

**ElectroSafe™ Plus**

Version 1.10

Revision Date 2017-09-27

SECTION 1: Identification of the substance/mixture and of the company/undertaking**Product information**

Product Name : ElectroSafe™ Plus

Use : Dielectric Coolant

Company : Green Revolution Cooling Inc.
11525 Stonehollow Dr. STE A-150
Austin, TX 78758**Emergency telephone:****Health:**

866.442.9628 (North America)

1.832.813.4984 (International)

Transport:

CHEMTREC 800.424.9300 or 703.527.3887(int'l)

Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090

EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)

Mexico CHEMTREC 01-800-681-9531 (24 hours)

South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

Argentina: +(54)-1159839431

Responsible Department : Customer Support

E-mail address : support@grcooling.comWebsite : www.grcooling.com**SECTION 2: Hazards identification****Classification of the substance or mixture****GHS Classification and labelling according to JIS Z7252-2014 and JIS Z7253-2012 (GHS 2011)****Classification**

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS).

Labeling

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS).

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SECTION 3: Information on ingredients

Contains no hazardous ingredients according to GHS.

SECTION 4: First aid measures

- General advice : No hazards which require special first aid measures.
- If inhaled : If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
- In case of eye contact : Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

SECTION 5: Firefighting measures

- Flash point : 257 °C (495 °F)
Method: Cleveland Open Cup
- Autoignition temperature : 369 °C (696 °F)
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.
- Further information : Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Fire and explosion protection : Normal measures for preventive fire protection.

SECTION 6: Accidental release measures

- Methods for cleaning up : Wipe up with absorbent material (e.g. cloth, fleece). Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage**Handling**

- Advice on safe handling : For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.

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Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Storage

Requirements for storage areas and containers : Electrical installations / working materials must comply with the technological safety standards.

Advice on common storage : No materials to be especially mentioned.

SECTION 8: Exposure controls/personal protection**Engineering measures**

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), 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.

Personal protective equipment

Respiratory protection : Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as: Full-Face Air-Purifying Respirator for Organic Vapors, Dusts and Mists. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.

Hand protection : The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Eye protection : Eye wash bottle with pure water. Tightly fitting safety goggles.

Skin and body protection : Wear as appropriate: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Lightweight protective clothing.

Hygiene measures : General industrial hygiene practice.

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SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties****Appearance**

Physical state : Liquid
Color : Clear, Colorless
Odor : Odorless

Safety data

Flash point : 257 °C (495 °F)
Method: Cleveland Open Cup

Lower explosion limit : Not applicable

Upper explosion limit : Not applicable

Oxidizing properties : no

Autoignition temperature : 369 °C (696 °F)

Molecular formula : UVCB

Molecular weight : Varies

pH : Not applicable

Melting point/range : Not applicable

Boiling point/boiling range : 430 °C (806 °F)

Vapor pressure : 0.10 MMHG
at 232 °C (450 °F)

Relative density : 0.83
at 15.6 °C (60.1 °F)

Water solubility : Soluble in hydrocarbon solvents; insoluble in water.

Partition coefficient: n-
octanol/water : No data available

Relative vapor density : 10
(Air = 1.0)

Evaporation rate : 3

SECTION 10: Stability and reactivity

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

Possibility of hazardous reactions

Conditions to avoid : No data available.

Other data : No decomposition if stored and applied as directed.

SECTION 11: Toxicological information**Acute oral toxicity**

: LD50 Oral: > 5,000 mg/kg
Species: Rat

Acute inhalation toxicity

: LC50: > 5.2 mg/l
Exposure time: 4 h
Species: Rat
Test atmosphere: dust/mist

Acute dermal toxicity 1-

: LD50: > 2,000 mg/kg
Species: Rabbit

Skin irritation

: No skin irritation

Eye irritation

: No eye irritation

Sensitization

: Did not cause sensitization on laboratory animals.

Repeated dose toxicity

: Species: Rat
Application Route: Oral
Dose: 0, 8000, 20000, 50000 ppm
Exposure time: 28 day
Number of exposures: daily
NOEL: 6,245 mg/kg
Method: OECD Test Guideline 407

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Species: Rat
 Application Route: oral gavage
 Dose: 0, 1000, 7000, 50000 ppm
 Exposure time: 13 weeks
 Number of exposures: daily
 NOEL: 4,159.4 mg/kg
 Method: OCED Guideline 408

Carcinogenicity : Remarks: This information is not available.

