



AMMONIUM DEUTEROXIDE-D5 (D, 99%) (~25% SOL. IN D2O) "REAGENT GRADE"

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 25/02/2019

Revision date:

Version: 1.0

DLM-710RG

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

1.1. Product identifier

Product form : Mixtures
Product name : AMMONIUM DEUTEROXIDE-D5 (D, 99%) (~25% SOL. IN D2O) "REAGENT GRADE"
Product code : DLM-710RG

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

1.2.1. Relevant identified uses

Main use category : Professional use
Industrial/Professional use spec : For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.
50 Frontage Road
Andover, MA 01810
USA

USA: 1-800-322-1174 Int: 1-978-749-8000
cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)
International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute Tox. 4 (Oral) H302
Skin Corr. 1B H314
Eye Dam. 1 H318
Aquatic Acute 1 H400

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

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Xn; R22
C; R35
Xi; R41
N; R50

Full text of R-phrases: see section 16

GHS-US classification

Acute Tox. 4 (Oral) H302
Skin Corr. 1A H314
Eye Dam. 1 H318
Aquatic Acute 1 H400

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

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2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS05

GHS07

GHS09

Signal word (CLP)

: Danger

Hazard statements (CLP)

: H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H400 - Very toxic to aquatic life

Precautionary statements (CLP)

: P260 - Do not breathe dust, fume, gas, mist, spray, vapors.
P264 - Wash Both hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P273 - Avoid release to the environment.
P280 - Wear protective clothing, protective gloves.
P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
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.

GHS-US labeling

Hazard pictograms (GHS-US)



GHS05

GHS07

GHS09

Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
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Precautionary statements (GHS-US)

: P260 - Do not breathe dust, fume, gas, mist, spray, vapors.
P264 - Wash Both hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P273 - Avoid release to the environment.
P280 - Wear protective clothing, protective gloves.
P301+P312 - If swallowed: Call a doctor if you feel unwell
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 doctor
P321 - Specific treatment (see Hazard pictograms (CLP) on this label)
P330 - Rinse mouth.
P363 - Wash contaminated clothing before reuse.
P391 - Collect spillage.
P405 - Store locked up.
P501 - Dispose of contents/container to Comply with applicable regulations

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

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3.2. Mixtures

Name	Product identifier	%	Classification according to Directive 67/548/EEC
DEUTERIUM OXIDE (D, 99.9%)	(CAS-No.) 7789-20-0 (EC-No.) 232-148-9	75	Not classified
AMMONIA (D3, 99%)	(CAS-No.) 13550-49-7 (EC-No.) 236-926-9 (EC Index-No.) 007-001-00-5 (Unlabeled)	25	R5 R10 T; R23 C; R35 Xi; R41 N; R50/53

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
DEUTERIUM OXIDE (D, 99.9%)	(CAS-No.) 7789-20-0 (EC-No.) 232-148-9	75	Not classified
AMMONIA (D3, 99%)	(CAS-No.) 13550-49-7 (EC-No.) 236-926-9 (EC Index-No.) 007-001-00-5 (Unlabeled)	25	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 (M=10) Aquatic Chronic 1, H410

Name	Product identifier	%	GHS-US classification
AMMONIA (D3, 99%)	(CAS-No.) 13550-49-7	25	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 R- and H- phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice (show the label where possible). Evacuate danger area.
First-aid measures after inhalation	: When symptoms occur: go into open air and ventilate suspected area. If not breathing give artificial respiration. Get medical advice/attention.
First-aid measures after skin contact	: Wash with plenty of soap and water. and soap. Get immediate medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes.
First-aid measures after ingestion	: Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get medical advice/attention.

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

Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes severe skin burns and eye damage.
Symptoms/effects after eye contact	: Causes severe skin burns and eye damage. Causes serious eye damage.
Symptoms/effects after ingestion	: Harmful if swallowed.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2).
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5.2. Special hazards arising from the substance or mixture

Fire hazard	: May cause fire or explosion; strong oxidizer.
Explosion hazard	: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
Reactivity	: Thermal decomposition generates : Corrosive vapors.

5.3. Advice for firefighters

Firefighting instructions	: Fight fire with normal precautions from a reasonable distance. Wear a self contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.
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Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Wear recommended personal protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Avoid breathing vapors, mist, gas. Avoid dust formation.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent entry to sewers and public waters. Do not allow to enter drains or water courses. Avoid release to the environment.

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

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Provide adequate ventilation to minimize dust and/or vapor concentrations.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Store in a well-ventilated place. Keep container tightly closed.

