

**SECTION 1: Identification: Product identifier and supplier**

-Product name: AMS GASBAG / ROO GASBAG

-Other name: HFC-134a, R134a

-Supplier's codes:

ROO115-127	ROO GASBAG 115-127MM (30/BOX)
ROO140-150	ROO GASBAG 140-150MM (30/BOX)
ROO150-165	ROO GASBAG 150-165MM (30/BOX)
ROO200-230	ROO GASBAG 200-230MM (25/BOX)
ROO250-270	ROO GASBAG 250-270MM (25/BOX)
ROO311	ROO GASBAG 311MM (25/BOX)

-Recommended use: Blast hole blocker - Blasting applications

-Supplier:

AUSTRALASIAN MINING SERVICES PTY LTD

Address: 303 Berkshire Rd, Forrestfield WA 6058

Tel.: +61 (08) 9454 3444

Email: inquiries@austms.com

-Emergency telephone number: +61 (08) 9454 3444

SECTION 2: Hazards identification

-Classification: Gases under pressure, Liquefied Gas

-Signal word: WARNING

-Hazard statement: Contains gas under pressure; may explode if heated

-Symbol: Gas Cylinder

-Precautionary statement:

Storage: Store in well-ventilated place. Store below 30°C/86°F, protect from direct sunlight and do not expose to temperatures exceeding 50°C/125°F.

-EMERGENCY OVERVIEW:

Colorless, volatile liquid with ethereal and faint sweetish odor. Non-flammable material. Vapors displace air and can cause asphyxiation in confined spaces. At higher temperatures (>250°C/482°F), decomposition products may include Hydrofluoric Acid (HF) and carbonyl halides.

-Potential Health Hazards:

Skin: Irritation would result from a defatting action on tissue. Liquid contact could cause frostbite.

Eyes: Liquid contact can cause severe irritation and frostbite. Mist may irritate.

Inhalation: R-134a is low in acute toxicity in animals. When oxygen levels in air are reduced to 12%-14% by displacement, symptoms of asphyxiation, loss of coordination, increased pulse rate and deeper respiration will occur. At high levels, cardiac arrhythmia may occur.



Delayed Effects: None known

SECTION 3: Composition and information on ingredients

Ingredient	Formula	CAS No.	Content
1,1,1,2-Tetrafluoroethane (HFC134a)	C ₂ H ₂ F ₄	811-97-2	>95%

SECTION 4: First-aid measures

-If inhaled: Move patient from contaminated area to fresh air. Keep patient calm. Apply artificial respiration if not breathing. In case of persistent problems, consult a physician.

-On skin contact: Frostbite: treat as thermal burns. Flush with running water.

-On contact with eyes: Wash immediately, abundantly and thoroughly with water. If irritation persists, consult an ophthalmologist.

-Protection of first-aiders: In case of insufficient ventilation, wear suitable respiratory equipment.

-Notes to physician: Do not administer catecholamines (because of the cardiac effect caused by the product, should only be used with special caution).

SECTION 5: Fire-fighting measures

Flammable Properties

Flash point method: Gas, not applicable

Autoignition temperature: >750°C/1382°F

Upper flame limit (volume % in air): not applicable

Lower flame limit (volume % in air): not applicable

Flame propagation rate (solids): not applicable

OSHA flammability class: not applicable

-Suitable extinguishing media: In case of fire, use extinguishing media suitable to the surrounding air to extinguish.

-Special hazards arising from the chemical: Pressure built up in canisters. Decomposition may produce hazardous hydrogen fluoride vapors.

-Specific fire-fighting methods: Cool containers with water spray. In case of fire nearby, remove exposed containers.

-Special protective equipment and precautions for fire fighters:

In the event of fire, wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

-Personal precautions, protective equipment and emergency procedures:

Avoid contact with the skin and the eyes.

Increase ventilation.

In enclosed areas: ventilate or wear a self-contained breathing apparatus (risk of anoxia).

-Environmental precautions: Prevent product from escaping to drains and waterways.

Spills and releases may have to be reported to Federal and/or local authorities.

**SECTION 7: Handling and storage****-Precautions for safe handling:**

Technical Measures:

Gases under pressure.

Provide appropriate exhaust ventilation at machinery.

Precautions:

Do not hit the container, or drop it. Handle with care.

Before use carefully read the product label.

Use of safe work practices are recommended at all times.

-Conditions for safe storage, including any incompatibilities:

Technical measures/Storage conditions:

Keep in a cool, well-ventilated place.

Keep away from heat and sources of ignition. Do not smoke.

Keep away from open flames, hot surfaces and sources of ignition.

Protect full containers from sources of heat to avoid over-pressurization.

Storage and transportation temperature should be below 50°C.

Do not stack containers too high.

Incompatible products:

Alkaline hydroxides, Alkaline earth metals, Strong oxidizing agents, Finely divided metals.

Freshly abraded aluminum surfaces at specific temperatures and pressures may cause a strong exothermic reaction.

Chemically reactive metals: potassium, calcium, powdered aluminum, magnesium, and zinc.

SECTION 8: Exposure controls and personal protection**-Exposure limit:**

Source	Date	Value type	Value (ppm)	Value (mg/m ³)
AU OEL	Aug. 2005	TWA	1,000	4,240

-Biological limits: not established.