Reproductive toxicity : Species: Rat
 Sex: male and female
 Application Route: oral gavage
 Dose: 0, 100, 500, 1000 mg/kg
 Number of exposures: daily
 Test period: 10 weeks
 Method: OECD Test Guideline 415
 NOAEL Parent: 1,000 mg/kg

Aspiration toxicity : No aspiration toxicity classification.

CMR effects : Carcinogenicity: Not classifiable as a human carcinogen.
 Mutagenicity: Animal testing did not show any mutagenic effects.
 Teratogenicity: Not available
 Reproductive toxicity: No toxicity to reproduction

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 Further information** : No data available.

SECTION 12: Ecological information

Toxicity to fish : LL50: > 1,000 mg/l
 Exposure time: 96 h
 Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates

: EL50: > 1,000 mg/l
 Exposure time: 48 h
 Species: Daphnia magna (Water flea)
 static test Method: OECD Test Guideline 202

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Toxicity to algae : NOELR: 1,000 mg/l
 Exposure time: 72 h
 Species: Scenedesmus capricornutum (fresh water algae)
 static test Method: OECD Test Guideline 201

Bioaccumulation : This material is not expected to bioaccumulate.

Biodegradability : This material is not expected to be readily biodegradable.
 Expected to be inherently biodegradable.

Ecotoxicology Assessment

Results of PBT assessment : Non-classified PBT substance, Non-classified vPvB substance

Additional ecological information : No data available

SECTION 13: Disposal considerations

The information in this SDS pertains only to the product as shipped.

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.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

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IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information**National legislation****Poisonous and Deleterious Substances Control Law**

: Not applicable

Industrial Safety and Health Law

Substances Subject to be : Not applicable

Notified Names

Enforcement Order of the :

Industrial Safety and Health

Law - Attached table 1

(Dangerous Substances)

Harmful Substances Required : Not applicable

Permission for Manufacture

Hazardous Substances : Not applicable

Subject to Labeling

Requirements

Ordinance on Prevention of : Not applicable

Organic Solvent Poisoning

Ordinance on Prevention of : Not applicable

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Lead Poisoning
 Harmful Substances : Not applicable
 Prohibited from Manufacture
 Ordinance on Prevention of Hazards Due to Specified Chemical Substances : Not applicable
 Ordinance on Prevention of Tetraalkyl Lead Poisoning : Not applicable
 : Not applicable
 : Not applicable

Substances Prevented From Impairment of Health : Not applicable
 Listed

Chemical Substance Control Law

: Not applicable for Specified Chemical Substance, Monitoring Chemical Substance and Priority Assessment Chemical Substance.

Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

: Not applicable

Other regulations

Fire Service Law : Flammable liquids
 Type 4 petroleums
 Hazardous rank III

High Pressure Gas Safety Act : Not applicable

Explosive Control Law : Not applicable

Vessel Safety Law : Not regulated as a dangerous good

Aviation Law : Not regulated as a dangerous good

Notification status

Europe REACH : This mixture contains only ingredients which have been registered according to Regulation (EU) No. 1907/2006 (REACH).

Switzerland CH INV : On the inventory, or in compliance with the inventory

United States of America (USA) TSCA : On TSCA Inventory

Canada DSL : All components of this product are on the Canadian DSL

Australia AICS : On the inventory, or in compliance with the inventory

New Zealand NZIoC : On the inventory, or in compliance with the inventory
 Notification number: HSR002606

Japan ENCS : On the inventory, or in compliance with the inventory

Korea KECI : On the inventory, or in compliance with the inventory

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Philippines PICCS : On the inventory, or in compliance with the inventory
 China IECSC : On the inventory, or in compliance with the inventory

SECTION 16: Other information**Further information**

NSF H1, HX-1 Registered, meets USDA 1998 H1 Guidelines

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this SDS pertains only to the product as shipped.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System

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LC50	Lethal Concentration 50%		
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