Storage conditions : Store at room temperature away from light and moisture.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Heat sources. Combustible materials. Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

AMMONIUM DEUTEROXIDE-D5 (D, 99%) (~25% SOL. IN D2O) "REAGENT GRADE"		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	25.00000000 ppm Upper Respiratory Tract irritation. Eye damage. USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	35 ppm Upper Respiratory Tract irritation. Eye damage. USA. ACGIH Threshold Limit Values (TLV)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	18 mg/m ³ Often used in an aqueous solution. USA. NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (TWA) (ppm)	25 ppm Often used in an aqueous solution. USA. NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	27 mg/m ³ Often used in an aqueous solution. USA. NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (STEL) (ppm)	35 ppm Often used in an aqueous solution. USA. NIOSH Recommended Exposure Limits
AMMONIA (D3, 99%) (13550-49-7)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	25.00000000 ppm USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	35 ppm USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	Upper Respiratory Tract irritation Eye damage.
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	18 mg/m ³ USA. NIOSH Recommended Exposure Limits - Often used in an aqueous solution.

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AMMONIA (D3, 99%) (13550-49-7)		
USA NIOSH	NIOSH REL (TWA) (ppm)	25 ppm USA. NIOSH Recommended Exposure Limits - Often used in an aqueous solution.
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	27 mg/m ³ California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA NIOSH	NIOSH REL (STEL) (ppm)	35 ppm California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA NIOSH	Remark (NIOSH)	ST 35.000000 ppm / 27.000000 mg/m ³ USA. NIOSH Recommended Exposure Limits - Often used in an aqueous solution.
USA OSHA	OSHA PEL (TWA) (mg/m ³)	35 mg/m ³ USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - The value in mg/m ³ is approximate.
USA OSHA	OSHA PEL (TWA) (ppm)	50 ppm USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants - The value in mg/m ³ is approximate.
USA OSHA	OSHA PEL (STEL) (mg/m ³)	27 mg/m ³ USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
USA OSHA	OSHA PEL (STEL) (ppm)	35 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
USA OSHA	OSHA PEL (Ceiling) (mg/m ³)	18 mg/m ³ California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	OSHA PEL (Ceiling) (ppm)	25 ppm California permissible exposure limits for chemical contaminants (Title 8, Article 107)

8.2. Exposure controls

- Appropriate engineering controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
- 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 : Wear eye protection. Chemical goggles or face shield with safety glasses.
- Skin and body protection : Wear suitable protective clothing, gloves and eye/face protection.
- Respiratory protection : In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.
- Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

The properties listed below are for the solvent, the main component of this mixture.

- Physical state : Liquid
- Appearance : Liquid.
- Color : Colorless.
- Odor : characteristic.
- Odor threshold : 0.03 - 0.05 ppm Ammonia
- pH : at 20 °C (68 °F) - Strongly alkaline
- Relative evaporation rate (butyl acetate=1) : No data available
- Melting point : -72 °C
- Freezing point : No data available
- Boiling point : 90 °C (32 °F)
- Flash point : No data available
- Auto-ignition temperature : No data available
- Decomposition temperature : No data available
- Flammability (solid, gas) : Non flammable

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Vapor pressure	: 635 hPa at 20 °C (68 °F)
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Specific gravity / density	: 0.9 g/ml at 20 °C (68 °F)
Solubility	: Water: at 20 °C (68 °F) - Soluble
Log Pow	: -1.38 (experimental) (anhydrous substance) Bioaccumulation is not expected.
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: 0 (15.4 - 33.6) vol % (V)

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition generates : Corrosive vapors.

10.2. Chemical stability

Stable if stored under recommended conditions.

10.3. Possibility of hazardous reactions

A risk of explosion and/or of toxic gas formation exists with the following substances: Oxidizing agents, Phosgene, Oxides of phosphorus, Mercury, acids, Nitric acid, Oxygen, sulfur dioxide, hydrogen sulfide, silver compounds, nitrogen oxides, nitrogen trichloride, hydrogen peroxide, silver, Lead, Zinc, Heavy metals, Heavy metal salts, strong alkalis, Acrolein, antimony hydride, Boron, hydrogen bromide, chlorates, Hydrogen chloride gas, chromium (VI) oxide, chromyl chloride, dimethylsulfate, Ethylene oxide, Hydrogen fluoride, halogens, halogen-halogen compounds, halogen oxides, carbon dioxide, acids.

10.4. Conditions to avoid

Direct sunlight. Heat. Sparks. Overheating. Open flame. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases. copper. Iron. zinc.

