To Our Customers:

The attached Safety Data Sheet (SDS) was prepared by the vendor of the product you purchased through one of our divisions. We used the manufacturer's electronic document directly or scanned a paper copy and generated a file for our automated SDS delivery system.

All statements, technical information, and recommendations contained therein are solely that of the manufacturer of the product. We at Zep Inc. did not verify the accuracy and completeness of the statements and do not warrantee or guarantee the information. We provide vendor SDSs to assist our customers in their compliance efforts. The attached document is in compliance with one of the respective country regulatory requirements noted below:

The OSHA Hazard Communication Standard (in the United States)
The Hazardous Products Regulations (in Canada)

We made every effort to deliver all of the information prepared by the manufacturer. We cannot anticipate all conditions under which this information will be used. If you have any questions about the statements on the SDS, please contact the company shown on the document.

Zep Inc. assumes no liability or responsibility for loss or damage resulting from the improper use or handling of this product, from incompatible product combinations, or from the failure to follow instructions, warnings, and advisories in the manufacturer's product label and Safety Data Sheet.

Sincerely,

Product Stewardship Team
Zep Inc.

Safety Data Sheet

Japan Chemical Industries
Date of Issued: 2022/4/26
Product Name: TRACTION BATTERY COOLANT Date of printed: 2022/4/26

1. Identification

Product identifier	**TRACTION BATTERY COOLANT**
Other means of identification	Parts No SOA868V8200
Recommended use	Coolant for vehicle
Recommended restrictions	Uses other than the recommended use.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	Japan Chemical Industries Co., Ltd.
Address	813, Kikkawa, Shimizu-ku Shizuoka, 424-8558 Japan
Telephone number	+81(54)345-3476
Telephone number	+81(54)347-6865
Department	Engineering dept.
Emergency Telephone Number	+81(36)-890-8677
Access cord	335829

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Reproductive toxicity	Category 2
	Specific target organ toxicity, repeated exposure (oral)	Category 2 (kidneys)
OSHA defined hazards	Not classified.	

Label elements

Signal word	Warning
Hazard statement	Harmful if swallowed. Suspected of damaging fertility or the unborn child. May cause damage to organs (kidneys) through prolonged or repeated exposure by ingestion.
Precautionary statement	
Prevention	Obtain special instructions before use. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Do not handle until all safety precautions have been read and understood.
Response	If swallowed: Immediately call a poison center/doctor. If exposed or concerned: Get medical advice/attention.
Storage	Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store away from

incompatible materials.

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

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information Non

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Ethylene glycol	107-21-1	45-55
TRADE SECRET*	Proprietary*	<1

Composition comments by weight. This product contains a bittering agent. The specific identities of some of the components of this product are being withheld as trade secrets. However, all pertinent hazards are addressed in this SDS. The exact concentrations of the materials in this product are withheld as a trade secret (29CFR1910.1210(i)) and are available to a physician or paramedical personnel in a emergency situation.

All concentrations are in percent

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed Convulsions. Dizziness. Nausea, vomiting. Abdominal pain. Edema. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. 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	Thermal decomposition may produce smoke, oxides of carbon and lower molecular weight organic compounds whose composition have not been characterized.
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	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted. Will burn if involved in a fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. 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	Use water spray to reduce vapors or divert vapor cloud drift. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). 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	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Pregnant or breastfeeding women must not handle this product. Keep away from open flames, hot surfaces and sources of ignition. When using do not smoke. Do not taste or swallow. Do not breathe mist/vapors. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Observe good industrial hygiene practices. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment.
Conditions for safe storage, including any incompatibilities	Store locked up. Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Ethylene glycol (CAS107-21-1)	STEL	10 mg/m3	Aerosol, inhalable.
		50 ppm	Vapor fraction
	TWA	25 ppm	Vapor fraction

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

Appropriate engineering controls Good general ventilation 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 engineering measures are not sufficient to maintain concentrations of vapors/mists below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn.

Individual protection measures, such as personal protective equipment

Eye/face protection If contact is likely, safety glasses with side shields are recommended.

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Full contact: Use gloves classified protection index 6 with breakthrough time of 480 minutes. Minimum glove thickness 0.38 mm. Neoprene, butyl rubber, nitrile or Viton gloves are recommended. Suitable gloves can be recommended by the glove supplier.

