



# MATERIAL SAFETY DATA SHEET

MSDS: CHAMPION® MSDS 2030 SERIES ANTIFREEZE

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

CHAMPION® MSDS 2030 SERIES ANTIFREEZE

**Synonyms:**

4119AN & F CHAMPION® UNIVERSAL ANTIFREEZE & COOLANT

**Company Identification**

Champion Brands, L.L.C., 1001 Golden Drive, Clinton, MO 64735

PHONE: 800-821-5693 WEBSITE: [www.championbrands.com](http://www.championbrands.com)

**CAS Registry Number** Not Applicable

**Synonyms** None

**Generic/Chemical Name** Mixture

**Product Type** Antifreeze

**Preparation Date** October 23, 2007

**Transportation Emergency Response**

CHEMTREC: (800) 424-9300

**Product Information**

Product Information and MSDS Requests: (800) 821-5693 and [www.championbrands.com](http://www.championbrands.com)

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Ethylene Glycol	107-21-1	80.0 - 95.0 % weight
Diethylene glycol	111-46-6	0.0 – 5.0% weight
Water 1-5	7732-18-5	1.0 – 5.0% weight
2-Ethyl Hexanoic Acid, Sodium Salt 1-5	19766-89-3	1.0 – 5.0% weight
Denatonium Benzoate	3734-33-6	30-50 ppm

- HARMFUL OR FATAL IF SWALLOWED
- CAUSES EYE IRRITATION
- CONTAINS MATERIAL THAT MAY CAUSE ADVERSE REPRODUCTIVE EFFECTS BASED ON ANIMAL DATA
- POSSIBLE BIRTH DEFECT HAZARD - CONTAINS MATERIAL THAT MAY CAUSE BIRTH DEFECTS BASED ON ANIMAL DATA
- MAY CAUSE DAMAGE TO: KIDNEY

## 3. HAZARD IDENTIFICATION

**NFPA: HEALTH: 1**  
**HMIS: HEALTH: 2**

**FLAMMABILITY: 1**  
**FLAMMABILITY: 1**

**REACTIVITY: 0**  
**REACTIVITY: 0**

**IMMEDIATE HEALTH EFFECTS**

**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



# MATERIAL SAFETY DATA SHEET

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.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** The available toxicological information and a knowledge of the physical and chemical properties of the material suggest that overexposure is unlikely to aggravate existing medical conditions.

## 4. FIRST AID MEASURES

**Eyes:** Immediately flush eyes with large amounts of water for 15 minutes, lifting lower and upper lids. Get medical attention as soon as possible. Contact lenses should never be worn when working with this chemical.

**Skin:** Flush area of skin contact immediately with large amounts of water for at least 15 minutes while removing contaminated clothing. If irritation persists after flushing, get medical attention promptly. Wash clothing before re-use.

**Inhalation:** If inhaled, immediately remove victim to fresh air and call emergency medical care. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**Ingestion:** Obtain medical attention immediately. If patient is fully conscious, give two glasses of water. Do not induce vomiting. If medical advice is delayed, and if the person has swallowed a moderate volume of material (a few ounces), then give three to four ounces of hard liquor, such as whisky. For children, give proportionally less liquor, according to weight.

**Notes to Physician:** : The principal toxic effects of ethylene glycol, when swallowed, are kidney damage and metabolic acidosis. The combination of metabolic acidosis, an osmol gap and oxalate crystals in the urine is evidence of ethylene glycol poisoning. Pulmonary edema with hypoxemia has been described in a number of patients following poisoning with ethylene glycol. Respiratory support with mechanical ventilation may be required. There may be cranial nerve involvement in the late stages of toxicity from swallowed ethylene glycol. In particular, effects have been reported involving the seventh, eighth, and ninth cranial nerves, presenting with bilateral facial paralysis, diminished hearing and dysphagia. Ethanol is antidotal and its early administration may block the formation of nephrotoxic metabolites of ethylene glycol in the liver. The objective is to rapidly achieve and maintain a blood ethanol level of approximately 100 mg/dl by giving a loading dose of ethanol followed by a maintenance dose. Intravenous administration of ethanol is the preferred route. Ethanol blood levels should be checked frequently. Hemodialysis may be required. 4-Methyl pyrazole (Fomepizole®), a potent inhibitor of alcohol dehydrogenase, has been used therapeutically to decrease the metabolic consequences of ethylene glycol poisoning. Fomepizole® is easier to use clinically than ethanol, does not cause CNS depression or hypoglycemia and requires less monitoring than ethanol. Additional therapeutic modalities which may decrease the adverse consequences of ethylene glycol metabolism are the administration of both thiamine and pyridoxine. As there are complicated and serious overdoses, we recommend you consult with the toxicologists at your poison control center.

