



SUNISO® 4GS Refrigeration Oil

SUNISO® 4GS

MSDS Preparation Date (dd/mm/yyyy): 27/08/2010

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MATERIAL SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION

Product identifier : **SUNISO® 4GS Refrigeration Oil**

Product Code(s) : Catalog Description: L317, L319, L322, L325, L352, L355 and L358
P/N 475327, 475330, 475336, 475341, 475346, 475349 and 475351

Product Use : Severely refined, naphthenic refrigeration system lubricant.

Chemical Family : Petroleum distillates

Supplier's name and address: **Parker Hannifin Corporation - Sporlan Division**
206 Lange Drive
Washington, MO, U.S.A.
63090

Manufacturer's name and address: Refer to Supplier

Information Telephone # : (636) 239-1111

24 Hr. Emergency Tel # : Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.).

SECTION 2 - HAZARDS IDENTIFICATION

Classification : WHMIS information: This product is not a WHMIS controlled product in Canada. It does not meet any of the criteria for a controlled product provided in Part IV of the Controlled Products Regulations (CPR).

OSHA: This material is not classified as hazardous under OSHA regulations (29 CFR Part 1910.1200).

Emergency Overview : Amber liquid. Petroleum odour.
Fumes from heated product or mists may irritate respiratory tract. May cause mild eye irritation. Prolonged or repeated skin contact may cause drying and irritation.

POTENTIAL HEALTH EFFECTS:

Signs and symptoms of short-term (acute) exposure

Inhalation : If product is heated or mists are formed, inhalation may cause irritation to the nose, throat and respiratory tract.

Skin : Direct skin contact may result in little or no irritation. Oils can block the skin pores causing an acne-like disorder.

Eyes : May cause mild transient irritation.

Ingestion : May cause irritation of mouth, throat, and stomach. May cause nausea, vomiting, and diarrhea.

Effects of long-term (chronic) exposure

: Prolonged skin contact may cause skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

Carcinogenic status : See TOXICOLOGICAL INFORMATION, Section 11.

Additional health hazards : See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects

: See ECOLOGICAL INFORMATION, Section 12.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredients</u>	<u>CAS #</u>	<u>Wt.%</u>
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5	90.00 - 100.00



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SECTION 4 - FIRST AID MEASURES

- Inhalation** : If inhaled, move to fresh air. If breathing has stopped, give artificial respiration. Consult a physician.
- Skin contact** : Remove contaminated clothing. Wash off with soap and plenty of water. If irritation persists, seek prompt medical attention.
- Eye contact** : Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists, seek prompt medical attention.
- Ingestion** : Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.
- Notes For Physician** : Treat symptomatically.

SECTION 5 - FIRE FIGHTING MEASURES

Fire hazards/conditions of flammability

- : Not flammable under normal conditions of use. However, may ignite if exposed to extreme heat and flame. Product may float, and be re-ignited at the water's surface. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Flammability classification (OSHA 29 CFR 1910.1200)

- : Combustible Liquid Class III B.

Oxidizing properties

- : None known.

Explosion data: Sensitivity to mechanical impact / static discharge

- : Not expected to be sensitive to mechanical impact or static discharge.

Suitable extinguishing media

- : Dry chemical, foam, carbon dioxide and water fog. Do not use water jet, as this may spread burning material.

Special fire-fighting procedures/equipment

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.

Hazardous combustion products

- : Carbon oxides; Phosphorus compounds; Sulphur oxides; nitrogen oxides (NOx); Polycyclic aromatic hydrocarbons; other unidentified organic compounds.

NFPA Rating

- | | | | | |
|------------------|------------------------|-----------------------|-------------------------|------------|
| 0 - Minimal | 1 - Slight | 2 - Moderate | 3 - Serious | 4 - Severe |
| <i>Health:</i> 0 | <i>Flammability:</i> 1 | <i>Instability:</i> 0 | <i>Special Hazards:</i> | None. |

SECTION 6 - ACCIDENTAL RELEASE MEASURES

- Personal precautions** : All persons dealing with the clean-up should wear the appropriate chemically protective equipment. Keep all other personnel upwind and away from the spill/release. Restrict access to area until completion of clean-up. Refer to protective measures listed in sections 7 and 8. Material can create slippery conditions.
- Environmental precautions** : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces. For large spills, dike the area to prevent spreading.
- Spill response/cleanup** : Ventilate area of release. Remove all sources of ignition. 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). Notify the appropriate authorities as required.
- Prohibited materials** : Do not use combustible absorbents, such as sawdust.
- Special spill response procedures** : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8002).
US CERCLA Reportable quantity (RQ): None reported.

