

Safety Data Sheet



1. Identification of the Substance/Mixture and the Supplier

Supplier : National Institute of Advanced Industrial Science and Technology (AIST)
 Address : 1-3-1 Kasumigaseki, Chiyoda, Tokyo, Japan
 Office in Charge : Reference Materials Office, Center for Quality Management of Metrology, National Metrology Institute of Japan
 Person in Charge : Certified Reference Material Staff
 Telephone No. : +81-29-861-4059 Fax No. : +81-29-861-4009
 Emergency Contact : Same as above

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ID Number : 3011001

Identity of Substance/Mixture : Certified reference material: NMIJ CRM 3011-a
 Ammonium Chloride
 Recommended Use of the Chemical and Restriction on Use : This CRM is intended for use as a standard of ammonium ions or chloride ions.
 Do not use this reference material for other purposes than testing/research.
 This CRM is a reference material (specified in the Japanese Industrial Standard (JIS) Q 0030).

2. Hazards Identification

GHS Classification: Acute Toxicity (oral ingestion.) : Hazard Category 4
 Skin Corrosion/ Irritation : Hazard Category 3
 Serious eye damage/ Eye irritation : Hazard Category 2A
 Reproductive Toxicity : Hazard Category 2
 Specific Target Organ Toxicity/Systemic Toxicity (Single Exposure) : Hazard Category 3 (respiratory tract irritation)
 Specific Target Organ Toxicity/Systemic Toxicity (Repeated Exposure) : Hazard Category 1 (Systemic toxicity)
 Toxic to the aquatic environment (Acute) : Hazard Category 1
 Toxic to the aquatic environment (Chronic) : Hazard Category 1

GHS Classification:



Signal Word:

Danger

Hazards Statement:

Causes mild skin irritation
Causes serious eye irritation
Harmful if swallowed
Suspected of damaging fertility or the unborn child
May cause respiratory irritation
Causes damage to organ through prolonged or repeated exposure (systemic toxicity)
Extremely toxic to aquatic life
Very toxic to aquatic life with long lasting effects

Precautionary Statement:

[Precaution]
Do not eat, drink or smoke when using this product.
Do not handle until all safety precautions have been read and understood.
Use outdoors or in a well-ventilated area.
Do not breathe dust, fume, mist, vapors, spray, etc.
Wear protective glasses / face protection.
[Action]
If swallowed: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell. Wash mouth if possible.
If skin irritation or rash occurs: Get medical advice/attention.
If exposed or concerned: Get medical advice/attention.
Avoid release to the environment. Collect spillage.
[Storage]
Store in a locked and keyed place.
Store in a dark, clean and dry environment at less than relative humidity of 60 % and at temperature of 5 °C to 35 °C.
[Disposal]
Incinerate this reference material and its containers in an appropriate incinerator. Or entrust disposal of this reference material and its containers to a professional waste disposal company licensed by prefectural government.

The other hazards than the above do not result in classification or are not covered by the GHS.

3. Composition/Information on Ingredients

Substance or Mixture	: Substance
Chemical Identity	: Ammonium chloride
Content	: 99 % or above
Chemical Formula or Structural Formula	: NH ₄ Cl
Molecular Weight	: 53.49
CAS Number	: 12125-02-9
Content	: Over 99 %
Reference Number in Gazetted List in Japan	: Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. : (1)-218 Industrial Safety and Health Act : Published

4. First-aid Measures

If in eyes	: Rinse cautiously with clean water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
If on skin	: Wash with plenty of clean water and soap. Seek medical attention, if necessary.
If inhaled	: Remove victim to fresh air and keep at rest and warm. Get medical advice/attention.
If swallowed	: Rise mouth thoroughly with water. Induce vomiting by sticking finger down throat if possible. Get medical advice/attention immediately.
Expected Acute and Delayed Symptom	: Eyes: Red flare, Pain Skin: Red flare Inhalation: Coughing, Pharyngodynia Ingestion: Nausea, Pharyngodynia, Vomit
Most Critical Characteristic and Symptom	: Causes eye, skin and airway irritation
Measures to be taken to protect the person applying first aid	: Use personal protective equipment.

