

Material Safety Data Sheet (MSDS) MEGA DAYA SUPER COOLANT

SECTION 1 : Production Identification

- **Description** : MEGA DAYA SUPER COOLANT
- **Product information** : Antifreeze
- **Usage** : Antifreeze
- **CAS Number**: Not applicable for mixtures.
- **Synonyms**: None.
- **Generic Chemical Name**: Ethylene Glycol.
- **Manufacturer**: FUJIZAKURA Co.,Ltd.
- **Address**: 1213/296 Ladpraw Rd., Phlap Phla, Wangthonglang, Bangkok 10310
- **Telephone**: (02) 530-7274
- **Fax**: (02) 559-3536
- **Effective Date**: March 01, 2019

SECTION 2 : Hazards Identification

- **GHS/HAZCOM 2012 Classification**:

Health	Physical
Acute Toxicity Category 4 (oral) Specific Target Organ Toxicity – Repeated Exposure Category 2 Reproductive Toxicity Category 2	Not Hazardous



- **WARNING!**

Harmful if swallowed.

Suspected of damaging the unborn child.

May cause damage to kidneys through prolonged or repeated exposure.

- **Prevention:**

Obtain special instructions before use.

Material Safety Data Sheet (MSDS) MEGA DAYA SUPER COOLANT

Do not handle until all safety precautions have been read and understood.

Do not breathe mist, vapors or spray.

Wash exposed skin thoroughly after handling.

Do not eat, drink, or smoke when using this product.

Use personal protective equipment as required.

- **Response:**

IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell.

Rinse mouth.

IF exposed or concerned: Get medical advice.

- **Storage:**

Store locked up

- **Disposal:**

P405 Store locked up.

P501 Dispose of contents and container in accordance with local and national regulations.

SECTION 3 : Composition/Information on Ingredients

Substances	CAS No.	Amount
Ethylene Glycol	107-21-1	80-95
Diethylene Glycol	111-46-6	0-5
2-Ethyl Hexanoic Acid, Sodium Salt	19766-89-3	1-5
Neodecanoic Acid, Sodium Salt	31548-27-3	1-5

SECTION 4 : First Aids Measures

- **INHALATION:** Remove the exposed person to fresh air and if they are having difficulty breathing, feel short of breath or have stopped breathing, call 191 immediately.
- **Skin:** Remove contaminated clothing and wash contacted area thoroughly with soap and water. If irritation develops and persists, seek medical attention
- **EYE CONTACT:** Immediately flush eyes with large amounts of running water

FUJIZAKURA CO., LTD. 1213/296 Ladpraw Rd., Phlap Phla, Wangthonglang, Bangkok 10310

Tel : (02) 530-7274 Fax: (02) 559-3536 E-mail : cgaco777@yahoo.co.th, www.megadaya.biz

Material Safety Data Sheet (MSDS) MEGA DAYA SUPER COOLANT

for 15 minutes. Get medical attention if irritation persists longer than 2 hours.

- **INGESTION:** Serious toxicity can occur after ingestion. Call (800) 890-2075 for emergency medical advice or seek medical attention immediately at a hospital emergency department. Do not induce vomiting unless directed to do so by a medical professional. Never give anything by mouth to an unconscious or drowsy person.
- **MOST IMPORTANT SYMPTOMS:** Ingestion may cause life threatening adverse effects including abdominal discomfort or pain, nausea, vomiting, dizziness, drowsiness, malaise, blurring of vision, irritability, back pain, kidney failure, and central nervous system effects. Eye contact may cause eye irritation. Inhalation of mists may cause nose and throat irritation.
- **INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT, IF NEEDED:** In case of ingestion, seek immediate medical.

SECTION 5 : Fire Fighting Measures

- **SUITABLE EXTINGUISHING MEDIA:** For large fires, use alcohol type or all-purpose foams. For small fires, use waterspray, carbon dioxide or dry chemical.
- **SPECIFIC HAZARDS ARISING FROM THE CHEMICAL:** A solid stream of water or foam directed into hot, burning liquid can cause frothing. Burning may produce carbon monoxide and carbon dioxide.
- **SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHERS:** Do not spray pool fires directly. Firefighters should wear positive pressure self- contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

SECTION 6 : Accidental Release Measures

- **PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:** Wear appropriate protective clothing and equipment (See Section 8).
- **METHODS AND MATERIALS FOR CONTAINMENT/CLEANUP:** Collect with absorbent material and place in appropriate, labeled container for disposal or, if permitted flush spill area with water.

