

Safety Data Sheet
according to 1907/2006/EC, Article 31

Printing date: 02.02.2021

Version No: 7

Revision: 01.02.2021

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name: Anhydrous Ammonia

CAS Number:

7664-41-7

EC number:

231-635-3

Index number:

007-001-00-5

REACH Registration number: 01-2119488876-14-0090

1.2 Relevant identified uses of the substance or mixture and uses advised against

Application of the substance / the preparation: Fertiliser

Uses advised against: No further relevant information available.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Qatar Fertiliser Company

P.O. Box 50001, Mesaieed, Qatar

Tel.: (+974) 44228888

Fax: (+974) 44770347

Email: mktg@qafco.com.qa

1.4 Emergency telephone number:

For Spill, Leak, Fire, Exposure, or Accident

Call CHEMTREC Day or Night

Within USA and Canada: 1-800-424-9300

Outside USA and Canada: +1 703-741-5970 and +1-703-527-3887 (collect calls accepted)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flam. Gas 2 H221 Flammable gas.

Press. Gas C H280 Contains gas under pressure; may explode if heated.

Acute Tox. 3 H331 Toxic if inhaled.

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Aquatic Acute 1 H400 Very toxic to aquatic life.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

T; Toxic

R23: Toxic by inhalation.

C; Corrosive

R34: Causes burns.

N; Dangerous for the environment

R50: Very toxic to aquatic organisms.

R10: Flammable.

Information concerning particular hazards for human and environment: Void

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

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Hazard pictograms



· **Signal word** *Danger*

· **Hazard statements**

- H221 *Flammable gas.*
- H280 *Contains gas under pressure; may explode if heated.*
- H331 *Toxic if inhaled.*
- H314 *Causes severe skin burns and eye damage.*
- H400 *Very toxic to aquatic life.*

· **Precautionary statements**

- P260 *Do not breathe dust/fume/gas/mist/vapours/spray.*
- P280 *Wear protective gloves/protective clothing/eye protection/face protection.*
- P303+P361+P353 *IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*
- P305+P351+P338 *IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
- P310 *Immediately call a POISON CENTER/doctor.*
- P405 *Store locked up.*
- P410 *Protect from sunlight.*
- P501 *Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

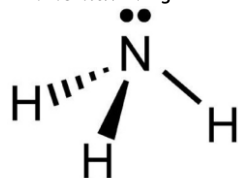
- **PBT:** *No*
- **vPvB:** *No*

SECTION 3: Composition/information on ingredients

· **3.1 Chemical characterisation: Substances**

- **CAS No. Description**
7664-41-7 ammonia, anhydrous
- **Identification number(s)**
- **EC number:** 231-635-3
- **Index number:** 007-001-00-5
- **Additional information:**

Ammonia: NH_3



SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **General information:**

- Take affected persons out of danger area and lay down.*
- Remove breathing equipment only after contaminated clothing have been completely removed.*

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- In case of irregular breathing or respiratory arrest provide artificial respiration.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.*
- **After inhalation:**
*Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.*
 - **After skin contact:**
*Immediately rinse with water.
If skin irritation continues, consult a doctor.*
 - **After eye contact:**
*Rinse opened eye for several minutes under running water.
Remove contact lenses, if present and easy to do. Continue rinsing.
Seek medical treatment.*
 - **After swallowing:**
*Do NOT induce vomiting.
Drink plenty of water and provide fresh air. Call for a doctor immediately.*
 - **4.2 Most important symptoms and effects, both acute and delayed** *Gastric or intestinal disorders*
 - **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
*CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire extinguishing methods suitable to surrounding conditions.*
- **For safety reasons unsuitable extinguishing agents:** *Water with full jet*
- **5.2 Special hazards arising from the substance or mixture**
*Can form explosive gas-air mixtures.
Formation of toxic gases is possible during heating or in case of fire.
Nitrogen oxides (NO_x)*
- **5.3 Advice for firefighters**
- **Protective equipment:** *Wear self-contained respiratory protective device.*
- **Additional information**
*Cool endangered receptacles with water spray.
Collect contaminated fire fighting water separately. It must not enter the sewage system.*

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
*Ensure adequate ventilation.
Mount respiratory protective device.
Wear protective clothing.
Keep people at a distance and stay on the windward side.*
- **6.2 Environmental precautions:**
*Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.*
- **6.3 Methods and material for containment and cleaning up:**
*Ensure adequate ventilation.
Use neutralising agent.
Dispose contaminated material as waste according to item 13.
Dispose of the material collected according to regulations.*
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.

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See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
- **Information about fire and explosion protection:**
Keep ignition sources away - Do not smoke.
Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:**
Do not store together with acids.
Store away from oxidising agents.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store receptacle in a well ventilated area.
Store in a cool place. Heat will increase pressure and may lead to the receptacle bursting.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

7664-41-7 ammonia, anhydrous (100.0%)

WEL	Short-term value: 25 mg/m ³ , 35 ppm
	Long-term value: 18 mg/m ³ , 25 ppm

· **DNELs**

Oral	DNEL(long/systemic)	6.8 mg/kg bw/day (Consumer)
Dermal	DNEL(long/systemic)	68 mg/kg bw/day (Consumer)
Inhalative	DNEL(long/local)	6.8 mg/kg bw/day (Workers (Industrial/Professional))
		2.8 mg/m ³ (Consumer)
	DNEL(long/systemic)	14 mg/m ³ (Workers (Industrial/Professional))
		23.8 mg/m ³ (Consumer)
	DNEL(short/local)	47.6 mg/m ³ (Workers (Industrial/Professional))
		7.2 mg/m ³ (Consumer)

· **PNECs**

PNEC(aqua)	0.0011 mg/L (freshwater)
	0.0011 mg/L (marine water)
	0.0068 mg/L (intermittent release)

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Do not eat, drink or smoke when using this product.
- Immediately remove all soiled and contaminated clothing.