SECTION 7 - HANDLING AND STORAGE



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- Safe Handling procedures** : Use with adequate ventilation. Wear suitable protective equipment during handling. Do not breathe fumes or mists. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and flame. Avoid contact with incompatible materials. Wash thoroughly after handling. Empty containers retain residue (liquid and/or vapour) and can be dangerous.
- Storage requirements** : Store in a cool, dry, well-ventilated area. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks.
- Incompatible materials** : Strong oxidizing agents.
- Special packaging materials** : Always keep in containers made of the same materials as the supply container.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

<u>Ingredients</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Distillates (petroleum), hydrotreated heavy naphthenic	5mg/m ³ (As 'Oil mist, mineral')	N/Av	5 mg/m ³ (As 'Oil mist, mineral')	N/Av

- Ventilation and engineering measures** : Use in a well-ventilated area. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.
- Respiratory protection** : If the TLV is exceeded, a NIOSH/MSHA-approved respirator is advised. Advice should be sought from respiratory protection specialists.
- Skin protection** : Gloves impervious to the material are recommended. Advice should be sought from glove suppliers.
- Eye / face protection** : Safety glasses with side-shields or chemical splash goggles.
- Other protective equipment** : Depending on conditions of use, an impervious apron should be worn. An eyewash station and safety shower should be made available in the immediate working area.
- General hygiene considerations** : Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink, smoke or use cosmetics while working with this product. Remove and wash contaminated clothing before re-use. Wash thoroughly after handling.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

- | | |
|---|---|
| Physical state : liquid | Appearance : Amber liquid. |
| Odour : Petroleum odour. | Odour threshold : N/Av |
| pH : N/Av | |
| Boiling point : > 230°C (446°F) | Specific gravity : < 1 |
| Melting/Freezing point : N/Av | Coefficient of water/oil distribution : log Pow: > 6 |
| Vapour pressure (mmHg @ 20° C / 68° F) : < 0.01 mmHg (0.008 kPa) | Solubility in water : Insoluble. |
| Vapour density (Air = 1) : N/Av | Evaporation rate (n-Butyl acetate = 1) : N/Av |
| Volatile organic Compounds (VOC's) : N/Av | Volatiles (% by weight) : Nil |
| Flash point : > 93.3°C (200°F) | |
| Flash point Method : Pensky Martens Closed Cup | Auto-ignition temperature : N/Av |
| Lower flammable limit (% by vol.) : N/Av | Upper flammable limit (% by vol.) : N/Av |
| Flame Projection Length : N/Av | Flashback observed : N/Av |
- Viscosity: 19 - 150 mm²/s @ 40°C (104°F)



Section 10: Stability And Reactivity

- Stability and reactivity** : Stable under the recommended storage and handling conditions prescribed.
- Hazardous polymerization** : Hazardous polymerisation does not occur.
- Conditions to avoid** : Avoid heat and open flame.
- Materials To Avoid And Incompatibility**
: See Section 7 (Handling and Storage) for further details.
- Hazardous decomposition products**
: None known, refer to hazardous combustion products in Section 5.

SECTION 11 - TOXICOLOGICAL INFORMATION

- Target organs** : Eyes, skin, respiratory system and digestive system.
- Routes of exposure** : *Inhalation:* YES *Skin Absorption:* NO *Skin & Eyes:* YES *Ingestion:* YES
- Toxicological data** : There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

<u>Ingredients</u>	<u>LC₅₀(4hr)</u>	<u>LD₅₀</u>	
	<u>inh. rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Distillates (petroleum), hydrotreated heavy naphthenic	2180mg/m ³ (mist)	> 5000 mg/kg	> 2000 mg/kg

- Carcinogenic status** : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP. Use caution when pouring this material. This product can generate a complex mixture of airborne material during heating or in a fire. This combustion material can include carcinogenic polycyclic aromatic hydrocarbons.
- Reproductive effects** : Not expected to have other reproductive effects.
- Teratogenicity** : Not expected to be a teratogen.
- Mutagenicity** : Not expected to be mutagenic in humans.
- Epidemiology** : None known or reported by the manufacturer.
- Sensitization to material** : Not expected to be a skin or respiratory sensitizer.
- Synergistic materials** : None known or reported by the manufacturer.
- Irritancy** : May be mildly irritating to eyes and skin.
- other important hazards** : None known or reported by the manufacturer.
- Conditions aggravated by overexposure**
: Pre-existing skin, eye and respiratory disorders.