5. Fire-fighting Measures

Extinguishing Media	: Water, powder, foam, CO ₂ and dry sand.
Unavailable	: -
Extinguishing Media	
Fire-Specific Hazards	: Generate irritating or toxic fumes (or gases) in the case of fire because of nitrogen and halogen contained in the molecules of this reference material. Wear appropriate personal protective

- equipment, therefore, to avoid breathing fumes (or gases) during fire-fighting activities.
- Specific Fire-Fighting Method : This reference material does not ignite. If being heated by flames, however, it sublimates to generate irritating white smoke. Carry out fire-fighting from the windward. Wear respiratory protective equipment when necessary. Remove movable containers promptly to a safe place. In the case of immovable containers, cool their surroundings with sprayed water.
- Protection of Fire-Fighters : Carry out fire-fighting from the windward in order to avoid breathing hazardous gas. Use personal protective equipment such as fire protection clothing, breathing apparatus, and circulating oxygen respirator.

6. Accidental Release Measures

- Personal Precaution : Remove ignition source in the vicinity immediately. Prepare fire-fighting equipment for the possibility of fires.
- Personal Protective Equipment and Emergency Procedures : Ventilate the affected areas thoroughly, if it is in an indoor environment, until the clean-up operation is completed. Use appropriate personal protective equipment during the operation to avoid skin contact of splash etc. and inhalation of dust and gas.
- Environmental Precautions : Take precautions to prevent spillage from draining into rivers etc. to adversely impact the environment. Make it sure to appropriately treat contaminated wastewater in order to prevent untreated wastewater from being released into the surrounding environment.
- Recovery and Neutralization : Adsorb spillage with waste clothes, wiping clothes or dry sand, and collect in empty containers. Rinse away the remains with plenty of water.
- Prevention of Secondary Disaster : Mark the restricted area with rope etc. to keep out unauthorized people. Carry out the clean-up operation from the windward and make people on the leeward side evacuate.

7. Handling and Storage

- Handling : Take precautions when handling in a humid season as this reference material is highly hygroscopic. Store away from basic substances to avoid mixture.
- Engineering Precautions : Keep container tightly closed or use local ventilation system
- Precautions for Safe Handling : Avoid rough handling such as turning over, dropping, giving a shock to or dragging containers. Prevent spill, overflow and scattering, and avoid vapor

generation.

Keep container tightly closed after using this reference material.
Wash hands, face etc. thoroughly and gargle after handling this reference material.

Do not bring gloves and other contaminated personal protective equipment into staff room.

Make a place handling this reference material a restricted area to keep out unauthorized people.

Use appropriate personal protective equipment to avoid inhalation and contact with eyes, skin and clothing.

Use local ventilation system in indoor handling areas.

Storage

Appropriate Storage Conditions : Protect from direct sunlight. Store in clean environment at temperatures ranging from 15°C to 30°C while keeping relative humidity at 50% or less.

May get solidified due to moisture absorption when being stored for a long time.

Engineering : Store in a cool and well-ventilated place.

Precautions : Protect from moisture.

Incompatible materials : Oxidizing agent, alkali, strong acid

Safe Container Packaging Material : Polypropylene, Polyethylene

8. Exposure Controls/Personal Protection

Threshold Limit Value : Not specified

Permissible Concentration

- ACGIH TLV-TWA : 10 mg/m³ STEL 20 mg/m³ (vaper)

- Values : Not specified

recommended by

Japan Society for

Occupational Health

- OSHA PEL TWA : Not specified

Engineering Controls

Ventilation/Exhaust : Local ventilation system or General ventilation system

Storage Precaution : Keep container tightly sealed. Keep away from combustible substances, reducing substances and strong oxidizer. Protect from moisture.

Personal Protective Equipment (PPE)

Respiratory System : Protective mask.

Hands : Impervious protective gloves

Eyes : Safety glasses

Skin and Body : Protective clothing with long sleeves.

Hygiene Controls

Handle this reference material in accordance with industrial health and safety standards.