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Store protective clothing separately.
 Avoid contact with the eyes and skin.
 The usual precautionary measures are to be adhered to when handling chemicals.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

*

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Gaseous
Colour:	Colourless
Odour:	Pungent
Odour threshold:	~ 5 ppm

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range:	-78 °C (EU Method A.1)
Boiling point/Boiling range:	-33 °C (OECD Guideline 103)

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** 16 - 27 % NH₃ @ 0 °C

· **Ignition temperature:** 630 °C

· **Decomposition temperature:** Not determined.

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Explosion limits:**

Lower: 16 Vol %

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Upper:	25 Vol %
· Oxidising properties	No
· Vapour pressure at 20 °C:	8 hPa
· Density at 20 °C:	0.77 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water at 20 °C:	529 g/l
· Partition coefficient (n-octanol/water):	Not applicable
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** No decomposition if used and stored according to specifications.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
Ammonia reacts violently with hypochlorites, mercury and halogens producing unstable compounds, which are liable to explode.
Attacks copper, zinc, aluminum, cadmium and their alloys.
- **10.4 Conditions to avoid** Keep away from heat and direct sunlight.
- **10.5 Incompatible materials:**
Reacts with strong acids.
Nitrogen oxides (NO_x)
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values relevant for classification:**

Oral	LD50	350 mg/kg (Rat) (OECD Guideline 401; oral gavage)
Inhalative	LC50 (1h)	11590 mg/L (Rat) (no guideline followed; male & female)

- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitisation:** No sensitising effects known.
- **Additional toxicological information:**
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)** Ames Test: negative

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SECTION 12: Ecological information

· **12.1 Toxicity**

· Aquatic toxicity:	
EC50	2700 mg/L (Algae) (18 d; no guideline followed; <i>Chlorella vulgaris</i>)
LC50 (48h) (static)	101 mg/L (Daphnia) (ASTM E729-80; <i>Daphnia magna</i>)
LC50 (96h)	0.068 mg/L (Fish) (no guideline followed; <i>Oncorhynchus gorbuscha</i>)
NOEC	1.20 mg/L (Fish) (61 d; OECD Guideline 210; <i>Oncorhynchus gorbuscha</i>)
NOEC (96h)	0.79 mg/L (Daphnia) (EPA OPPTS 850.1300; <i>Daphnia magna</i> ; read-across)

· **12.2 Persistence and degradability** Easily eliminable from water.

· **12.3 Bioaccumulative potential** Does not accumulate in organisms.

· **12.4 Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Must not reach sewage water or drainage ditch undiluted or unneutralised.

Very toxic for aquatic organisms

Water hazard class 2 (German Regulation) (Assessment by list): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

· **12.5 Results of PBT and vPvB assessment**

· **PBT:** No

· **vPvB:** No

· **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation:** Must be specially treated adhering to official regulations.

· **Uncleaned packaging**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· 14.1 UN-Number	
· ADR, IMDG, IATA	UN1005
· 14.2 UN proper shipping name	
· ADR	1005 AMMONIA, ANHYDROUS, ENVIRONMENTALLY HAZARDOUS
· IMDG	AMMONIA, ANHYDROUS, MARINE POLLUTANT
· IATA	AMMONIA, ANHYDROUS

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· 14.3 Transport hazard class(es)	
· ADR	
	
· Class	2 2TC Gases.
· Label	2.3+8
· IMDG	
	
· Class	2.3
· Label	2.3/8
· IATA	
	
· Class	2.3
· Label	2.3 (8)
· 14.4 Packing group	
· ADR, IMDG, IATA	
Void	
· 14.5 Environmental hazards:	
· Marine pollutant:	Yes (P) Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· 14.6 Special precautions for user	
Warning: Gases.	
· Danger code (Kemler):	268
· EMS Number:	F-C,S-U
· Segregation groups	Alkalis
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:	
No further relevant information available.	
· Transport/Additional information:	
· ADR	
· Tunnel restriction code	C/D
· UN "Model Regulation":	UN1005, AMMONIA, ANHYDROUS, ENVIRONMENTALLY HAZARDOUS, 2.3 (8)

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SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Labelling according to Regulation (EC) No 1272/2008**
- **Precautionary statements**
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
- **15.2 Chemical safety assessment: A Chemical Safety Assessment has been carried out.**

SECTION 16: Other information

Disclaimer clause

To the best of our knowledge, the information provided in this Safety Data Sheet is accurate as at the date of its issue. The information it contains is being given for safety guidance purposes and relates only to the specific material and uses described in it. This information does not necessarily apply to that material when combined with other material(s) or when used otherwise than as described herein. Final determination of the suitability of any material is the sole responsibility of the user. All materials may represent unknown hazards and should be used with caution.

· **Department issuing SDS:**

- Production Deptt.
- QAFCO Fertiliser Company
- P.O. Box 50001, Mesaieed, Qatar
- Tel.: (+974) 44228888
- Fax: (+974) 44770347

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals

MARPOL: (from Marine Pollutant) International Convention for the Prevention of Marine Pollution from Ships

IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

UN: United Nations (also UNO: United Nations Organization)

NOEC: No Observed Effect Concentration

OECD: Organisation for Economic Co-operation and Development

ASTM: American Society for Testing and Materials

WAF: Water Accommodated Fraction

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

P: Marine Pollutant

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Gas 2: Flammable gases, Hazard Category 2

Press. Gas C: Gases under pressure: Compressed gas

Acute Tox. 3: Acute toxicity, Hazard Category 3

Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B

Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1

- *** Data compared to the previous version altered.**