

PRODUCT SPECIFICATION: SPE. 0029

Section 1 – GENERAL																	
Product Name:	Ammonia Anhydrous (Industrial Grade)																
Description:	Anhydrous ammonia, NH ₃ packed under pressure, in the form of a clear, water-white, with a sharp suffocating or intensely irritating odour.																
Properties:	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Boiling point:</td> <td style="text-align: right; padding: 2px;">- 33,5°C</td> </tr> <tr> <td style="padding: 2px;">Freezing point at 1atm:</td> <td style="text-align: right; padding: 2px;">- 77,7°C</td> </tr> <tr> <td style="padding: 2px;">Density of liquid at boiling point:</td> <td style="text-align: right; padding: 2px;">0,674g/cm³</td> </tr> <tr> <td style="padding: 2px;">Auto-ignition temperature:</td> <td style="text-align: right; padding: 2px;">651°C</td> </tr> <tr> <td style="padding: 2px;">Vapour pressure at 55°C:</td> <td style="text-align: right; padding: 2px;">ca. 2 277kPa</td> </tr> <tr> <td style="padding: 2px;">Latent heat of vaporisation at 25°C:</td> <td style="text-align: right; padding: 2px;">1 167 J/g</td> </tr> <tr> <td style="padding: 2px;">Solubility in water at 0°C:</td> <td style="text-align: right; padding: 2px;">89,9 g/100 cm³</td> </tr> <tr> <td style="padding: 2px;">Coefficient of expansion : (per 10°C rise in temperature):</td> <td style="text-align: right; padding: 2px;">2,5%</td> </tr> </table>	Boiling point:	- 33,5°C	Freezing point at 1atm:	- 77,7°C	Density of liquid at boiling point:	0,674g/cm ³	Auto-ignition temperature:	651°C	Vapour pressure at 55°C:	ca. 2 277kPa	Latent heat of vaporisation at 25°C:	1 167 J/g	Solubility in water at 0°C:	89,9 g/100 cm ³	Coefficient of expansion : (per 10°C rise in temperature):	2,5%
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Special Precautions:	<p>Avoid ingestion, inhalation, contact with the skin and eyes. Wear full protective clothing when handling the material and ensure adequate ventilation. Avoid sources of ignition and heat. Storage tanks must be earthed for protection against lightning or static electricity. Care must be exercised when opening the valves. The material is very toxic.</p> <p>THE MATERIAL IS UNDER PRESSURE. Refer to Material Safety Data Sheet</p>																
Statutory Aspects:	<p>Classification The material is classified as a Group II hazardous substance according to the Hazardous Substances Act, Act 15 of 1973, as amended.</p> <p>National/International Standards The material is labelled as a compressed toxic gas, UN No. 1005, Class: 2.3, according to the International Maritime Dangerous Goods Code. The material conforms to the requirements of SABS, CKS 105:1967, type B, as amended.</p>																

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Section 2 – SPECIFICATION

Appearance:	The material shall be a clear, water-white liquid (under suitable conditions of temperature and pressure) with a sharp, suffocating or intensely irritating odour, free from visible impurities and sediment.
Ammonia	Not less than 99,7% (m/m) as NH ₃
Water	Not more than 0,2% (m/m)
Oil	Critical -Not more than 0,0002% (m/m)
Total Sulphur	Not more than 1 mg/kg
Carbon Dioxide as CO₂	Not more than 1000 mg/kg
Inert gasses	Not more than 50microlitre per litre
Classification:	<p>Critical: Characteristic is one that, if defective, is likely to result in a hazardous condition or to cause a total product/system failure.</p> <p>Major: Characteristic is one that, if defective, is likely to significantly reduce the product/system performance or which will result in manufacturing/ assembly problems.</p> <p>Note: Characteristics which are not classified will be considered not to impact on the performance of the product or result in manufacturing / assembly problems</p>

Section 3 – TESTING

The material is sampled and tested in accordance with the requirements tabled below:

<u>PARAMETER</u>	<u>METHOD NO.</u>	<u>Testing</u>	<u>Sampling Frequency</u>
Appearance	MDF 40	R	Each consignment
Ammonia	MDF 40	R	Each consignment
Water	MDF 40	R	Each consignment
Oil	MDF 40	R	Each consignment
Sulphur		Q	On Request
Carbon Dioxide		Q	On Request
Inert Gases		Q	On Request

R – Routine testing Q – Qualification testing

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Section 5 – DOCUMENTATION

APPLICABLE DOCUMENTS

Manufacturer's product and material safety data sheet.

RESPONSIBILITY FOR INSPECTION:

Unless otherwise specified the supplier is responsible for the performance of all inspection requirements as specified herein and to provide the relevant inspection reports.

Section 6 – USES

In the manufacture of mixed acids

In the manufacture of detergents and for other industrial purposes

Section 7 – REASON FOR REVISION

Revision One- New document