

Material Safety Data Sheet

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Version 1.3

According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

1 - Product and Company Information

Product Name AMMONIUM CHLORIDE, MOLECULAR BIOLOGY REAGENT
Product Number A9434
Company Sigma-Aldrich Pty, Ltd
Unit 2, 14 Anella Avenue
Castle Hill NSW 1765
Australia
Technical Phone # +61 2 9841 0555
Fax +61 2 9841 0500
Emergency Phone # +61 2 9841 0566

2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
AMMONIUM CHLORIDE	12125-02-9	235-186-4	017-014-00-8

Formula NH₄Cl
Molecular Weight 53.49 AMU
Synonyms Amchlor * Ammoneric * Ammoniumchlorid (German) *
Ammonium chloride (ACGIH) * Ammonium muriate *
Chlorid amonny (Czech) * Darammon * Sal ammonia
* Sal ammoniac * Salammonite * Salmiac

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
Harmful if swallowed. Irritating to eyes.

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

AFTER SKIN CONTACT

In case of contact, immediately wash skin with soap and copious amounts of water.

AFTER EYE CONTACT

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Noncombustible. Use extinguishing media appropriate to surrounding fire conditions.

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed.

SPECIAL REQUIREMENTS: Hygroscopic.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

EXPOSURE LIMITS

Country	Source	Type	Value
Poland		NDS	10 MG/M3
Poland		NDSch	20 MG/M3
Poland		NDSP	-

EXPOSURE LIMITS - DENMARK

Source	Type	Value
OEL	TWA	10 mg/m3

EXPOSURE LIMITS - NORWAY

Source	Type	Value
OEL	OEL	10 mg/m3

Remarks: 1)

EXPOSURE LIMITS - SWITZERLAND

Source	Type	Value
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OEL OEL 6 mg/m3
Remarks: A

EXPOSURE LIMITS - UNITED KINGDOM

Source	Type	Value
OEL	OEL	10 mg/m3
OEL	STEL	20 mg/m3

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.
Hand Protection: Compatible chemical-resistant gloves.
Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Physical State: Solid	
Property	Value	At Temperature or Pressure
pH	4.5 - 5.5	20 °C Concentration: 50 g/l
BP/BP Range	N/A	
MP/MP Range	340 °C	
Flash Point	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	1 mmHg	160.4 °C
SG/Density	1 g/cm3	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	1.9 g/l	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	500 kg/l	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	Solubility in Water: Soluble.	

10 - Stability and Reactivity

STABILITY

Stable: Stable.
Conditions to Avoid: Protect from moisture.
Materials to Avoid: Strong acids, Strong bases, Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Ammonia, Hydrogen chloride gas.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: BP4550000

ACUTE TOXICITY

LDLO
Oral
Infant
2000 mg/kg
Remarks: Cardiac:Other changes.

LD50
Oral
Rat
1650 mg/kg

LD50
Intramuscular
Rat
30 MG/KG

LD50
Oral
Mouse
1300 mg/kg

LD50
Intraperitoneal
Mouse
485 MG/KG

LD50
Intravenous
Mouse
358 MG/KG
Remarks: Behavioral:Convulsions or effect on seizure threshold.
Behavioral:Coma. Lungs, Thorax, or Respiration:Respiratory
stimulation.

IRRITATION DATA

Eyes
Rabbit
500 mg
24H
Remarks: Mild irritation effect

Eyes
Rabbit
100 mg
Remarks: Severe irritation effect

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: Causes severe eye irritation.
Inhalation: May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.
Ingestion: Harmful if swallowed.

CHRONIC EXPOSURE - MUTAGEN

Hamster
400 MG/L
Cell Type: fibroblast
Cytogenetic analysis

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

Non-hazardous for road transport.

IMDG

Non-hazardous for sea transport.

IATA

UN#: 3077
Class: 9
PG: III
Proper Shipping Name: Environmentally hazardous
substance, solid, n.o.s
Inhalation Packing Group I: No
Technical Name: Required

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

ANNEX I INDEX NUMBER: 017-014-00-8
INDICATION OF DANGER: Xn
Harmful.
R-PHRASES: 22 36
Harmful if swallowed. Irritating to eyes.
S-PHRASES: 22
Do not breathe dust.

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 1

SWITZERLAND

SWISS POISON CLASS: 4

16 - Other Information

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our

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