GREENFREEZE HC REFRIGERANT SUPERCOLD IN CYLINDERS UN1035

SAFETY DATA SHEET

1. Identification

Ethane
(may also contain small amounts of propane)
A flammable gas used as refrigerant, normally stored under pressure. All cylinders or containers are VAPOUR SERVICE.

Trade Names
Greenfreeze SuperCold

Systematic Name
Dimethyl, Ethyl Hydride

Supplier:

GREENFREEZE Europe
375 route de Villenouvette
34370 Maraussan
France

Tel : +33 (0) 6 71 26 41 26
Email : contact@greenfreeze.eu

Poison Control Center – Centre Anti Poison
France : +33 (0) 0 45 42 59 59
UK. Royaume Uni : +44 870 600 6266
Pays-Bas : +31 30 274 8888
Belgique : +32 70 245 245
Suisse : 145 (de l'étranger : + 41 44 251 51 51)
Hongrie : + 36 80 201 199

2. Hazards identification

Hazard Category Flammable gas – category 1, Gas under pressure: Compressed gas

GHS Label Elements

Signal Word DANGER

Hazard statement(s) H220 Extremely flammable gas
H280 Contains gas under pressure; may explode if heated. AUH044 Risk of explosion if heated under confinement

3. Composition and information on ingredients

Main Component :			***CAS Number***
SUPERCOLD	Ethane	>95.0%	74-84-00
Minor Components :	Propane	<1.0%	074-98-6

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

4. First-aid measures

In all cases seek medical attention.

Eye Contact
Treatment for cold burns: Immediately flush with tepid water or with sterile saline solution. Hold eyelids apart and irrigate for 15 minutes. Seek medical attention.

Inhalation
Remove from area of exposure immediately. Be aware of possible explosive atmospheres. If victim is not breathing apply artificial respiration and seek urgent medical attention. Give oxygen if available. Keep warm and rested.

Skin Contact	Cold burns: Remove contaminated clothing and gently flush affected areas with warm water (30° C) for 15 minutes. Apply sterile dressing and treat as for a thermal burn. For large burns, immerse in warm water for 15 minutes. DO NOT apply any form of direct heat. Seek immediate medical attention.
Ingestion	For advice, contact a Poisons Information Centre : Cf.Chap.1 or a doctor. Ingestion is considered unlikely due to the product form.
Advice to Doctor	Treat symptomatically. Severe inhalation overexposure may sensitise the heart to catecholamine induced arrhythmias. Do not administer catecholamines to an overexposed person.

5. Fire-fighting measures

Flammability	Highly flammable. Heating to decomposition may produce smoke and irritating fumes. Product will add fuel to a fire. Eliminate all ignition sources including cigarettes, open flames, spark producing switches/tools, heaters, naked lights, pilot lights, mobile phones etc. when handling.
Fire and Explosion	Highly flammable. Temperatures in a fire may cause cylinders to rupture and internal pressure relief devices to be activated. Call Fire Brigade. This product will add fuel to a fire. Cool cylinders exposed to fire by applying water from a protected location and with water spray directing spray primarily onto the upper surface. Do not approach any HyChill HC refrigerant cylinder or container suspected of being hot.
Extinguishing	Stop flow of gas if safe to do so, such as by closing valves. If the gas source cannot be isolated, do not extinguish the flame, since re-ignition and explosion could occur. Await arrival of emergency services. Drench and cool cylinders with water spray from protected area at a safe distance. If it is absolutely necessary to extinguish the flame, use only a dry chemical powder extinguisher. Do not move cylinders for at least 24 hours. Avoid shock and bumps to cylinders. Evacuate the area of persons not fighting the fire. Carbon monoxide fumes may be produced should burning occur within an enclosed space (ie causing a deficiency of oxygen). Fire fighters should wear full protective clothing and be aware of the risk of possible explosion (especially in a confined space). Flashback may occur along vapour trail. Where possible, remove cool cylinders from the path of the fire. Do not re-use a fire-exposed cylinder – seek advice of supplier.

6. Accidental release measures

Spillage	As this product has a very low flash point any spillage or leak is a fire and/or explosion hazard. If a leak has not ignited, stop gas flow, isolate sources of ignition and evacuate personnel. Ensure good ventilation. Where appropriate, use water spray to disperse the gas or vapour and to protect personnel attempting to stop leakage. Vapour may collect in any confined space.
Gas Cylinders	If the cylinder is leaking, eliminate all potential ignition sources and evacuate area of personnel. Inform manufacturer/supplier of leak. Wear appropriate PPE and carefully move to a well ventilated remote area, then allow to discharge. Do not attempt to repair leaking valve or cylinder relief device.

