4 Full Synthetic Heavy Duty Engine Oil**

**Other means of identification**

**Product code** 5W-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 | % |
|---|---|---|---|
| Distillates, (petroleum), Hydrotreated Heavy Paraffinic | Not Available | 64742-54-7 | 40 - 70 |
| 1-decene Tetramer, Mixed With 1-decene Trimer,hydrogenated | REACTION PRODUCTS OF 1-DECENE, HYDROGENATED | 68649-12-7 | 15 - 40 |

| Chemical name | Common name and synonyms | CAS number | % |
|---|---|---|---|
| 1-decene, Homopolymer, Hydrogenated | HYDROGENATED POLYDECENE | 68037-01-4 | 3 - 7 |
| Zinc, Dithiophosphate Di-c1-14-alkyl Esters | PHOSPHORODITHIOIC ACID, O,O-DI-C1-14-ALKYL ESTERS, ZINC SALTS. | 68649-42-3 | 1 - 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 ºC (536 ºF)

**Flash point** 200.0 ºC (392 ºF)

| | |
|---|---|
| **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 ºC |
| **Percent volatile** | Nil |
| **Specific gravity** | 0.85 |

## 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. |

| 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, 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 |
| Distillates, (petroleum), Hydrotreated Heavy Paraffinic (CAS 64742-54-7) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | > 5000 mg/kg |
| *Inhalation* | | |
| | | No data in literature |
| *Oral* | | |
| LD50 | Rat | > 15000 mg/kg |
| Zinc, Dithiophosphate Di-c1-14-alkyl Esters (CAS 68649-42-3) | | |
| **Acute** | | |
| *Dermal* | | |
| LC50 | Rabbit | No data in literature |
| *Inhalation* | | |
| LC50 | Rat | No data in literature |
| *Oral* | | |
| 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 5W-40 CK-4 Full Synthetic Heavy Duty Engine Oil (CAS Mixture) | | | |
| **Aquatic** | | | |
| *Acute* | | | |
| Crustacea | EC50 | Daphnia | 29.7895 mg/l, 48 hours estimated |
| Fish | LC50 | Fish | 25.2618 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, 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 |
| Distillates, (petroleum), Hydrotreated Heavy Paraffinic (CAS 64742-54-7) | | | |
| **Aquatic** | | | |
| *Acute* | | | |
| Crustacea | EC50 | Water flea (Daphnia magna) | > 10000 mg/l, 48 hours |
| Fish | LC50 | Fathead minnow (Pimephales promelas) | > 100 mg/l, 96 hours |
| *Chronic* | | | |
| Crustacea | NOEC | Water flea (Daphnia magna) | 10 mg/l, 21 days |
| Zinc, Dithiophosphate Di-c1-14-alkyl Esters (CAS 68649-42-3) | | | |
| **Aquatic** | | | |
| *Acute* | | | |
| 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 |
| *Chronic* | | | |
| 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 | 1 - 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** 01-17-2017

**Version #** 02

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