

Mallinckrodt

Material Safety Data

Emergency Phone Number: 314-539-1600

AMMONIUM CHLORIDE

PRODUCT IDENTIFICATION:

Synonyms: Sal ammoniac; Ammonium muriate
Formula CAS No.: 12125-02-9
Molecular Weight: 53.49
Chemical Formula: NH_4Cl
Hazardous Ingredients: Ammonium chloride

PRECAUTIONARY MEASURES

WARNING: CAUSES IRRITATION. HARMFUL IF SWALLOWED.
Avoid contact with eyes, skin and clothing.
Wash thoroughly after handling.

EMERGENCY/FIRST AID

In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes. If swallowed, DO NOT INDUCE VOMITING! Give large quantities of water. Never give anything by mouth to an unconscious person. In all cases call a physician. SEE SECTION 5.
DOT Hazard Class: ORM-E

Mallinckrodt provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose.

SECTION 1 Physical Data

Appearance: White powder
Odor: Odorless.
Solubility: 29.7g/100g water @ 0°C (32°F)
Boiling Point: 520°C (968°F)
Melting Point: 338°C (640°F); Sublimes
Specific Gravity: 1.53
Vapor Density (Air=1): 1.9
Vapor Pressure (mm Hg): 1.0 @ 160°C (320°F)
Evaporation Rate: No information found.

SECTION 2 Fire and Explosion Information

Fire:
Not considered to be a fire hazard unless decomposed to ammonia and hydrogen chloride. Mixtures of about 16% to 25% (by volume) ammonia gas in air are flammable.

Explosion:
Not considered to be an explosion hazard.

Fire Extinguishing Media:
Use any means suitable for extinguishing surrounding fire. Water spray may be used to keep fire exposed containers cool.

Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

Mallinckrodt makes no representations, or warranties, either express or implied, of merchantability, fitness for a particular purpose with respect to the information set forth herein or to the product to which the information refers. Accordingly, Mallinckrodt will not be responsible for damages resulting from use of or reliance upon this information.

Performance and Laboratory Chemical Div., P.O. Box 800, Paris, KY 40362.

SECTION 3 Reactivity Data

Stability:
Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:
Involved in a fire causes decomposition to form hydrogen chloride and ammonia.

Hazardous Polymerization:
This substance does not polymerize.

Incompatibilities:
Concentrated acids, strong bases, silver salts, potassium chlorate, ammonium nitrate, bromine trifluoride and iodine heptafluoride.

SECTION 4 Leak/Spill Disposal Information

Ventilate area of leak or spill. Clean-up personnel may require respiratory protection from dust.
Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.
Disposal: Whatever cannot be saved for reclamation may be delivered to an approved waste disposal facility. Reportable Quantity (RQ) (CWA Sec.311): 5000 lb.
Ensure compliance with local, state and federal regulations.

SEP 14 1994

NFPA Ratings: Health: 2 Flammability: 0 Reactivity: 0

Effective Date: 04-06-89 Supersedes 07-16-85

AMMONIUM CHLORIDE

Mallinckrodt Material Safety Data

Emergency Phone Number: 314-539-1600

SECTION 5 Health Hazard Information

A. EXPOSURE /HEALTH EFFECTS

Inhalation:

Dust may cause irritation of the nose and throat. Thermal decomposition forms toxic gases which may irritate the respiratory tract.

Ingestion:

Large doses may cause nausea, vomiting and acidosis.

Skin Contact:

Contact with this material may cause skin irritation.

Eye Contact:

Contact with this material may cause redness and pain. May cause eye damage.

Chronic Exposure:

No information found.

Aggravation of Pre-existing Conditions:

No information found.

Mallinckrodt provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose.

B. FIRST AID

Inhalation:

Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion:

If swallowed, do NOT induce vomiting. Give large quantities of water. Never give anything by mouth to an unconscious person. Call a physician immediately.

