

Material Safety Data Sheet

Version 4.0

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Ammonium chloride

Product Number : A4514

Brand : Sigma-Aldrich

Company : Sigma-Aldrich Canada, Ltd
2149 Winston Park Drive
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CANADA

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2. HAZARDS IDENTIFICATION

Emergency Overview

WHMIS Classification

D2B Toxic Material Causing Other Toxic Effects Moderate eye irritant

GHS Label elements, including precautionary statements

Pictogram



Signal word Warning

Hazard statement(s)

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

H401 Toxic to aquatic life.

Precautionary statement(s)

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

P280 Wear protective gloves/eye protection/face protection.

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P330 Rinse mouth.

P337 + P313 If eye irritation persists: Get medical advice/attention.

P501 Dispose of contents/container to an approved waste disposal plant.

HMIS Classification

Health hazard: 2

Flammability: 0

Physical hazards: 0

Potential Health Effects

Inhalation May be harmful if inhaled. Causes respiratory tract irritation.

Skin May be harmful if absorbed through skin. Causes skin irritation.

Eyes Causes eye irritation.

Ingestion Harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Salmiac
Formula : H_4CIN
Molecular Weight : 53.49 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Ammonium chloride			
12125-02-9	235-186-4	017-014-00-8	-

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

The product itself does not burn.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

hygroscopic

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control	Update	Basis
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			parameters		
Ammonium chloride	12125-02-9	TWA	10 mg/m3	2007-01-01	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks	Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required				
		STEL	20 mg/m3	2007-01-01	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
	Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required				
		TWA	10 mg/m3	2006-11-29	Canada. British Columbia OEL
		STEL	20 mg/m3	2006-11-29	Canada. British Columbia OEL
		TWAE V	10 mg/m3	2005-12-17	Canada. Ontario OELs
		STEV	20 mg/m3	2005-12-17	Canada. Ontario OELs
		TWAE V	10 mg/m3	2006-12-29	Canada. Quebec OELs
		STEV	20 mg/m3	2006-12-29	Canada. Quebec OELs

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves.

Eye protection

Safety glasses with side-shields conforming to EN166

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form solid

Safety data

pH 4.5 - 5.5 at 50.00000 g/l at 20.0 °C (68.0 °F)

Melting point 340.0 °C (644.0 °F)

Boiling point no data available

Flash point not applicable

Ignition temperature no data available

Lower explosion limit no data available

Upper explosion limit no data available

Vapour pressure	1.3 hPa (1.0 mmHg) at 160.4 °C (320.7 °F)
Density	1.00 g/cm ³
Water solubility	soluble

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Conditions to avoid

Exposure to moisture may affect product quality.

Materials to avoid

Strong acids, Strong bases, Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Ammonia, Hydrogen chloride gas

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral - rat - 1,650 mg/kg

Skin corrosion/irritation

Skin - rabbit - No skin irritation

Serious eye damage/eye irritation

Eyes - rabbit - Eye irritation

Respiratory or skin sensitization

Will not occur

Germ cell mutagenicity

no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure (GHS)

no data available

Specific target organ toxicity - repeated exposure (GHS)

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion	Harmful if swallowed.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.

Signs and Symptoms of Exposure

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

Additional Information

RTECS: BP4550000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish	LC50 - Cyprinus carpio (Carp) - 209.00 mg/l - 96 h
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LC50 - Oncorhynchus mykiss (rainbow trout) - 3.98 mg/l - 96 h
NOEC - Oncorhynchus mykiss (rainbow trout) - 57 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates. LC50 - Daphnia magna (Water flea) - 161 mg/l - 48 h
Growth inhibition NOEC - Daphnia magna (Water flea) - 0.1 mg/l - 216 h

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

Product

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN-Number: 3077 Class: 9 Packing group: III
Proper shipping name: Environmentally hazardous substances, solid, n.o.s. (Ammonium chloride)
Reportable Quantity (RQ): 5000 lbs
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION

DSL Status

All components of this product are on the Canadian DSL list.

WHMIS Classification

D2B Toxic Material Causing Other Toxic Effects Moderate eye irritant

16. OTHER INFORMATION

Further information

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