

# Material Safety Data Sheet



**SECTION 1 PRODUCT AND COMPANY IDENTIFICATION**

## Perkins ELC (Extended Life Coolant) Premix 50/50 with Embitterment

**Product Use:** Antifreeze/Coolant

**Product Number(s):** 002881

**Company Identification**

ARTECO N.V.

Technologiepark-Zwijnaarde 2

B-9052 Gent-Zwijnaarde

Belgium

**Transportation Emergency Response**

Europe: 0044/(0)18 65 407333

**Health Emergency**

Europe: 0044/(0)18 65 407333

Poison Control Center: 0032/(0)70 245 245

**Product Information**

email : customerservice@arteco-coolants.eu

Technical Information: 0032/(0)9 240 7320

**SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS**

COMPONENTS	CAS NUMBER	AMOUNT
Ethylene glycol	107-21-1	30 - 60 %weight
Sodium 2-ethylhexanoate	19766-89-3	1 - 5 %weight

**SECTION 3 HAZARDS IDENTIFICATION**

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**EMERGENCY OVERVIEW**

- MAY BE HARMFUL OR FATAL IF SWALLOWED
- MAY CAUSE DIZZINESS, DROWSINESS AND REDUCED ALERTNESS
- CONTAINS MATERIAL THAT MAY CAUSE HARM TO THE UNBORN CHILD
- CONTAINS MATERIAL THAT MAY CAUSE ADVERSE REPRODUCTIVE EFFECTS BASED ON ANIMAL DATA
- CONTAINS MATERIAL THAT 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. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin.

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

**Inhalation:** 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 adverse reproductive effects if swallowed based on animal data. Contains material that may cause harm to the unborn child based on animal data.

**Target Organs:** Contains material that may cause damage to the following organ(s) following repeated inhalation at concentrations above the recommended exposure limit: 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:** Wash skin with water immediately and remove contaminated clothing and shoes. Get medical attention if any symptoms develop. 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:** No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs. 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:** Not Applicable

**Autoignition:** No data available

**Flammability (Explosive) Limits (% by volume in air):** Lower: No data available Upper: No data available

**EXTINGUISHING MEDIA:** Use water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish flames. Dry Chemical, CO<sub>2</sub>, 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. Keep out of the reach of children.

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

**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:

### 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:** Wear protective clothing to prevent skin contact. Selection of protective clothing may include gloves, apron, boots, and complete facial protection depending on operations conducted.

Suggested materials for protective gloves include: 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, 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:

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	--

Consult local authorities for appropriate values.

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

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

**Color:** Red  
**Physical State:** Liquid  
**Odor:** Faint or Mild  
**pH:** 8.25 - 8.6  
**Vapor Pressure:** 2794 Pa @ 30 °C (30 °F)  
**Vapor Density (Air = 1):** >1 (Typical)  
**Boiling Point:** 110°C (230°F) (Estimated)  
**Solubility:** Soluble in water.  
**Freezing Point:** -37°C (-34.6°F) (Typical)  
**Melting Point:** No data available  
**Density:** 1 kg/l @ 15°C (59°F)  
**Viscosity:** No data available  
**Evaporation Rate:** 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:** Aldehydes (Elevated temperatures), Ketones (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.  
**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.

2-Ethylhexanoic acid (2-EXA) caused an increase in liver size and enzyme levels when repeatedly administered to rats via the diet. When administered to pregnant rats by gavage or in drinking water, 2-EXA caused teratogenicity (birth defects) and delayed postnatal development of the pups. Additionally, 2-EXA impaired female fertility in rats. Birth defects were seen in the offspring of mice who were administered sodium 2-ethylhexanoate via intraperitoneal injection during pregnancy.

### **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. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

### **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:** PROPRIETARY ANTIFREEZE PREPARATION IN NON-BULK PACKAGING; NOT REGULATED FOR TRANSPORT UNDER 49 CFR

**Additional Information:** Bulk shipments containing a reportable quantity (RQ, 5000 pounds or more) of ethylene glycol in a single packaging are transported as hazardous material. The shipping description is: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ETHYLENE GLYCOL CONTAINS BITTERANT), 9, III, RQ (ETHYLENE GLYCOL)

**IMO/IMDG Shipping Description:** NOT 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.  
Ethylene glycol 05, 06, 07

#### CERCLA REPORTABLE QUANTITIES(RQ)/EPCRA 302 THRESHOLD PLANNING QUANTITIES(TPQ):

Component	Component RQ	Component TPQ	Product RQ
Ethylene glycol	5000 lbs	None	1849 lbs

#### CHEMICAL INVENTORIES:

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

#### NEW JERSEY RTK CLASSIFICATION:

Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows:

#### WHMIS CLASSIFICATION:

Class D, Division 1, Subdivision B: Toxic Material - Acute Lethality  
Class D, Division 2, Subdivision A: Very Toxic Material - Teratogenicity and Embryotoxicity

Reproductive Toxicity  
Class D, Division 2, Subdivision B: Toxic Material -  
Chronic Toxic Effects

## 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 13 - AFC13

**REVISION STATEMENT:** This is a new Material Safety Data Sheet.

**Revision Date:** SEPTEMBER 14, 2011

### 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.**