

SAFETY DATA SHEET

According to
HSNO Hazardous Substances (Safety Data Sheets) Notice 2017

Section 1. Identification of the material and the supplier

Product: **R290 Propane**
 Product Use: Refrigerant
 Restriction of Use: Refer to Section 15

New Zealand Supplier: **Refrigeration Specialties Ltd**
 Address: 181a Station Road,
 Penrose,
 Auckland 1061

Telephone: +64 9 582 0200
Emergency No: 0800 764 766 (National Poison Centre)

Date of SDS Preparation: 4 October 2023

Section 2. Hazards Identification

This substance is hazardous according to the EPA Hazardous Substances (Classification) Notice 2020

EPA Approval No: HSR001010

Pictograms



Flammable

Signal Word: **DANGER**

GHS Classification and Category	Hazard Code	Hazard Statement
Flammable gas Cat. 1	H220	Extremely flammable gas.

Prevention Code	Prevention Statement
P103	Read carefully and follow all instructions.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response Code	Response Statement
P377	Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381	In case of leakage, eliminate all ignition sources.

Storage Code	Storage Statement
P403	Store in a well-ventilated place.

Disposal Code	Disposal Statement
P501	Dispose of according to Local Regulations or Authorities

Section 3. Composition / Information on Hazardous Ingredients

Ingredients	Wt%	CAS NUMBER.
Propane	>99.95	74-98-6

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes	Rinse cautiously with warm water for 15 minutes. Remove contact lenses, if present and able to do so. Continue rinsing. Seek medical attention.
If on Skin	Immerse in plenty of warm water, with active movement for 20 minutes. Drape/Wrap with sterile cloth and seek medical attention.
If Swallowed	Not a route of exposure. Treat mouth contact as skin contact.
If Inhaled	Remove person to fresh air. Remove contaminated clothing and loosen remaining clothing. Allow person to assume most comfortable position and keep warm. Keep at rest until fully recovered. Apply artificial respiration if not breathing. Get medical advice if breathing becomes difficult.

Most important symptoms and effects, both acute and delayed

Symptoms:

Inhalation: Euphoria, breathing difficulties, nausea

Skin: Frostbite, burning

Eye: Frostbite, Vision loss

Section 5. Fire Fighting Measures

Hazard Type	Flammable
Hazards from combustion products	Oxides of carbon
Suitable Extinguishing media	Water fog to cool containers
Precautions for firefighters and special protective clothing	Move container from the fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area. Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or ant discoloration of tanks due to fire. For tan, rail car or tank truck: Stop leak if possible without personal risk. Let burn unless leak can be stopped immediately
HAZCHEM CODE	2YE

Section 6. Accidental Release Measures

Personal Precautions: Immediately contact emergency personnel. Use suitable protective equipment. Shut off gas supply if this can be done safely. Isolate area until gas has dispersed.

Environmental Precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Methods for Cleaning-up: Avoid heat, flames, sparks and other sources of ignition. Do not touch spilled material. Stop leak if possible without personal risk. Reduce vapours with water

spray. Keep unnecessary people away. Isolate hazard area and deny entry. Remove sources of ignition. Ventilate closed spaces before entering

In Case of Spill or Other Release: (Always wear recommended personal protective equipment.) Evacuate unprotected personnel. Protected personnel should remove ignition sources and shut off leak, if without risk, and provide ventilation. Unprotected personnel should not return until air has been tested and determined safe, including low lying areas.

Section 7. Handling and Storage

Precautions for Handling:

- Always wear recommended personal protective equipment.
- Avoid breathing vapours and liquid contact with eyes, skin or clothing.
- Do not puncture or drop cylinders, expose them to open flame or excessive heat.
- Use authorized cylinders.
- Follow standard safety precautions for handling and use of compressed gas cylinders

Precautions for Storage:

- Store away from incompatible materials listed in Section 10.
- Keep container tightly closed.
- Keep container in a cool, well-ventilated area.
- Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over.
- Cylinder temperatures should not exceed 51.7° C.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA		STEL	
	ppm	mg/m ³	ppm	mg/m ³

None of the components have assigned exposure limits.