SECTION 7 : Handling and Storage

- PRECAUTIONS FOR SAFE HANDLING:** Harmful or Fatal if Swallowed. Do not drink antifreeze or solution. Avoid eye and prolonged or repeated skin contact. Avoid breathing vapors or mists. Wash exposed skin thoroughly with soap and water after use. Do not store in opened or unlabeled containers. Keep container away from open flames and excessive heat. Do not reuse empty containers unless properly cleaned. Empty containers retain product residue and may be dangerous. Do not cut, weld, drill, etc. containers, even empty. Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without any obvious ignition sources. Published "autoignition" or "ignition" temperatures cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Use of this product in elevated temperature applications should be thoroughly evaluated to assure safe operating conditions.
- CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:** Store away from excessive heat and oxidizers.
- NFPA CLASSIFICATION:** III B.

SECTION 8 : Exposure Controls/Personal Protection

- EXPOSURE GUIDELINES**

CHEMICAL	EXPOSURE LIMIT
Ethylene Glycol (as aerosol)	100 mg/m ³ Ceiling ACGIH TLV
Diethylene Glycol	10 mg/m ³ TWA AIHA WEEL
2-Ethyl Hexanoic Acid	None Established
Neodacanoic Acid, Sodium Salt	None Established

- APPROPRIATE ENGINEERING CONTROLS:** Use general ventilation or local exhaust as required to maintain exposures below the occupational exposure limits.
- PERSONAL PROTECTIVE EQUIPMENT**
- RESPIRATORY PROTECTION:** For operations where the TLV is exceeded a NIOSH

Material Safety Data Sheet (MSDS) MEGA DAYA SUPER COOLANT

approved respirator with organic vapor cartridges and dust/mist pre filters or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration. Select and use in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

- **GLOVES:** Chemical resistant gloves such as neoprene or PVC where contact is possible.
- **EYE PROTECTION:** Splash-proof goggles.
- **OTHER PROTECTIVE EQUIPMENT/CLOTHING:** Appropriate protective clothing as needed to minimize skin contact.

SECTION 9 : Physical and Chemical Properties

APPEARANCE:	Liquid	ODOR:	Characteristic odor
ODOR THRESHOLD:	Not determined	pH:	8.7-9.2
MELTING/FREEZING POINT:	-36°F (-38°C)	BOILING POINT /RANGE:	340°F (171°C)
FLASH POINT:	>254°F(>123°C) TOC >230°F(>110°C) Setaflash	EVAPORATION RATE:	Not determined
FLAMMABILITY (SOLID,GAS)	Not Applicable	FLAMMABILITY LIMITS:	LEL: Not determined UEL:Not determined
VAPOR PRESSURE:	Not determined	VAPOR DENSITY (air = 1):	Not determined
RELATIVE DENSITY: PARTITION COEFFICIENT (n-octanol/water)	1.07-1.14	SOLUBILITIES	Water: Complete
DECOMPOSITION TEMPERATURE:	Not determined	AUTOIGNITION TEMPERATURE:	Not determined
		Not determined	Not determined

SECTION 10 : Stability and Reactivity

- **REACTIVITY:** Normally unreactive.
- **CHEMICAL STABILITY:** Stable.
- **POSSIBILITY OF HAZARDOUS REACTIONS:** Reaction with strong oxidizers will generate heat.
- **CONDITIONS TO AVOID:** None known.

Material Safety Data Sheet (MSDS) MEGA DAYA SUPER COOLANT

- **INCOMPATIBLE MATERIALS:** Avoid strong bases at high temperatures, strong acids, strong oxidizing agents, and materials reactive with hydroxyl compounds.
- **HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon monoxide, carbon dioxide.

