

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

1.1 Product identifier:

Trade name: Ammonium Sulfate - Ammonium Hydroxide (0,25 M—1,00 M)

Product number: 600929

CAS No.: 7783-20-2 and 1336-21-6

EINECS: 231-984-1 and 215-647-6

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

Application of the substance / the mixture: Laboratory, Research or Fabricage.

1.3 Details of the supplier of the safety data sheet:

Downstream user

Identipack B.V.

Tel: (+31) (0)493—672277

Broekstraat 4

Fax: (+31) (0)493—672268

5711 CT Someren

E-mail: info@identipack.com

NETHERLANDS

1.4 Emergency telephone number:

UK Tel: +44 151 951 3317 - Health and Safety Executive (HSE) Chemicals Regulation Directorate (24/7)

Ireland Tel: +353 1 809 2566 - Beaumont Hospital - National Poisons Information Centre (24/7)

(EU Tel: 112)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture:

Classification according to Regulation (EC) nr. 1272/2008:

Skin Corr. 1B: H314

Aquatic Acute 1: H400

2.2 Label elements:

Labelling according to Regulation (EC) nr. 1272/2008:

The product is classified and labelled according to the CLP Regulation.

Hazard pictograms:



GHS05

GHS09

Signal word: Danger

Hazard determining components of labelling: Ammonium Sulfate - Ammonium Hydroxide (0,25 M—1,00 M)

Hazard statements:

H314: Causes severe skin burns and serious eye damage.

H400: Very toxic to aquatic life.

Precautionary statements:

- P260: Do not breathe dust/fume/gas/mist/vapours/spray.
P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
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.
P363: Wash contaminated clothing before reuse.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310: Immediately call a POISON CENTER/doctor.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 Other hazards:

Results of PBT and vPvB assessment:

PBT: Not applicable.

vPvB: Not applicable.

SECTION 3: Composition / information on ingredients

3.2 Chemical characterisation: Mixtures

Description: Mixture made by the following components with other non-hazardous components.

Hazardous components:

CAS No.: 1336-21-6

EINECS No.: 215-647-6

Index No.: 007-001-01-2



Ammoniumhydroxide 1,0M

Skin Corr. 1B - H314

Aquatic Acute 4: H400

Additional details:

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures:

General information: Remove contaminated clothing while protecting yourself.

After inhalation: Remove the casualty from the hazardous area and take him to the fresh air.

In case of skin contact: Rinse the affected skin areas for at least 10 to 20 minutes under running water.

After eye contact: Rinse the affected eye with widely spread lids for 10 minutes under running water whilst protecting the unimpaired eye. Immediate rinsing can prevent serious eye damage. Then, immediately transport the casualty to hospital. Continue rinsing during the transport with isotonic saline solution, alternatively with water.

In case of ingestion: Have the casualty rinse his or her mouth and spit out the liquid. Immediately have the casualty drink a glass of water in sips. Do not make the casualty vomit.

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

Irritative and corrosive effects on eyes and skin, irritation and damage to the airways, damage to the digestive tract.

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

Consult a doctor or poison center (see page 1).

SECTION 5: Firefighting measures

5.1 Extinguishing media:

Suitable extinguishing media:

Water spray, foam, dry powder or carbon dioxide (CO₂).

5.2 Special hazards arising from the substance or mixture:

Ammonia gases and sulphur dioxide gases.

5.3 Advice for firefighters:

In case of ambient fire take normal precautions, extinguish fire from a reasonable distance.

Protective equipment:

Wear self-contained breathing apparatus and special tightly sealed suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Shut off sources of ignition. Evacuate area. Warn affected surroundings. Wear protective equipment (see Section 8).

6.2 Environmental precautions:

Distinct hazard to waters. Prevent leaking in water, drainage, sewer or the ground.

Inform the responsible authorities when large quantities get into water, drainage, sewer, or the ground.

6.3 Methods and material for containment and cleaning up:

Take up with an absorbent and dispose of according to regulations. Afterwards ventilate area and wash spill site.

6.4 Reference to other sections:

Fire extinguishing measures, see Section 5. Personal protective equipment, see Section 8.

