



SDS – SAFETY DATA SHEET

AMÔNIA GÁS ANIDRA

SDS nº 111.01.0

Revision: 01

Review date: 01/08/2026

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De acordo com a ABNT NBR 14725: 2023

SECTION 1: Identification

1.1. GHS Product identifier

Product form	: Substance
Substance type	: Mono-constituent
Trade name	: AMÔNIA GÁS ANIDRA
Chemical name	: ammonia, anhydrous
CAS-No.	: 7664-41-7
Formula	: H ₃ N
Product code	: 111.01.0

1.2. Other means of identification

Other means of identification	: Anhydrous ammonia
EC Index-No.	: 007-001-00-5
EC-No.	: 231-635-3

1.3. Recommended use of the chemical and restrictions on use

Recommended use	: Industrial use
Restrictions on use	: This product should not be used in applications other than those mentioned above without first consulting the supplier.

1.4. Supplier's details

USQUÍMICA DO BRASIL LTDA
Rua da Lagoa, 431 – Cumbica – Guarulhos – SP
Telefone: (11) 3821-7000 – Tronco chave

1.5. Emergency phone number

Emergency number	: (0800) 0111-767 - (0800) 7071-767 SUATRANS
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SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification according to GHS BR (ABNT NBR 14725: 2023)

Flammable gases, Category 2
Gases under pressure : Liquefied gas
Acute toxicity (inhalation:gas) Category 3
Skin corrosion/irritation, Category 1
Serious eye damage/eye irritation, Category 1
Hazardous to the aquatic environment - Acute Hazard, Category 1
Hazardous to the aquatic environment - Chronic Hazard, Category 2

2.2. GHS Label elements, including precautionary statements

GHS BR labelling

Hazard pictograms (GHS BR)



Signal word (GHS BR)

: Danger



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Hazard statements (GHS BR)

- : H221 - Flammable gas
- H280 - Contains gas under pressure; may explode if heated
- H314 - Causes severe skin burns and eye damage
- H331 - Toxic if inhaled
- H400 - Very toxic to aquatic life
- H411 - Toxic to aquatic life with long lasting effects

Precautionary statements (GHS BR)

Prevention

- : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P260 - Do not breathe dust, fume, gas, mist, vapours or spray.
- P264 - Wash hands, forearms and face thoroughly after handling.
- P271 - Use only outdoors or in a well-ventilated area.
- P273 - Avoid release to the environment.
- P280 - Wear protective gloves, protective clothing, eye protection, face protection and hearing protection.

Response

- : P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
- P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- 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 or a doctor.
- P311 - Call a POISON CENTER or a doctor.
- P321 - Specific treatment (see supplemental first aid instruction on this label).
- P363 - Wash contaminated clothing before reuse.
- P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
- P381 - In case of leakage, eliminate all ignition sources.
- P391 - Collect spillage.

Storage

- : P403 - Store in a well-ventilated place.
- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
- P405 - Store locked up.
- P410+P403 - Protect from sunlight. Store in a well-ventilated place.

Disposal

- : P501 - Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and international regulations.

2.3. Other hazards which do not result in classification

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type

: Mono-constituent

Formula

: H3N



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Name	GHS Product identifier	%	Classification according to GHS BR (ABNT NBR 14725: 2023)
Anhydrous Ammonia Gas (Main constituent)	CAS-No.: 7664-41-7	100	Flam. Gas 2, H221 Press. Gas (Liq.), H280 Acute Tox. 3 (Inhalation:gas), H331 Skin Corr. 1, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 2, H411

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of necessary first-aid measures

First-aid measures general	: If you feel unwell, seek medical advice.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
First-aid measures after skin contact	: After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Do not remove clothing if it sticks to the skin. Be careful, the product may remain trapped under clothing, footwear or a wrist-watch.
First-aid measures after eye contact	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
First-aid measures after ingestion	: If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting because of corrosive effects.
Self protection of the first-aiders	: First-aiders should pay attention to their own protection and use the recommended personal protective equipment (see section 8).

4.2. Most important symptoms and effects, acute and delayed

Symptoms/effects	: Toxic if inhaled. Causes severe skin burns and eye damage.
Symptoms/effects after inhalation	: May cause drowsiness or dizziness. May cause shortness of breath, tightness of the chest, a sore throat and cough. May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing.
Symptoms/effects after skin contact	: Highly corrosive to skin. Causes severe burns. irritation (itching, redness, blistering).
Symptoms/effects after eye contact	: Causes serious eye burns. May cause destruction of eye tissue. Causes serious eye damage. stinging. redness, itching, tears.
Symptoms/effects after ingestion	: Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

4.3. Indication of any immediate medical attention and special treatment needed, if necessary

Notes to physician	: Treat symptomatically
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SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media	: Dry chemical, CO ₂ , or water spray or regular foam. DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS THE LEAK CAN BE STOPPED.
Unsuitable extinguishing media	: Do not use a heavy water stream.