SECTION 11 : Toxicological Information

- **POTENTIAL HEALTH EFFECTS:**
- **ACUTE HAZARDS:**
- **INHALATION:** May cause irritation of the nose and throat with headache, particularly from mists. High vapor concentrations caused, for example, by heating the material in an enclosed and poorly ventilated workplace, may produce nausea, vomiting, headache, dizziness and irregular eye movements.
- **SKIN CONTACT:** No evidence of adverse effects from available information.
- **EYE CONTACT:** Liquid, vapors or mist may cause discomfort in the eye with persistent conjunctivitis, seen as slight excess redness or conjunctiva. Serious corneal injury is not anticipated.
- **INGESTION:** May cause abdominal discomfort or pain, nausea, vomiting, dizziness, drowsiness, malaise, blurring of vision, irritability, back pain, decrease in urine output, kidney failure, and central nervous system effects, including irregular eye movements, convulsions and coma. Cardiac failure and pulmonary edema may develop. Severe kidney damage which may be fatal may follow the swallowing of ethylene glycol. A few reports have been published describing the development of weakness of the facial muscles, diminishing hearing, and difficulty with swallowing, during the late stages of severe poisoning.
- **CHRONIC EFFECTS:** Prolonged or repeated inhalation exposure may produce signs of central nervous system involvement, particularly dizziness and jerking eye movements. Prolonged or repeated skin contact may cause skin sensitization and an associated dermatitis in some individuals. Ethylene glycol has been found to cause birth defects in laboratory animals. The significance of this finding to humans has not been determined. 2-Ethyl Hexanoic Acid, Sodium Salt is suspected of causing developmental effects based on animal data.
- **CARCINOGENICITY LISTING:** None of the components of these products is listed as a carcinogen or suspected carcinogen by IARC, NTP, ACGIH or OSHA.

FUJIZAKURA CO., LTD. 1213/296 Ladpraw Rd., Phlap Phla, Wangthonglang, Bangkok 10310

Tel : (02) 530-7274 Fax: (02) 559-3536 E-mail : cgaco777@yahoo.co.th, www.megadaya.biz

Material Safety Data Sheet (MSDS) MEGA DAYA SUPER COOLANT

- **ACUTE TOXICITY VALUES:**

Acute Toxicity Estimate for the product

Oral: 509.5 mg/kg

Dermal: 9803.2 mg/kg

Ethylene Glycol: LD50 Oral Rat: 4700 mg/kg

LD50 Skin Rabbit: 9530 mg/kg

Diethylene Glycol: LD50 Oral Rat: 12,565 mg/kg

LD50 Skin Rabbit: 11,890 mg/kg

- **SIGNIFICANT LABORATORY DATA WITH POSSIBLE RELEVANCE TO HUMAN HEALTH:**

Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice when given by gavage or in drinking water at high concentrations or doses. Also, in a preliminary study to assess the effects of exposure of pregnant rats and mice to aerosols at concentrations 150, 1,000 and 2,500 mg/m³ for 6 hours a day throughout the period of organogenesis, teratogenic effects were produced at the highest concentrations, but only in mice. The conditions of these latter experiments did not allow a conclusion as to whether the developmental toxicity was mediated by inhalation of aerosol, percutaneous absorption of ethylene glycol from contaminated skin, or swallowing of ethylene glycol as a result of grooming the wetted coat. In a further study, comparing effects from high aerosol concentration by whole-body or nose-only exposure, it was shown that noseonly exposure resulted in maternal toxicity (1,000 and 2,500 mg/m³) and developmental toxicity in with minimal evidence of teratogenicity (2,500 mg/m³). The no-effects concentration (based on maternal toxicity) was 500 mg/m³. In a further study in mice, no teratogenic effects could be produced when ethylene glycol was applied to the skin of pregnant mice over the period of organogenesis. The above observations suggest that ethylene glycol is to be regarded as an animal teratogen; there is currently no available information to suggest that ethylene glycol caused birth defects in humans. Cutaneous application of ethyleneglycol is ineffective in producing developmental toxicity; exposure to high aerosol concentration is only minimally effective in producing developmental toxicity; the major route for producing developmental toxicity is perorally.

Two chronic feeding studies, using rats and mice, have not produced any evidence that ethylene glycol causes dose-related increases in tumor incidence or a different pattern of tumors compared with untreated controls. The absence of carcinogenic potential for ethylene glycol has been supported by numerous invitro genotoxicity studies showing that it does not produce mutagenic or clastogenic effects. This product contains less than 0.5% tolytriazole which has demonstrated mutagenic activity in a bacterial test system. A correlation has been established between mutagenic activity and carcinogenic activity for many chemicals. Tolytriazole has not been identified as a carcinogen or probable carcinogen by NTP, IARC, ACGIH or OSHA.