## 5. FIRE FIGHTING MEASURES

### FIRE CLASSIFICATION:

OSHA Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

### FLAMMABLE PROPERTIES:

**Flashpoint:** 119°C (247°F)

**FLASH POINT:** Greater than 254°F (123°C) TOC >230°F (>110°C) Setflash

**AUTOIGNITION TEMPERATURE OF ETHYLENE GLYCOL:** 398°C (748°F)

**NFPA CLASSIFICATION:** IIIIB



# MATERIAL SAFETY DATA SHEET

**FLAMMABILITY LIMITS:** LEL: 3.2% UEL: 15.3%

**EXTINGUISHING MEDIA:** For large fires, use alcohol type or all-purpose foams. For small fires, use water spray, carbon dioxide or dry chemical.

**SPECIAL FIRE FIGHTING PROCEDURES:** 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.

**UNUSUAL FIRE HAZARDS:** A solid stream of water or foam directed into hot, burning liquid can cause frothing.

**HAZARDOUS COMBUSTION PRODUCTS:** Burning may produce carbon monoxide and carbon dioxide.

## 6. ACCIDENTAL RELEASE INFORMATION

Wear appropriate protective clothing and equipment (See Section 8). Collect with absorbent material and place in appropriate, labeled container for disposal or, if permitted flush spill area with water.

## 7. HANDLING AND STORAGE

**DANGER:** 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. Use of this product in elevated temperature applications should be thoroughly evaluated to assure safe operating conditions.

## 8. EXPOSURE CONTROL/PERSONAL PROTECTIVE EQUIPMENT

### GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

### ENGINEERING CONTROLS:

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below the recommended exposure limits.

### PERSONAL PROTECTIVE EQUIPMENT

**Respiratory Protection:** Respiratory protection is required if airborne concentration exceeds TLV. At any detectable concentration any self-contained breathing apparatus with a full face piece and operated in a pressure-demand or other positive pressure mode or any supplied-air respirator with a full face piece and operated in a pressure-demand or other positive pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.

**Escape:** Any air-purifying full face piece respirator (gas mask) with a chin-style or front- or back-mounted organic vapor canister or any appropriate escape-type self-contained breathing apparatus.

**Skin Protection:** Protective gloves recommended when prolonged skin contact cannot be avoided. Polyethylene; Neoprene; Nitrile; Polyvinyl alcohol; Natural Rubber, Butyl Rubber. Safety shower should be available.

**Eye Protection:** Safety goggles and face shield. Emergency eyewash should be available. Contact lenses should not be worn when working with this chemical.

**Engineering Controls:** Use general or local exhaust ventilation to meet TLV requirements.



# MATERIAL SAFETY DATA SHEET

## Occupational Exposure Limits:

Component	Exposure Limits	Skin Form
Ethylene glycol	100 mg/m <sup>3</sup> CEILING ACGIH	Aerosol
Ethylene glycol	125 mg/m <sup>3</sup> CEILING OSHA-vacated	
	50 ppm CEILING OSHA – vacated	
	100 mg/m <sup>3</sup> CEILING UCC	Aerosol and Vapor
Diethylene glycol	50 ppm TWA8 AIHA WEEL	Aerosol and Vapor
Diethylene glycol	10 mg/m <sup>3</sup> TWA8 AIHA WEEL	Aerosol
2-Ethyl Hexanoic Acid	None Established (PEL/TLV)	

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

APPEARANCE AND ODOR:	Green or yellow liquid with a characteristic odor.
pH:	8.5 - 9.5
SPECIFIC GRAVITY:	1.07-1.14

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. Keep away from flame

**Incompatibility With Other Materials:** Strong acid or oxidizing agents

**Hazardous Decomposition Products:** Incomplete combustion may produce CO & CO<sub>2</sub> gas

**Hazardous Polymerization:** Hazardous polymerization will not occur.

## 11. TOXICOLOGICAL INFORMATION

**CARCINOGEN:** None of the components of these products is listed as a carcinogen or suspected carcinogen by IARC, NTP or OSHA.

### Acute Toxicity Values:

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/m<sup>3</sup> 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 nose-only exposure resulted in maternal toxicity (1,000 and 2,500 mg/m<sup>3</sup>) and developmental toxicity in with minimal evidence of teratogenicity (2,500 mg/m<sup>3</sup>). The no-effects concentration (based on maternal toxicity) was 500 mg/m<sup>3</sup>. 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 ethylene glycol 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 0.3% 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 or OSHA.



