



AMMONIA (D3, 99%)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 12/17/2010 Revision date: 12/1/2022 Supersedes: 10/7/2016 Version: 5.0

SECTION 1: Identification

1.1. Identification

Product form : Substance
Substance name : AMMONIA (D3, 99%)
CAS-No. : 7664-41-7
Product code : DLM-389
Formula : ND3

1.2. Recommended use and restrictions on use

No additional information available

1.3. Supplier

Cambridge Isotope Laboratories, Inc.
50 Frontage Rd
01810
ANDOVER, MA, 01810
USA
T 1-800-322-1174
cilsales@isotope.com - www.isotope.com

1.4. Emergency telephone number

Emergency number : 1-703-741-5970
Chemtrec 1-800-424-9300 24 hours

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Flammable gases Category 2	H221	Flammable gas
Gases under pressure Compressed gas	H280	Contains gas under pressure; may explode if heated
Acute toxicity (inhalation) Category 3	H331	Toxic if inhaled
Skin corrosion/irritation Category 1A	H314	Causes severe skin burns and eye damage
Serious eye damage/eye irritation Category 1	H318	Causes serious eye damage
Hazardous to the aquatic environment – Acute Hazard Category 1	H400	Very toxic to aquatic life
Hazardous to the aquatic environment – Chronic Hazard Category 1	H410	Very toxic to aquatic life with long lasting effects

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H221 - Flammable gas
H280 - Contains gas under pressure; may explode if heated
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H331 - Toxic if inhaled

AMMONIA (D3, 99%)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Precautionary statements (GHS US)	H400 - Very toxic to aquatic life H410 - Very toxic to aquatic life with long lasting effects : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. heat, hot surfaces, open flames, sparks P260 - Do not breathe dust, fume, gas, mist, spray, vapors. P261 - Avoid breathing dust, fume, gas, mist, spray, vapors. P264 - Wash Both hands thoroughly after handling. P271 - Use only outdoors or in a well-ventilated area. P273 - Avoid release to the environment. P280 - Wear eye protection, face protection, protective clothing, protective gloves. 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/shower. 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 doctor. P311 - Call a poison center or doctor. P321 - Specific treatment (see Hazard pictograms (CLP) on this label). P363 - Wash contaminated clothing before reuse. P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely. P381 - Eliminate all ignition sources if safe to do so. P391 - Collect spillage. 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. P501 - Dispose of contents/container to Comply with applicable regulations.
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2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name	Product identifier	%	GHS US classification
AMMONIA (D3, 99%) (Main constituent)	CAS-No.: 7664-41-7	100	Flam. Gas 2, H221 Press. Gas (Comp.), H280 Acute Tox. 3 (Inhalation), H331 Skin Corr. 1A, H314 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

AMMONIA (D3, 99%)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
First-aid measures after inhalation	: If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.
First-aid measures after skin contact	: Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.
First-aid measures after eye contact	: Continue rinsing eyes during transport to hospital. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
First-aid measures after ingestion	: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms	: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Symptoms/effects after inhalation	: Toxic if inhaled.
Symptoms/effects after skin contact	: Causes severe skin burns and eye damage.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: May be harmful if swallowed.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
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5.2. Specific hazards arising from the chemical

Fire hazard	: Flammable gas. Contains gas under pressure; may explode if heated.
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5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Wear self contained breathing apparatus for fire fighting if necessary.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	: Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapours can accumulate in low areas.
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6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

AMMONIA (D3, 99%)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

6.3. Methods and material for containment and cleaning up

- For containment : Clean up any spills as soon as possible, using an absorbent material to collect it. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. For large spills, confine the spill in a dike and charge it with wet sand or earth for subsequent safe disposal.
- Methods for cleaning up : This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent build up of electrostatic charge.
- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Keep container tightly closed in a dry and well-ventilated place.
- Storage conditions : Store at room temperature away from light and moisture.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

AMMONIA (D3, 99%) (7664-41-7)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Ammonia
ACGIH OEL TWA [ppm]	25 ppm USA. ACGIH Threshold Limit Values (TLV)
ACGIH OEL STEL [ppm]	35 ppm USA. ACGIH Threshold Limit Values (TLV)
Remark (ACGIH)	Upper Respiratory Tract irritation Eye damage.
ACGIH chemical category	No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH.
Regulatory reference	ACGIH 2022
USA - OSHA - Occupational Exposure Limits	
OSHA PEL TWA [1]	35 mg/m ³ USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - The value in mg/m ³ is approximate.
OSHA PEL TWA [2]	50 ppm USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - The value in mg/m ³ is approximate.
OSHA PEL STEL [1]	27 mg/m ³ USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
OSHA PEL STEL [2]	35 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
OSHA PEL C	18 mg/m ³ California permissible exposure limits for chemical contaminants (Title 8, Article 107)
OSHA PEL C [ppm]	25 ppm California permissible exposure limits for chemical contaminants (Title 8, Article 107)

