SAFETY DATA SHEET

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

1.1 Product identifiers

Product name	Ammonium Chloride Hydroxide Buffer Solution
CAS number	See section 3
Synonyms	None

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

Identified uses	Laboratory Chemicals

1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008
E-mail	customerservice@laballey.com

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

SECTION 2: Hazards identification

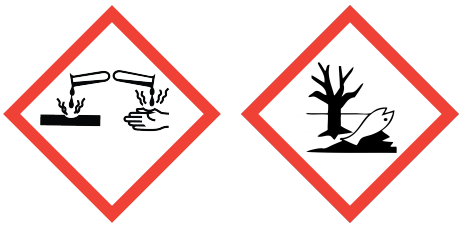
2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin irritation (Category 2), H315
Serious eye damage (Category 1), H318
Short-term (acute) aquatic hazard (Category 1), H400
Long-term (chronic) aquatic hazard (Category 2), H411

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word: Danger

Hazard statements:
H315 Causes skin irritation.
H318 Causes serious eye damage.
H400 Very toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements:
P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P391 Collect spillage.
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

None identified.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Ammonia solution	Ammonium hydroxide	1336-21-6	1-5%
Ammonia chloride	-	12125-02-9	1-5%
Water	-	7732-18-5	≥90%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice Show this material safety data sheet to the doctor in attendance.

If inhaled After inhalation: fresh air.

In case of skin contact	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.
In case of eye contact	After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
If swallowed	After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	None identified.

5.2 Specific hazards arising from the substance or mixture

Nitrogen oxides (NOx)
Hydrogen chloride gas
Not combustible.
Ambient fire may liberate hazardous vapours.

5.3 Special protective equipment and precautions for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

5.4 Further information

Flash Point	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.

NFPA

Health	Flammability	Instability	Physical hazards
3	0	0	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent and neutralising material (e.g. Chemizorb® OH^-, Merck Art. No. 101596). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

Refer to protective measures listed in Sections 7 and 8. See section 13 for proper disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

For precautions see section 2.2.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed.

Incompatibilities

No data available.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

	Type	Value
Ammonia Solution	TWA	25 ppm

Ammonia Solution	STEL	35 ppm
Ammonia Chloride	TWA	10 mg/m3
	STEL	20 mg/m3

US. ACGIH Threshold Limit Values

Component	Type	Value
Ammonia Solution	TWA	25 ppm
	STEL	35 ppm
Ammonia Chloride	TWA	10 mg/m3
	STEL	20 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Ammonia Solution	TWA	25 ppm
	STEL	35 ppm
Ammonia Chloride	TWA	10 mg/m3
	STEL	20 mg/m3

Biological occupational exposure limits

No information available.

8.2 Exposure controls

Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles.

Skin protection

Required.

Body Protection

Appropriate protective clothing.

Respiratory protection

Recommended Filter type: Filter type ABEK
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented. Required when vapours/aerosols are generated.

Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Colorless
Odor	No information available
Odor Threshold	No information available
pH	10 - 11
Melting Point/Range	No information available
Boiling Point/Range	No information available
Evaporation Rate	No information available
Flammability (solid)	No information available
Flammability or explosive limit	
Upper	No information available
Lower	No information available
Vapor Pressure	No information available
Vapor Density	No information available
Density	0.99 g/cm3 at 25 °C (77 °F)
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No information available
Autoignition Temp	No information available
Decomposition Temp	No information available
Viscosity	No information available
Molecular Formula	Mixture
Molecular Weight	Mixture
VOC Content(%)	No information available
Oxidizing properties	No information available

9.2 Other safety information

No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

Violent reactions possible with the generally known reaction partners of water.

10.4 Conditions to avoid
No information available.

10.5 Incompatible materials
No information available.

10.6 Hazardous decomposition products
In the event of fire: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Mixture	> 5,000 mg/kg (Calculation method)	> 5,000 mg/kg (Calculation method)	4 h - 122.5 mg/l - dust/mist (Calculation method)

Skin corrosion/irritation
Mixture causes skin irritation.