# MATERIAL SAFETY DATA SHEET

MSDS: CHAMPION® MSDS 2030 SERIES ANTIFREEZE

## 12. ECOLOGICAL INFORMATION

Ethylene Glycol: LC50 Goldfish: 5,000 mg/L/24 hr. at 20 C static conditions.  
Toxicity threshold (cell multiplication inhibition test):  
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

## 13. DISPOSAL INFORMATION

DO NOT discharge to sewer. Wear appropriate personal protection. Take up with sand, vermiculite, or similar inert material. Dispose in accordance with federal, state and local regulations.

## 14. TRANSPORTATION INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

**U.S. DEPARTMENT OF TRANSPORTATION:** Non-Bulk is not regulated by the US D.O.T. (in quantities under 5,000 lbs in any one inner package)

**IATA:** Non-Bulk is not regulated by IATA

**IMDG:** Non-Bulk is not regulated by IMDG (in quantities under 5,000 lbs in any one inner package)

## 15. REGULATORY INFORMATION

### THIS PRODUCT CONTAINS COMPONENT(S) CITED ON THE FOLLOWING REGULATIONS.

Chemical Name	Cas Number
Ethylene Glycol	107-21-1

**United States – TSCA Inventory:** Listed

**Water Standards:** No data available

**Atmospheric Standards: Clean Air Act (1990) - List of Hazardous Air Contaminants:** listed

**CERCLA: Reportable Quantity (RQ):** 5,000 pounds (532 gallons)

**OSHA Hazard Communication Standard:** This product is a "hazardous chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III: Section 311/312 - Categories:** Acute hazard; chronic hazard

**Section 312 - Inventory Reporting:** Ethylene glycol is subject to Tier I and/or Tier II annual inventory reporting.

**Section 313 - Emission Reporting:** Ethylene glycol is subject to Form R reporting requirements.

**Section 302 - Extremely Hazardous Substances:** Ethylene glycol is not listed.

### CHEMICAL INVENTORIES:

#### State Right-To-Know:

**Director's List of Hazardous Substances:** listed

**Florida - Hazardous Substances List:** listed

**Massachusetts - Right-to-Know List:** listed

**Minnesota - Haz. Subs. List:** listed (particulate and vapor)

**New Jersey - Right-to-Know List (Total):** Present greater than 1.0%

**Pennsylvania Right-to-Know List:** environmental hazard

**California - Exposure Limits - Ceilings:** vapor-50 ppm ceiling; 125 mg/m<sup>3</sup> ceiling

**California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986):** The normal consumer use of this product does not result in exposure to chemicals known to the state of California to cause Cancer and/or reproductive harm above the significant risk level for carcinogens or the maximum



# MATERIAL SAFETY DATA SHEET

allowable dose levels for reproductive toxins. Warnings are not required for consumer packaging. However, industrial or other occupational use of this product at higher frequency and using larger quantities of this product may result in exposures exceeding these levels and are labeled accordingly.

**California SCAQMD Rule 443.1 (South Coast Air Quality Management District Rule 443.1, Labeling of Materials Containing Organic Solvents):** VOC: Vapor pressure 0.06 mmHg at 20°C, 1113.38 g/l

**Canadian Regulations:** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required.

**WHMIS Information:** D2A - material has potential toxic effects. Refer elsewhere in the MSDS for specific warnings and safe handling information. Refer to the employer's workplace education program.

**EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES (EINECS):** All of the ingredients are listed on the EINECS inventory.

**AUSTRALIA:** All of the ingredients of this product are listed on the Australian Inventory of Chemical Substances.

**JAPAN:** All of the ingredients of this product are listed on the Japanese Existing and New Chemical Substances (METI) List.

**KOREA:** All of the ingredients of this product are listed on the Korean Existing Chemical List (KECL).

**PHILIPPINES:** All of the ingredients of this product are listed on the Philippine Inventory of Chemical and Chemical Substance (PICCS)

**CHINA:** All of the ingredients of this product are listed on the Inventory of Existing Chemical Substance in China (IECSC).

## 16. DISCLAIMER

**REVISION STATEMENT:** Revision updates many sections and the MSDS should be read in its entirety.

**ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:**

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
CHA - Champion LLC	CAS - Chemical Abstract Service Number
NDA - No Data Available	NA - Not Applicable
<= - Less Than or Equal To	>= - Greater Than or Equal To

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by Champion LLC, 1001 Golden Drive, Clinton, Missouri 64735.

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