FUJIZAKURA CO., LTD. 1213/296 Ladpraw Rd., Phlap Phla, Wangthonglang, Bangkok 10310

Tel : (02) 530-7274 Fax: (02) 559-3536 E-mail : cgaco777@yahoo.co.th, www.megadaya.biz

Material Safety Data Sheet (MSDS) MEGA DAYA SUPER COOLANT

In a study of Wistar rats, adverse developmental results were reported at a dose of 100 mg / kg of body weight for 2-Ethyl Hexanoic Acid, Sodium Salt.

SECTION 12 : Ecological Information

- **ECOTOXICITY:**
- **Ethylene Glycol:** LC50 Fathead Minnow <10,000 mg/L/96 hr
EC50 Daphnia Magna 100,000 mg/L/48 hr
- **Bacterial (*Pseudomonas putida*):** 10,000 mg/l
Protozoa (*Entosiphon sulcatum* and *Uronema parduczi*; Chatton-Lwoff): >10,000 mg/l
Algae (*Microcystis aeruginosa*): 2,000 mg/l
Green algae (*Scenedesmus quadricauda*): >10,000 mg/l
- **Diethylene Glycol:** LC50 western mosquitofish >32,000 mg/L/96 hr
- **PERSISTENCE AND DEGRADABILITY:** Ethylene Glycol is readily biodegradable (97-100% in 2-12 days). Diethylene glycol is readily biodegradable (>70% in 19days).
- **BIOACCUMULATIVE POTENTIAL: Ethylene glycol:** A BCF of 10, reported for ethylene glycol in fish, Golden ide (*Leuciscus idus melanotus*), after 3 days of exposure suggests the potential for bioconcentration in aquatic organisms is low.
- **Diethylene glycol:** An estimated BCF of 3 suggests the potential for bioconcentration in aquatic organisms is low.
- **MOBILITY IN SOIL:** Ethylene glycol and diethylene glycol are highly mobile in soil.
- **OTHER ADVERSE EFFECTS:** None known

SECTION 13 : Disposal Considerations

- Dispose of product in accordance with all local, state/provincial and federal regulations.

SECTION 14 : Transport Information

- **U.S. DOT HAZARD CLASSIFICATION:** Not Regulated (unless package contains a reportable quantity)
- **Note:** IF A SHIPMENT OF A REPORTABLE QUANTITY (5,263 LBS/553 GAL.) IN A SINGLE PACKAGE IS
- **INVOLVED, THE FOLLOWING INFORMATION APPLIES:** PROPER SHIPPING NAME: RQ, Environmentally hazardous substance, liquid, n.o.s. (Ethylene glycol)
- **UN NUMBER:** UN3082
- **PACKING GROUP:** III

Material Safety Data Sheet (MSDS) MEGA DAYA SUPER COOLANT

- **LABELS REQUIRED:** Class 9.
- **DOT MARINE POLLUTANTS:** This product does not contain Marine Pollutants as defined in 49 CFR 171.8.
- **IMDG CODE SHIPPING CLASSIFICATION:** Not Regulated

SECTION 15 : Regulatory Information

- **EPA SARA 311/312 HAZARD CLASSIFICATION:** Acute health, chronic health
- **EPA SARA 313:** This Product Contains the Following Chemicals Subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): Ethylene Glycol 107-21-1 80-95%
- **PROTECTION OF STRATOSPHERIC OZONE:** This product is not known to contain or to have been manufactured with ozone depleting substances as defined in 40 CFR Part 82, Appendix A to Subpart A.
- **CERCLA SECTION 103:** Spills of this product over the RQ (reportable quantity) must be reported to the National Response Center. The RQ for this product, based on the RQ for Ethylene Glycol (95% maximum) of 5,000 lbs., is 5,263 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SECTION 16 : Other Information

- **Precautionary Labels:**
 - Danger.
 - I Causes severe skin irritation.
 - I Harmful if inhaled.
 - I Causes eye irritation.
 - I Causes respiratory tract irritation.
 - I Combustible liquid.
 - I Contains components which may cause cancer.
 - I May cause chronic health effects.

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this product. Information contained herein is believed to be true and accurate but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local regulations remains the responsibility of the use