SECTION 1: Identification: Product identifier and supplier

- **Product name:** ROO GASBAG
- **Other name:** HFC-134a, R134a
- **Supplier's codes:**

ROO150-165HFC	ROO GASBAG 150-165mm
ROO200-230HFC	ROO GASBAG 200-230mm
ROO250-270HFC	ROO GASBAG 250-270mm
ROO311HFC	ROO GASBAG 311mm

- **Recommended use:** Blast hole blocker - Blasting applications
- **Supplier:**

AUSTRALASIAN MINING SERVICES PTY LTD
Address: 270 Berkshire Rd, Forrestfield WA 6058
Tel.: +61 (08) 9454 3444
Fax.: +61 (08) 9454 3400
Email: inquiries@austms.com

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

SECTION 2: Hazards identification

- **Hazards:**

DANGEROUS GOODS. NON-HAZARDOUS SUBSTANCE.

Hazard classification according to the criteria of the Australian NOHSC

Dangerous goods classification according to the Australian Dangerous Goods Code.

SUSDP : Not scheduled

- **Other hazards:**

Asphyxiant. Effects are proportional to oxygen displacement.

- **Dangerous goods class:**

UN No.:	1950	**DG Class:**	2.2
Subsidiary Risk:	None	**HAZCHEM:**	2Y

SECTION 3: Composition and information on ingredients

Ingredient	Formula	CAS No.	Content
1,1,1,2-Tetrafluoroethane (HFC134a)	CH_2FCF_3	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

- **Suitable Extinguishing media:** The product is non-flammable. 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 vapours.
- **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.

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

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

Appearance:	Colourless liquefied gas
Odour:	Slight ether-like
Odour threshold:	Not available
pH:	Neutral
Melting point:	-101°C
Boiling point:	-26.4 °C
Flash point:	No information
Evaporation rate:	No information
Flammability:	Not flammable
Explosion limits:	Not applicable
Vapour pressure:	665 kPa@25°C
Vapour density:	0.0042g/cm^3 (25°C, 1013hPa)
Specific gravity:	1.1~1.2 g/cm^3 (25 °C)
Solubility in water:	1.5 g/L (25°C, 1013hPa)
Partition coefficient *n*-octanol/water:	LogKow=1.08
Ignition temperature:	> 750 °C
Decomposition temperature:	> 370 °C
Viscosity:	No information

SECTION 10: Stability and reactivity

- Reactivity: No information.

- Chemical stability: Stable.

- Possibility of hazardous reactions: no information.

- **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:**
  LC_{50} rat (inhalation, 4h): 358,000 ppm
- **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 sensitisation threshold limit: 312975 mg/m^3
  Anaesthetic effects threshold limit: 834600 mg/m^3
  Concentrations substantially above threshold limit may cause narcotic effects.

SECTION 12: Ecological information

- **Toxicity:**
  Toxicity to Daphnia magna (water flea): EC_{50}(48hr)=980 mg/L.
- **Persistence and degradability:** not degradable.
- **Bio-accumulative potential:** practically not bio-accumulable (logkow=1.08)
- **Mobility in soil:** no data.
- **Ozone depleting:** Ozone depletion potential = 0.055 (R-11=1).

SECTION 13: Disposal considerations

- **Waste disposal method:**
  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 Recommendations:**

UN Number :	1950
UN Proper shipping name :	Aerosols
Transport hazard class :	2.2
Packing group :	III
Marine pollutant:	No
HAZCHEM:	2Y
EPG:	2D1

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:

SUSDP:	Not scheduled;
NOHSC:	Not classified;

- 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.

Revision date: Jan 24th, 2017

- Abbreviations and acronyms:

TWA: permissible concentration-time weighted average.

LC_{50}: Lethal Concentration 50%.

EC_{50}: Median effective concentration.

- Referred Standard: NOHSC:2011; GHS:2009