
Product Safety Data Sheet (MSDS)

Version number: A2 version

Release date: 15 January, 2025

Product Name: Kunlun SL Gasoline Engine Oil (10W-30/5W-30)

Product Category: Internal combustion engine oil (GB/T 7631 classification)

Product Name: Kunlun Engine Oil SL

Recommended use: Kunlun SL Gasoline Engine Oil is suitable for lubricating gasoline passenger vehicle engines

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Address: 17th Floor, Building A, No. 8 Jinxing Garden, Sun Palace, Chaoyang District, Beijing

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This product is a mixture of refined lubricating base oil and additives, with a composition of weight percentages.

| Chemical name | Content (WT%) | CAS number |
|---|---------------|----------------------------|
| Base oil | >80 | |
| Additive | <20 | |
| Hazardous substances that need to be disclosed: | | |
| Zinc dialkyldithiophosphate | <1.2 | 68649-42-3 |
| Branched alkylphenols and calcium monobranched alkylphenols | <0.1 | 74499 35-7 and 132752-19-3 |
| Aromatic amine compound | <0.1 | Private |

According to the national standard "Code for Fire Protection Design of Petrochemical Enterprises", this product is classified as Class IIIB combustible liquid. According to GB 12268 "List of Dangerous Goods", it is not classified as dangerous goods. Under normal conditions of use, this product does not present unexpected hazards.

Physical/chemical hazard category: not classified as hazardous substance

Health hazard category: No significant harm

Health hazards: In some applications, oil mist may be generated. Excessive exposure to liquid or oil mist may cause irritation to the skin and eyes, may cause irritation and damage to the

respiratory system, and may aggravate pre-existing respiratory diseases such as asthma.

Accidental ingestion of large quantities may seriously damage the digestive system, and immediate medical measures should be taken.

Environmental hazards: Harmful to the environment, contamination of soil and water should be prevented.

Inhalation: Move quickly to fresh air and keep the airway unobstructed. If dizziness, nausea, or unconsciousness occurs, seek medical attention immediately.

Ingestion: Drink sufficient warm water and induce vomiting. In case of large ingestion, immediately send to hospital for treatment and take emetic or other rescue measures under medical guidance.

Eye Contact: Immediately lift upper and lower eyelids and rinse with running water or saline solution. If irritation persists, seek medical attention.

Skin contact: Remove contaminated clothing and wash the contaminated area with soap and plenty of running water. If the product is injected subcutaneously or into any part of the body, regardless of the appearance or size of the wound, it must be immediately taken to the hospital for surgical examination and treatment.

Hazardous characteristics: This product has a flash point greater than 200 °C and may cause combustion when exposed to open flames, high heat, or in contact with oxidants.

Hazardous Combustion Products: CO, CO₂, sulfur compounds, suspended solid particles, and complex combustion mixtures.

Fire-fighting Methods: Firefighters must wear gas masks and full protective clothing, and fight the fire from the upwind direction. Move containers from the fire area to an open space if possible.

If containers in the fire have changed color or are making sounds from safety relief devices, evacuate immediately.

Extinguishing agent: foam, dry powder, carbon dioxide and sand can be used. Do not use water as a fire extinguishing agent.

Emergency response: When leakage is found, immediately cut off ignition sources and isolate combustible materials. Based on risk assessment, evacuate personnel from the contaminated area to a safe area if necessary. During cleanup, personal protective equipment must be worn. During emergency response, attention should be paid to preventing personal injury and secondary environmental pollution.

Small amount of leakage: Collect spilled liquid in sealed containers as much as possible. Absorb residues with sand, activated carbon, or other inert materials. Alternatively, clean with emulsions made from non-flammable dispersants. Waste liquid should be disposed of safely. Massive leakage: Report to relevant authorities according to risk level. Construct dikes or pits for

containment. Transfer by pump to sealed containers for recovery or disposal at waste treatment sites.

Handling precautions: The place where this product is used should comply with fire protection design specifications. Avoid excessive generation of oil mist during operation. Operators should receive fire safety training and be equipped with necessary labor protection equipment. Avoid inhalation of oil mist. Production equipment should eliminate leakage to prevent slipping hazards.

Storage Precautions: Store in tightly closed containers in a cool, dry, well-ventilated place. Keep away from open flames, high temperature heat sources, strong oxidizers, and flammable materials. Avoid mixing with water and impurities. Storage areas should be equipped with necessary fire-fighting and spill emergency equipment. Empty containers may still contain residues; do not heat, cut, or weld with open flame.

Maximum allowable concentration: China has not established relevant standards.

Engineering control: There are no special protective requirements under normal usage environment and sufficient ventilation conditions.

Eye protection: It is recommended to wear safety glasses with side shields when handling the product. Chemical goggles should be worn in the presence of oil mist.

