

SAFETY DATA SHEET

Item Code: L0167

Section 1. Identification of the material and the supplier

Item Code: L0167
 Product: R407F
 Product Use: Refrigerant Gas

New Zealand Supplier: Realcold Ltd
 Address: 9 Prescott Street
 Penrose, Auckland

Telephone: 09 526 5700
 Fax Number: 09 526 5721
Emergency Telephone: 09 526 5700
0800 766 764 (National Poison Centre)

Manufacturer: Global Refrigerants (S) Pte Ltd
 9 Tuas Link 1, Singapore

Date of MSDS Preparation: 14 March 2017 – version 2

Section 2. Hazards Identification

As per the manufacturers SDS this substance is not hazardous .

Section 3. Composition / Information on Ingredients

Ingredients	Wt%	CAS NUMBER.
1.1.1.2-Tetrafluoroethane (R134a)	40%	811-97-2
Difluoromethane (R32)	30%	75-10-5
Pentafluoroethane(R125)	30%	354-33-6

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes Immediately flush eyes with gentle but large stream of water for at least 15 minutes. Call a physician if needed.

If on Skin In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Call a physician if needed.

If Swallowed Is not considered a possible route.

If Inhaled In low concentrations may cause narcotic effects. Symptoms may include dizziness, headache. nausea and loss of co-ordination.
 In high concentrations may cause asphyxiation. Symptoms may include loss of mobility consciousness. Victim may not be aware of asphyxiation. Remove victim to uncontaminated area wearing self-contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.

Section 5. Fire Fighting Measures

Hazard Type	Exposure to fire may cause containers to rupture or explode.
Hazards from decomposition products	At high temperature, thermal decomposition giving toxic and corrosive products : Carbon monoxide, Carbonyl fluoride, Hydrogen fluoride
Suitable Extinguishing media	All known extinguishers can be used. If possible stop flow of product. Move away from the container and cool with water from a protected position.
Precautions for firefighters and special protective clothing	Wear self-contained breathing apparatus and protective suit.
HAZCHEM CODE	2TE

Section 6. Accidental Release Measures

Evacuate area. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Ensure adequate air ventilation. Try to stop release. Prevent vapour from entering sewers, basements and workpits, or any place where its accumulation can cause asphyxiation. Ventilate area.

Section 7. Handling and Storage

Handling & Storage Suck- back of water into the container must be prevented. Do not allow back-feed into the container. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Refer to supplier's container handling instructions. Keep container below 50°C in a well ventilated place.

Section 8 Exposure Controls / Personal Protection**WORKPLACE EXPOSURE STANDARDS (provided for guidance only)**

Substance	CAS #	TWA		STEL	
		ppm	mg/m3	ppm	mg/m3
1.1.1.2-Tetrafluoroethane (R134a)	811-97-2	1000	-	-	-
Difluoromethane (R32)	75-10-5	1000	-	-	-
Pentafluoroethane(R125)	354-33-6	1000	-	-	-

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.

Engineering Controls Ensure adequate ventilation.
Personal Protection

Respiratory protection: In case of insufficient ventilation use suitable respiratory equipment.
 Eye protection : Safety glasses / goggles.
 Hand protection : Gloves.
 Hygiene measures : Avoid contact with skin and eyes and inhalation of vapours. Do not smoke.

Section 9 Physical and Chemical Properties

Appearance	Colourless gas
Odour	Ethanal
Boiling Point	-45.5°C
Molecular weight	82.058
Vapour Pressure 20°C	11.4 bar(a)
Partition coefficient	(n-octanol / water): R23: log Pow = 0.64
Critical temperature	82.6°C
Solubility in Water	Not known, but considered to have a low solubility
Relative Density Liquid	1.1 (water = 1)
Relative Density Gas	2.9 (air = 1)

Other data: Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

Section 10. Stability and Reactivity

Stability of Substance	The product is stable under normal conditions
Conditions to Avoid	May react with aluminium
Hazardous Decomposition Products	Thermal decomposition yields toxic products which can be corrosive in the presence of water.

Section 11 Toxicological Information

May product irregular heart beat and nervous system

Section 12. Ecotoxicological Information

When discarded in large quantities may contribute to the greenhouse effect.
Global warming factor: 1824 (CO₂=1)

Section 13. Disposal Considerations

Avoid discharge into the atmosphere. Regularly check containment systems and cylinders for leaks.
Do not discharge into any place where its accumulation could be dangerous.

Section 14 Transport Information

This product is classified as a Dangerous Good for transport in NZ ; NZS 5433:2007

Road and Rail Transport

UN No:	3163
Class-primary	2
Packing Group	Non allocated
Proper Shipping Name:	LIQUEFIED GAS N.O.S.(1.1.1.2 – Tetrafluoroethane[R134a], Difluoromethane [R32])

Air Transport

UN No: 3163
Class-primary 2
Packing Group Non allocated
Proper Shipping Name: LIQUEFIED GAS N.O.S.(1.1.1.2 – Tetrafluoroethane[R134a],
Difluoromethane [R32]
IATA Passenger packing instruction 200
IATA Passenger max qty/pack 75kg
IATA cargo packing instruction 200
IATA cargo max qty/pack 150kg

Marine Transport

UN No: 3163
Class-primary 2
Packing Group Non allocated
Proper Shipping Name: LIQUEFIED GAS N.O.S.(1.1.1.2 – Tetrafluoroethane[R134a],
Difluoromethane [R32]
Marine pollutant No

Section 15 Regulatory Information

This substance is not hazardous according to the HSNO (Minimum Degrees of Hazard) Regulations 2001

Section 16 Other Information

1. HSNO Approved Code of Practice: Preparation of Safety Data Sheets, September 2006.

Disclaimer

This document has been issued by Realcold Limited and serves as their Safety Data Sheet ('SDS'). It is based on information concerning the product which has been provided to Realcold Limited or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer. While Realcold Limited have taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, Realcold Limited accept no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS

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

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