

Mallinckrodt Material Safety Data

Emergency Phone Number: 314-982-5000

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.

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.

Mallinckrodt, Inc., Science Products Division, P.O. Box M, Paris, KY 40361.

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.

SECTION 3 Reactivity Data

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Involvement 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.

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

AMMONIUM CHLORIDE

Effective Date: 07-16-85



tell us

• Update Profile • Tech Library • Product Search • MSDS Search • Order Center • Contact Us • Home • Help

Product Number: **A9434**

Product Name: **Ammonium chloride**

Product Information

▶ Description / Pricing

▶ Cert. of Analysis

▶ MSDS

Options

▶ Print Preview

▶ Bulk Quote

▶ Ask A Scientist

Go To

▶ Previous Page

▶ Sigma-Aldrich Home

Valid 02/2000 - 04/2000

Sigma Chemical Co.
P.O. Box 14508
St. Louis, MO 63178 USA
Tel: 314-771-5765

MATERIAL SAFETY DATA SHEET

SECTION 1. - - - - - CHEMICAL IDENTIFICATION- - - - -
CATALOG #: A9434
NAME: **AMMONIUM CHLORIDE, MOLECULAR BIOLOGY REAGENT**

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -
CAS #: 12125-02-9
MF: H4CLN
EC NO: 235-186-4
SYNONYMS
AMCHLOR * AMMONERIC * AMMONIUMCHLORID (GERMAN) * AMMONIUM CHLORIDE
(ACGIH) * AMMONIUM MURIATE * CHLORID AMONNY (CZECH) * DARAMMON * SAL
AMMONIA * SAL AMMONIAC * SALAMMONITE * SALMIAC *

SECTION 3. - - - - - HAZARDS IDENTIFICATION - - - - -
LABEL PRECAUTIONARY STATEMENTS
HARMFUL
HARMFUL IF SWALLOWED.
RISK OF SERIOUS DAMAGE TO EYES.
IRRITATING TO RESPIRATORY SYSTEM AND SKIN.
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.
WEAR SUITABLE PROTECTIVE CLOTHING.

SECTION 4. - - - - - FIRST-AID MEASURES- - - - -
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL
RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS
AMOUNTS OF WATER.
IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF
WATER FOR AT LEAST 15 MINUTES.

SECTION 5. - - - - - FIRE FIGHTING MEASURES - - - - -
EXTINGUISHING MEDIA
NONCOMBUSTIBLE.
USE EXTINGUISHING MEDIA APPROPRIATE TO SURROUNDING FIRE CONDITIONS.
SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO
PREVENT CONTACT WITH SKIN AND EYES.
UNUSUAL FIRE AND EXPLOSIONS HAZARDS
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. - - - - - ACCIDENTAL RELEASE MEASURES- - - - -
WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY
RUBBER GLOVES.
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
AVOID RAISING DUST.

SECTION 7. - - - - - HANDLING AND STORAGE- - - - -
REFER TO SECTION 8.

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - -
WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT
GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.
SAFETY SHOWER AND EYE BATH.
DO NOT BREATHE DUST.
AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
WASH THOROUGHLY AFTER HANDLING.
WASH CONTAMINATED CLOTHING BEFORE REUSE.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -
PHYSICAL PROPERTIES
MELTING POINT: 340 C
VAPOR PRESSURE: 1 MMHG
SPECIFIC GRAVITY: 1.527
VAPOR DENSITY: 1.9 G/L

SECTION 10. - - - - -STABILITY AND REACTIVITY - - - - -
 INCOMPATIBILITIES
 PROTECT FROM MOISTURE.
 STRONG ACIDS
 STRONG BASES
 HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
 AMMONIA

SECTION 11. - - - - - TOXICOLOGICAL INFORMATION - - - - -
 ACUTE EFFECTS
 CAUSES SKIN IRRITATION.
 MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
 MAY BE HARMFUL IF INHALED.
 MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER
 RESPIRATORY TRACT.
 HARMFUL IF SWALLOWED.
 TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND
 TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.
 RTECS #: BP4550000
 AMMONIUM CHLORIDE