Skin protection: Wear impermeable protective clothing and safety shoes to minimize skin exposure

Hand protection: Wear oil-resistant gloves (e.g., nitrile rubber), high-quality PVC

Respiratory protection: Engineering controls should be used to ensure ventilation. Avoid generating large amounts of oil mist. If air contaminant levels cannot be controlled, use approved respirators, such as particulate air-purifying respirators for dust or oil mist, or self-contained breathing apparatus.

The typical physical and chemical properties are as follows. For more information, please consult the supplier in section 1.

Appearance: Transparent liquid.

Odor: Odorous, non-irritating.

Density (kg/m³, 20 °C): 840-900kg/m³

Flash point (open), °C: not lower than 200

Solubility: Insoluble in water, soluble in most organic solutions such as alcohols, ethers, ketones, lipids, hydrocarbons, etc.

Stability: Under normal conditions, this product is stable

Substances to avoid: Strong oxidants

Conditions to avoid contact: open flames, high heat sources

Hazardous Decomposition Products: Does not decompose at ambient temperature

Possibility of Hazardous Reactions: No hazardous polymerization will occur

The following information is provided based on product ingredients and toxicological data of similar products.

Acute toxicity:

Oral toxicity test (Maximum limit test): LD50 for both male and female mice is greater than 2000 mg/kg, indicating very low toxicity

Acute inhalation toxicity test (Maximum limit test): LC50 for both male and female mice is greater than 10 mg/L, indicating very low toxicity

Skin irritation (Rabbit): Negligible irritation to the skin at normal temperature

Eye irritation (Rabbit): May cause moderate, temporary eye discomfort

Respiratory and skin allergies and carcinogenicity: Highly refined base oils are not carcinogenic in animal studies. However, exposure of animals to high concentrations of oil mist may cause oil deposition, inflammation, and granuloma formation in the respiratory system. Oil may produce polycyclic aromatic hydrocarbons under high-temperature cracking conditions or when mixed with used oil, or contaminants caused by bacteria. These may be carcinogenic or cause serious respiratory damage.

Genital cell mutagenicity: No relevant testing data available

Reproductive toxicity: No relevant testing data available

The following information is provided based on the ingredients and ecological data of similar products.

Ecotoxicity: This product is basically harmless to aquatic organisms, but under long-term infiltration and accumulation conditions, it may produce ecological toxicity.

Mobility: This product is a non-volatile liquid and does not produce oil vapor that affects the atmosphere in natural environments. It has low water solubility and can float from water to land. Entering the soil, it will be absorbed by soil particles and cannot move.

Persistence and Biodegradability: Base oil components can be naturally biodegradable and have potential for bio-accumulation.

Waste Characteristics: HW08- Waste Mineral Oil in the National Hazardous Waste List

Disposal method: Must comply with applicable local laws and regulations. If possible, hand over to qualified hazardous waste treatment organizations for recycling. It is recommended to use as

boiler fuel under controlled conditions, and monitor harmful emissions from high-temperature combustion. Temporary storage of waste should be in sealed containers, protected from light, and properly labeled

China's "List of Dangerous Goods" (GB12268): This product does not belong to Class 9 dangerous goods.

China/International Transportation Regulations: Road Transport: Not regulated

Sea Transport (International Maritime Dangerous Goods): Not regulated

Air Transport (International Air Transport Association): Air Transport

This product is not classified as hazardous goods and therefore is not subject to the "Regulations on the Safety Management of Hazardous Chemicals" of China. However, as a combustible liquid, it shall comply with the relevant provisions of the "Work Safety Law of the People's Republic of China" and the "Fire Protection Law of the People's Republic of China" in terms of safe production, use, storage, transportation, and handling.

Waste disposal shall comply with the "Environmental Protection Law of the People's Republic of China" and the "Law on the Prevention and Control of Environmental Pollution by Solid Waste", as well as local environmental discharge standards.

Complies with the chemical inventories of the following countries/regions:

IECSC (China Existing Chemical Substances Inventory),

DSL (Canada),

EINECS (EU),

ENCS (Japan),

KECI (Korea),

PICCS (Philippines),

TSCA (USA),

AICS (Australia)

This Safety Data Sheet is prepared based on current knowledge and applicable laws and regulations, describing the product from the aspects of health, safety, and environmental requirements. It may be revised with updates to referenced standards and test data.

The data and recommendations provided in this Safety Data Sheet apply only to the specified product and its intended use. For any damage or injury caused by failure to follow the recommended instructions or use beyond the specified purpose, PetroChina Lubricant Company shall not bear any responsibility. Users purchasing this product may obtain additional information from the sales and technical service departments.

