



SUNISO® 4GS Refrigeration Oil

L317; L319; L322; L325; L352; L355, L358

SDS Preparation Date (dd/mm/yyyy): 03/10/2024

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SAFETY DATA SHEET

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended. This safety data sheet complies with the requirements of UK REACH Regulation.

SECTION 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier : SUNISO® 4GS Refrigeration Oil

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

1.2 Relevant identified uses of the substance or mixture and uses advised against

: Severely refined naphthenic refrigeration system lubricant
Use pattern: professional use
No restrictions on use known.

1.3 Details of the supplier of the safety data sheet:

Parker Hannifin Corporation - Sporlan Division

206 Lange Drive
Washington, MO, U.S.A.
63090

Telephone : (636) 239 1111

1.4 Emergency Telephone Number

: In case of transportation emergencies: Chemtrec 1-800-424-9300 (Within Continental U.S.); Chemtrec 703-527-3887 (Outside U.S.).

Poisons Information Centre
The United Kingdom NHS 111
France +33383852192
Germany +493018412-0
Spain +34917689800
Poland +48422538400

Italy
06 68593726 (CAV "Osp. Pediatrico Bambino Gesù" Dip. Emergenza - Roma) 800 183459 (Az. Osp. Univ. Foggia - Foggia)
081 5453333 (Az. Osp. "A. Cardarelli" - Napoli)
06 49978000 (CAV Policlinico "Umberto I" - Roma)
06 3054343 (CAV Policlinico "A. Gemelli" - Roma)
055 7947819 (Az. Osp. "Careggi" U.O. Tossicologia Medica - Firenze)
0382 24444 (CAV Centro Nazionale di Informazione Tossicologica - Pavia) 02 66101029 (Osp. Niguarda Ca' Granda - Milano)
800 883300 (Azienda Ospedaliera Papa Giovanni XXII - Bergamo)

1.5 National Contact

: +001 (636)239-1111

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Amber liquid. Slight petroleum odour.

Most important hazards: Occupational exposure to the substance or mixture may cause adverse effects. Refer also to TOXICOLOGICAL INFORMATION (Section 11). Avoid release to the environment.

This substance is not classified as hazardous according to Regulation (EC) No. 1272/2008.

EUH066 - Repeated exposure may cause skin dryness or cracking.



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2.2 Label elements

Hazard pictogram(s)

None required according to Regulation (EC) No. 1272/2008.

Hazardous components which must be listed on the label

None.

Signal word

None required according to Regulation (EC) No. 1272/2008.

Hazard statements

None required according to Regulation (EC) No. 1272/2008.

Precautionary statements

None required according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

May be mildly irritating to skin, eyes and respiratory system. Ingestion can cause gastrointestinal irritation, nausea, and diarrhea.

Endocrine disrupting properties: None.

PBT assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical nature Pure substance

Substance name	CAS No	EC No.	Reach Registration No.	% Weight	Classification according to Regulation (EC) nr. 1272/2008	SCL, M-factor, ATE
Hydrotreated heavy naphthenic distillate	64742-52-5	265-155-0	Not available	100.00	*not hazardous Note:L	Not applicable.

The following petroleum derived chemicals contain < 3% DMSO: CAS # 64742-52-5

SECTION 4. FIRST-AID MEASURES

4.1 Description of first aid measures



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- Ingestion* : Do NOT induce vomiting. Have victim rinse mouth with water, then give one to two glasses of water to drink. Never give anything by mouth to an unconscious person. Call a physician.
- Inhalation* : If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing has stopped, give artificial respiration. Obtain medical attention if symptoms develop and persist.
- Skin contact* : Wash off immediately with plenty of water. Remove and wash contaminated clothing before re-use. If irritation or symptoms develop, seek medical attention.
- Eye contact* : Immediately flush eyes with running water for at least 5 to 10 minutes. If irritation persists, seek prompt medical attention.

4.1.2 Self-protection for the first aider

- : Wear protective gloves and eye/face protection.

4.2 Most important symptoms and effects, both acute and delayed

- : May cause mild eye irritation. Symptoms may include stinging and tearing. May cause mild skin irritation. Symptoms may include mild redness and swelling. May cause respiratory irritation. In high concentrations, symptoms may include sore throat, sneezing, coughing and shortness of breath. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

- : Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

- : Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.

Unsuitable extinguishing media

- : Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

- : Not flammable under normal conditions of use. However, may ignite if exposed to extreme heat and flame. Closed containers may build up pressure when exposed to heat and flame. Vapours are heavier than air and may spread along floors.

5.3 Advice for firefighters

Protective equipment for fire-fighters

- : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Special fire-fighting procedures

- : Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

- : Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only. Wear suitable protective equipment. Refer to protective measures listed in sections 7 and 8. Restrict access to area until completion of clean-up.

6.2 Environmental precautions

- : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.

6.3 Methods and material for containment and cleaning up

- : Remove all sources of ignition. Ventilate area of release. Stop spill or leak at source if safely possible. Dike for water control. 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). Contact the proper local authorities.



