

# Material Safety Data Sheet



## SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

### STARGUARD Anti-Freeze/Coolant - Bitterant

**Product Use:** Antifreeze/Coolant

**Product Number(s):** CPS226109

**Company Identification**

Chevron Products Company  
a division of Chevron U.S.A. Inc.  
6001 Bollinger Canyon Road  
San Ramon, CA 94583  
United States of America

**Transportation Emergency Response**

CHEMTREC: (800) 424-9300 or (703) 527-3887

**Health Emergency**

Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

**Product Information**

email : lubemsds@chevron.com  
Product Information: 800-LUBE-TEK  
MSDS Requests: 800-414-6737

## SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS

| COMPONENTS            | CAS NUMBER | AMOUNT           |
|-----------------------|------------|------------------|
| Ethylene Glycol       | 107-21-1   | 60 - 100 %weight |
| Diethylene glycol     | 111-46-6   | 1 - 5 %weight    |
| Dipotassium phosphate | 7758-11-4  | 1 - 5 %weight    |

## SECTION 3 HAZARDS IDENTIFICATION

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### EMERGENCY OVERVIEW

- HARMFUL OR FATAL IF SWALLOWED
- MAY CAUSE DIZZINESS, DROWSINESS AND REDUCED ALERTNESS
- POSSIBLE BIRTH DEFECT HAZARD - CONTAINS MATERIAL THAT MAY CAUSE BIRTH DEFECTS BASED ON ANIMAL DATA
- CAUSES DAMAGE TO:

- KIDNEY

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#### IMMEDIATE HEALTH EFFECTS

**Eye:** Not expected to cause prolonged or significant eye irritation.

**Skin:** Contact with the skin is not expected to cause prolonged or significant irritation. Not expected to be harmful to internal organs if absorbed through the skin.

**Ingestion:** Toxic; may be harmful or fatal if swallowed.

**Inhalation:** The vapor or fumes from this material may cause respiratory irritation. Symptoms of respiratory irritation may include coughing and difficulty breathing. Excessive or prolonged breathing of this material may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of consciousness, coma or death. Breathing this material at concentrations above the recommended exposure limits may cause central nervous system effects. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. At extreme exposures, central nervous system effects may include respiratory depression, tremors or convulsions, loss of consciousness, coma or death.

#### DELAYED OR OTHER HEALTH EFFECTS:

**Reproduction and Birth Defects:** Contains material that may cause birth defects based on animal data.

**Target Organs:** Contains material that causes damage to the following organ(s) if swallowed: Kidney  
See Section 11 for additional information. Risk depends on duration and level of exposure.

#### SECTION 4 FIRST AID MEASURES

**Eye:** No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

**Skin:** No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

**Ingestion:** If swallowed, get immediate medical attention. Do not induce vomiting. Never give anything by mouth to an unconscious person.

**Inhalation:** Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue. Move the exposed person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if breathing difficulties continue or if any other symptoms develop.

#### SECTION 5 FIRE FIGHTING MEASURES

##### FIRE CLASSIFICATION:

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

**NFPA RATINGS:** Health: 2 Flammability: 1 Reactivity: 0

##### FLAMMABLE PROPERTIES:

**Flashpoint:** (Pensky-Martens Closed Cup) 127 °C (260 °F)

**Autoignition:** No data available

**Flammability (Explosive) Limits (% by volume in air):** Lower: 3.2 Upper:

**EXTINGUISHING MEDIA:** Dry Chemical, CO2, AFFF Foam or alcohol resistant foam.

**PROTECTION OF FIRE FIGHTERS:**

**Fire Fighting Instructions:** This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

**Combustion Products:** Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

## SECTION 6 ACCIDENTAL RELEASE MEASURES

**Protective Measures:** Eliminate all sources of ignition in vicinity of spilled material.

**Spill Management:** Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

**Reporting:** Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

## SECTION 7 HANDLING AND STORAGE

**Precautionary Measures:** Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe vapor or fumes. Wash thoroughly after handling.

**General Handling Information:** Do not taste or swallow antifreeze or solution. Keep out of the reach of children and animals.

**Static Hazard:** Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

**General Storage Information:** Do not store in open or unlabeled containers.

**Container Warnings:** Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

## SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

**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

**Eye/Face Protection:** No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

**Skin Protection:** No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Natural rubber, Neoprene, Nitrile Rubber, Polyvinyl Chloride (PVC or Vinyl).

**Respiratory Protection:** Determine if airborne concentrations are below the recommended occupational exposure limits for jurisdiction of use. If airborne concentrations are above the acceptable limits, wear an approved respirator that provides adequate protection from this material, such as: Air-Purifying Respirator for Organic Vapors, Dusts and Mists.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

#### Occupational Exposure Limits:

| Component       | Agency | TWA | STEL | Ceiling   | Notation |
|-----------------|--------|-----|------|-----------|----------|
| Ethylene Glycol | ACGIH  | --  | --   | 100 mg/m3 | --       |

### SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

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

**Color:** Green

**Physical State:** Liquid

**Odor:** Faint or Mild

**pH:** 10.2 - 11

**Vapor Pressure:** <0.1 mmHg @ 20 °C (68 °F)

**Vapor Density (Air = 1):** 2.1 (Typical)

**Boiling Point:** 196.1°C (385°F)

**Solubility:** Miscible

**Freezing Point:** -36.7°C (-34°F)

**Specific Gravity:** 1.13 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)

**Viscosity:** No data available

### SECTION 10 STABILITY AND REACTIVITY

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

**Incompatibility With Other Materials:** May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

**Hazardous Decomposition Products:** Ketones (Elevated temperatures), Aldehydes (Elevated temperatures)

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

## SECTION 11 TOXICOLOGICAL INFORMATION

### IMMEDIATE HEALTH EFFECTS

**Eye Irritation:** The eye irritation hazard is based on evaluation of data for similar materials or product components.