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5.2. Specific hazards arising from the chemical

- Fire hazard : Contains gas under pressure; may explode if heated. Flammable gas. Watch out for invisible flames. In case of fire and/or explosion do not breathe fumes. In case of fire, corrosive gases come free.
- Explosion hazard : Heating may cause an explosion. Risk of explosion if heated under confinement.

5.3. Special protective actions for fire-fighters

- Precautionary measures fire : Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.
- Firefighting instructions : Do not throw water directly on point of leakage or security devices; freezing may occur. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Do not enter fire area without proper protective equipment, including respiratory protection.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Self-contained breathing apparatus. Do not attempt to take action without suitable protective equipment. Use self-contained breathing apparatus and chemically protective clothing.
- Other information : On exposure to high temperature, may decompose, releasing toxic gases. In case of fire, corrosive and harmful gases come free.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Eliminate every possible source of ignition. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Avoid contact with skin and eyes. May be harmful to aquatic organisms, to flora, to soil organisms. Clean up any spills as soon as possible, using an absorbent material to collect it. Absorb spillage to prevent material damage.

6.1.1. For non-emergency personnel

- Protective equipment : Wear recommended personal protective equipment.
- Emergency procedures : Do not breathe gas. Evacuate area. Only qualified personnel equipped with suitable protective equipment may intervene. Notify fire brigade and environmental authorities.

6.1.2. For emergency responders

- Protective equipment : Use self-contained breathing apparatus and chemically protective clothing. Gloves. Self-contained breathing apparatus. Total impervious protective suits, gloves, and boots must be worn to prevent any contact with the product. Corrosionproof suit. Equip cleanup crew with proper protection.
- Emergency procedures : Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Toxic to aquatic life with long lasting effects. Do not allow product to spread into the environment. Very toxic to aquatic life.

6.3. Methods and materials for containment and cleaning up

- For containment : Stop leak without risks if possible.



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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed

: May explode on heating.

Precautions for safe handling

: Handle and open container with care. Wear personal protective equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Obtain special instructions before use. Use only outdoors or in a well-ventilated area. Prevent the build-up of electrostatic charge. When heated, material emits highly irritating vapours, affecting the eyes. Ensure good ventilation of the work station. Keep only in original container. Do not handle until all safety precautions have been read and understood.

Hygiene measures

: Always wash hands after handling the product. Remove contaminated clothes. Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

: Keep only in original container. Keep cool. Protect from sunlight. Store in a well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep in fireproof place. Keep container closed when not in use. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

Packaging materials

: Always store product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Anhydrous Ammonia Gas (7664-41-7)

Brazil - Occupational Exposure Limits

Local name	Amônia (Gás amoníaco)
OEL TWA	14 mg/m ³
	20 ppm
Regulatory reference	Norma Regulamentadora Nº 15 - Atividades e Operações Insalubres

USA - ACGIH® - Threshold Limit Values

Local name	Ammonia
ACGIH® TLV® TWA	17 mg/m ³
	25 ppm
ACGIH® TLV® STEL	24 mg/m ³
	35 ppm
Remark (ACGIH®)	TLV® Basis: Eye & URT irr
Regulatory reference	ACGIH 2026

USA - OSHA - Occupational Exposure Limits

Local name	Ammonia
OSHA PEL TWA	35 mg/m ³
	50 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1



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8.2. Appropriate engineering controls

Appropriate engineering controls

: Provide local exhaust or general room ventilation. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Measure concentrations regularly, and at the time of any change occurring in conditions likely to have consequences on workers exposure.

Environmental exposure controls

: Do not exceed the occupational exposure limits (OEL).

8.3. Individual protection measures

Personal protective equipment:

Corrosionproof clothing.

Hand protection:

Protective gloves made of PVC. Nitrile rubber gloves

Eye protection:

Wear closed safety glasses

Skin and body protection:

Wear impervious rubber safety shoes

Respiratory protection:

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	: Gas
Appearance	: Liquid under pressure. Gas at room temperature.
Colour	: Colourless
Odour	: Ammoniacal
Odour threshold	: 17 ppm Source: CAMEO
pH	: 11.6 Source: HSDB
Melting point	: -77.7 °C
Freezing point	: Not applicable
Boiling point	: -33.35 °C at 760 mmHg Source: HSDB
Flash point	: 132 °C Source: ECHA
Auto-ignition temperature	: 651 °C Source: HSDB,IPCS
Decomposition temperature	: 382.8 °C Source: HSDB
Flammability	: Not available
Vapour pressure	: 1013 kPa at 26°C Source: ICSC
Vapour pressure at 50°C	: Not available
Relative vapour density at 20°C	: 0.59 Source: ICSC