Skin Exposure:

Wash thoroughly with running water. Get medical advice if irritation develops.

Eye Exposure:

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

C. TOXICITY DATA

(RTECS, 1986)

Oral rat LD50 : 1650 mg/kg Irritation: Eye rabbit
500 mg/24H Severe

SECTION 6 Occupational Control Measures

Airborne Exposure Limits:

-OSHA Permissible Exposure Limit (PEL):
10 mg/m³ (TWA); 20 mg/m³ (STEL) Fume
-ACGIH Threshold Limit Value (TLV):
10 mg/m³ (TWA); 20 mg/m³ (STEL) Fume

Mallinckrodt makes no representations, or warranties, either express or implied, of merchantability, fitness for a particular purpose with respect to the information set forth herein or to the product to which the information refers. Accordingly, Mallinckrodt will not be responsible for damages resulting from use of or reliance upon this information.

Performance and Laboratory Chemical Div., P.O. Box 800, Paris, KY 40362.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

Personal Respirators: (NIOSH Approved)

If the TLV is exceeded, a dust/mist respirator with chemical goggles may be worn, in general, up to ten times the TLV. Consult respirator supplier for limitations. Alternatively, a supplied air full facepiece respirator or airtight hood may be worn.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye Protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Contact lenses should not be worn when working with this material. Maintain eye wash fountain and quick-drench facilities in work area.

SECTION 7 Storage and Special Information

Keep in a tightly closed container. Protect from physical damage. Store in a cool, dry, ventilated area away from sources of heat, moisture and incompatibilities.

AMMCL

Mallinckrodt

Material Safety Data

Emergency Phone Number: 314-539-1600

Mallinckrodt provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. Individuals receiving this information must exercise their independent judgment in determining its appropriateness for a particular purpose.

Mallinckrodt makes no representations, or warranties, either express or implied, of merchantability, fitness for a particular purpose with respect to the information set forth herein or to the product to which the information refers. Accordingly, Mallinckrodt will not be responsible for damages resulting from use of or reliance upon this information.

Performance and Laboratory Chemical Div., P.O. Box 800, Paris, KY 40362.

Addendum to Material Safety Data Sheet

REGULATORY STATUS

(Chem.Key: AMMCL)

Hazard Categories for SARA
Section 311/312 Reporting
Acute Chronic Fire Pressure Reactive

X

| Product or Components of Product: | SARA EHS Sect. 302 RQ (lbs.) | TPQ (lbs.) | SARA Section 313 Chemicals Name List | Chemical Category | CERCLA Sec.103 RQ (lbs.) | RCRA Sec. 261.33 |
|-----------------------------------|------------------------------|------------|--------------------------------------|-------------------|--------------------------|------------------|
| AMMONIUM CHLORIDE (12125-02-9) | No | No | No | No | 5000 | No |

SARA Section 302 EHS RQ: Reportable Quantity of Extremely Hazardous Substance, listed at 40 CFR 355.

SARA Section 302 EHS TPQ: Threshold Planning Quantity of Extremely Hazardous Substance. An asterisk (*) following a Threshold Planning Quantity signifies that if the material is a solid and has a particle size equal to or larger than 100 micrometers, the Threshold Planning Quantity = 10,000 LBS.

SARA Section 313 Chemicals: Toxic Substances subject to annual release reporting requirements listed at 40 CFR 372.65.

CERCLA Sec. 103: Comprehensive Environmental Response, Compensation and Liability Act (Superfund). Releases to air, land or water of these hazardous substances which exceed the Reportable Quantity (RQ) must be reported to the National Response Center, (800-424-8802); Listed at 40 CFR 302.4

RCRA: Resource Conservation and Reclamation Act. Commercial chemical product wastes designated as acute hazards and toxic under 40 CFR 261.33

Effective Date: 04-06-89 Supersedes 07-16-85

AMMONIUM CHLORIDE