10.6. Hazardous decomposition products

Aluminum. Lead. Copper. metals. metal alloys. Nickel. Silver/silver oxides. Zinc.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

AMMONIUM DEUTEROXIDE-D5 (D, 99%) (~25% SOL. IN D2O) "REAGENT GRADE"	
ATE CLP (oral)	500.000 mg/kg body weight
LDLO human	43 mg/kg (29% solution) (RTECS) Symptoms: gastric pain, Bloody vomiting. If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.
AMMONIA (D3, 99%) (13550-49-7)	
LC50 inhalation rat (ppm)	2000 ppm 4 h
ATE CLP (gases)	700.000 ppmV/4h
ATE CLP (vapors)	3.000 mg/l/4h
ATE CLP (dust, mist)	0.500 mg/l/4h

Skin corrosion/irritation	: Skin - Rabbit - Result: Severe irritations (29% solution) (RTECS) Dermatitis Necrosis Mixture causes burns. pH: at 20 °C (68 °F) - Strongly alkaline
Serious eye damage/irritation	: Causes serious eye damage. pH: at 20 °C (68 °F) - Strongly alkaline
Respiratory or skin sensitization	: Guinea pig Result: Does not cause skin sensitisation. (anhydrous substance) (IUCLID)
Germ cell mutagenicity	: Genotoxicity in vitro - Ames test - S. typhimurium. Result: Negative. (anhydrous substance) (IUCLID). Ames test. Escherichia coli. Result: Negative. (anhydrous substance) (IUCLID)
Carcinogenicity	: Not classified Based on available data, the classification criteria are not met

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Reproductive toxicity	: Not available Based on available data, the classification criteria are not met
Specific target organ toxicity – single exposure	: Mixture may cause respiratory irritation.
Specific target organ toxicity – repeated exposure	: Not classified Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified Based on available data, the classification criteria are not met
Potential Adverse human health effects and symptoms	: Systemic effects: Nausea. collapse. Shock. Shortness of breath. Unconsciousness. 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	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes severe skin burns and eye damage.
Symptoms/effects after eye contact	: Causes severe skin burns and eye damage. Causes serious eye damage.
Symptoms/effects after ingestion	: Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Very toxic to aquatic life.
Ecology - water	: Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

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LC50 fish 1	0.53 mg/l Oncorhynchus mykiss (rainbow trout) - 96 h (anhydrous substance) (Lit.)
EC50 Daphnia 1	24 mg/l Daphnia magna (Water flea) - 48 h (anhydrous substance) (Lit.)
EC50 other aquatic organisms 1	2 mg/l Photobacterium phosphoreum - 5 min (anhydrous substance) (Lit.)

AMMONIA (D3, 99%) (13550-49-7)

EC50 Daphnia 1	25.4 mg/l Daphnia magna (Water flea) - 48 h
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12.2. Persistence and degradability

AMMONIUM DEUTEROXIDE-D5 (D, 99%) (~25% SOL. IN D2O) "REAGENT GRADE"

Persistence and degradability	May cause long-term adverse effects in the environment. Not readily biodegradable according to results of appropriate tests.
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AMMONIA (D3, 99%) (13550-49-7)

Persistence and degradability	Not available.
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12.3. Bioaccumulative potential

AMMONIUM DEUTEROXIDE-D5 (D, 99%) (~25% SOL. IN D2O) "REAGENT GRADE"

Log Pow	-1.38 (experimental) (anhydrous substance) Bioaccumulation is not expected.
Bioaccumulative potential	Biological effects: Harmful effect due to pH shift. Forms toxic mixtures in water, dilution measures notwithstanding. Further information on ecology. Discharge into the environment must be avoided.

AMMONIA (D3, 99%) (13550-49-7)

Bioaccumulative potential	Not available.
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12.4. Mobility in soil

AMMONIUM DEUTEROXIDE-D5 (D, 99%) (~25% SOL. IN D2O) "REAGENT GRADE"

Ecology - soil	Not available.
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AMMONIA (D3, 99%) (13550-49-7)

Ecology - soil	Not available.
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12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other adverse effects	: Not available.
Other information	: Avoid release to the environment.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control 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 ADR / RID / IMDG / IATA / ADN

14.1. UN number

- UN-No.(DOT) : 2672
- DOT NA no. UN2672

14.2. UN proper shipping name

- Proper Shipping Name (DOT) : Ammonia solutions
relative density between 0.880 and 0.957 at 15 degrees C in water, with more than 10 percent but not more than 35 percent ammonia
- Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136
- Hazard labels (DOT) : 8 - Corrosive



- Packing group (DOT) : III - Minor Danger
- DOT Special Provisions (49 CFR 172.102) : IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).
IP8 - Ammonia solutions may be transported in rigid or composite plastic IBCs (31H1, 31H2 and 31HZ1) that have successfully passed, without leakage or permanent deformation, the hydrostatic test specified in 178.814 of this subchapter at a test pressure that is not less than 1.5 times the vapor pressure of the contents at 55 C (131 F).
T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
- DOT Packaging Exceptions (49 CFR 173.xxx) : 154
- DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
- DOT Packaging Bulk (49 CFR 173.xxx) : 241

14.3. Additional information

- Other information : No supplementary information available.
- Special transport precautions : Not dangerous goods.