Incompatible materials, see Section 10. Disposal considerations, see Section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling: Handle an open container with care. Avoid any contact when handling the substance.

Do not transport together with incompatible substances. Eye bath required.

7.2 Conditions for safe storage, including any incompatibilities:

Requirements to be met by storerooms and receptacles: Keep container tightly closed. Store in a cool, dry and well-ventilated place. Preferably use unbreakable containers.

Information about storage in one common storage facility: Do not store with pharmaceuticals, foods, strongly oxidizing substances and radioactive or explosive substances.

Incompatible products: Iodine, strong acids, strong bases.

7.3 Specific end use(s): No further relevant information available.

SECTION 8: Exposure controls / personal protection

8.1 Control parameters:

Ingredients with limit values that require monitoring at the workplace:

Ammonium Sulfate (7783-20-2):

Occupational Exposure Limit (OEL): 10 mg/m³ (TWA)

Ammonium Hydroxide (1336-21-6):

OEL: 25 ppm (TWA)

Appropriate Engineering Controls:

Use local exhaust ventilation to maintain airborne concentrations below exposure limits.

8.2 Exposure controls:

Personal protective equipment:

General protective and hygienic measures:

Keep away from foods, beverages and other articles of consumption. Wash hands with soap and water before breaks and at the end of work. Avoid contact with skin. Avoid contact with eyes. Avoid inhalation of vapour or mist.

Avoid contact with clothing.

Respiratory protection:

Wear respiratory protection (Gas filter K - colour code green) in an emergency.

Avoid breathing directly above the container.

Protection of hands:

Wear protective gloves. The glove material must be sufficiently impermeable and resistant to the substance.

Check the tightness before wear. Gloves should be well cleaned before being removed, then stored in a well ventilated location. Pay attention to skin care. Skin protection cremes do not protect sufficiently against the substance.

Textile or leather gloves are completely unsuitable.

Material of gloves:

The following materials are suitable for protective gloves (permeation time > 8 hours):

Nitrile rubber / Nitrile latex—NBR (0,35 mm)

Butyl rubber - Butyl (0,5 mm)

Fluoro carbon rubber - FKM (0,4 mm)

Permeation time of glove material:

This is mentioned above under "Material of gloves".

Eye/face protection:

Wear chemical safety goggles.



SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Appearance:

Physical state: Liquid

Colour: Colourless

Odour: Ammoniacal odour

Odour threshold: No data available

pH: +/- 11.5

Change in condition:

Melting point/freezing point: Not determined

Initial boiling point and boiling range: Approximately 100 °C (212 °F)

Flash point: Not applicable

Flammability (solid, gas): Non-flammable

Ignition temperature:

Decomposition temperature: Not relevant

Auto-ignition temperature: No data available

Explosive properties: No data available

Explosion limits: No data available

Lower:

Upper:

Vapour pressure at 20 degrees Celsius: No data available

Density at 20 degrees Celsius: Approximately 1.02 g/cm³

Relative density: No data available

Evaporation rate: No data available

Solubility in / Miscibility with:

Water: Soluble in water

Partition coefficient (n-octanol/water): No data available

Viscosity: No data available

9.2 Other information: No further relevant information available

SECTION 10: Stability and reactivity

10.1 Reactivity: Reacts dangerously with strong bases. Risk of explosion in contact with iodine and strong acids.

10.2 Chemical stability:

Thermal decomposition / conditions to avoid: The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions:

No hazardous reactions under normal use conditions.

10.4 Conditions to avoid: Keep away from heat, flames, sparks and incompatible materials.

10.5 Incompatible materials: Strong acids, oxidizing agents, metals, halogens.

10.6 Hazardous decomposition products: Ammonia gas, sulphur dioxide gas.

SECTION 11: Toxicological information

11.1 Information on toxicological effects:

Acute toxicity:

Ammonium Sulfate:

Oral: LD50 > 2000 mg/kg (Rat)

Ammonium Hydroxide:

Oral: LD50 350 mg/kg (Rat)

Skin corrosion/irritation: May cause severe skin burns.

Serious eye damage/irritation: May cause serious eye damage.