7. Handling and storage

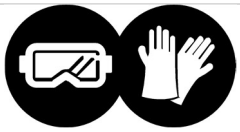
Precautions for safe handling	Avoid inhalation of vapour. When handling cylinders wear protective footwear and suitable gloves. Always ensure that cylinders are within test date, are fit for use and are leak checked prior to use. Do not fill excessively dented, gouged or rusty containers (refer AS2337.1). Only fill cylinders by mass or pressure using verified equipment.. Avoid contact with eyes. Class 2.1 Flammable Gas products may only be loaded in the same vehicle or packed in the same freight container with the classes of products as permitted in the ADG Code (see references). Cylinders shall only be transported in an upright, secure position in accordance with the National Road Transport Commission Load Restraint Guide and shall not be dropped.
Conditions for Safe Storage	Store and use only in equipment/containers designed for use with this product. Store and dispense only in well ventilated areas away from heat and sources of ignition. Containers must be properly labelled. Do not remove warning labels from containers. Cylinders shall be stored in accordance with the requirements of the ADG Code, AS 4332 and AS/NZS1596. Do not store in pits and basements where vapour may collect. Store cylinders securely in an upright position. Store away from incompatible materials particularly oxidising agents. Check that cylinders are clearly labelled. Do not contaminate cylinders with other products.
Other information	Check for leaks by sound and smell and by locating with soapy water or with approved detection devices. Use only with hoses and gauges designed and approved for refrigerants. Ensure that cylinders cannot be struck by forklift vehicles or by dropped or rolled objects, etc. Refer to Australian state and territory dangerous goods regulations.

8. Exposure controls and personal protection

Ventilation

Maintain adequate ventilation. Confined areas (eg tanks) should be adequately ventilated and gas tested.

Exposure ETHANE - ES-TWA : 1000 ppm (NOHSC AUS)

PPE Wear insulated or  leather gloves and safety glasses.

Where an inhalation risk exists, wear an Air-line respirator or self Contained Breathing Apparatus (SCBA).

9. Physical and chemical properties

Appearance	COLOURLESS GAS	**Solubility (water)**	61 cm^3 / cm^3
Odour	Characteristic Odour *	**Volatility**	Highly Volatile
Molecular Weight	30 g/mol	**Flammability**	HIGHLY FLAMMABLE
Evaporation	Rapid, temperature dependent	**Lower Explosion Limit**	≈ 2.3 %
Upper Explosion Limit	≈ 12.9 %	**Flash Point**	-104 °C (closed cup)
Pressure@25°C	4.2 mPa(g)	**Autoignition Temperature**	514°C

* Greenfreeze may add odourant, ethylmercaptan unless otherwise authorised. (recommended 25 ppm). This is detectable to approximately 20% of its lower flammability limit.

10. Stability and reactivity

Chemical Stability	Stable under recommended conditions of storage
Conditions to Avoid	Avoid heat, sparks, open flames and other ignition sources.
Decomposition	Heating to decomposition may produce smoke and irritating fumes.

11. Toxicological information

Health Hazard Summary Asphyxiant gas. Symptoms of exposure are directly related to displacement of oxygen from air.

Eye	Non irritating. However, direct contact with evaporating liquid may result in severe cold burns with possible permanent damage.
Inhalation	Non irritating – Asphyxiant. Effects are proportional to oxygen displacement. Low vapour concentrations may cause nausea, dizziness, headaches and drowsiness. May have a narcotic effect if high concentrations of vapour are inhaled. High vapour concentrations may produce symptoms of oxygen deficiency which, coupled with central nervous system depression, may lead to rapid loss of consciousness.
Abuse	Under normal conditions of use the product is non hazardous, however abuse involving deliberate inhalation of very high concentrations of vapour can produce unconsciousness and/or result in a sudden fatality or brain damage.
Skin	Non irritating. Contact with vapour or supercold vessels or pipes may result in frost-bite with severe tissue damage.
Ingestion	Due to product form, ingestion is considered highly unlikely.
Toxicity Data	ETHANE (74-84-0) LD50 Rat: > 500-5000 ppm

12. Ecological information

Environment	No known ecological damage is caused by this product.
Degradability	Expected to be inherently biodegradable.
Mobility	No bioconcentration is expected.
Ecotoxicity	Low toxicity to aquatic organisms

13. Disposal considerations

Waste Disposal	Cylinders should be returned to the manufacturer or supplier for disposal of contents.
Legislation	Dispose of in accordance with relevant local legislation.

14. Transport information

Transport of this gas is controlled in accordance with the requirements of the ADG Code and the Load Restraint Guide.

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO NOHSC CRITERIA.
CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE

UN No.	1035	**DG Class**	2.1	**Subsidiary Risk**	None Allocated
Hazchem Code	2PE	**EPG**	2A2	**Pkg Group**	None Allocated

15. Regulatory information

AICS	All chemicals listed on the Australian Inventory of Chemical Substances (AICS).
Poison	A poison schedule number has not been allocated to this product using the criteria in Schedule the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

16. Other information

The Australian Code for the Transport of Dangerous Goods by Road and Rail (commonly known as the ADG Code).

Australian Standards as detailed within this document.
AS/NZS 1677 Refrigerating Systems Part 1: Refrigeration classification
AS/NZS 1677 Refrigerating Systems Part 2: Safety requirements for fixed applications Petroleum and Gas Legislation / Queensland: 2004

The Load Restraint Guide as prepared by the National Transport Commission. Ozone Protection and Synthetic Greenhouse Gas Management Act 1989.

The data given here only applies when product used for proper application(s). The product is not sold as suitable for other applications - usage in such may cause risks not mentioned in this sheet. Do not use for other application(s) without seeking advice from the manufacturer

Prepared by:

- *GREENFREEZE Europe*
  375 route de Villenouvette
  34370 MARAUSSAN
  France
  -Contact Point See Section 1 for Local Contact Number
  -Safety Data Sheet according to WHS and ADG requirements
  - http://greenfreeze.eu/sds

End of SDS