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Relative density	: 0.7 Source: ICSC
Density	: Not applicable
Solubility	: Water: 54 g/100ml at 20°C Source: ICSC
Partition coefficient n-octanol/water (Log Pow)	: 0.23 Source: NIOSH
Partition coefficient n-octanol/water (Log Kow)	: Not available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: 0.255 cP Source: ECHA
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Particle size	: Not applicable
Particle size distribution	: Not applicable
Particle shape	: Not applicable
Particle aspect ratio	: Not applicable
Particle specific surface area	: Not applicable

9.2. Data relevant with regard to physical hazard classes

Explosive limits	: 15 – 33.6 % Source: IPCS
Molecular mass	: 17.03 g/mol

9.3. Further safety characteristics

No additional information available

SECTION 10: Stability and reactivity

Chemical stability	: Contains gas under pressure; may explode if heated. Flammable gas.
Conditions to avoid	: Direct sunlight. High temperature. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Hazardous decomposition products	: May liberate toxic gases. Inhalation or contact with substance or decomposition products could cause severe injury or death. On exposure to high temperature, may decompose, releasing corrosive gases.
Incompatible materials	: Combustible materials.
Possibility of hazardous reactions	: Stable under normal conditions of use. May mass explode in fire. Heating may cause a fire or explosion.
Reactivity	: The product is non-reactive under normal conditions of use, storage and transport.
Handling temperature	: No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not available
Acute toxicity (dermal)	: Not available
Acute toxicity (inhalation)	: Inhalation:gas: Toxic if inhaled.

Anhydrous Ammonia Gas (7664-41-7)

LD50 oral rat	350 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
Skin corrosion/irritation	: Causes severe skin burns. pH: 11.6 Source: HSDB
Serious eye damage/irritation	: Causes serious eye damage. pH: 11.6 Source: HSDB
Respiratory or skin sensitisation	: Not available
Germ cell mutagenicity	: Not available



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Carcinogenicity : Not available

Anhydrous Ammonia Gas (7664-41-7)

NOAEL (chronic, oral, animal/male, 2 years)	256 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)
NOAEL (chronic, oral, animal/female, 2 years)	284 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 453 (Combined Chronic Toxicity / Carcinogenicity Studies)

Reproductive toxicity : Not available
STOT-single exposure : Not available
STOT-repeated exposure : Not available
Aspiration hazard : Not applicable

11.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : Toxic if inhaled. Causes severe skin burns and eye damage.
Symptoms/effects after inhalation : May cause drowsiness or dizziness. May cause shortness of breath, tightness of the chest, a sore throat and cough. May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing.
Symptoms/effects after skin contact : Highly corrosive to skin. Causes severe burns. irritation (itching, redness, blistering).
Symptoms/effects after eye contact : Causes serious eye burns. May cause destruction of eye tissue. Causes serious eye damage. stinging. redness, itching, tears.
Symptoms/effects after ingestion : Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Toxic to aquatic life with long lasting effects. Very toxic to aquatic life.
Hazardous to the aquatic environment, short-term (acute) : Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term (chronic) : Toxic to aquatic life with long lasting effects.

Anhydrous Ammonia Gas (7664-41-7)

LC50 - Fish [1]	0.75 – 3.4 mg/l Test organisms (species): Pimephales promelas
LC50 - Fish [2]	34 – 109 mg/l Test organisms (species): Pimephales promelas
LOEC (chronic)	1.3 mg/l Test organisms (species): Daphnia magna Duration: '96 h'
NOEC (chronic)	0.79 mg/l Test organisms (species): Daphnia magna Duration: '96 h'
NOEC chronic fish	1.2 mg/l Test organisms (species): Oncorhynchus gorbuscha Duration: '61 d'

12.2. Persistence and degradability

Anhydrous Ammonia Gas (7664-41-7)

Persistence and degradability	Not rapidly degradable
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12.3. Bioaccumulative potential

Anhydrous Ammonia Gas (7664-41-7)

Partition coefficient n-octanol/water (Log Pow)	0.23 Source: NIOSH
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12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Hazardous to the ozone layer

: Not available

Other adverse effects

: May cause pH changes in aqueous ecological systems. Before neutralisation, the product may represent a danger to aquatic organisms.

SECTION 13: Disposal considerations

Waste treatment methods

: Must follow special treatment according to local regulation.

Sewage disposal recommendations

: Disposal must be done according to official regulations.

Product/Packaging disposal recommendations

: Disposal must be done according to official regulations.