**Skin Irritation:** The skin irritation hazard is based on evaluation of data for similar materials or product components.

**Skin Sensitization:** The skin sensitization hazard is based on evaluation of data for similar materials or product components. No product toxicology data available.

**Acute Dermal Toxicity:** The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Oral Toxicity:** The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.

**Acute Inhalation Toxicity:** The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

### ADDITIONAL TOXICOLOGY INFORMATION:

This product contains diethylene glycol (DEG). The estimated oral lethal dose is about 50 cc (1.6 oz) for an adult human. DEG has caused the following effects in laboratory animals: liver abnormalities, kidney damage and blood abnormalities. It has been suggested as a cause of the following effects in humans: liver abnormalities, kidney damage, lung damage and central nervous system damage.

This product contains ethylene glycol (EG). The toxicity of EG via inhalation or skin contact is expected to be slight at room temperature. The estimated oral lethal dose is about 100 cc (3.3 oz.) for an adult human. Ethylene glycol is oxidized to oxalic acid which results in the deposition of calcium oxalate crystals mainly in the brain and kidneys. Early signs and symptoms of EG poisoning may resemble those of alcohol intoxication. Later, the victim may experience nausea, vomiting, weakness, abdominal and muscle pain, difficulty in breathing and decreased urine output. When EG was heated above the boiling point of water, vapors formed which reportedly caused unconsciousness, increased lymphocyte count, and a rapid, jerky movement of the eyes in persons chronically exposed. When EG was administered orally to pregnant rats and mice, there was an increase in fetal deaths and birth defects. Some of these effects occurred at doses that had no toxic effects on the mothers. We are not aware of any reports that EG causes reproductive toxicity in human beings.

## SECTION 12 ECOLOGICAL INFORMATION

### ECOTOXICITY

This material is not expected to be harmful to aquatic organisms. The ecotoxicity hazard is based on an evaluation of data for the components or a similar material.

### ENVIRONMENTAL FATE

**Ready Biodegradability:** This material is expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.

## SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

## SECTION 14 TRANSPORT 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.

**DOT Shipping Description:** Anti-freeze Preparations, Proprietary

**Additional Information:** Bulk shipments with a reportable quantity (5000 pounds) of ethylene glycol are a hazardous material. The Proper Shipping Name is: Environmentally Hazardous Substance, Liquid, N.O.S. (ethylene glycol), 9, UN3082, III, RQ (ethylene glycol).

**IMO/IMDG Shipping Description:** MAY BE REGULATED AS DANGEROUS GOODS FOR TRANSPORTATION UNDER THE IMDG CODE

**ICAO/IATA Shipping Description:** Anti-freeze Preparations, Proprietary; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO

## SECTION 15 REGULATORY INFORMATION

|                                  |                                       |     |
|----------------------------------|---------------------------------------|-----|
| <b>EPCRA 311/312 CATEGORIES:</b> | 1. Immediate (Acute) Health Effects:  | YES |
|                                  | 2. Delayed (Chronic) Health Effects:  | YES |
|                                  | 3. Fire Hazard:                       | NO  |
|                                  | 4. Sudden Release of Pressure Hazard: | NO  |
|                                  | 5. Reactivity Hazard:                 | NO  |

### REGULATORY LISTS SEARCHED:

|                     |                      |
|---------------------|----------------------|
| 01-1=IARC Group 1   | 03=EPCRA 313         |
| 01-2A=IARC Group 2A | 04=CA Proposition 65 |
| 01-2B=IARC Group 2B | 05=MA RTK            |
| 02=NTP Carcinogen   | 06=NJ RTK            |
|                     | 07=PA RTK            |

The following components of this material are found on the regulatory lists indicated.

|                   |                |
|-------------------|----------------|
| Diethylene glycol | 07             |
| Ethylene Glycol   | 03, 05, 06, 07 |

### CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

ENCS (Japan).

**NEW JERSEY RTK CLASSIFICATION:**

Refer to components listed in Section 2.

**WHMIS CLASSIFICATION:**

Class D, Division 1, Subdivision B: Toxic Material -

Acute Lethality

Class D, Division 2, Subdivision A: Very Toxic Material -

Teratogenicity and Embryotoxicity

**SECTION 16 OTHER INFORMATION**

**NFPA RATINGS:** Health: 2 Flammability: 1 Reactivity: 0

**HMIS RATINGS:** Health: 2\* Flammability: 1 Reactivity: 0

(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, \*- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

**LABEL RECOMMENDATION:**

Label Category : ANTIFREEZE/COOLANT 1 - AFC1

**REVISION STATEMENT:** This revision updates the following sections of this Material Safety Data Sheet:  
16

**Revision Date:** MAY 10, 2010

**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                       |
|                                                                 | CAS - Chemical Abstract Service Number                 |
| ACGIH - American Conference of Government Industrial Hygienists | IMO/IMDG - International Maritime Dangerous Goods Code |
| API - American Petroleum Institute                              | MSDS - Material Safety Data Sheet                      |
| CVX - Chevron                                                   | NFPA - National Fire Protection Association (USA)      |
| DOT - Department of Transportation (USA)                        | NTP - National Toxicology Program (USA)                |
| IARC - International Agency for Research on Cancer              | OSHA - Occupational Safety and Health Administration   |

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the Chevron Energy Technology Company, 100 Chevron Way, Richmond, California 94802.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular

purpose.

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