

SAFETY DATA SHEET

34M REFRIGERANT GAS

Infosafe No.: LQ5PO
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1. IDENTIFICATION

GHS Product Identifier
34M REFRIGERANT GAS

Company Name
ARP (ABN 93 142 654 564)

Address
1-3 Annick Crescent Laverton North
Vic 3026 Australia

Telephone/Fax Number
Tel: +613 8348 9200
Fax: +613 8353 2083

Emergency phone number
1800 638 556 (24hrs)

Emergency Contact Name
www.actrol.com.au

Recommended use of the chemical and restrictions on use
Refrigerant gas

2. HAZARD IDENTIFICATION

GHS classification of the substance/mixture

Classified as Hazardous according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia

Classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

Gases under Pressure: Compressed Gas

Signal Word (s)
WARNING

Hazard Statement (s)
H280 Contains gas under pressure; may explode if heated.

Pictogram (s)
Gas cylinder



Precautionary statement – Storage

P410+P403 Protect from sunlight. Store in a well-ventilated place.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Name	CAS	Proportion
1,1,1,2-tetrafluoroethane (HFC 134a)	811-97-2	95 %
Propane	74-98-6	<1.95 %
Butane	106-97-8	<1.95 %
Ingredients determined not to be hazardous	Not required	Balance

4. FIRST-AID MEASURES

Inhalation

Avoid becoming a casualty - to protect rescuer, use air-viva, oxy-viva or one-way mask. Remove affected person from contaminated area - Apply artificial respiration if not breathing. Do not give direct mouth to mouth resuscitation. Resuscitate in a well ventilated area. Seek IMMEDIATE medical attention. Note: in confined space - DO NOT ATTEMPT RESCUE WITHOUT ADEQUATE RESPIRATORY PROTECTION.

Ingestion

Not considered a potential route of exposure.

Skin

Remove all contaminated clothing immediately. Clothing frozen to the skin should be thawed before being removed. Wash affected area thoroughly with soap and water. For freeze burns, immediately flood burnt area with plenty of warm water (40 - 44 °C) and cover with a clean, dry dressing. Treat as thermal burns. Seek IMMEDIATE medical attention.

Eye contact

If eye tissue is frozen, seek IMMEDIATE medical attention. If tissue is not frozen, immediately irrigate with copious amounts of water for at least 15 minutes. Remove contact lenses. For freeze burns, immediately irrigate with copious quantities of warm (40 - 44 °C) water for at least 15 minutes. Eyelids to be held open. Seek medical attention.

First Aid Facilities

Eyewash and normal washroom facilities.

Advice to Doctor

Treat symptomatically.

Other Information

For advice in an emergency, contact a Poisons Information Centre (Phone Australia 131 126) or a doctor at once.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use carbon dioxide, dry chemical, and foam or water mist.

Hazards from Combustion Products

Non combustible material.

Specific Hazards Arising From The Chemical

Cylinders may explode when heated or may become a projectile in a fire.

Hazchem Code

2TE

Decomposition Temperature

Not available

Precautions in connection with Fire

Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. Fight fire from safe location.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures

Remove all sources of ignition. Increase ventilation. Evacuate all unprotected personnel. Use self-contained breathing apparatus (S.C.B.A) and full protective clothing to minimise exposure. Allow gas to vent safely to atmosphere, preferably in well ventilated, remote location. Monitor oxygen concentration in confined spaces. Check for leaks using pressure drop test or soapy water on joints and outlets. Shut cylinder valve to stop leak if possible and safe to do so. Check gas concentration to ensure area is safe before removing protective equipment. Damaged gas cylinders should be returned to the supplier.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Use in a well ventilated area. Wear appropriate personal protective equipment and clothing to prevent exposure. Use smallest possible amounts in designated areas with adequate ventilation. Maintain high standards of personal hygiene ie. washing hands prior to eating, drinking, smoking or using toilet facilities. DO NOT enter confined spaces where gas may have collected. 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.

