

## FREEZIUM(TM) -60C

Version	Revision Date:	SDS Number:	Date of last issue: -
1.1	13.08.2019	150000103895	Date of first issue: 03.12.2015
PRD		SDSIN / EN / 0001	

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : FREEZIUM(TM) -60C

Product code : 51386-00, N513869S, N513868S, N513867S, P513864A, P513864B, P513864C

**Manufacturer or supplier's details**

Company : Eastman Chemical Company

Address : 200 South Wilcox Drive  
Kingsport TN 37660-5280

Telephone : (423) 229-2000

Emergency telephone : 000-800-100-7141 CHEMTREC: +1-703-527-3887 CCN7321

**Recommended use of the chemical and restrictions on use**

Recommended use : Refrigerant

Restrictions on use : Use only for identified uses.

## 2. HAZARDS IDENTIFICATION

**Manufacture, Storage and Import of Hazardous Chemicals Rules 1989****Classification****GHS Classification**

Not a hazardous substance or mixture.

**GHS label elements**

Not a hazardous substance or mixture.

**Other hazards which do not result in classification**

None known.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

**Components**

Chemical name	CAS-No.	Concentration (% w/w)
Non-hazardous ingredients	not applicable	< 100

## 4. FIRST AID MEASURES

If inhaled : Move to fresh air.

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Treat symptomatically.  
Get medical attention if symptoms occur.

In case of skin contact : Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.  
If symptoms persist, call a physician.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Seek medical advice.

If swallowed : Rinse mouth.  
Give small amounts of water to drink.  
Obtain medical attention.

Most important symptoms and effects, both acute and delayed : May cause skin irritation.  
May cause eye irritation.

Notes to physician : Treat symptomatically.

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**5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media : The product itself does not burn.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : No information available.

Hazardous combustion products : No hazardous combustion products are known

Specific extinguishing methods : The product itself does not burn.  
Use water spray to cool unopened containers.

Special protective equipment for fire-fighters : Wear self-contained breathing apparatus and protective suit.

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**6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures : Avoid contact with skin and eyes.  
Use personal protective equipment.  
Local authorities should be advised if significant spillages cannot be contained.

Environmental precautions : Avoid release to the environment.

Methods and materials for containment and cleaning up : Dilute with plenty of water.  
Large spills should be collected mechanically (remove by pumping) for disposal.  
Keep in suitable, closed containers for disposal.

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Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

Clean-up methods - small spillage

Flush with plenty of water.

Dispose of in accordance with local regulations.

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**7. HANDLING AND STORAGE**

Advice on protection against fire and explosion : None known.

Advice on safe handling : Use only in area provided with appropriate exhaust ventilation.

Handle and open container with care.

Avoid contact with skin, eyes and clothing.

Wear personal protective equipment.

Wash hands before breaks and immediately after handling the product.

Ensure that eyewash stations and safety showers are close to the workstation location.

Conditions for safe storage : Keep containers tightly closed in a dry, cool and well-ventilated place.

Protect from sunlight.

Materials to avoid

Strong acids

Aluminium

Zinc

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Ingredients with workplace control parameters**

Contains no substances with occupational exposure limit values.

**Engineering measures** : Good general ventilation (typically 10 air changes per hour) should be sufficient to control airborne levels.

Ensure adequate ventilation.

**Personal protective equipment**

Respiratory protection : If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Hand protection  
Material

: Wear suitable gloves.

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Material	:	PVC
Material	:	Neoprene
Remarks	:	Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves.
Eye protection	:	Tightly fitting safety goggles
Skin and body protection	:	Wear suitable protective clothing.
Protective measures	:	Remove respiratory and skin/eye protection only after vapors have been cleared from the area. Ensure that eye flushing systems and safety showers are located close to the working place. Use personal protective equipment as required.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	:	liquid
Color	:	blue
Odor	:	mild
Odor Threshold	:	not determined
pH	:	8 - 10
Melting point/freezing point	:	-60 °C
Boiling point/boiling range	:	114 °C
Flash point	:	The product is not flammable.
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Upper explosion limit / Upper flammability limit	:	Not applicable
Lower explosion limit / Lower flammability limit	:	Not applicable
Vapor pressure	:	similar to water

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Relative vapor density	:	No data available
Relative density	:	1.340 (20 °C)
Density	:	1.34 g/cm <sup>3</sup> (20 °C)
Solubility(ies)		
Water solubility	:	completely soluble
Partition coefficient: n-octanol/water	:	SECTION 12: Ecological information
Autoignition temperature	:	not determined
Decomposition temperature	:	> 167 °C
Viscosity		
Viscosity, dynamic	:	2.8 mPa.s ( 20 °C)
Viscosity, kinematic	:	No data available
Explosive properties	:	Not classified
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

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**10. STABILITY AND REACTIVITY**

Reactivity	:	Reacts with the following substances: Strong acids
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	To avoid thermal decomposition, do not overheat.
Incompatible materials	:	Strong acids Aluminium Zinc
Hazardous decomposition products	:	No data available

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**11. TOXICOLOGICAL INFORMATION****Acute toxicity**

Not classified based on available information.

**Skin corrosion/irritation**

Not classified based on available information.

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**Serious eye damage/eye irritation**

Not classified based on available information.

**Respiratory or skin sensitization****Skin sensitisation**

Not classified based on available information.

**Respiratory sensitisation**

Not classified based on available information.

**Germ cell mutagenicity**

Not classified based on available information.

**Carcinogenicity**

Not classified based on available information.

**Reproductive toxicity**

Not classified based on available information.

**STOT - single exposure**

Not classified based on available information.

**STOT - repeated exposure**

Not classified based on available information.

**Aspiration toxicity**

Not classified based on available information.

**Information on likely routes of exposure****Product:**

Skin contact	:	Symptoms: Chronic exposure causes drying effect on the skin and eczema., Redness
Ingestion	:	Symptoms: Nausea, Vomiting, Abdominal pain, stomach discomfort

**Further information****Product:**

Remarks	:	None known.
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**12. ECOLOGICAL INFORMATION****Ecotoxicity**

No data available

**Persistence and degradability****Product:**

Biodegradability	:	Remarks: Readily biodegradable Information refers to the main ingredient.
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**Bioaccumulative potential****Product:**

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

**Mobility in soil****Product:**

Mobility : Medium: Water  
Remarks: completely soluble

**Other adverse effects**

No data available

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**13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues : In accordance with local and national regulations.

Contaminated packaging : In accordance with local and national regulations.

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**14. TRANSPORT INFORMATION****International Regulations****IATA-DGR**

Not regulated as a dangerous good

**IMDG-Code**

Not regulated as a dangerous good

**Transport in bulk according to IMO instruments**

Not applicable for product as supplied.

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**15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture****The ingredients of this product are reported in the following inventories:**

DSL : This product contains one or several components that are not on the Canadian DSL nor NDSL.

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

ENCS : Not listed

ISHL : Not listed

KECI : Not listed

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PICCS	: Not listed
IECSC	: On the inventory, or in compliance with the inventory
TCSI	: On the inventory, or in compliance with the inventory
TSCA	: On TSCA Inventory

**16. OTHER INFORMATION**

Date format : dd.mm.yyyy

**Full text of other abbreviations**

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

The information provided in this Material 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.



# SAFETY DATA SHEET

**EASTMAN**

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