

Safety Data Sheet SafeTemp® ES Plus

1. Identification

PRODUCT IDENTIFIER

Product Identity SafeTemp® ES Plus
Alternate Names Deicing/Anti-icing fluid, SAE Type I, Deicing-defrosting fluid

RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Intended use Aircraft Deicing
Application Method See Technical Data Sheet.

DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

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2. Hazard(s) identification

CLASSIFICATION OF SUBSTANCE OF MIXTURE

No applicable GHS categories.

LABEL ELEMENTS

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.

No applicable GHS categories.

[Prevention]:

No GHS prevention statements

[Response]:

No GHS response statements

[Storage]:

No GHS storage statements

[Disposal]:

No GHS disposal statements

3. Composition/information on ingredients

MIXTURE

Ingredient/Chemical Designations	Weight %	GHS Classification
Propylene Glycol CAS Number: 0000057-55-6	88-90	Not Classified
Water CAS Number: 0007732-18-5	10-12	
Enzyme Complex CAS Number: Proprietary	<1	

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4. First aid measures

DESCRIPTION OF FIRST AID MEASURES

General	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
Inhalation	Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.
Eyes	Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and seek medical attention.
Skin	Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognized skin cleanser.
Ingestion	If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Eye	May be slightly irritating to eyes
Skin	May be slightly irritating to skin (may include redness, drying and cracking of skin)
Inhalation	Not expected to be an inhalation hazard under normal conditions

5. Fire-fighting measures

FLAMMABILITY

Flammability Non-flammable by OSHA criteria

EXTINGUISHING MEDIA

Dry Chemical, BC/ABC or CO2

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Hazardous decomposition: Oxides of carbon and sulfur, formaldehyde gas and thiols.

ADVICE FOR FIRE-FIGHTERS

Evacuate area of all unnecessary personnel. Cool closed containers exposed to fire by spraying them with water. Do not allow run off water and contaminants from firefighting to enter drains or water ways.

6. Accidental release measures

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Put on appropriate personal protective equipment (see section 8). Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

ENVIRONMENTAL PRECAUTIONS

Do not allow spills to enter drains or waterways.

Avoid breather vapors when spraying. Avoid contact with skin and eyes Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse

METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Contain spillage and then collect with non-combustible absorbent material (e.g. sand, earth, vermiculite) and place in container for disposal according to local and national regulations (see section 13).

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7. Handling and storage

PRECAUTIONS FOR SAFE HANDLING

Handling	Avoid contact with skin and eyes. Avoid breathing vapors and mist when spraying.
General Hygiene Advice	Wash hands before eating, drinking, or smoking. Launder contaminated clothing before reuse.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Storage	Use UV resistant containers. Handle containers carefully to prevent damage and spillage. Keep away from direct heat
Temperature Storage Limits	Minimum -45 °C (-50 °F) Maximum 60 °C (140 °F)
Incompatible materials	Strong oxidizers, strong acids and alkali metals

8. Exposure controls and personal protection

CONTROL PARAMETERS

Exposure

No established exposure limits for this product.

Carcinogen Data

No established chemicals at levels which require reporting for this product.

EXPOSURE CONTROLS

Respiratory	No special respiratory protection is usually necessary. Breathing of mist/aerosol should be avoided. If operating conditions create high airborne concentration of this material, the use of an approved respirator is recommended.
Eyes	Safety glasses or goggles are recommended.
Skin	No special skin protection is usually necessary. Chemical resistant gloves should be worn if prolonged exposure is possible to prevent drying of skin.
Engineering Controls	No special ventilation is necessary.
Other Work Practices	Do not eat, smoke or drink where material is handled, processed or stored. Wash hands before eating, drinking, smoking or using toilet. Ensure that eyewash stations are accessible. Promptly remove soiled clothing and wash thoroughly before reuse

9. Physical and chemical properties

Appearance	Clear, orange liquid
Odor	Sweet
Odor threshold	Not Measured
pH (ASTM E70) (20°C)	7.0 – 9.0
Melting point / freezing point	< -60°C (< -76°F)
Initial boiling point and boiling range	212°F (100°C)
Flash Point	>212°F (100°C)
Evaporation rate	No Data Available
Flammability (solid, gas)	Not Applicable
Upper flammability limits	No Data Available
Lower flammability limits	No Data Available
Vapor pressure (20°C)	6-10 mmHg

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Vapor Density	No information found
Specific Gravity (20°C)	1.045
Solubility in Water	Fully miscible
Partition coefficient n-octanol/water	Not Available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity (20°C)	30 cP
Explosive Properties	Not available
Oxidizing Properties	Not corrosive to metals

10. Stability and reactivity

REACTIVITY

None under normal conditions of use.

