	MATERIAL SAFETY DATASHEET		Approval	
	<b>AMMONIA ANYHYDROUS</b>			
			Rev: 3	Next Rev Date: Sep 2023

### SECTION 1. IDENTIFICATION OF THE PRODUCT AND COMPANY UNDERTAKING

<b>MATERIAL NAME</b>	AMMONIA ANYHYDROUS		
<b>Synonyms</b>	Ammonia anhydrous, Nitro-sil, AM-FOL, Ammonia gas		
<b>Product Use</b>	Raw material for synthesis processes in the chemical industry, raw material for fertilizers.		
<b>Company:</b>	Puregas (Pty) Ltd PO. Box 123884 Alrode 1451 Republic of South Africa		
Information (Product Safety)	<b>Telephone:</b> +27 11 903-9760 <b>Fax:</b> +27 011 903-9766		
Emergency Telephone	Wayne Carney		082 889 6946
	Thomas Xaba		082 937 6726

### SECTION 2. HAZARDS IDENTIFICATION

<b>R10</b>	Flammable
<b>R23</b>	Toxic by inhalation
<b>R34</b>	Causes burns
<b>R50</b>	Very toxic to aquatic organisms

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Ammonia Anhydrous  
 Contents 100.00 % W/W

**CAS-NO.** 7664-41-7


**INDEX -NO.** 007-001-00-5

**EC-NO.** 231-635-3

**SYMBOL (S).** T,N

**R-PHRASE (S).** R10-R23-R34-R50

For the full text of the R-Phrases mentioned in this section, see section 16.

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#### SECTION 4. FIRST AID MEASURES

<b>Inhalation</b>	Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. Monitor breathing, seek medical advice immediately.
<b>Eye contact</b>	Remove contact lenses. Rinse immediately with plenty of water, also under the eyelids for at least 15 minutes. Call a physician immediately.
<b>Skin contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Contact a physician.
<b>Ingestion</b>	Do not induce vomiting without advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

#### SECTION 5. FIRE-FIGHTING MEASURES


<b>Suitable Extinguishing Media</b>	Water spray, Foam, Carbon dioxide (CO <sub>2</sub> ), Dry chemicals.
<b>Specific Hazards During Fire Fighting.</b>	Flash back possible over considerable distance. Do not allow run off from fire fighting to enter drains or water courses.
<b>Special Protective Equipment for Fire fighters.</b>	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.
<b>Further Informative.</b>	Cool Containers/ tanks with water spray.

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Keep people away from upwind of spill/leaks. Remove all sources of ignition. Do not breathe vapours or spray mist.
<b>Environmental Precautions</b>	Prevent product from entering drains, prevent further leakage or spillage if safe to do so.
<b>Methods cleaning up</b>	Soak up with inert absorbent material and dispose of as hazardous waste.
<b>Additional Advice</b>	Never return spills in original containers for re-use.

#### SECTION 7. HANDLING AND STORAGE

<b>Safe Handling Advice</b>	Do not breathe vapours or spray mist. Wear personal protective equipment.
<b>Advice on protection against Fire and Explosions.</b>	Keep away from open flames, hot surfaces and sources of ignition. Use explosion- proof equipment.
<b>Requirements for storage areas and containers.</b>	Keep containers tightly close in a cool, well-ventilated place.

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## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Component with workplace control parameters**

### NATIONAL OCCUPATIONAL EXPOSURE LIMITS

Contains no substance with occupational exposure limit values

### EUROPEAN OCCUPATIONAL EXPOSURE LIMITS

COMPONENTS	TYPE	CONTROL PARAMETERS	UPDATES	BASIS
AMMONIA ANYDROUS	TWA	14 mg/m <sup>3</sup>	02 2006	EU EXPOSURE LIMITS VALUES
	TWA	20ppm	02 2006	EU EXPOSURE LIMITS VALUES
	STEL	36mg	02 2006	EU EXPOSURE LIMITS VALUES
	STEL	50ppm	02 2006	EU EXPOSURE LIMITS VALUES

### Engineering Measures

Provides sufficient air exchange and/or exhaust in workroom.

### Personal Protective Equipment

**Respiratory Protection** Suitable respiratory equipment

**Hand protection** Gloves suitable for permanent contact:

Material: butyl-rubber

Break through time: 4 h

Material thickness: 0.5 mm

Unsuitable gloves

Material: Polyvinylchloride, leather, nitrile rubber/ nitrile latex

Natural rubber/natural latex.

