

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Ammonium hydroxide, 5% in water

1.2. Recommended use and restrictions on use

Recommended use : Analyzer cleaning chemical
Uses advised against : Not for food, drug, pesticide, or biocidal product use

1.3. Supplier

Manufacturer

Mettler-Toledo Thornton, Inc.
900 Middlesex Turnpike, Building 8
Billerica, MA 01821 - USA
T +1 781-301-8600 or 1-800-510-7873

1.4. Emergency telephone number

Emergency number : CHEMTREC 1-800-424-9300 (Account #649654)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

GHS US classification

Skin Corrosion/Irritation 1B
Serious Eye Damage/Eye Irritation 1
Specific target organ toxicity (single exposure) 3
Target Organs – Respiratory system

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

Causes severe skin burns and eye damage
May cause respiratory irritation

Precautionary statements (GHS US) :

Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Use only outdoors or in a well-ventilated area
Immediately call a POISON CENTER or doctor/physician
If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If swallowed: Rinse mouth. DO NOT induce vomiting
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Dispose of contents/container to an approved waste disposal plant
Harmful to aquatic life with long lasting effects

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

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according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012.

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Water	(CAS-No.) 7732-18-5	>95
Ammonium hydroxide	(CAS-No.) 1336-21-6	<5
Ammonia	(CAS-No.) 7664-41-7	—

SECTION 4: First-aid measures

4.1. Description of first aid measures

- General advice : Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
- First-aid measures after eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
- First-aid measures after skin contact : Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing before re-use. Call a physician immediately.
- First-aid measures after inhalation : If not breathing, give artificial respiration. Remove from exposure, lie down. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a physician immediately.
- First-aid measures after ingestion : Do not induce vomiting. Clean mouth with water. Never give anything by mouth to an unconscious person. Call a physician immediately.

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

Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.

4.3. Immediate medical attention and special treatment, if necessary

- Notes to Physician : Treat symptomatically

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : CO₂, dry chemical, dry sand, alcohol-resistant foam.
- Unsuitable extinguishing media : No information available.
- Flash Point : No information available.
- Method : No information available.
- Autoignition Temperature : No information available.
- Explosion Limits
- Upper : No data available.
- Lower : No data available.
- Sensitivity to Mechanical Impact : No information available.
- Sensitivity to Static Discharge : No information available.

5.2. Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes.

5.3. Hazardous Combustion Products

Thermal decomposition can lead to release of irritating gases and vapors.

5.4. Special protective equipment and precautions for fire-fighters

- Protection during firefighting : As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

5.5. NFPA

Health 3 Flammability 0 Instability 0 Physical Hazards N/A

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2. Environmental precautions

Should not be released into the environment. See Section 12 for additional ecological information. Avoid release to the environment. Collect spillage. Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Use only under a chemical fume hood. Do not breathe vapors or spray mist. Do not ingest.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area.

SECTION 8: Exposure controls/personal protection

8.1. Exposure guidelines

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Ammonia	TWA: 25 ppm STEL: 35 ppm	(Vacated) STEL: 35 ppm (Vacated) STEL: 27 mg/m ³ TWA: 50 ppm TWA: 35 mg/m ³	IDLH: 300 ppm TWA: 25 ppm TWA: 18 mg/m ³ STEL: 35 ppm STEL: 27 mg/m ³	TWA: 25 ppm STEL: 35 ppm

Engineering measures : Ensure that eyewash stations and safety showers are close to the workstation location.

8.2. Personal protective equipment

Eye/face protection : Tightly fitting safety goggles. Face-shield.
Skin and body protection : Long sleeved clothing.
Respiratory protection : Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Clear
Odor : Ammonia
Odor threshold : No information available
pH : 12
Melting point : No data available
Boiling point : No information available
Flash point : No information available
Evaporation rate : No information available
Flammability (solid, gas) : Not applicable
Flammability or explosive limits
Upper : No data available
Lower : No data available
Vapor pressure : No information available
Vapor density : No information available
Specific gravity : No information available

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Solubility	: Soluble in water
Partition coefficient; n-octanol/water	: No data available
Auto-ignition temperature	: No information available
Decomposition temperature	: No information available
Viscosity	: No information available

SECTION 10: Stability and reactivity

10.1. Reactive Hazard

None known, based on information available.

10.2. Chemical stability

Stable under normal conditions.

10.3. Conditions to avoid

Incompatible products. Excess heat.

10.4. Incompatible materials

Metals, Acids, Fluorine, Halogens.

10.5. Hazardous decomposition products

Thermal decomposition can lead to release of irritating gases and vapors.

10.6. Hazardous polymerization

Hazardous polymerization does not occur.

10.7. Hazardous reactions

None under normal processing.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral LD50)	: Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.
Acute toxicity (dermal LD50)	: Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.
Acute toxicity (vapor LC50)	: Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	-	Not listed	Not listed
Ammonium hydroxide	-	Not listed	Not listed
Ammonia	LD50 = 350 mg/kg (Rat)	Not listed	LC50 = 2000 ppm (Rat) 4 h

Toxicologically synergistic products : No information available.

