Ammonia
Safety Data Sheet GCI-022

Date of Issue: 01/01/2021 Revision date: 10/03/2021

Section 1: Product and company Information

1.1 Product Identifier

Trade Name	: Anhydrous Ammonia
Formula	: NH3
MSDS No	: GCI-022

1.2 Details of the supplier of the safety data sheet

Name	: Globcorp International Co W.L.L
Address	: Shop No 52, Building 2527, Road 1535, Block 115, Hidd, Kingdom of Bahrain
Emergency number	: +973-34026802/33701856/36487106

1.3 Product Composition / Information of ingredients

Substance name	: Ammonia
Contents	: 100% Doesn't contain any other components or impurities that will influence the classification.

Section 2: Hazard Identification

Hazards identification	:Containers may rupture or explode if heated. Causes severe skin burn and is harmful if inhaled.

Section 3: First Aid Measures

After Inhalation	Remove person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult, trained personnel should give oxygen. Call a doctor.
After Skin contact	The liquid may cause frostbite. For exposure to liquid, immediately warm frostbite area with warm water not to exceed 41°C. Maintain skin warming for at least 15 minutes or until normal coloring and sensation have returned to the affected area. In case of massive exposure, remove clothing while showering with warm water.

After Eye contact	Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately. Get immediate medical attention.
After Ingestion	Ingestion is not considered a potential route of exposure

Section 4: Firefighting Measures

Flammable class	Non flammable.
Specific hazards	Exposure to fire may cause containers to rupture/explode. Corrosive liquid and gas under pressure. Suffocation hazard by lack of oxygen.
Suitable extinguishing media	Carbon dioxide, Dry chemical, Water spray or fog.
Specific methods	If possible, stop flow of product. Move away from the container and cool with water from a protected position. Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fires.
Special protective equipment	In confined space use self-contained breathing apparatus.

Section 5: Handling and Storage

Storage	Keep container below 50°C in a well ventilated place.
Handling	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only non-sparking tools. Use only explosion-proof equipment. Do not allow back feed into the container. Use only proper specified equipment which is suitable for this product. Refer to supplier's container handling instructions. Contact your gas supplier if in doubt.

Section 6: Exposure controls / Personal protection

Personal protection		Wear suitable hand, body and head protection. Ensure adequate ventilation.
Control parameters		
ACGIH	ACGIH TLV-TWA (ppm)	25 ppm
ACGIH	ACGIH TLV-STEL (ppm)	35 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	35 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	50 ppm
USA IDLH	US IDLH (ppm)	300 ppm

Section 7: Physical and Chemical properties

Physical state at 20°C	: Dissolved gas.
Color	: Colorless.
Odor	: Ammoniacal
Molecular formula	: NH3
Molecular weight	: 17
Melting point [°C]	: -77.7
Boiling point [°C]	: -33.4
Critical temperature [°C]	: 132.4
Vapor pressure, 20°C	: 860 kPa
Relative density, gas (air=1)	: 0.7
Density	: 0.682 g/cm³ (at -33 °C)
Solubility in water [mg/l]	: 517000
Flammability range [solid,gas]	: ≥ 16 vol % 25
Auto ignition temperature [°C]	: 650

Section 8: Stability and Reactivity

Stability and reactivity	Stable under normal circumstances. Avoid prolonged exposure to air or moisture. Avoid moisture in installation systems. Hydrogen may be formed at temperatures above 1544°F (840°C).

Section 9: Toxicological Information

Acute Toxicity **Ammonia: 7664-41-7**	: Inhalation:gas: HARMFUL IF INHALED. LC50 inhalation rat (ppm): 7338 ppm/1h ATE US (gases): 3669 ppmV/4h

Section 10: Disposal Considerations

General	: Do not attempt to dispose of residual or unused quantities. Return container to supplier

Section 11: Transport information

Transport document description	: UN1005 Ammonia, anhydrous, 2.2
UN-NO (DOT)	: UN1005
Proper shipping name	: Ammonia, anhydrous
Hazard labels (DOT)	: 2.2 – Non-Flammable gas

Other transport information	Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or emergency.
Before Transporting product containers	Ensure that containers are firmly secured. Ensure cylinder valve is closed and not leaking. Ensure valve outlet cap nut or plug us correctly fitted. Ensure valve protection device is correctly fitted. Ensure there is adequate ventilation. Compliance with applicable regulation.

Section 12: Other Information

Ensure operators understand the flammability hazard.

Keep container in a well ventilated place.

Do no breathe the gas.

Ensure all national/local regulations are observed.

The hazard of asphyxiation is often overlooked and must be stressed during operator training.

Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.