AMMONIA (D3, 99%)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

AMMONIA (D3, 99%) (7664-41-7)	
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL TWA	18 mg/m ³ USA. NIOSH Recommended Exposure Limits - Often used in an aqueous solution.
NIOSH REL TWA [ppm]	25 ppm USA. NIOSH Recommended Exposure Limits - Often used in an aqueous solution.
NIOSH REL STEL	27 mg/m ³ California permissible exposure limits for chemical contaminants (Title 8, Article 107)
NIOSH REL STEL [ppm]	35 ppm California permissible exposure limits for chemical contaminants (Title 8, Article 107)
Remark (NIOSH)	ST 35.000000 ppm / 27.000000 mg/m ³ USA. NIOSH Recommended Exposure Limits - Often used in an aqueous solution.

8.2. Appropriate engineering controls

Appropriate engineering controls : Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.

Materials for protective clothing:

Wear suitable protective clothing and gloves

Hand protection:

Wear suitable protective clothing and gloves

Eye protection:

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH or EN 166.

Skin and body protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection:

When appropriate, use NIOSH/CEN approved respirator.

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Gas
Appearance : Compressed Gas.
Color : Colorless
Odor : No data available

AMMONIA (D3, 99%)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Odor threshold	: No data available
pH	: No data available
Melting point	: -78 °C (-108 °F)
Freezing point	: No data available
Boiling point	: -33 °C (-27 °F) - lit.
Flash point	: 132 °C (270 °F) - closed cup
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: 6402 hPa (4,802 mmHg) at 15.50 °C (59.90 °F) ; 8,866 hPa (6,650 mmHg) at 21 °C (70 °F)
Relative vapor density at 20°C	: 0.59 - (Air = 1.0)
Relative density	: No data available
Molecular mass	: 20.05 g/mol (Labeled)
Relative gas density	: 0.59 g/cm ³
Solubility	: Water: %
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: 651 °C (1,204 °F)
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: 15 – 25 % (V)
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable if stored under recommended conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Heat, flames and sparks.

10.5. Incompatible materials

Oxidizing agents, Iron, Zinc, Copper, Silver/silver oxides. Cadmium/cadmium oxides, alcohols, acids, halogens, aldehydes.

10.6. Hazardous decomposition products

Products formed under fire conditions. - Nitrogen oxides (NOx).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Toxic if inhaled.

AMMONIA (D3, 99%)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

AMMONIA (D3, 99%) (7664-41-7)	
LC50 Inhalation - Rat [ppm]	2000 ppm 4 h
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust, mist)	0.5 mg/l/4h

Skin corrosion/irritation	: Causes severe skin burns.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Potential Adverse human health effects and symptoms	: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Symptoms/effects after inhalation	: Toxic if inhaled.
Symptoms/effects after skin contact	: Causes severe skin burns and eye damage.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: May be harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

AMMONIA (D3, 99%) (7664-41-7)	
EC50 - Crustacea [1]	25.4 mg/l Daphnia magna (Water flea) - 48 h

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other adverse effects : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic organisms.

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.

AMMONIA (D3, 99%)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Product/Packaging disposal recommendations : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
Ecology - waste materials : Dispose of as unused product.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

DOT NA No : UN1005
UN-No. (TDG) : UN1005
UN-No. (IMDG) : 1005
UN-No. (IATA) : 1005

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Ammonia, anhydrous
Proper Shipping Name (TDG) : AMMONIA, ANHYDROUS
Proper Shipping Name (IMDG) : AMMONIA, ANHYDROUS
Proper Shipping Name (IATA) : Ammonia, anhydrous

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : 2.3 (8)
Hazard labels (DOT) : 2.3, 8



TDG

Transport hazard class(es) (TDG) : 2.3 (8)
Hazard labels (TDG) : 2.3, 8



IMDG

Transport hazard class(es) (IMDG) : 2.3 (8)
Hazard labels (IMDG) : 2.3, 8



IATA

Transport hazard class(es) (IATA) : 2.3 (8)