11.2. Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation	: No information available.
Sensitization	: No information available.
Carcinogenicity	: The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Water	7732-18-5	Not listed	Not listed	Not listed	Not listed	Not listed
Ammonium hydroxide	1336-21-6	Not listed	Not listed	Not listed	Not listed	Not listed
Ammonia	7664-41-7	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic effects	: No information available.
Reproductive toxicity	: No information available.
Developmental effects	: No information available.
Teratogenicity	: No information available.
STOT – single exposure	: Respiratory system.
STOT – repeated exposure	: None known.
Aspiration hazard	: No information available.
Symptoms/effects, both acute and delayed	: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation.
Endocrine disruptor information	: No information available.
Other adverse effects	: The toxicological properties have not been fully investigated.

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SECTION 12: Ecological information

12.1. Exotoxicity

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Contains a substance which is: Very toxic to aquatic organisms.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Ammonium hydroxide	-	0.53 mg/l LC50 96h 0.75 – 3.4 mg/l LC50 96h 8.2 mb/l LC50 96h	-	EC50: 0.66 mg/l/48h
Ammonia	-	LC50: > 1.5 mg/L, 96h (Poecilia reticulata) LC50: = 5.9 mg/L, 96h static (Pimephales promelas) LC50: 0.73 - 2.35 mg/L, 96h (Pimephales promelas) LC50: = 1.17 mg/L, 96h flow-through (Lepomis macrochirus) LC50: 0.26 - 4.6 mg/L, 96h (Lepomis macrochirus) LC50: = 0.44 mg/L, 96h (Cyprinus carpio) LC50: = 1.19 mg/L, 96h static (Poecilia reticulata)	EC50 = 2.0 mg/L 5 min	EC50 = 25.4 mg/L 48h

12.2. Persistence and degradability

Soluble in water. Persistence is unlikely based on information available.

12.3. Bioaccumulation/Accumulation

No information available.

12.4. Mobility

Will likely be mobile in the environment due to its water solubility. (Ammonia: log Pow = -1.14)

SECTION 13: Disposal considerations

13.1. Waste disposal methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

UN-No.(DOT) : UN2672
Proper Shipping Name (DOT) : Ammonia solution
Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136
Packing group (DOT) : III
Hazard labels (DOT) :



TDG

UN-No. : UN2672
Proper Shipping Name : Ammonia solution
Class : 8 - Class 8 - Corrosive material 49 CFR 173.136
Packing group : III

IATA

UN-No. : UN2672
Proper Shipping Name : Ammonia solution
Class : 8 - Class 8 - Corrosive material 49 CFR 173.136
Packing group : III

IMDG/IMO

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UN-No. : UN2672
Proper Shipping Name : Ammonia solution
Class : 8 - Class 8 - Corrosive material 49 CFR 173.136
Packing group : III

SECTION 15: Regulatory information

All of the components in the product are on the following inventory lists: X=listed

International inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Water	X	X	-	231-791-2	-		X	-	X	X	X
Ammonium hydroxide	X	X	-	215-647-6	-		X	X	X	X	X
Ammonia	X	X	-	231-635-3	-		X	X	X	X	X

15.1. US Federal regulations

TSCA 12(b) : Not applicable.

SARA 313

Component	CAS-No	Weight %	SARA 313 – Threshold Values %
Ammonium hydroxide	1336-21-6	5	1.0
Ammonia	7664-41-7	-	1.0

SARA 311/312 Hazard Categories : See section 2 for more information

CWA (Clean Water Act)

Component	CWA – Hazardous Substances	CWA – Reportable Quantities	CWA – Toxic Pollutants	CWA – Priority Pollutants
Ammonium hydroxide	X	1000 lbs.	-	-
Ammonia	X	100 lb	-	-

Clean Air Act : Not applicable.

OSHA (Occupational Safety and Health Admin.) : Not applicable.

CERCLA : This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Ammonium hydroxide	1000 lbs.	-
Ammonia	100 lb	100 lb

California Proposition 65 This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Water	-	-	X	-	-
Ammonium hydroxide	X	X	X	-	-
Ammonia	X	X	X	-	X

U.S. Department of Transportation

Reportable Quantity (RQ) : N
DOT Marine Pollutant : N
DOT Severe Marine Pollutant : N

U.S. Department of Homeland Security

This product contains the following DHS chemicals:

Component	DHS Chemical Facility Anti-Terrorism Standard
Ammonia	Release STQs – 10000 lb (anhydrous) Release STQs – 20000 lb (concentration ≥ 20%)

15.2. International regulations

: No information available.

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SECTION 16: Other information

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Prepared by	:	Mettler-Toledo Thornton Inc.
Revision summary	:	This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer: The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.