-Appropriate engineering controls:

Avoid inhalation. Provide sufficient air exchange and/or exhaust in work rooms.

-Individual protection measures:

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection: Leather gloves; Insulated gloves.

Eye protection: Safety glasses with side-shields.

Skin and body protection: Protective clothing (cotton).

SECTION 9: Physical and chemical properties

Physical State:	Gas
Form	Compressed liquefied gas
Color	Colorless



Odor:	Slight ether-like
Odor threshold:	Not available
pH:	Neutral
Melting point:	-101°C (-149.8°F)
Boiling point:	-26.2°C (-15.16°F)
Flash point:	No information
Evaporation rate:	No information
Flammability:	Not flammable
Explosion limits:	Not applicable
Vapor pressure:	5.74 Bar @ 20°C
Vapor density:	3.5 (Air = 1)
Specific gravity:	1.23 @ 20°C (Air = 1)
Solubility in water:	1.5 g/L (25°C, 1013hPa)
Partition coefficient n-octanol/water:	LogKow=1.08
Ignition temperature:	>750°C (1382°F)
Decomposition temperature:	>370°C (698°F)
Viscosity:	No information

SECTION 10: Stability and reactivity

-Reactivity: No information

-Chemical stability: Stable.

-Possibility of hazardous reactions: Do not mix with oxygen or air above atmospheric pressure. Any source of high temperatures, such as lighted cigarettes, flames, hot spots or welding may yield toxic and/or corrosive decomposition products.

-Conditions to avoid: Heat, flame, high temperature.

-Incompatible materials:

Alkaline hydroxides
Alkaline earth metals
Strong oxidizing agents
Finely divided metals

-Hazardous decomposition products: toxic and corrosive products, e.g. Gaseous hydrogen fluoride (HF), carbon oxides.

SECTION 11: Toxicological information

-Acute toxicity:

LC₅₀ rat (inhalation, 4h): 1500 mg/m³

-Local effect:

Skin contact: Ejection of liquefied gas: frostbite possible.

Eye contact: Ejection of liquefied gas: frostbite possible.

-Sensitization: not a skin sensitizer.

-Repeated dose toxicity: inhalation (rat): no toxicologically significant effects were found.

-Genotoxicity: not genotoxic according to available information.

-Carcinogenicity: no carcinogenic effects known according to available information.



-Reproductive toxicity: no reproductive effects known according to available information.

-Other information:

Cardiac sensitization threshold limit: 312975 mg/m³

Anesthetic effects threshold limit: 834600 mg/m³

Concentrations substantially above threshold limit may cause narcotic effects.

SECTION 12: Ecological information

-Toxicity:

Acute toxicity		Time	Species	Method	Evaluation	Remarks
LC50	450 mg/L	96h	Fish	OECD 203	N/A	N/A
EC50	980 mg/L	48h	Daphnia	OECD 202	N/A	N/A
EC50	N/A	72h	Algae	OECD 201	N/A	N/A

-Persistence and degradability: not degradable.

-Bio-accumulative potential: LOW (logK_{ow}=1.68).

-Mobility in soil: LOW (KOC = 96.63)

-Ozone depleting: Ozone depletion potential = 0.055 (R-11=1)

SECTION 13: Disposal considerations

-Waste disposal method:

The generation of waste should be avoided or minimized wherever possible.

Residual waste: Recycle or incinerate at an approved waste disposal site.

Contaminated packaging: Contaminated packaging should be emptied as far as possible; Then it can be passed on for recycling after being thoroughly cleaned.

-Dispose of waste in accordance with state and local regulations.

SECTION 14: Transport Information

-UN Recommendation:

UN Number: 3159
UN Proper shipping name: 1,1,1,2-Tetrafluoroethane or Refrigerant Gas R314a
Transport hazard class: 2.2
Packing group: -
Marine pollutant: No
HAZCHEM: -
ERG: 2L
Class Label:



- Special safety measures and conditions for transportation:

Before transportation, confirm absence of damage, corrosion, leak, etc. on the container. Load the containers without inducing tuning down, dropping, and damaging.

Be sure to prevent collapse of stacked containers.

SECTION 15: Regulatory Information

**- Applicable Regulations:**

Australia Exposure Standards
Australia Inventory of Chemical Substances
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US - Washington Toxic air pollutants and their ASIL, SQER and de minimis emission values

- Label Information: Please see section 2.

- Please pay attention to local waste management and other applicable regulations.

SECTION 16: Other information

- Instructions of use: The product should not be dis-assembled. Tie the string used to lower the bag into position before activating the bag. Locate the aerosol trigger and firmly depress trigger until the trigger is latched. Lower the bag into the blast hole holding it at the correct depth until it inflates. When the bag has sufficiently inflated remove by pulling sharply on the string.

- The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Issue date: 21 Nov 2020

Revision date: 21 Nov 2020

- Abbreviations and acronyms:

TWA: permissible concentration-time weighted average.

LC₅₀: Lethal Concentration 50%.

EC₅₀: Median effective concentration.

- Referred Standard: NOHSC:2011; GHS:2009