Skin protection Other Wash hands thoroughly after handling. Use of an impervious apron is recommended.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment. Chemical respirator with organic vapor cartridge and full facepiece. If respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Observe any medical surveillance requirements. Keep away from food and drink. 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	Orange
Odor	Characteristic odor.
pH	7.1
Melting point/freezing point	-31 °F (-35 °C)
Initial boiling point and boiling range	228.2 °F (109 °C)
Flash point	None
Evaporation rate	Not determined.
Flammability (solid, gas)	Will burn if involved in a fire.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not flammable.
Explosive limit - upper (%)	Not flammable.
Vapor pressure	Not determined.
Vapor density	Not determined.
Relative density	Not determined.
Solubility(ies)	
Solubility (water)	Completely soluble in water.
Auto-ignition temperature	Not determined.
Decomposition temperature	Not determined.
Viscosity	3.7 mPa·s
Viscosity temperature	68 °F (20 °C)
Other information	
Density	1.065 g/cm³ (at 20 °C)
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity Chemical stability Possibility of hazardous reactions	The product is stable and non-reactive under normal conditions of use, storage and transport. Material is stable under normal conditions. No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong acids. Strong oxidizing agents. Nitrates. Peroxides. Chlorates.
Hazardous decomposition products	At elevated temperatures: Ketones. Aldehydes.

11. Toxicological information

Information on likely routes of exposure

Inhalation In high concentrations, mists/vapors may irritate throat and respiratory system and cause coughing.

Skin contact Prolonged or repeated contact may dry skin and cause irritation.

Eye contact Direct contact with eyes may cause temporary irritation.

Ingestion Harmful if swallowed. Suspected of damaging fertility or the unborn child by ingestion. May cause damage to organs through prolonged or repeated exposure by ingestion.
Ingestion of ethylene glycol may result in nausea, vomiting, abdominal cramps, blindness, liver damage, irritation, reproductive effects, nerve damage, convulsions, edema of the lung, cardiopulmonary effects (metabolic acidosis), pneumonia and kidney failure which could result in death. The single lethal dose for humans is about 100 ml. Inhalation of high levels of vapors or mists for prolonged periods of time may also result in toxic effects.

Symptoms related to the physical, chemical and toxicological characteristics Convulsions. Dizziness. Nausea, vomiting. Abdominal pain. Edema. Prolonged exposure may cause chronic effects.

Information on toxicological effects

Acute toxicity Harmful if swallowed.

Components	Species	Test Results
Ethylene glycol (CAS 107-21-1)		
Acute		
Dermal		
LD50	Mouse	> 3500 mg/kg
Inhalation		
Aerosol		
LC50	Rat	> 2.5 mg/l, 6 Hours
Oral		
LD50	Cat	1600 mg/kg

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Based on available data, the classification criteria are not met.

Skin sensitization Based on available data, the classification criteria are not met.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Reproductive toxicity	Suspected of damaging fertility or the unborn child.
Specific target organ toxicity - single exposure	Based on available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure	May cause damage to organs (kidneys) through prolonged or repeated exposure by ingestion.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful.
Further information	No other specific acute or chronic health impact noted.

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.

Components		Species	Test Results
Ethylene glycol (CAS 107-21-1)			
Aquatic			
Crustacea	EC50	Daphnia magna	> 100 mg/l, 48 Hours
Acute			
Fish	LC50	Fathead minnow (Pimephales promelas)	72860 mg/l, 96 hours

Persistence and degradability Expected to be readily biodegradable.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

Ethylene glycol (CAS 107-21-1)	-1.36

Mobility in soil This product is miscible in water.

Other adverse effects This product contains one or more substances identified as hazardous air pollutants (HAPs) per the US Federal Clean Air Act (see section 15).

13. Disposal considerations

Disposal instructions

Contaminated packaging

Local disposal regulations

Hazardous waste code

Waste from residues / unused products

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.	Dispose in accordance with all applicable regulations. The waste code should be assigned in discussion between the user, the producer and the waste disposal company. Dispose 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). Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

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 Not established.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ethylene glycol (CAS 107-21-1) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Toxic Substances Control Act (TSCA) All components are listed on or exempt from the U.S. EPA TSCA Inventory List.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories
Acute toxicity (any route of exposure)
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Ethylene glycol	107-21-1	45-55

Other federal regulations

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

Ethylene glycol (CAS 107-21-1)

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

Ethylene glycol (CAS 107-21-1)

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

Ethylene glycol (CAS 107-21-1)

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

Ethylene glycol (CAS 107-21-1)

US. Rhode Island RTK

Ethylene glycol (CAS 107-21-1)

California Proposition 65

WARNING: This product can expose you to chemicals including Ethylene glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Developmental toxin

Ethylene glycol (CAS 107-21-1) Listed: June 19, 2015

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Ethylene glycol (CAS 107-21-1)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS/ELINCS/NLP)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	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	7-September-2021
Revision date	-
Version #	01
HMIS® ratings	Health: 2* Flammability: 0 Physical hazard: 0
List of abbreviations	LC50: Lethal Concentration, 50%. LD50: Lethal Dose, 50%.
References	ECHA CHEM
Disclaimer	Japan Chemical Industries Co., Ltd. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.