

Product safety summary

Ammonium Sulphate

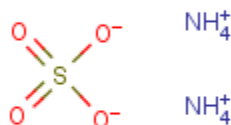
1. General Statement

Ammonium sulphate is a by-product in the manufacture of caprolactam and acrylonitrile. The substance is manufactured and handled in industrial settings.

2. Chemical Identity

EC number:	231-984-1
EC name:	Ammonium sulphate
CAS number (EC inventory):	7783-20-2
IUPAC name:	Diammonium sulfate
Molecular formula:	H ₃ N.1/2H ₂ O ₄ S
Molecular weight range:	132.1395

Structural formula:



3. Uses and applications

Ammonium sulfate is used in a variety of applications including fertilizers, leather tanning, textile dyeing, cellulose and fiberglass insulation, fire extinguisher chemicals, and fermentation processes.

4. Physical/Chemical Properties

Property	Value
Physical state	Crystalline solid
Colour	Light coloured
Odour	Odourless
Density (relative)	1.77 at 25 °C
Melting point	> 280 °C
Boiling point	Not applicable; substance decomposes at 235°C
Flammability	Non flammable
Explosive properties	Non explosive
Self-ignition temperature	Not applicable
Vapour pressure	0.000000004053 hPa at 25 °C
Water solubility	767 g/L at 25 °C
Flash point	Not applicable; substance is inorganic solid
Octanol-water partition coefficient (log Kow)	Not applicable ; substance is inorganic

Based on these data ammonium sulphate does not have dangerous physical-chemical properties.

5. Health Effects

Ammonium sulfate has a low hazard profile. Ammonium and sulfate, the dissociation products of ammonium sulfate, naturally occur in the body.

Effect Assessment	Result
Acute Toxicity Oral / inhalation / dermal	Not harmful by ingestion Not harmful by dermal exposure Not harmful by inhalation
Irritation Skin /eye / respiratory tract	Not irritating to skin Not irritating to eyes
Sensitisation	Not sensitizing to skin Not sensitizing to the respiratory tract
Toxicity after repeated exposure Oral / inhalation / dermal	Not toxic after repeated ingestion and inhalation
Genotoxicity / mutagenicity	Not genotoxic / mutagenic
Carcinogenicity	Not carcinogenic
Toxicity for reproduction	Not toxic for reproduction

Based on this information ammonium sulphate is not classified.

6. Environmental Effects

Effect Assessment	Result
Aquatic Toxicity	Acute harmful to fish Not harmful to aquatic invertebrates or algae

Fate and behaviour	Result
Biodegradation	Not applicable; substance is inorganic
Bioaccumulation potential	Bioaccumulation is not to be expected
PBT / vPvB conclusion	Not applicable; substance is inorganic

Based on the available data ammonium sulphate is not classified.

7. Exposure

Consumer: Small, incidental exposure to consumers of ammonium sulfate is possible via agricultural applications. Exposure to consumers in these applications is expected to be low.

Worker: Workplace exposure may occur by inhalation (dust), eye or skin contact from clearing equipment, taking and analyzing samples and during loading and unloading of product shipments.

8. Risk Management Recommendations

The main risk in using ammonium sulfate (nuisance dust) is mechanical irritation of the eyes, skin and the respiratory system. Risk management is achieved by preventive maintenance programs and using personal protective equipment and procedures.

First aid measures

Remove contaminated clothing.

After inhalation of dust: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

On skin contact: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

On contact with eyes: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids.

Check for and remove any contact lenses. Get medical attention if irritation occurs.

On ingestion: Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Note to physician: After inhalation of decomposition products: Risk of pulmonary edema.

Symptoms can appear later.

Treatment after inhalation of decomposition products: Pulmonary edema prophylaxis.

Fire fighting measures

At high temperatures (ca. 235 °C) toxic vapors of ammonia gases and sulphur oxides will be released.

Product itself is non-combustible; fire extinguishing method of surrounding areas must be considered. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Accidental release measures

Do not discharge into drains/surface waters/groundwater. Retain and dispose of contaminated wash water.

For cleaning up large amounts: Sweep/shovel up.

For residues: Sweep/shovel up. Rinse away with water.

Handling and storage

Segregate from alkalis and alkalizing substances. Segregate from nitrites and alkaline substances.

Protect against moisture. The substance/product may cake under the influence of moisture.

9. Regulatory Information / Classification and Labelling

Regulatory information

Ammonium sulphate was registered in accordance with the REACH regulation; registration number: 01-2119455044-46-0010.

Ammonium sulphate is neither PB nor T, and does not contain more than 0.1%w/w of a substance classified as CMR Cat. 1 or 2 or a substance of Very High Concern (SVHC) which is in the current list of candidates for including to the list of substances subjected to authorization.

Classification and labelling

Under GHS substances are classified according to their physical, health, and environmental hazards. The hazards are communicated via specific labels and the extended SDS. GHS attempts to standardize hazard communication so that the intended audience (workers, consumers, transport workers, and emergency responders) can better understand the hazards of the chemicals in use.

Classification

Based on the data available ammonium sulphate is not classified and does not need a label.

10. Contact information within company

For further information on this substance or product safety summaries in general, please visit:

- <http://www.dsm.com/corporate/sustainability/planet/sustainable-value-chains/product-stewardship.html>
- <http://www.icca-chem.org/en/Home/ICCA-initiatives/global-product-strategy/>

11. Glossary

Acute toxicity	Harmful effect resulting from a single or short term exposure to a substance
Biodegradation	Decomposition or breakdown of a substance under natural conditions (actions of micro organisms etc)
Bioaccumulation	Progressive accumulation in living organisms of a chemical substance present in the environment
Carcinogenicity	Substance effects causing cancer
Chronic toxicity	Harmful effect after repeated exposures or long term exposure to a substance
Clastogenicity	Substance effect that causes breaks in chromosomes
Embryotoxicity	Harmful effect on foetal health
Flash point	The lowest temperature at which vapor of the substance may form an ignitable mixture with air
Genotoxicity	Substance effect that causes damage to genes, including Mutagenicity and clastogenicity
GHS	Global Harmonized System of chemicals classification
Hazard	Inherent substance property bearing a threat to health or environment
Mutagenicity	Substance effect that cause mutation on genes
Persistence	Refers to the length of time a compound stays in the environment, once introduced
Reprotoxicity	Including teratogenicity, embryotoxicity and harmful effects on fertility
Sensitising	Allergenic
Sediment	Topsoil, sand and minerals washed from land into water forming in the end a layer at the bottom of rivers and sea
Teratogenic	Substance effect on foetal morphology
Vapor pressure	A measure of a substance's property to evaporate
Volatile	Any substance that evaporates readily

12. Date

Date of issue: February 2, 2010

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Disclaimer

This product safety summary is intended to give general information about the chemical or categories of chemical addressed. It is not intended to provide an in-depth analysis of health and safety information. Additional information is available through the chemical's applicable Material Safety Data Sheet, which should be consulted before use of the chemical. This product safety summary does not supply or replace required regulatory and/or legal communication documents. All information contained herein is presented on an 'as is' basis and state of technology as per the issue date. The internet disclaimer is applicable (<http://www.dsm.com/corporate/generic/terms-of-use.html>).