Safety Data Sheet

HP-R Grease

SECTION 1. Identification

GHS product identifier: HP-R Grease
Other means of identification: See Section 3
Product Code 60089785
Recommended use of the chemical and restrictions on use:
Recommended use: HP-R Grease is especially suitable for lubricating wheel bearing, chassis, electric motor and water pump of high speed, heavy duty car, passenger bus and long vehicle.
Recommended Restrictions: Not available.
Supplier's details:
Supplier(Manufacturer): SINOPEC LUBRICANT CO.,LTD.
Address: No. 6 Anning Zhuang West Road, Haidian District, Beijing, P.R.China
Post Code 100085
Contact person(E-mail): csc.lube@sinopec.com
Telephone: 86-400-810-9886
Fax: 86-10-82410856
Emergency phone number: 86-400-810-9886

SECTION 2. Hazards identification

Classification of the substance or mixture:

Physical hazards: Not classified
Health hazards: Not classified
Environmental hazards: Not classified

GHS label elements, including precautionary statements:

Hazard Pictograms : No hazard pictogram is used.
Signal word: No signal word is used.
Hazard statement: Not applicable.

Precautionary statement:

Prevention: Not applicable
Response: Not applicable
Storage: Not applicable
Disposal: Not applicable

Other hazards which do not result in classification: Not applicable

SECTION 3. Composition/information on ingredients

Substance/Mixture: Mixture

Ingredient(s):

| Chemical Name | CAS No. | EC No. | Concentration (% W/W) |
|----------------------------|------------|-----------|-----------------------|
| Highly refined mineral oil | 64742-44-5 | 265-146-1 | 88~93 % |
| Lithium complex thickner | 7620-77-1 | 31-536-5 | 8~15 % |
| Dithiocarbamate | 10254-57-6 | 233-593-1 | 0.5~3 % |

SECTION 4. First aid measures

Description of necessary first-aid measures:

In all cases of doubt, or when symptoms persist, seek medical attention.

In case of inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

In case of skin contact: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

In case of eyes contact: Rinse the eyes with plenty of water.

In case of ingestion: Clean mouth with water and drink plenty of water.

Most important symptoms/effects, acute and delayed: The product is not classified as harmful to human health effect.

Indication of immediate medical attention and special treatment needed, if necessary: If skin irritation or rash occurs, get medical advice/attention.

SECTION 5. Fire-fighting measures

Suitable extinguishing media: Use water fog, foam, dry chemical or carbon dioxide to extinguish flames.

Unsuitable extinguishing media: Water.

Specific hazards arising from the chemical: In case of heat, fire and strong oxidants can lead to burning. Fumes, smoke, carbon monoxide, sulfur oxides, aldehydes, nitrogen oxides, phosphate, certain metal.

Special protective actions for fire-fighters: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel: Provide adequate ventilation. Avoid skin and eye contact. Refer to section 8 of SDS for personal protection details.

For emergency responders: Wear an appropriate NIOSH/MSHA approved respirator if dust is generated.

Environmental precautions: Do not allow material to be released to the environment without proper governmental permits.

Methods and materials for containment and cleaning up: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

Reference to other sections: See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

Additional information: Not applicable.

SECTION 7. Handling and storage

Precautions for safe handling: Provide good ventilation. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy. Avoid contact with skin and eyes. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities: Store in tightly closed original container in a dry, cool and well-ventilated place. Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8. Exposure controls/personal protection

Control parameters: Not available.
Appropriate engineering controls: Use in a well-ventilated area.

Individual protection measures, such as personal protective equipment (PPE):

Eye/face protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Neoprene, Nitrile Rubber.

Skin protection: No respiratory protection is normally required. No respiratory protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material. If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge. Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Respiratory protection:
Thermal hazards: Wear suitable protective clothing to prevent heat.

SECTION 9. Physical and chemical properties and safety characteristics

Appearance:
Physical state: Uniform oil ointment
Form: Semisolid
Color: Blue
Odor: No irritating smell
Dropping Point: 321°C(typ)
Boiling point or initial boiling point and boiling range: Not available
Flammability: Not available
Lower and upper explosion limit / flammability limit: Not available
Flash point: 250 °C (open cup) (typ)
Auto-ignition temperature: >320°C

| | |
|---|---|
| Decomposition temperature: | Not available |
| PH: | Not available |
| Kinematic viscosity: | 150mm/s ² - 230 mm/s ² (40°C) |
| Solubility : | Not available |
| Partition coefficient n-octanol/water (log value): | > 6 (estimated value) |
| Vapor pressure: | <0.5MPa(20°C) |
| Density and/or relative density: | 0.88 kg/l - 0.93 kg/l(20°C) |
| Relative vapour density: | >1(air=1) |
| Particle characteristics: | Not available |
| Molecular weight: | Not available |
| Molecular formula: | Not available |
| Explosiveness: | Not explosive |
| Oxidising properties: | Not oxidizing |