Respiratory or skin sensitisation: Shall not be classified as a respiratory or skin sensitizing substance.

Germ cell mutagenicity: Shall not be classified as germ cell mutagenic.

Carcinogenicity: Shall not be classified as carcinogenic.

Reproductive toxicity: Shall not be classified as toxic for reproductivity.

STOT single exposure: Shall not be classified as STOT from single exposure.

STOT repeated exposure: Shall not be classified as STOT from repeated exposure.

SECTION 12: Ecological information

12.1 Toxicity:

Aquatic toxicity: Distinct hazard to waters. Prevent penetration into water, drainage, sewer or the ground.
Inform the responsible authorities about penetration of larger quantities.

12.2 Persistence and degradability: Insufficient data available.

12.3 Bioaccumulative potential: Insufficient data available.

12.4 Mobility in soil:

Ecotoxic effects:

General notes:

WGK Class 2 - distinct hazard to waters.

12.5 Results of PBT/vPvB assessment:

PBT: No further relevant information available.

vPvB: No further relevant information available.

12.6 Other adverse effects: No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods:

Recommendation:

Hazardous waste according to Waste Catalogue Ordinance (AVV).

If there is no way of recycling then the substance and the container must be disposed of in compliance with the respective local/regional/national/international regulations.

Contact a recycling or waste disposal company for safe disposal.

Uncleaned packaging:

Uncleaned containers should be treated as hazardous waste, like mentioned above.

SECTION 14: Transport information

14.1 UN number:

ADR: 2672

14.2 UN proper shipping name:

ADR: Ammonia solution

14.3 Transport hazard class:

ADR:



Class(es): 8 (corrosive substances)

14.4 Packing group:

ADR: III (low danger)

14.5 Environmental hazards:

Environmentally hazardous according to the dangerous goods regulations

14.6 Special precautions for user:

Provisions for dangerous goods (ADR) should be complied within the premises.

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

The cargo is not intended to be carried in bulk.

14.8 Transport/additional information:

Transport of dangerous goods by road (ADR):

UN number: 2672

Proper shipping name: Ammonia solution

Details in the shipping document: UN2672, AMMONIA SOLUTION, 8, III, (E)

Class: 8

Classification code(s): C5

Packing group: III (low danger)

Hazard label:



Excepted quantities (EQ): E1

Limited quantities (LQ): 5L

Transport category (TC): 3

Tunnel restriction code (TRC): Passage forbidden through tunnels of category E

Hazard identification number: 80



SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

General details:

German Water Hazard Class (WGK): WGK Class 2 - hazard to waters.

EU Regulation (EG) nr. 1272/2008 (CLP) - Annex I

EU Regulation (EG) nr. 1907/2006 (REACH) - Annex XVII

EU Regulation (EU) nr. 453/2010 (REACH)

15.2 Chemical safety assessment: No data available.

SECTION 16: Other information

This Safety Data Sheet (SDS) has been written in accordance with EU legislation.

The information in this SDS is based on our present knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It does not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. Users should always consult the most recent version of relevant regulations and any applicable local laws and regulations.

Relevant phrases:

H314: Causes severe skin burns and serious eye damage.

H400: Very toxic to aquatic life.

Abbreviations and acronyms:

ADR:	Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS:	Chemical Abstracts Service (division of the American Chemical Society)
EINECS:	European Inventory of Existing Commercial Chemical Substances
GHS:	Globally Harmonized System of Classification and Labelling of Chemicals
PBT:	Persistent, Bioaccumulative and Toxic
vPvB:	very Persistent and very Bioaccumulative
STOT:	Specific Target Organ Toxicity
WGK:	Wassergefährdungsklasse (German: Water Hazard Class)
Skin Corr. 1B:	Skin Corrosion Category 1B
Aquatic Acute 1:	Hazardous to the aquatic environment Category 1

Sources:

Regulation (EC) nr. 1907/2006 of the European Parliament and of the Council of 18 December 2006, REACH

Regulation (EC) nr. 1272/2008 of the European Parliament and of the Council of 16 December 2008, CLP

GESTIS Substance Database

Globally Harmonized System, GHS

ADR2017