Wash hands thoroughly after handling this reference material.

	Muscle Rat LD50: 30 mg/kg
	Abdominal cavity Mouse LD50: 485 mg/kg
	Dermal Mouse LD50: 500 mg/kg
	Intravenous Mouse LD50: 358 mg/kg
	Classified as Category 4 based on the description of Oral: LD50=1650 mg/kg for rats (ACGIH)
Skin Corrosion/ Irritation	Classified as Category 3, based on the description of “skin irritation” as an effect of short-term exposure and “red flare” as a primary disaster/acute symptom for humans (ICSC (J)).
Serious Eye Damage/ Eye Irritation	Eye Irritation Rabbit 500 mg/24H Light Eye Irritation Rabbit 100 mg Serious
Germ Cell Mutagenicity	No data.
Carcinogenicity	No data.
Reproductive Toxicity	Classified as Category 2 based on the following description: For mice, deformity is reported for child mice though there is no description about toxicity to parent mice. It is reported that ovarian hypertrophy, follicle maturation, corpus luteum formation, uterine hypertrophy, mammilla hypertrophy and milk secretion were observed in female rabbits which have not gone through mating (EHC 54). At the doses which caused metabolic acidosis in parent rats, a quarter of embryos died (IUCLID)).
Specific target organ toxicity/Systemic toxicity (Single exposure)	Classified as Category 3 (Airway irritation) based on the following description: Airway irritation was caused through short-term exposure. Coughing and pharyngodynia are caused through inhalation (ICSC (J)).
Specific target organ toxicity/Systemic toxicity (Repeated exposure)	Classified as Category 1 (Systemic toxicity) based on the description of metabolic acidosis observed for humans (ACGIH). It is also reported that, though there is no description about doses, osteoporosis was caused in rats, rabbits and dogs through long-term administration which was attributed to metabolic acidosis (EHC 54).

12. Ecological Information

Ecotoxicity

- Fishes (Rainbow trout): 96 hours LC50=0.696 mg/l (ECETOC TR91)

Category 1 for acute toxicity; Because behavior in water and bioaccumulative potential are unknown.

Persistence and Degradability

- No data available

Bioaccumulative Potential

- No data available

Mobility in Soil

- No data available

13. Disposal Considerations

Residual Waste

- Dispose in accordance with applicable regional, national and local laws and regulations.
- Release after diluting with plenty of water. Can be used as fertilizer.

Purify wastewater containing this reference material by treating it with activated carbon, etc. before discharging it.

Dispose of this reference material in accordance with applicable legislation and local government ordinance.

When the above-mentioned treatments are not possible, entrust disposal of residual waste to a professional waste disposal company licensed by prefectural governor.

Contaminated Container and Package

- Dispose of containers after thoroughly removing their contents.

14. Transport Information

UN Number : Not specified

UN : Not specified

Classification

Shipping Name : Ammonium Chloride

Packing Group : —

ICAO/IATA : —

Marine : Not specified

Pollutant

Precautions : Transport this reference material carefully while keeping it away from direct sunlight and fire and preventing accidental release due to falling, overturning, etc.

Check before transport if containers are free from leakage.

Load in a way to avoid overturning, falling and being broken, and take all necessary measures to prevent collapsing.

Protect from direct sunlight.

15. Regulatory Information

◇Industrial Safety and Health Act

- Article 57 (Enforcement Order: Article 18) Hazardous substance whose name, etc. must be labeled.
- Article 57-2 (Enforcement Order: Article 18-2) Hazardous substance whose name, etc. must be notified No.96

◇Food Sanitation Act

- Food additive 011-03015

◇Water Pollution Control Act

- Hazardous substance (Article 2, Enforcement Order: Article 2, Article 1 Ordinance defining the waste water standards)

16. Other Information

Others

The information in this document is not intended to be exhaustive and is based on currently available information and data. The measures given in this document are applicable only to normal handling conditions. When handling this reference material under special conditions etc., it is recommended to take safety measures appropriate to each specific application and context of use. This document is intended to provide information and not intended to guarantee anything in handling this reference material.