IRRITATION DATA	28ZPAK -,15,1972
EYE-RBT 500 MG/24H MLD	LPPTAK 24,598,1976
EYE-RBT 100 MG SEV	
TOXICITY DATA	AJEMEN 6,506,1988
ORL-INF LDLO:2 GM/KG	28ZPAK -,15,1972
ORL-RAT LD50:1650 MG/KG	EMSUA8 4,223,1946
IMS-RAT LD50:30 MG/KG	FRXXBL #2444025
UNR-RAT LD50:550 MG/KG	IYKEDH 21,257,1990
ORL-MUS LD50:1300 MG/KG	COREAF 256,1043,1963
IPR-MUS LD50:485 MG/KG	JCINAO 37,497,1958
IVN-MUS LD50:358 MG/KG	
TARGET ORGAN DATA	
SENSE ORGANS AND SPECIAL SENSES (MYDRIASIS)	
BEHAVIORAL (TREMOR)	
BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)	
BEHAVIORAL (COMA)	
CARDIAC (OTHER CHANGES)	
LUNGS, THORAX OR RESPIRATION (RESPIRATORY STIMULATION)	
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.	

SECTION 12. - - - - - ECOLOGICAL INFORMATION - - - - -
 DATA NOT YET AVAILABLE.

SECTION 13. - - - - - DISPOSAL CONSIDERATIONS - - - - -
 CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF
 THIS MATERIAL.
 OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - TRANSPORT INFORMATION - - - - -
 CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - REGULATORY INFORMATION - - - - -
 EUROPEAN INFORMATION
 EC INDEX NO: 017-014-00-8
 HARMFUL
 R 22
 HARMFUL IF SWALLOWED.
 R 36
 IRRITATING TO EYES.
 S 22
 DO NOT BREATHE DUST.

REVIEWS, STANDARDS, AND REGULATIONS
 OEL=MAK
 ACGIH TLV-STEL 20 MG/M3, FUME DTLS* TLV/BEI,1997
 ACGIH TLV-TWA 10 MG/M3, FUME DTLS* TLV/BEI,1997
 MSHA STANDARD-AIR:TWA 10 MG/M3
 DTLS* 3,12,1971
 OEL-ARAB REPUBLIC OF EGYPT:TWA 10 MG/M3 (FUME) JAN 1993
 OEL-AUSTRALIA:TWA 10 MG/M3;STEL 20 MG/M3 (FUME) JAN 1993
 OEL-BELGIUM:TWA 10 MG/M3;STEL 20 MG/M3 (FUME) JAN 1993
 OEL-DENMARK: TWA 10 MG/M3, JAN1999
 OEL-THE NETHERLANDS:TWA 10 MG/M3 (FUME) JAN 1993
 OEL-RUSSIA:STEL 10 MG/M3 (FUME) JAN 1993
 OEL-SWITZERLAND:TWA 6 MG/M3 (FUME) JAN 1993
 OEL-UNITED KINGDOM:TWA 10 MG/M3;STEL 20 MG/M3 (FUME) JAN 1993
 OEL-POLAND: TWA 10 MG/M3, STEL 20 MG/M3 (VAPORS AND FUMES), JAN1999
 OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV
 OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV
 NIOSH REL TO AMMONIUM CHLORIDE-AIR:10H TWA 10 MG/M3;STEL 20 MG/M3
 NIOSH* DHHS #92-100,1992
 NOHS 1974: HZD 05270; NIS 223; TNF 29596; NOS 97; TNE 259567
 NOES 1983: HZD 05270; NIS 180; TNF 24833; NOS 131; TNE 415676; TFE
 139037
 EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
 EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES
 EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, SEPTEMBER 1999

SECTION 16. - - - - - OTHER INFORMATION - - - - -
 THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO
 BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. SIGMA, ALDRICH,

FLUKA SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING
OR FROM CONTACT WITH THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR
PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE.
COPYRIGHT 1999 SIGMA-ALDRICH CO.
LICENSE GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY