SAFETY DATA SHEET

ACTROL R409A

Infosafe No.: LQ5PZ
ISSUED Date : 05/07/2021
ISSUED by: Prime

Section 1 - Identification

Product Identifier
ACTROL R409A

Company Name
Prime (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

Section 2 - Hazard(s) 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: Category Refrigerated liquefied gas
Hazardous to the Ozone Layer: Category 1

Signal Word (s)
WARNING

Hazard Statement (s)
H281 Contains refrigerated gas; may cause cryogenic burns or injury.
H420 Harms public health and the environment by destroying ozone in the upper atmosphere.

Pictogram (s)
Gas cylinder,Exclamation mark

Precautionary Statement – Prevention
P282 Wear cold insulating gloves and either face shield or eye protection.

Precautionary Statement – Response
P336+P315 Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.

Precautionary Statement – Storage
P403 Store in a well-ventilated place.

Precautionary Statement – Disposal
P502 Refer to manufacturer or supplier for information on recovery or recycling.

Section 3 - Composition and Information on Ingredients

Ingredients

Name	CAS	Proportion
Chlorodifluoromethane	75- 45- 6	> 60 %
1- Chloro- 1, 2, 2, 2- tetrafluoroethane	2837- 89- 0	30- 60 %
1- Chloro- 1, 1- Difluoroethane	75- 68- 3	10- 30 %

Section 4 - First Aid Measures

Inhalation
If inhaled, remove affected person from contaminated area. Keep at rest until recovered. If symptoms develop and/or persist seek medical attention.

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 Frostbite: Flush affected areas with lukewarm (40 - 44 °C) water. Do not use hot water. Treat as thermal burns. Seek IMMEDIATE medical attention.

Eye
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, safety shower 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.

Section 5 - Firefighting 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
Heating can cause expansion or decomposition leading to violent rupture of containers. On decomposing may emit toxic fumes. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition. Contents under pressure - cans can explode 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.

Section 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.

Section 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 50ºC. 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.
For information on the design of the storeroom, reference should be made to Australian Standard AS 4332 - The storage and handling of gases in cylinders.

Section 8 - Exposure Controls and Personal Protection

Occupational exposure limit values
Chlorodifluoromethane:
TWA: 1000 ppm, 3540 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.
Source: Safe Work Australia

Biological Monitoring
No biological limits allocated.

Control Banding
Not available

Engineering Controls
This substance is hazardous and should be used with a local exhaust ventilation system, drawing vapours away from workers' breathing zone. If the engineering controls are not sufficient to maintain concentrations of vapours/mists below the exposure standards, suitable respiratory protection must be worn.

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 and Face Protection
Safety glasses with side shields, chemical goggles or full-face shield as appropriate should be used.
If contact with the liquid is possible, safety glasses with full face shield should be used. Eye protection devices should conform to relevant regulations.
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 (series) - Eye Protectors for Industrial Applications.

Hand Protection
Wear gloves of impervious material such as PVC.
If contact with the liquid is possible, insulated gloves suitable for low temperatures should be worn.
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.

Thermal Hazards
Contains refrigerated gas; may cause cryogenic burns or injury. If there is a risk of contact with the liquid, all protective equipment worn should be suitable for use with extremely low temperature materials.

Footwear
Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

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.
Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Section 9 - Physical and Chemical Properties

Properties	Description	Properties	Description
Form	Gas	**Appearance**	Clear liquified gas
Colour	Not available	**Odour**	Not available
Melting Point	Not available	**Boiling Point**	-35 °C
Decomposition Temperature	Not available	**Solubility in Water**	Slightly soluble in water
Specific Gravity	Not available (15 °C)	**pH**	7
Vapour Pressure	7.377 hPa (21.1 °C)	**Relative Vapour Density (Air=1)**	3.4
Evaporation Rate	Not available	**Odour Threshold**	Not available
Viscosity	Not available	**Volatile Component**	Not available
Partition Coefficient: n-octanol/water (log value)	Not available	**Flash Point**	Not available
Flammability	Non flammable	**Auto-Ignition Temperature**	Not available
Flammable Limits - Lower	Not available	**Flammable Limits - Upper**	Not available
Explosion Properties	Not available	**Oxidising Properties**	Not available

Section 10 - Stability and Reactivity

Reactivity
Reacts with incompatible materials.

Chemical Stability
Stable under normal conditions of storage and handling.

Possibility of hazardous reactions
Not available

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.

Hazardous Polymerization
Not available

Section 11 - Toxicological Information

Toxicology Information
No toxicity data available for this material.

Ingestion
Ingestion unlikely due to form of product.

Inhalation
Inhalation of product vapours may cause irritation of the nose, throat and respiratory system.

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.

Section 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.

Hazardous to the Ozone Layer
Harms public health and the environment by destroying ozone in the upper atmosphere

Section 13 - Disposal Considerations

Disposal Considerations
The disposal of the spilled or waste material must be done in accordance with applicable local and national regulations. Empty pressure vessels should be returned to supplier. Waste packaging should be recycled.
To minimise personal exposure to the chemical, refer to Section 8—Exposure controls and personal protection.

Section 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 gashas 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 gashas 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: 3163
Proper Shipping Name: LIQUEFIED GAS, N.O.S.(Contains: Chlorodifluoromethane, 1-Chloro-1,2,2,2-tetrafluoroethane, 1-Chloro-1,1-Difluoroethane)
Packing Group: -
EMS : F-C, S-V
Special Provisions: 274, 392
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: 3163

Proper Shipping Name: Liquefied gas, n.o.s.(Contains: chlorodifluoromethane, 1-chloro-1,2,2,2-tetrafluoroethane, 1-chloro-1,1-difluoroethane)
Packing Group: -
Packaging Instructions (passenger & cargo): 200
Packaging Instructions (cargo only): 200
Hazard Label: Non-flammable Gas
Special Provisions: -

ADG U.N. Number
3163

ADG Proper Shipping Name
LIQUEFIED GAS, N.O.S.(Contains: Chlorodifluoromethane, 1-Chloro-1,2,2,2-tetrafluoroethane, 1-Chloro-1,1-Difluoroethane)

ADG Transport Hazard Class
2.2

Hazchem Code
2TE

IERG Number
06

Special Precautions for User
Not available

IMDG Marine pollutant
No

Transport in Bulk
Not available

Section 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

Australian Inventory of Industrial Chemicals (AIIC)
The listed chemicals are included in Australian Inventory of Industrial Chemicals (AIIC).

Montreal Protocol
Listed

Stockholm Convention
Not avaiable

Rotterdam Convention
Not available

International Convention for the Prevention of Pollution from Ships (MARPOL)
Not available

Agricultural and Veterinary Chemicals Act 1994
Not available

Basel Convention
Not available

Section 16 - Any Other Relevant Information

Date of Preparation
SDS Reviewed: July 2021 Supersedes: June 2016

Version Number
Version 2.0

Literature 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.
Work Health and Safety Regulations, Schedule 10: Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
Code of Practice for Supply Diversion into Illicit Drug Manufacture.
National Code of Practice for Chemicals of Security Concern.
Agricultural Compounds and Veterinary Chemicals Act.
International Agency for Research on Cancer (IARC) Monographs.
Montreal Protocol on Substances that Deplete the Ozone Layer.
Stockholm Convention on Persistent Organic Pollutants (POPs).
Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal.
International Air Transport Association (IATA) Dangerous Goods Regulations.
International Maritime Dangerous Goods (IMDG) Code.
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.
Code of Practice: Managing Noise and Preventing Hearing Loss at Work.

END OF SDS