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6.4 Reference to other sections

- : Refer to protective measures listed in sections 7 and 8. Refer to Section 13 for disposal of material.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

- : Use only in well-ventilated areas. Wear suitable protective equipment during handling. Avoid breathing vapours or mists. Avoid contact with eyes, skin and clothing. Keep away from extreme heat and flame. Keep away from incompatibles. Keep containers tightly closed when not in use. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

- : Store in a cool, dry, well-ventilated area. Store away from incompatible materials. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking in the area.

7.3 Specific end use(s)

- : Lubricant

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Exposure Limits:			
Chemical Name	Exposure Limits	Type	Notes
Hydrotreated heavy naphthenic distillate	5 mg/m ³ (TWA)	Finland (OEL)	(As 'Oil mist, mineral')
	None.	France (OEL)	None.
	5 mg/m ³ (aerosol) (TWA) 10 mg/m ³ (aerosol) (STEL)	Poland (OEL)	(As 'Oil mist, mineral')
	5 mg/m ³ (TWA) 10 mg/m ³ (STEL)	Spain (OEL)	(As 'Oil mist, mineral')
	None.	The United Kingdom (WELs)	None.

Biological Exposure Indices:

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

Derived No Effect Level (DNEL) :

general population oral systemic effects long term exposure 0.74 mg/kg bw/day ; workers dermal systemic effects long term exposure 0.97 mg/kg bw/day ; general population inhalation local effects long term exposure 1.19 mg/m³ ; workers inhalation systemic effects long term exposure 2.73 mg/m³ ; workers inhalation local effects long term exposure 5.58 mg/m³

Predicted No Effect Concentration (PNEC):

9.33 mg/kg (food chain)

8.2 Exposure controls

Ventilation and engineering measures

- : Use in a well-ventilated area. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.



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- Respiratory protection** : If airbourne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Advice should be sought from respiratory protection specialists. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02.
- Skin protection** : Gloves impervious to the material are recommended. Advice should be sought from glove suppliers.
- Eye / face protection** : Chemical goggles are recommended when there is a potential for splashing.
- Other protective equipment**
- : Wear sufficient clothing to prevent skin contact. 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**
- : Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse. Handle in accordance with good industrial hygiene and safety practice.

8.3 Environmental exposure controls

- : Avoid release to the environment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- Physical state** : Liquid
- Colour** : Amber
- Odour** : Slight petroleum odour.
- Odour threshold** : Not available.
- pH** : Not available.
- Flash point** : >93.3°C
- Flashpoint (Method)** : closed cup
- Lower flammable limit (% by vol.)**
- : Not available.
- Upper flammable limit (% by vol.)**
- : Not available.
- Auto-ignition temperature**
- : Not available.
- Decomposition temperature**
- : Not available.
- Oxidizing properties** : Not applicable
- Explosive properties** : Not explosive
- Initial boiling point and boiling range**
- : > 230°C
- Melting/Freezing point** : Not available.
- Relative density** : <1
- Solubility in water** : Insoluble.
- Other solubility(ies)** : None known.
- Vapour pressure** : <0.01 mmHg
- Vapour density** : Not available.



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Partition coefficient: n-octanol/water

: >20

Viscosity : 19-150 mm²s @ 40°C

Evaporation rate (BuAe = 1)

: Not available.

Particle characteristics : Not applicable.

9.2 Other Information

Volatiles (% by weight) : Not available.

Volatile organic Compounds (VOC's)

: Not available.

Other physical/chemical comments

: Not applicable

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity : Not normally reactive.

10.2 Chemical stability : Stable under the recommended storage and handling conditions prescribed.

10.3 Possibility of hazardous reactions

: No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid : Avoid excessive heat, sparks and open flame. Avoid contact with incompatible materials. Do not use in areas without adequate ventilation.

10.5 Incompatible materials

: Oxidizing agents; Acids.

10.6 Hazardous decomposition products

: The following may be released during a fire: Carbon oxides. Other irritating fumes and smoke.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological effects:

Acute toxicity : According to the classification criteria of the European Union, this product is not considered as being an acutely toxic chemical.

Skin corrosion/Irritation : According to the classification criteria of the European Union, the product is not considered as being a skin irritant.

Serious eye damage/irritation

: According to the classification criteria of the European Union, the product is not considered as being an eye irritant.

Respiratory or skin sensitisation

: Not expected to be a skin or respiratory sensitizer.

Germ cell mutagenicity : Not expected to be mutagenic in humans.

Carcinogenicity : Not classifiable as a human carcinogen. No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive toxicity : Not expected to cause reproductive effects.

STOT-single exposure : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through a single exposure.

STOT-repeated exposure : According to the classification criteria of the European Union, this product is not expected to cause target organ toxicity through repeated exposures.

Aspiration hazard : According to the classification criteria of the European Union, this product is not considered as being an aspiration hazard to humans.



