

**MATERIAL SAFETY DATA SHEET
ANHYDROUS AMMONIA**

Section 1 – Identification of Supplier

Product name: Anhydrous Ammonia.
Shipping name: Anhydrous Ammonia.

Suppliers details: Chemical Initiatives (Pty) Ltd
Address: AECI Place, Building 24, The Woodlands, Woodlands Drive, Woodmead, 2196, South Africa

Telephone number
+27 11 8068700

Emergency number
+27 11 608 3300

Section 2 – Hazard Identification

Precautionary statements: prevention:

Toxic by inhalation. Vapour is irritant to the respiratory tract. Both the vapour and the liquid cause irritation to the skin and eyes. Flammable but not readily ignited.

Section 3 – Composition / Information on Ingredients

Component: Ammonia at a Ca. of 100 %.

Section 4 – First Aid Measures

Inhalation: Remove from exposure. Keep warm and at rest. Apply artificial respiration if breathing has ceased or shows signs of failing. Obtain immediate medical attention.

Skin contact: Remove contaminated clothing. Wash with copious amounts of water for 20 minutes. Use safety shower if available. Obtain immediate medical attention.

Eye contact: Immediately irrigate with plenty of clean water for at least 20 minutes, holding eyelids apart. Obtain immediate medical attention. Continue irrigation until medical attention is obtained.

Ingestion: Do not induce vomiting. Wash out mouth with water and five 200 - 300 ml (half a pint) of water to drink. Obtain immediate medical attention. Symptomatic treatment and supportive therapy as indicated.

Further professional medical assistance: Symptomatic treatment and supportive therapy as indicated. Administer oxygen if necessary. Cold wet

compressed should be applied to the affected areas to relieve pain. Following severe exposure the patient should be kept under medical review for at least 48 hours as delayed pulmonary oedema may develop.

Section 5 – Fire Fighting Measures

Auto-ignition temperature: 650 °C.

LEL: 16 % (v/v).

UEL: 27 % (v/v).

Fire: Flammable. Mixtures are difficult to light.

Extinguishing media agent: In case of fire use water spray. Water spray should be used to cool containers.

Exposure hazards from combustion: Combustion evolves toxic and irritant vapours (NH₃ and NO_x).

Special protective equipment: In fire conditions, wear full protective clothing and an approved self-contained breathing apparatus.

Product is not flammable, but may cause ignition on contact with combustible liquids and solids.

Section 6 – Accidental Release Measures

Personal protection: Evacuate the area.

Environmental precaution: Use water curtains downwind to reduce vapour emissions.

Methods for cleaning up: For small spillages: drench with water to wash to drain (dilute at least 100 times.) For large spillages: contain and cover with foam.

Section 7 – Handling and Storage

Precautions for safe handling: Avoid contact with skin and eyes. Do not breathe vapour. Use only in well-ventilated areas.

Precautions for safe storage: Liquid ammonia should not be confined without adequate vapour space or a pressure relief valve with discharge piped to a safe

place.

Section 8 - Exposure Controls and Personal Protection

Components:

TLV-TWA: 17 mg/m³

TLV-STEL: 24 mg/m³

ACGIH: 92 to 95

Where exposure to levels above the occupational exposure limit is likely; and engineering controls are either not fitted or are not totally effective wear suitable respiratory protective equipment. Wear suitable protective clothing, gloves and eye/face protection.

Section 9 – Physical and Chemical Properties

Appearance:	Colourless liquefied gas.
Odour:	Characteristically pungent.
Boiling point:	-33.5°C.
Melting point:	-78°C.
Density:	0.61 g/cm ³ (at 20°C).
Vapour pressure:	7600 mmHg (at 25°C).
Vapour density:	0.6 (air = 1).
Odour Threshold:	5-53 ppm.
Solubility:	ca. 33% at ambient.

Section 10 – Stability and Reactivity

Hazardous reaction and decomposition: Will react with halogens, hypochlorites, mercury, silver, lead and the oxides of nitrogen to form unstable compounds which are liable to explode.

Conditions to avoid: Keep away from copper, zinc, tin cadmium and their alloys.

Section 11 – Toxicology

Eye contact: The vapour is an irritant but the liquid is a severe irritant. Liquid splashes or spray may cause freeze burns. May cause severe damage if eye is not

immediately irrigated. The full effects may occur after several days.

Skin contact: High concentrations of vapour may cause irritation. By rapid evaporation, the liquid may cause frostbite.

Ingestion: Will cause corrosion of and damage to the gastrointestinal tract.

Inhalation: Vapour may cause irritation to the respiratory tract. High atmospheric concentrations in excess of the occupational exposure limit may cause injury to the mucous membranes. Fluid buildup on the lung (pulmonary oedema) may occur p to 48 hours after exposure to extremely high levels and could prove fatal. The onset of the respiratory symptoms may be delayed for several hours after exposure.

Long term exposure: This material has been in use for many years with no evidence of adverse effects.

Section 12 – Ecological Information

Users should ensure that they comply with environmental legislation.

Environmental fate and mobility: No information available.

Persistence, degradation, bio-accumulation: No information available.

Effect on effluent treatment: Toxic to aquatic organisms.

Section 13 – Disposal Considerations

Disposal should be in accordance with relevant legislation. Recover, reclaim or recycle if practicable.

Section 14 - Transport

Hazchem code:	2PE.
UN:	1005.
Proper shipping name:	Ammonia, anhydrous, liquefied.
IMDG class:	2 (2.3)



Section 15 – Regulatory Information

The material is classified as a Group II hazardous substance according to the Hazardous substances Act, Act 15 of 1973, as amended.

Section 16 – Other Information

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Compiled by:

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