HYCHILL HC REFRIGERANTS IN CANS UN2037

SAFETY DATA SHEET

1. Identification

Propane/Isobutane/Ethane blends.
(may also contain small amounts of n-butane)
A flammable gas used as refrigerant, normally stored under pressure in liquid form in a single use container.

Trade Names
HyChill Minus 10, Minus 30, Minus 30EC, Minus 40, Minus 50 and Minus 60.

Systematic Name
Propane/2-Methylpropane/Ethane

Supplier:

HyChill Australia Pty Ltd
A.B.N. 97 089 527 962
85a Canterbury Road
Kilsyth, Victoria 3137
Australia

24 Hour Environmental / Health Emergency
0418 334 210

Telephone - Supplier General Contact
(03) 9728 5055

2. Hazards identification

Hazard Category	Flammable gas – category 1, Gas under pressure
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 Components:			***CAS Number***
Minus 10:	Isobutane	>95.0%	75 – 28 – 5
Minus 30 & Minus 30 EC:	Propane	>50.0%	0074 – 98 – 6
	Isobutane	>35.0%	75 – 28 – 5
Minus 40:	Propane	>95.0%	0074 – 98 – 6
Minus 50 & Minus 60:	Propane	>85.0%	0074 – 98 – 6
	Ethane	<10.0%	74 – 84 – 0
Minor Components:	Butane (normal)	<1.5%	106 – 97 – 8
Odourant:	Ethylmercaptan	Approx 25ppm	75 – 08 – 1

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 on 13 11 26 (Australia Wide) 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 containers to rupture. Call Fire Brigade. This product will add fuel to a fire. Cool containers 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 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 containers 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 containers for at least 24 hours. Avoid shock and bumps to containers. 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 containers from the path of the fire.

6. Accidental release measures

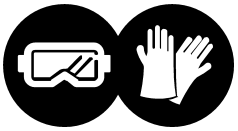
Spillage	As this product has a very low flash point any spillage or leak is a fire and/or explosion hazard. If a leak has not ignited, stop gas flow, isolate sources of ignition and evacuate personnel. Ensure good ventilation. Liquid leaks generate large volumes of heavier than air flammable vapour which may travel to remote sources of ignition (eg along drainage systems). 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.

7. Handling and storage

Precautions for safe handling	Avoid inhalation of vapour. Avoid contact with liquid and cold storage containers. When handling containers wear protective footwear and suitable gloves. 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). Containers 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. Containers 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 away from incompatible materials particularly oxidising agents. Check that cartons and containers are clearly labelled.
Other information	Product spilled on clothing may give rise to delayed evaporation and subsequent fire hazard. Check for leaks by sound and smell and by locating with soapy water or with suitable detection devices. Use only with hoses and gauges suitable for the operating pressures and hazards associated with the refrigerant in question. Ensure that containers and outer package 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.
Exposure	ISOBUTANE - ES-TWA : 1000 ppm (NOHSC AUS) PROPANE - ES-TWA : 1000 ppm (NOHSC AUS) 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)**	0.001cm^3 / cm^3
Odour	Characteristic Odour *	**pH**	NOT AVAILABLE
Liquid Density@ 15°C	>0.48 <0.64 g/cm^3	**Volatility**	Highly Volatile
Vapour Density	NOT AVAILABLE	**Flammability**	HIGHLY FLAMMABLE
Evaporation	Rapid, temperature dependent	**Melting Point**	NOT AVAILABLE
Upper Explosion Limit	≈ 9.5 %	**Lower Explosion Limit**	≈ 1.9 % Vapour
Pressure@25°C	360 - 1006 kPa(g)	**Flash Point**	-104 to 0 °C
Boiling Point	-50 to -10°C	**Autoignition Temperature**	~480°C to ~550°C

* HyChill has added 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 evaporating liquid 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	PROPANE (74-98-6) LC50 (Inhalation): 50,000 ppm ISOBUTANE (75-28-5) LC50 (Inhalation): 57 ppm/15 min (rat) 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	Do not puncture or incinerate empty containers.
Legislation	Dispose of in accordance with relevant local legislation.

14. Transport information

Transport of these gas mixtures 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.	2037	**DG Class**	2.1	**Subsidiary Risk**	None Allocated
Hazchem Code	2YE	**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 the product is 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:
HyChill Australia Pty Ltd
Kilsyth, Victoria,
AUSTRALIA

- Contact Point See Section 1 for Local Contact number
- Safety Data Sheet according to WHS and ADG requirements
- https://hychill.com.au/sds

End of SDS