**Eye Protection** Safety glasses with side-shield


**Skin and body protection** Protective suit and safety shoes

**Hygiene Measures** Wash hands before breaks and immediately after handling the product.


**Protective measures** Wear suitable protective equipment

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Foam</b>	White cloud is concentrated
<b>State of Matter</b>	Gaseous
<b>Color</b>	Colourless
<b>Odor</b>	Ammoniacal strong
<b>pH</b>	12
<b>Melting point/range</b>	Not applicable, Gas at ambient temperature
<b>Boiling point/boiling range</b>	-33.35°C
<b>Auto ignition temperature</b>	651.1°C
<b>Lower explosion limit</b>	16% (V); lower flammability limit
<b>Upper explosion limit</b>	25% (V); upper flammability limit
<b>Vapour pressure</b>	8.587 hPa; 20°C
<b>Solubility in other solvents</b>	Completely soluble, completely miscible
<b>Viscosity dynamics</b>	6.441 mPa.s
<b>Relative vapour density</b>	6.6924 (Air = 1.0)

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<b>SECTION 10. STABILITY AND REACTIVITY</b>	
<b>Materials to avoid</b>	Acids. Metals, Nitrites, Combustible materials, Reducing agents, Nitrates, Chlorates, Chlorides, Permanganates.
<b>Hazardous Decomposition Products</b>	Nitrogen oxides (NOX) Ammonia
<b>Thermal decomposition</b>	Stable under normal conditions
<b>SECTION 11. TOXICOLOGICAL INFORMATION</b>	
<b>Acute oral toxicity</b>	Ammonia anhydrous LD50 rat: 350mg/kg; literature value
<b>Acute inhalation toxicity</b>	Ammonia anhydrous LD50 rat: 4 h (literature value)
<b>Skin Irritation</b>	Ammonia anhydrous Rabbit: Skin Irritation
<b>Eye Irritation</b>	Ammonia anhydrous Rabbit: Skin Irritation
<b>SECTION 12. ECOLOGICAL INFORMATION</b>	
<b>Ecotoxicity effects</b>	
<b>Toxicity to fish</b>	Ammonia, anhydrous: LC50 Cyprinus carpio (Carp); 1.1 mg/l; 96 h; (literature value)
<b>Toxicity to daphnia and other aquatic invertebrates</b>	Ammonia, anhydrous: LC50 Daphnia magna; 25.4 mg/l; 48 h; (literature value)
<b>SECTION 13. DISPOSAL CONSIDERATIONS</b>	
<b>Product</b>	Dispose of in accordance with local regulations
<b>Contaminated Packaging</b>	Packaging that cannot be cleaned must be disposed of in the same way as the material itself.
<b>SECTION 14. TRANSPORT INFORMATION</b>	
<b>ADR</b>	UN-Number: 1005; Class: 2, (8); 2TC; Description of the goods: AMMONIA, ANHYDROUS
<b>RID</b>	UN-Number: 1005; Class: 2, (8); Description of the goods: AMMONIA, ANHYDROUS
<b>ADNR</b>	UN-Number: 1005; Class: 2, (8); 2TC; Description of the goods: AMMONIA, ANHYDROUS
<b>IMDG</b>	UN-Number: 1005; Class: 2.3, (8); EmS: F-C, S-U; Description of the goods: AMMONIA, ANHYDROUS

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<b>ICAO/IATA</b>	UN-Number: 1005; Class: 2.3; Description of the goods AMMONIA, ANHYDROUS
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## SECTION 15. REGULATORY INFORMATION

### Labeling



Regulatory base

**Symbols (s)**

**T:** Toxic

**N:** Dangerous for the environment

**R-Phrases**

**R10:** Flammable

**R23:** Toxic by inhalation

**R34:** Causes burns

**R50:** Very toxic to aquatic organisms

**S-Phrases**

**S9:** Keep container in a well-ventilated place.

**S16:** Keep away from sources of ignition - No smoking

**S26:** In case of contact with eye, rinse immediately with plenty of water and seek medical advice.

**S36/37/39:** Wear suitable protective clothing, gloves and eye/face protection

**S45:** In case accident or if you feel unwell, seek medical advice immediately. (Show label where possible.)

**S61:** Avoid release to environment. Refer to special instructions / Safety Data Sheet.


**Hazardous components which must be listed on the label**

Ammonia, Anhydrous

## SECTION 16. OTHER INFORMATION

Full text of R-phrases referred to under section 2 and 3

**R10:** Flammable

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- R23:** Toxic by inhalation  
**R34:** Causes burns  
**R50:** Very toxic to aquatic organisms

All reasonable efforts were exercised to compile this MSDS in accordance with ISO 11014 and ANSIZ400.1.1993. The MSDS provides information regarding the health, safety and environmental hazards, at the date of issue, to facilitate the safe receipt, use and handling of the product in the workplace. Since Sasol and its subsidiaries cannot anticipate or control all conditions under which the product may be handled, used and received in the workplace, it remains the obligation of each user, receiver or handler to, prior to usage, review this MSDS in the context within which the product will be received, handled or used in the workplace. The user, handler or receiver must ensure that the necessary mitigating measures are in place as regards health and safety. This does not substitute the need or requirement for any relevant risk assessments to be conducted. It further remains the responsibility of the receiver, handler or user to communicate such information to all relevant parties that may be involved in the receipt, use or handling of the product.

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