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices APRIL 2022 13TH EDITION.

Engineering Controls

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits

Personal Protection Equipment



Eyes	For the gas: Eye protection is not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
Hands	Chemical-resistant, impervious gloves or gauntlets complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Skin	For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing
Respiratory	Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to

	maximum. Consider warning properties before use. Any supplied-air respirator with a full face piece that is operated in pressure-demand or other positive pressure mode.
General	Handle in accordance with good industrial hygiene and safety practice. No smoking in the working area. Avoid prolonged contact.

Section 9 Physical and Chemical Properties

Appearance	Gas
Colour	Colourless
Odour	Odourless
Odour Threshold	Not available
pH	Not available
Boiling Point	-42.1°C
Melting Point	Not available
Freezing Point	-187.6°C
Flash Point	Not available
Flammability	Not available
Upper and Lower Explosive Limits	Not available
Vapour Pressure	940 kPa
Vapour Density	1.56
Specific Gravity	0.58g/cm ³
Water Solubility	Not available
Partition Coefficient:	Not available
Auto-ignition Temperature	449.85°C
Decomposition Temperature	Not available
Kinematic Viscosity	Not available
Particle Characteristics	Not available

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Possibility of hazardous reactions	Not available
Conditions to Avoid	Avoid heat, flames, sparks and other sources of ignition.
Incompatible Materials	Strong acids, alkalis and oxidizers such as chlorine (gas or liquid) and oxygen.
Hazardous Decomposition Products	Not available

Section 11 Toxicological Information

Acute Effects:

Swallowed	This product is not classified as acutely toxic.
Dermal	This product is not classified as acutely toxic.
Inhalation	This product is not classified as acutely toxic.
Eye	This product is not classified as an eye irritant/corrosive.
Skin	This product is not classified as a skin irritant/corrosive.

Chronic Effects:

Carcinogenicity	This product is not classified as carcinogenic.
Reproductive Toxicity	This product is not classified as toxic for reproduction.

Germ Cell Mutagenicity	This product is not classified as mutagenic.
Aspiration	This product is not classified as Asp Tox.
STOT/SE	This product is not classified as STOT SE.
STOT/RE	This product is not classified as STOT RE.

Section 12. Ecotoxicological Information

Not expected to be harmful to the environment

Product:	
Persistence and degradability	No data available
Bioaccumulation	No data available
Mobility in Soil	No data available
Other adverse effects	No data available

Section 13. Disposal Considerations

Disposal Method:

Waste from residues / unused products: Can be used after re-conditioning. Product removed from the cylinder must be disposed of in accordance with appropriate National and local regulation. Return cylinders with residual product to the supplier.

Precautions or methods to avoid: Do not pierce or burn, even if empty.

Section 14 Transport Information

This product is classified as a Dangerous Good for transport in NZ ; NZS 5433:2020 and SNZ HB 5433:2021



Road, Rail, Sea and Air Transport

UN No	1978
Class - Primary	2.1
Packing Group	II
Proper Shipping Name	PROPANE
Marine Pollutant	No

Section 15 Regulatory Information

This substance is classified hazardous according to the EPA Hazardous Substances (Classification) Notice 2020

EPA Approval Code: HSR001010

GHS Classification:

HSW (HS) Regulations 2017 and EPA Notices	Trigger Quantity
Certified Handler	Not required
Location Certificate	100kg
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	50kg inside, 250kg outside
Fire Extinguisher Quantities	100kg – 1x
Emergency Response Plan	300kg
Secondary Containment	Not required

Section 16**Other Information****Glossary**

Cat	Category
EC ₅₀	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
HSW	Health and Safety at Work.
LC ₅₀	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD ₅₀	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
OSHA	American Occupational Safety and Health Administration.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level
WES	Workplace Exposure Limit

References:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices April 2022 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2020
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer

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Please contact the New Zealand distributor, if further information is required.

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