Conditions for safe storage, including any incompatibilities

Protect containers against physical damage. Store in a cool, dry, well-ventilated place, low fire risk area. Protect from extremes of temperature and weather. Do not allow any part of a cylinder to be exposed above 50°C. Storage areas should be kept clean and free from flammable materials. Ensure that containers are properly vented to prevent build up of pressure. Ensure that storage conditions comply with applicable local and national regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limit values

1,1,1,2-Tetrafluoroethane:

TWA: 1000 ppm, 4240 mg/m³

Butane:

TWA 800 ppm, 1900 mg/m³

TWA (Time Weighted Average): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day week.

Biological Limit Values

No biological limits allocated.

Appropriate Engineering Controls

Before entering a confined space where propane and butane is present, check to make sure sufficient Oxygen (19.5%) exists. Refer to relevant regulations for further information concerning ventilation requirements.

Refer to AS 2865 Australian Standard Safe working in a confined space, for further information concerning ventilation requirements.

Respiratory Protection

If engineering controls are not effective in controlling airborne exposure then an approved respirator with a replaceable filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements.

Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and Maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices, in order to make any necessary changes for individual circumstances.

Eye Protection

Safety glasses with side shields, chemical goggles or full-face shield as appropriate should be used. Final choice of appropriate eye/face protection will vary according to individual circumstances. Eye protection devices should conform to relevant regulations.

Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.

Hand Protection

Wear gloves of impervious material such as PVC. Final choice of appropriate gloves will vary according to individual circumstances. i.e. methods of handling or according to risk assessments undertaken. Occupational protective gloves should conform to relevant regulations.

Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.

Body Protection

Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

Other Information

Propane and Butane are asphyxiant gases which when present in an atmosphere in high concentration, lead to reduction of oxygen concentration by displacement or dilution. It is not appropriate to recommend an exposure standard for each simple asphyxiant, rather it should be required that a sufficient oxygen concentration be maintained.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form

Gas

Appearance

Clear colourless gas

Colour

Colourless

Odour

Not available

Decomposition Temperature

Not available

Melting Point

Not available

Boiling Point

-26.82°C

Solubility in Water

0.639% in water

Specific Gravity

1.21

pH

Not applicable

Vapour Pressure

609.1 kPa

Vapour Density (Air=1)

>1

Evaporation Rate

Not available

Odour Threshold

Not available

Volatile Component

Not available

Flash Point

Not available

Flammability

Non flammable

Auto-Ignition Temperature

Not available

Flammable Limits - Lower

Not available

Flammable Limits - Upper

Not available

10. STABILITY AND REACTIVITY

Chemical Stability

Stable under normal conditions of storage and handling.

Reactivity and Stability

Reacts with incompatible materials.

Conditions to Avoid

Extremes of temperature and direct sunlight

Incompatible materials

Strong oxidising agents.

Hazardous Decomposition Products

Thermal decomposition may result in the release of toxic and/or irritating fumes, smoke and gases including: oxides of nitrogen, carbon dioxide and carbon monoxide.

Possibility of hazardous reactions

Not available

Hazardous Polymerization

Not available

11. TOXICOLOGICAL INFORMATION

Toxicology Information

No toxicity data available for this material.

Ingestion

Ingestion unlikely due to form of product.

Inhalation

Propane and butane are asphyxiant gases which when present in an atmosphere in high concentration, leads to reduction of oxygen concentration by displacement or dilution. Symptoms include decreased visual acuity, decreased coordination and judgment, headache, dizziness, confusion, drowsiness, fatigue, shortness of breath, muscular weakness, convulsions, unconsciousness, coma and eventually death.

Skin

May be irritating to skin. The symptoms may include redness, itching and swelling.

May cause frostbite injuries to skin due to uncontrolled release of compressed gas resulting in redness, tissue destruction.