Overland transport

- Packing group (ADR) : III
- Class (ADR) : 8 - Corrosive substances
- Hazard identification number (Kemler No.) : 80
- Classification code (ADR) : C5
- Hazard labels (ADR) : 8 - Corrosive substances



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Orange plates	:	
Tunnel restriction code (ADR)	:	E
Limited quantities (ADR)	:	5I
EAC	:	2RC
Excepted quantities (ADR)	:	E1


Transport by sea

DOT Vessel Stowage Location	:	A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
DOT Vessel Stowage Other	:	40 - Stow "clear of living quarters", 52 - Stow "separated from" acids, 85 - Under deck stowage must be in mechanically ventilated space
MFAG-No	:	154

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	60 L
Civil Aeronautics Law	:	Corrosive substances

14.4. Environmental hazards

Dangerous for the environment	:	
Other information	:	No supplementary information available.

14.5. Special precautions for user

Special transport precautions	:	Not dangerous goods.
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14.6. 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

AMMONIUM DEUTEROXIDE-D5 (D, 99%) (~25% SOL. IN D2O) "REAGENT GRADE"	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 302 Threshold Planning Quantity (TPQ)	Subject to reporting requirements of United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
SARA Section 313 - Emission Reporting	Subject to reporting requirements of United States SARA Section 313
AMMONIA (D3, 99%) (13550-49-7)	
Listed on the United States SARA Section 302 Subject to reporting requirements of United States SARA Section 313	
SARA Section 311/312 Hazard Classes	Sudden release of pressure hazard Immediate (acute) health hazard Delayed (chronic) health hazard

15.2. International regulations

CANADA

AMMONIUM DEUTEROXIDE-D5 (D, 99%) (~25% SOL. IN D2O) "REAGENT GRADE"
Listed on the Canadian DSL (Domestic Substances List)

AMMONIUM DEUTEROXIDE-D5 (D, 99%) (~25% SOL. IN D2O) "REAGENT GRADE" DLM-710RG

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

AMMONIA (D3, 99%) (13550-49-7)

Listed on the Canadian DSL (Domestic Substances List)

15.2.1. National regulations

No additional information available

15.3. US State regulations

AMMONIUM DEUTEROXIDE-D5 (D, 99%) (~25% SOL. IN D2O) "REAGENT GRADE"()

U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
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

AMMONIA (D3, 99%) (13550-49-7)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	

AMMONIA (D3, 99%) (13550-49-7)

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
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: Other information

Data sources	: REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
Training advice	: Provide adequate information, instruction and training for operators.
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. None.

Full text of R-, H- and EUH-phrases:

Acute Tox. 3 (Inhalation)	Acute toxicity (inhalation) Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Flam. Gas 2	Flammable gases Category 2
Press. Gas (Comp.)	Gases under pressure Compressed gas
Skin Corr. 1A	Skin corrosion/irritation Category 1A
Skin Corr. 1B	Skin corrosion/irritation Category 1B
H221	Flammable gas
H280	Contains gas under pressure; may explode if heated
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H331	Toxic if inhaled
H400	Very toxic to aquatic life

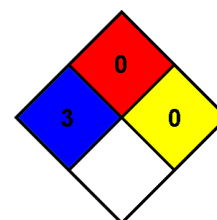
AMMONIUM DEUTEROXIDE-D5 (D, 99%) (~25% SOL. IN D2O) "REAGENT GRADE" DLM-710RG

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H410	Very toxic to aquatic life with long lasting effects
R10	Flammable
R22	Harmful if swallowed
R23	Toxic by inhalation
R35	Causes severe burns
R41	Risk of serious damage to eyes
R5	Heating may cause an explosion
R50	Very toxic to aquatic organisms
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
C	Corrosive
N	Dangerous for the environment
T	Toxic
Xi	Irritant
Xn	Harmful

- NFPA health hazard : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.
- NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.
- NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

- Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
- Flammability : 0 Minimal Hazard
- Physical : 0 Minimal Hazard

CIL Mixture SDS

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