SECTION 12 - ECOLOGICAL INFORMATION

- Ecotoxicity** : The ecological characteristics of this product have not been fully investigated. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.
- Mobility** : No data is available on the product itself.
- Persistence** : No data is available on the product itself.
- Bioaccumulation potential** : No data is available on the product itself.
- Other Adverse Environmental effects**
: No data is available on the product itself.

SECTION 13 - DISPOSAL CONSIDERATIONS

- Handling for Disposal** : Handle waste according to recommendations in Section 7. Empty containers may contain hazardous residues.
- Methods of Disposal** : Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.



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RCRA : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14: TRANSPORT INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	None	Not regulated.	not regulated	none	
TDG Additional information	None.				
49CFR/DOT	None	Not regulated.	Not regulated	none	
49CFR/DOT Additional information	None.				
ICAO/IATA	None	Not regulated.	Not regulated	none	
ICAO/IATA Additional information	None.				

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

CERCLA Reportable Quantity (RQ) (40 CFR 117.302): None reported.

SARA TITLE III: Sec. 302, Extremely Hazardous Substances, 40 CFR 355: No Extremely Hazardous Substances are present in this material.

SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: No hazards resulting from the material as supplied. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SARA TITLE III: Sec. 313, Toxic Chemicals Notification, 40 CFR 372: This material is not subject to SARA notification requirements, since it does not contain any Toxic Chemical constituents above de minimus concentrations.

US State Right to Know Laws:

California Proposition 65: To the best of our knowledge, this product does not contain any chemicals known to the State of California to cause cancer or reproductive harm.

Other U.S. State "Right to Know" Lists: None of the components of this product are specifically listed on any State 'Right to Know' lists.

International Information:

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

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.



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SECTION 16 - OTHER INFORMATION

HMIS Rating : * - Chronic hazard 0 - Minimal 1 - Slight 2 - Moderate 3 - Serious 4 - Severe
Health: 0 *Flammability:* 1 *Reactivity:* 0

Legend : ACGIH: American Conference of Governmental Industrial Hygienists
 CAS: Chemical Abstract Services
 CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
 CFR: Code of Federal Regulations
 DOT: Department of Transportation
 EPA: Environmental Protection Agency
 HMIS: Hazardous Materials Identification System
 HSDB: Hazardous Substances Data Bank
 IARC: International Agency for Research on Cancer
 IATA: International Air Transport Association
 ICAO: International Civil Aviation Organisation
 Inh: Inhalation
 LC: Lethal Concentration
 LD: Lethal Dose
 MSHA: Mine Safety and Health Administration
 N/Ap: Not Applicable
 N/Av: Not Available
 NFPA: National Fire Protection Association
 NIOSH: National Institute of Occupational Safety and Health
 NTP: National Toxicology Program
 OSHA: Occupational Safety and Health Administration
 PEL: Permissible exposure limit
 RCRA: Resource Conservation and Recovery Act
 RTECS: Registry of Toxic Effects of Chemical Substances
 SARA: Superfund Amendments and Reauthorization Act
 STEL: Short Term Exposure Limit
 TDG: Canadian Transportation of Dangerous Goods Act & Regulations
 TLV: Threshold Limit Values
 TWA: Time Weighted Average
 WHMIS: Workplace Hazardous Materials Identification System

References : 1. ACGIH, Threshold Limit Values and Biological Exposure Indices for 2010.
 2. International Agency for Research on Cancer Monographs, searched 2010.
 3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2010 (Chempendium, HSDB, RTECs).
 4. Material Safety Data Sheet from manufacturer.
 5. US EPA Title III List of Lists - October 2006 version.
 6. California Proposition 65 List - June 11, 2010 version.

<p>Prepared for: Parker Hannifin Corporation - Sporlan Division 206 Lange Drive Washington, MO 63090 U.S.A. Telephone: (636) 239-1111 www.sporlan.com Direct all enquiries to: Parker Hannifin Corp. - Sporlan Division.</p>	
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