Additional information

: Do not re-use empty containers.

SECTION 14: Transport information

14.1 National and international Regulations

Overland transport

UN-No. (ANTT)

: 1005

Proper Shipping Name (ANTT)

: AMÔNIA, ANIDRA

Class (ANTT)

: 2.3

Subsidiary risk (ANTT)

: 8

Risk Number (ANTT)

: 268

Special provisions (ANTT)

: 23,379

Dangerous for the environment

: Yes

Transport by sea

UN-No. (IMDG)

: 1005

Proper Shipping Name (IMDG)

: AMMONIA, ANHYDROUS

Class (IMDG)

: 2

Subsidiary hazard (IMDG)

: 8

EmS-No. (Fire)

: F-C

EmS-No. (Spillage)

: S-U

Special provisions (IMDG)

: 23,379

Dangerous for the environment

: Yes

Air transport

UN-No. (IATA)

: 1005

Proper Shipping Name (IATA)

: Ammonia, anhydrous

Class (IATA)

: 2

Subsidiary hazards (IATA)

: 8

Special provisions (IATA)

: A2

Dangerous for the environment

: Yes

14.2 Other information

No additional information available



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SECTION 15: Regulatory information

15.1. National regulations

Brazil Local Regulations

: Standard ABNT NBR 14725.

Federal Decree no. 10.088, of 5 November 2019 – Promulgates Convention no. 170 of the ILO, relating to Safety in the Use of Chemicals in the Workplace, ratified by the Federative Republic of Brazil.

Ministerial Order no. 2.770, of 5 September 2022 – Approves the new wording of Regulatory Standard No. 26

Federal Decree no. 96.044, of 18 May 1988 - Approves Regulations for Road Transportation of Hazardous Materials

Resolution no. 5998, of 03 November 2022, updates the regulation for road transport of dangerous goods, approves its Complementary Instructions, and other measures.

Law No. 12.305, of August 2, 2010 (National Policy on Solid Waste)

SECTION 16: Other information

Safety Data Sheet (SDS), Brazil

This information is based on our current knowledge and is intended to describe the product solely with regard to health, safety, and environmental requirements. Therefore, it should not be construed as a guarantee of any specific product properties.

Prepared by: ViaBrasil Cafasso Consulting on the Transportation of Dangerous Goods

Signed by:

MARIA CAFASSO

Consultant and specialist in SDS preparation

Member of the ABNT CB10 and CB16 committee

REFERENCES:

[ABNT NBR 14725] – Safety Data Sheet (SDS)

[RESOLUTION No. 5998/22 ANTT] National Land Transportation Agency – Updates the Regulation for the Road Transportation of Dangerous Goods, approves its Supplementary Instructions, and contains other provisions.

[NR-26 (MTE)] – Safety Signage.

[HSNO] NEW ZEALAND. HSNO Chemical Classification and Information Database (CCID)

[ECHA] European Union. ECHA European Chemical Agency

[LAND, RAILWAYS, ROADS]: National Land Transport Agency (ANTT);

WATERWAY (SEA, RIVER, LAKE): International Maritime Dangerous Goods Code (IMDG code); Standard 5 of the Directorate of Ports and Coasts of the Ministry of the Navy (DPC); National Waterway Transport Agency (ANTAQ);

AIR: International Civil Aviation Organization - Technical Instructions (ICAO-TI); International Air Transport Association - Dangerous Goods Regulations (IATA-DGFT); National Civil Aviation Agency (ANAC).

*Abbreviations:

NA: Not Applicable

ND: Not Available

OSHA: Occupational Safety and Health Administration



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LD50: Lethal dose to 50% of an infected population

LC50: Lethal concentration to 50% of an infected population

CAS: Chemical Summary Service

TLV-TWA: Allowable time-weighted average concentration for an 8-hour workday

TLV-STEL: Short-term exposure limit-maximum allowable concentration for 15 minutes of continuous exposure

ACGIH: An organization of staff from government agencies or educational institutions engaged in occupational safety and health programs.

ACGIH: Develops and publishes exposure limits for hundreds of chemicals and physical agents.

PEL: Maximum allowable concentration of airborne contaminants to which most workers can be repeatedly exposed 8 hours a day, 40 hours a week, during their workday (30 years) without adverse health effects. OSHA: US federal agency with authority to regulate and enforce safety and health regulations for industries and businesses in the US.

IMDG: International Maritime Code for Dangerous Goods – international code for the transportation of hazardous materials by sea.

DMEL: Derived Minimum Effect Level

DNEL: Derived No-Effect Level

PNEC: Predicted No-Effect Concentration.

ILO - International Labor Organization

MTE - Ministry of Labor and Employment