CHEMICAL STABILITY

Stable under normal conditions.

POSSIBILITY OF HAZARDOUS REACTIONS

No dangerous reactions known under conditions of normal use.

CONDITIONS TO AVOID

High temperatures and contact with incompatible materials.

INCOMPATIBLE MATERIALS

Strong oxidizers, strong acids and alkali metals.

HAZARDOUS DECOMPOSITION PRODUCTS

May included but not limited to oxides of carbon and sulfur, formaldehyde gas and thiols.

11. Toxicological information

ACUTE TOXICITY

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LD50, mg/L/4hr	Inhalation Dust/Mist LD50, mg/L/4hr	Inhalation Gas LD50, ppm
Propylene Glycol - (57-55-6)	20,000.00, Rat - Category: NA	20,800.00, Rabbit - Category: NA	105.00, Rat - Category: NA	No data available	No data available
Enzyme Complex - (Proprietary)	No data available	No data available	No data available	No data available	No data available

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Classification	Category	Hazard Description
Acute toxicity (oral)	---	Not Applicable
Acute toxicity (dermal)	---	Not Applicable
Acute toxicity (inhalation)	---	Not Applicable
Skin corrosion/irritation	---	Not Applicable
Serious eye damage/irritation	---	Not Applicable
Respiratory sensitization	---	Not Applicable
Skin sensitization	---	Not Applicable
Germ cell mutagenicity	---	Not Applicable

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Carcinogenicity	---	Not Applicable
Reproductive toxicity	---	Not Applicable
STOT-single exposure	---	Not Applicable
STOT-repeated exposure	---	Not Applicable
Aspiration hazard	---	Not Applicable

12. Ecological information

TOXICITY

No additional information provided for this product. See Section 3 for chemical specific data.

Aquatic Ecotoxicity

96 hour LC 50	Oncorhynchus mykiss	7,071 mg/L
48 hour LC 50	Daphnia Magna	6,598 mg/L

PERSISTENCE AND DEGRADABILITY

Readily biodegradable

COD 1.53 g O ₂ /g deicer
BOD ₅ (20 °C) 0.65 g O ₂ /g deicer
5 day BOD / COD = 0.42

Bioaccumulative potential

Bioconcentration potential is not expected.

Mobility in soil

Not available

Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

Other adverse effects

No data available.

13. Disposal considerations

WASTE TREATMENT METHODS

Observe all federal, state and local regulations when disposing of this substance.

14. Transport information

TRANSPORT INFORMATION

Not regulated as a dangerous good per US DOT or IATA

15. Regulatory information

REGULATORY OVERVIEW

The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

TOXIC SUBSTANCE CONTROL ACT (TSCA)

All components of this material are either listed or exempt from listing on the TSCA Inventory.

WHMIS CLASSIFICATION

Not Regulated

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US EPA TIER II HAZARDS

Fire:	No
Sudden Release of Pressure:	No
Reactive:	No
Immediate (Acute):	No
Delayed (Chronic):	No

EPCRA 311/312 CHEMICALS AND RQS:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 302 EXTREMELY HAZARDOUS:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

EPCRA 313 TOXIC CHEMICALS:

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

PROPOSITION 65 - CARCINOGENS (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

PROPOSITION 65 - DEVELOPMENTAL TOXINS (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

PROPOSITION 65 - FEMALE REPRO TOXINS (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

PROPOSITION 65 - MALE REPRO TOXINS (>0.0%):

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

NEW JERSEY RTK SUBSTANCES (>1%) :

Propylene Glycol

PENNSYLVANIA RTK SUBSTANCES (>1%) :

Propylene Glycol

16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

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