Serious eye damage/eye irritation
Mixture causes serious eye damage.

Respiratory or skin sensitization
No information available.

Germ cell mutagenicity
No information available.

Carcinogenicity
No components are listed as known or suspected human carcinogens.

Specific target organ toxicity - single exposure
No information available.

Specific target organ toxicity - repeated exposure
No information available.

Reproductive toxicity

No information available.

Chronic effects
No information available.

11.2 Additional Information
Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1 Toxicity
Ammonia solution:
Toxicity to fish
flow-through test LC50 - Pimephales promelas (fathead minnow) - 0.068 mg/l - 96 h
Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates
static test LC50 - Daphnia magna (Water flea) - 101 mg/l - 48 h
Remarks: (ECHA), anhydrous
Toxicity to fish(Chronic toxicity)
flow-through test NOEC - Ictalurus punctatus - 0.048 mg/l - 31 d
(OECD Test Guideline 215)
Remarks: anhydrous
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)
flow-through test LC50 - Daphnia magna (Water flea) - 4.07 mg/l - 96 h (US-EPA)
Remarks: The value is given in analogy to the following substances:
Ammonium chloride
flow-through test NOEC - Daphnia magna (Water flea) - 0.79
mg/l - 96 h
(US-EPA)
Remarks: The value is given in analogy to the following
substances:
Ammonium chloride

Ammonium chloride:
Toxicity to fish semi-static test LC50 - Cyprinus carpio (Carp) - 209.00 mg/l - 96 h
Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates
static test EC50 - Daphnia magna (Water flea) - 101 mg/l - 48 h
Remarks: (ECHA)
Toxicity to algae static test ErC50 - Chlorella vulgaris (Fresh water algae) - 1,300 mg/l - 5 d
Remarks: (ECHA)
Toxicity to bacteria static test EC50 - activated sludge - 1,310 mg/l - 0.5 h
(OECD Test Guideline 209)
Toxicity to daphnia semi-static test NOEC - Daphnia magna (Water flea) - 14.6

12.2 Persistence and degradability
No data available.

12.3 Bio accumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

No data available.

12.6 Endocrine disrupting properties

No data available.

12.7 Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: Transport information

DOT (US) Not regulated

IMDG

UN Number	UN3082
Proper Shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazard Class	9
Packaging Group	III
Technical name	Ammonia Solution

IATA

UN Number	UN3082
Proper Shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Hazard Class	9
Packaging Group	III
Technical name	Ammonia Solution

SECTION 15: Regulatory information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
No substances are subject to TSCA 12(b) export notification requirements.

CERCLA Hazardous Substance List (40 CFR 302.4)
Listed substances in the product are at low enough levels to not be expected to exceed the RQ.

SARA 304 Emergency release notification
This material does not contain any components with a section 304 EHS RQ.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance
This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazardous
Acute Health Hazard.

SARA 313 (TRI reporting)
Ammonia solution 1336-21-6: Listed.
Ammonium chloride 12125-02-9: Listed.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not listed.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not listed.

Safe Drinking Water Act
Ammonia solution 1336-21-6: Listed.
Ammonium chloride 12125-02-9: Listed.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace
Not listed.

US state regulations

US. Massachusetts RTK - Substance List
Water 7732-18-5
Ammonia solution 1336-21-6
Ammonium chloride 12125-02-9

US. New Jersey Worker and Community Right-to-Know Act

Ammonia solution 1336-21-6
Ammonium chloride 12125-02-9

US. Pennsylvania Worker and Community Right-to-Know Law

Water 7732-18-5
Ammonia solution 1336-21-6
Ammonium chloride 12125-02-9

California Proposition 65

Not listed.

SECTION 16: Other information

Date of Issue: 6/25/2025
Revision Date: 11/11/2026

SECTION 17: Disclaimer

The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.