SECTION 10. Stability and reactivity

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| Reactivity: | The substance is stable under normal storage and handling conditions. |
| Chemical stability: | This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. |
| Possibility of hazardous reactions: | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid: | Contact with incompatible materials. |
| Incompatible materials: | May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc. |
| Hazardous decomposition products: | None known (None expected). |

SECTION 11. Toxicological information

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|---|------------------------------|
| Acute toxicity: | |
| LD50(Oral, Rat): | > 5000 mg/kg bw |
| LD50(Dermal, Rabbit): | > 5000 mg/kg bw |
| LC50(Inhalation, Rat): | > 10000 mg/m ³ bw |
| Skin corrosion/Irritation: | Not classified |
| Serious eye damage/irritation: | Not classified |
| Respiratory or skin sensitization: | Not classified |
| Germ cell mutagenicity: | Not classified |
| Carcinogenicity: | Not classified |
| Reproductive toxicity: | Not classified |
| STOT- single exposure: | Not classified |
| STOT-repeated exposure: | Not classified |
| Aspiration hazard: | Not classified |

SECTION 12. Ecological information

Toxicity:

Highly refined mineral oil (CAS: 64742-44-5):

| Acute toxicity | Time | Species | Method | Evaluation | Remarks |
|-------------------|------|---------|----------|------------|---------|
| LL50 > 100 mg/L | 96h | Fish | OECD 203 | N/A | N/A |
| LL50 > 10000 mg/L | 48h | Daphnia | OECD 202 | N/A | N/A |
| EC50 N/A | 72h | Algae | OECD 201 | N/A | N/A |

isopropanol (CAS: 67-63-0):

| Acute toxicity | Time | Species | Method | Evaluation | Remarks |
|-----------------------------------|------|---------|----------|------------|---------|
| LC50 9640 mg/L - 10000 mg/L | 96h | Fish | OECD 203 | N/A | N/A |
| LC50 > 10000 mg/L | 24h | Daphnia | OECD 202 | N/A | N/A |
| EC50 N/A | 72h | Algae | OECD 201 | N/A | N/A |

| | |
|--|--|
| Persistence and degradability: | This product is expected to be inherently biodegradable. |
| Bioaccumulative potential: | Bioaccumulation is unlikely due to the very low water solubility of this product; therefore bioavailability to aquatic organisms is minimal. |
| Mobility in soil: | When released into the environment, adsorption to sediment and soil will be the predominant behavior. |
| Results of PBT&vPvB assessment: | No data available. |
| Other adverse effects: | No data available. |

SECTION 13. Disposal considerations

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|--------------------------|--|
| Disposal methods: | The material should be disposed of by incineration in a chemical incinerator in compliance with national and regional requirements. If empty container retains product residues, all label precautions must be observed. Return for reuse or dispose according to national or local regulations. |
|--------------------------|--|

SECTION 14. Transport information

| | Land transport(ADR/RID) | Sea transport (IMDG) | Air transport (ICAO/IATA) |
|---|-------------------------|----------------------|---------------------------|
| UN-Number | Not regulated | Not regulated | Not regulated |
| UN Proper shipping name | Not regulated | Not regulated | Not regulated |
| Transport hazard class(es) | Not regulated | Not regulated | Not regulated |
| Packing group, if applicable | Not regulated | Not regulated | Not regulated |
| Environmental hazards | No | No | No |
| Special precautions for user | See section 2 | See section 2 | See section 2 |
| Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code | Not regulated | Not regulated | Not regulated |

SECTION 15. Regulatory information

Safety, health and environmental regulations specific for the product in question:

| 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) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances | Yes |

| | | |
|-----------------------------|---|-----|
| | (ENCS) | |
| 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 this product complies 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).

SECTION 16. Other information

| | |
|---|---|
| The date of preparation of the latest revision of the SDS: | Version 1.0 Amended by GHS rev 6 on OCT.27 th , 2017 |
| Legend to abbreviations and acronyms used in the SDS: | <p>ADR: European Agreement Concerning the International Carriage of Dangerous Goods by Road</p> <p>RID: Regulations Concerning the International Transport of Dangerous Goods by Rail (European law)</p> <p>IMDG: International Maritime Dangerous Goods</p> <p>EINECS: European Inventory of Existing commercial Chemical Substances</p> <p>IATA: International Air Transport Association</p> <p>ICAO-TI: International Civil Aviation Organization 《The International Civil Aviation Covenant》 (ICAO)</p> <p>CAS: Chemical Abstracts Service</p> <p>LC50: Lethal Concentration 50</p> <p>EC50: Concentration for 50% of maximal effect</p> <p>LD50: Lethal dose 50%</p> |
| References and sources for data used to compile the SDS: | The European Chemicals Agency |