AMMONIA (D3, 99%)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

14.4. Packing group

Packing group (DOT)	: Not applicable
Packing group (TDG)	: Not applicable
Packing group (IMDG)	: Not applicable
Packing group (IATA)	: Not applicable

14.5. Environmental hazards

Dangerous for the environment	: Yes
Marine pollutant	: Yes



Other information	: No supplementary information available.
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14.6. Special precautions for user

Special transport precautions	: IATA Passenger/Cargo: Not permitted for transport.
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DOT

UN-No.(DOT)	: UN1005
DOT Special Provisions (49 CFR 172.102)	: 4 - This material is poisonous by inhalation (see 171.8 of this subchapter) in Hazard Zone D (see 173.116(a) of this subchapter), and must be described as an inhalation hazard under the provisions of this subchapter. 379 - When offered for transport by highway, rail, or cargo vessel, anhydrous ammonia adsorbed or absorbed on a solid contained in ammonia dispensing systems or receptacles intended to form part of such systems is not subject to the requirements of this subchapter if the following conditions in this provision are met. In addition to meeting the conditions in this provision, transport on cargo aircraft only may be authorized with prior approval of the Associate Administrator. a. The adsorption or absorption presents the following properties: (1) The pressure at a temperature of 20 °C (68 °F) in the receptacle is less than 0.6 bar (60 kPa); (2) The pressure at a temperature of 35 °C (95 °F) in the receptacle is less than 1 bar (100 kPa); (3) The pressure at a temperature of 85 °C (185 °F) in the receptacle is less than 12 bar (1200 kPa). b. The adsorbent or absorbent material shall not meet the definition or criteria for inclusion in Classes 1 to 8; c. The maximum contents of a receptacle shall be 10 kg of ammonia; and d. Receptacles containing adsorbed or absorbed ammonia shall meet the following conditions: (1) Receptacles shall be made of a material compatible with ammonia as specified in ISO 11114-1:2012 (IBR, see §171.7 of this subchapter); (2) Receptacles and their means of closure shall be hermetically sealed and able to contain the generated ammonia; (3) Each receptacle shall be able to withstand the pressure generated at 85 °C (185 °F) with a volumetric expansion no greater than 0.1%; (4) Each receptacle shall be fitted with a device that allows for gas evacuation once pressure exceeds 15 bar (1500 kPa) without violent rupture, explosion or projection; and (5) Each receptacle shall be able to withstand a pressure of 20 bar (2000 kPa) without leakage when the pressure relief device is deactivated. e. When offered for transport in an ammonia dispenser, the receptacles shall be connected to the dispenser in such a way that the assembly is guaranteed to have the same strength as a single receptacle. f. The properties of mechanical strength mentioned in this special provision shall be tested using a prototype of a receptacle and/or dispenser filled to nominal capacity, by increasing the temperature until the specified pressures are reached. g. The test results shall be documented, shall be traceable, and shall be made available to a representative of the Department upon request. N87 - The use of copper valves on UN pressure receptacles is prohibited. T50 - When portable tank instruction T50 is referenced in Column (7) of the 172.101 Table, the applicable liquefied compressed gases are authorized to be transported in portable tanks in accordance with the requirements of 173.313 of this subchapter.
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 304
DOT Packaging Bulk (49 CFR 173.xxx)	: 314, 315

AMMONIA (D3, 99%)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: Forbidden
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: Forbidden
DOT Vessel Stowage Location	: D - The material must be stowed "on deck only" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers or one passenger per each 3 m of overall vessel length, but the material is prohibited on passenger vessels in which the limiting number of passengers is exceeded.
DOT Vessel Stowage Other	: 40 - Stow "clear of living quarters",52 - Stow "separated from" acids,57 - Stow "separated from" chlorine