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Routes of exposure : Inhalation
Ingestion
Skin contact
Eye contact

Effects of acute exposure : Mild respiratory irritant

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Direct skin contact may cause slight or mild, transient irritation.

Direct eye contact may cause slight redness.

Potential Chronic Health Effects

: Prolonged or repeated contact may cause drying, cracking and defatting of the skin.

11.1.1 Acute Toxicity

Toxicological data : See below for individual ingredient acute toxicity data.

<u>Chemical name</u>	<u>LC₅₀(4hr)</u> <u>inh, rat</u>	<u>LD₅₀</u>	
		<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Hydrotreated heavy naphthenic distillate	> 5 mg/L (mist)	> 5000 mg/kg	> 2000 mg/kg

11.2 Information on other Hazards

: Not applicable

11.2.1 Endocrine disrupting properties : Not applicable

11.2.2 Other hazards : Not applicable

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity : Do not allow material to contaminate ground water system. As supplied, not expected to be toxic to fish and aquatic plants. See the following tables for individual ingredient ecotoxicity data.

Ecotoxicity data:

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Fish</u>		
		<u>LC50 / 96h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Hydrotreated heavy naphthenic distillate	64742-52-5	> 100 mg/L (Fathead minnow)	N/Av	None.

<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Daphnia</u>		
		<u>EC50 / 48h</u>	<u>NOEC / 21 day</u>	<u>M Factor</u>
Hydrotreated heavy naphthenic distillate	64742-52-5	> 10 000 mg/L (Daphnia magna)	10 mg/L	None.



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<u>Ingredients</u>	<u>CAS No</u>	<u>Toxicity to Algae</u>		
		<u>EC50 / 96h or 72h</u>	<u>NOEC / 96h or 72h</u>	<u>M Factor</u>
Hydrotreated heavy naphthenic distillate	64742-52-5	> 1000 mg/L/96hr (Green algae)	≥ 100 mg/L/72hr	None.

12.2 Persistence and degradability

: Not readily biodegradable.

12.3 Bioaccumulation potential

: Bioconcentration factor (BCF) = 3.2

Components

Partition coefficient n-octanol/water (log Kow)

Bioconcentration factor (BCF)

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Hydrotreated heavy naphthenic distillate (CAS 64742-52-5)	3.9 - 6 (calculated)	N/Av

12.4 Mobility in soil : No information available.

12.5 Results of PBT and vPvB assessment

: This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

12.6 Endocrine disrupting properties

: Not applicable

12.7 Other Adverse Environmental effects

: No information available.

12.8 Additional information : Not applicable

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods:

Handling for Disposal : Handle waste according to recommendations in Section 7.

Methods of Disposal : According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

SECTION 14. TRANSPORTATION INFORMATION



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Regulatory Information	14.1 UN Number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing Group	Label
ADR/RID	None.	not regulated	not regulated	none	
ADR/RID Additional information	Not classified as dangerous for conveyance in the meaning of the regulations for the transport of dangerous goods by road and rail.				
IMDG	None.	Not regulated.	not regulated	none	
IMDG Additional information	None.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
ICAO/IATA Additional information	None.				

14.5 Environmental hazards : This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

14.6 Special precautions for user

: Appropriate advice on safety must accompany the package.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture



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: Classification according to Regulation (EC) No. 1272/2008 on the classification of hazardous substances and mixtures. This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006, as amended [including Regulation (EU) 2023/707].

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended: Not applicable.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use, as amended Not applicable.

RoHS European Union's Directive 2002/95/EC, the Restriction of the Use of certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) : Not applicable.

Directive 2012/18/EU (Seveso III) on the control of major-accident hazards involving dangerous substances: Not applicable.

Directive 98/24/EC on the protection of the health and safety of workers from risks related to chemical agents at work: Not applicable.

Directive 94/33/EC on the protection of young people at work: Not applicable.
Water contaminating class (Germany) 0-Water hazard class (Germany)

15.2 Chemical safety assessment

: A chemical safety assessment has not been carried out by the Manufacturer of this product.

SECTION 16. OTHER INFORMATION

Legend : ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods

Information Source : 1. Material Safety Data Sheet from manufacturer.
2. Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases
3. European Chemicals Agency, Classification Legislation
4. OECD - The Global Portal to Information on Chemical Substances

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Regulation and Procedure

:

Based on expert judgement: not regulated

H-phrases (full-text)
Not applicable.

Other special considerations for handling

: Provide adequate information, instruction and training for operators.



Parker Hannifin Corporation -
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<p><u>Prepared for:</u> Parker Hannifin Corporation - Sporlan Division 206 Lange Drive, Washington, MO, U.S.A. 63090 Telephone: +001 (636) 239-1111 www.parker.com Direct all enquiries to: Parker Hannifin Corp. - Sporlan Division.</p>	
<p><u>Prepared by:</u> ICC The Compliance Center Inc. http://www.thecompliancecenter.com</p>	

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