Eye

May be irritating to eyes. The symptoms may include redness, itching and tearing.

May cause frostbite injuries to eyes due to uncontrolled release of compressed gas resulting in stinging, tearing, blurred vision and possibly permanent damage to eyes.

Respiratory sensitisation

Not expected to be a respiratory sensitiser.

Skin Sensitisation

Not expected to be a skin sensitiser.

Germ cell mutagenicity

Not considered to be a mutagenic hazard.

Carcinogenicity

Not considered to be a carcinogenic hazard.

Reproductive Toxicity

Not considered to be toxic to reproduction.

STOT-single exposure

Not expected to cause toxicity to a specific target organ.

STOT-repeated exposure

Not expected to cause toxicity to a specific target organ.

Aspiration Hazard

Not expected to be an aspiration hazard.

Other Information

This material contains asphyxiant gas, which when present in an atmosphere in high concentrations, lead to a reduction of oxygen concentration by displacement or dilution. It is not appropriate to recommend an exposure standard for each simple asphyxiant, rather it should be required that a sufficient oxygen concentration be maintained. The minimum oxygen content in air should be 19.5 per cent by volume under normal atmospheric pressure. Unconsciousness and death can rapidly ensue in an environment, which is deficient in oxygen.

12. ECOLOGICAL INFORMATION

Ecotoxicity

No ecological data available for this material.

Persistence and degradability

Not available

Mobility

Not available

Bioaccumulative Potential

Not available

Other Adverse Effects

Not available

Environmental Protection

Prevent this material entering waterways, drains and sewers.

13. DISPOSAL CONSIDERATIONS

Disposal considerations

The disposal of the spilled or waste material must be done in accordance with applicable local and national regulations.

14. TRANSPORT INFORMATION

Transport Information

This material is classified as Dangerous Goods Division 2.2 Non-flammable Non-toxic Gases.

Dangerous Goods are incompatible in a placard load with any of the following:

- Class 1: Explosives
- Division 2.1 Flammable Gas when the Division 2.2 gas has a subsidiary risk 5.1 except when all are packed in cylinders or pressure drums not exceeding 500L capacity.
- Division 2.3 Toxic Gas when the Division 2.2 gas has a subsidiary risk 5.1 except when all are packed in cylinders or pressure drums not exceeding 500L capacity.
- Division 4.2: Spontaneously combustible substances
- Division 5.2: Organic peroxides

Marine Transport (IMO/IMDG):

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

Class/Division: 2.2

UN No: 1078

Proper Shipping Name: REFRIGERANT GAS, N.O.S.

Packing Group: -

EMS : F-C, S-V

Special Provisions: 274

Air Transport (ICAO/IATA):

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

Class/Division: 2.2
UN No: 1078
Proper Shipping Name: refrigerant gas, n.o.s.
Packing Group: -
Packaging Instructions (passenger & cargo): 200
Packaging Instructions (cargo only): 200
Hazard Label: Non-flammable Gas
Special Provisions: -

U.N. Number

1078

UN proper shipping name

REFRIGERANT GAS, N.O.S.

Transport hazard class(es)

2.2

Hazchem Code

2TE

Special Precautions for User

Not available

IERG Number

06

IMDG Marine pollutant

No

Transport in Bulk

Not available

15. REGULATORY INFORMATION

Regulatory information

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of chemicals (GHS) including Work, Health and Safety regulations, Australia
Not classified as a Scheduled Poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

Poisons Schedule

Not Scheduled

16. OTHER INFORMATION

Date of preparation or last revision of SDS

SDS created: June 2016

References

Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice.
Standard for the Uniform Scheduling of Medicines and Poisons.
Australian Code for the Transport of Dangerous Goods by Road & Rail.
Model Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
Workplace exposure standards for airborne contaminants.
Adopted biological exposure determinants, American Conference of Industrial Hygienists (ACGIH).
Globally Harmonised System of classification and labelling of chemicals.

END OF SDS

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