TDG

UN-No. (TDG)	: UN1005
TDG Special Provisions	: 23 - (1) A person must not import, offer for transport, handle or transport these dangerous goods unless (a) they are contained in a means of containment that is marked in accordance with section 4.23, or, for UN1005, ANHYDROUS AMMONIA, in a large means of containment, in accordance with section 4.18.2; and (b) they are accompanied by a shipping document that complies with subparagraph 3.5(1)(c)(vii). (2) This special provision does not apply to a person who transports these dangerous goods in accordance with an exemption set out in section 1.15, 1.17, 1.17.1 or 1.24 of Part 1 (Coming Into Force, Repeal, Interpretation, General Provisions and Special Cases). SOR/2017-253,158 - (1) These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General Provisions and Special Cases) and Part 2 (Classification), do not apply in respect of anhydrous ammonia that is adsorbed or absorbed on a solid material that is contained in an ammonia dispensing system or in a pressure receptacle that is intended to form part of an ammonia dispensing system if (a) the adsorption or absorption presents the following properties: (i) the pressure at a temperature of 20°C in the receptacle is less than 60 kPa (0.6 bar), (ii) the pressure at a temperature of 35°C in the receptacle is less than 100 kPa (1 bar), and (iii) the pressure at a temperature of 85°C in the receptacle is less than 1.2 MPa (12 bar); (b) the adsorbent or absorbent material does not meet the criteria in Part 2 (Classification) for inclusion in any of Classes 1 to 8; (c) the pressure receptacle (i) does not contain more than 10 kg of ammonia, (ii) is made of a material that, as specified in special provision 379 of the UN Recommendations, is compatible with ammonia, (iii) is hermetically sealed and able to contain the generated ammonia, (iv) has a means of closure that hermetically seals the pressure receptacle and is able to contain the generated ammonia, (v) is able to withstand the pressure generated at 85°C with a volumetric expansion of 0.1% or less, (vi) is fitted with a pressure release device that allows for gas evacuation without violent rupture, explosion or projection once pressure exceeds 1.5 MPa (15 bar), and (vii) is able to withstand a pressure of 2 MPa (20 bar) without leakage when the pressure relief device is deactivated; and (d) in the case of a pressure receptacle that is contained in an ammonia dispensing system, the pressure receptacle is connected to the system in such a way that the whole system has the same strength as a pressure receptacle that is not contained in an ammonia dispensing system. (2) The mechanical strength properties set out in subsection (1) must be tested (a) using a prototype of a pressure receptacle that is filled to nominal capacity or a prototype of a pressure receptacle that is filled to nominal capacity and is contained in an ammonia dispensing system; and (b) by increasing the temperature until the pressures specified in subsection (1) are reached.
ERAP Index	: 3000
Explosive Limit and Limited Quantity Index	: 0
Excepted quantities (TDG)	: E0
Passenger Carrying Ship Index	: Forbidden

AMMONIA (D3, 99%)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Passenger Carrying Road Vehicle or Passenger : Forbidden
Carrying Railway Vehicle Index
Emergency Response Guide (ERG) Number : 125

IMDG
Special provision (IMDG) : 23, 379
Limited quantities (IMDG) : 0
Excepted quantities (IMDG) : E0
Packing instructions (IMDG) : P200
Tank instructions (IMDG) : T50
EmS-No. (Fire) : F-C - FIRE SCHEDULE Charlie - NON-FLAMMABLE GASES
EmS-No. (Spillage) : S-U - SPILLAGE SCHEDULE Uniform - GASES (FLAMMABLE, TOXIC OR CORROSIVE)
Stowage category (IMDG) : D
Stowage and handling (IMDG) : SW2
Segregation (IMDG) : SGG18, SG35, SG46
Flash point (IMDG) : '
Properties and observations (IMDG) : Liquefied, non-flammable, toxic and corrosive gas with a pungent odour. Lighter than air (0.6). Suffocating in low concentrations. Even though this substance has a flammability hazard, it only exhibits such hazard under extreme fire conditions in confined areas. Reacts violently with acids. Highly irritating to skin, eyes and mucous membranes.
MFAG-No : 125

IATA
PCA Limited quantities (IATA) : Forbidden
PCA limited quantity max net quantity (IATA) : Forbidden
PCA packing instructions (IATA) : Forbidden
PCA max net quantity (IATA) : Forbidden
CAO packing instructions (IATA) : Forbidden
CAO max net quantity (IATA) : Forbidden
Special provision (IATA) : A2
ERG code (IATA) : 2CP

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

AMMONIA (D3, 99%) (7664-41-7)	
SARA Section 302 Threshold Planning Quantity (TPQ)	Listed on the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Sudden release of pressure hazard Immediate (acute) health hazard Delayed (chronic) health hazard

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
AMMONIA (D3, 99%)	7664-41-7	Not present	-	

AMMONIA (D3, 99%)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

15.2. International regulations

CANADA

AMMONIA (D3, 99%) (7664-41-7)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

AMMONIA (D3, 99%) (7664-41-7)

CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States.

15.3. US State regulations

AMMONIA (D3, 99%) (7664-41-7)

State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
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SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 12/01/2022

Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

Full text of H-phrases	
H221	Flammable gas
H280	Contains gas under pressure; may explode if heated
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H331	Toxic if inhaled
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.