



AMMONIUM CHLORIDE

PRODUCT INFORMATION

CHEMICAL NAME: Ammonium chloride

SYNONYM(S): Sal ammoniac, Sal ammonia, Ammonium muriate

CHEMICAL FAMILY: Chloride Salt

MOLECULAR FORMULA: NH_4Cl

SHIPPING NAME: Ammonium chloride

PIN - (UN/NA): NA 9085 WHMIS: D2B

PRODUCT USE:

Dry batteries; mordant(dyeing and printing); soldering flux; manufacture of various ammonia compounds; fertilizer; electroplating; washing powders; melt-retarding snow treatment; resins and adhesives of urea-formaldehyde; bakery products; drilling mud additive.

SUPPLIER: Panther Industries Inc. Box 628 Davidson, Sask. S0G 1A0

EMERGENCY TELEPHONE NUMBER: (306) 567-2814

HAZARDOUS INGREDIENTS

INGREDIENTS:	WEIGHT %	C.A.S. REGISTRY #
Ammonium chloride	>99	12125-02-9

PHYSICAL DATA

PHYSICAL STATE: Solid

ODOUR AND APPEARANCE: White crystalline, odourless

VAPOUR PRESSURE: <1 mm hg/20oC

VAPOUR DENSITY: Not applicable

EVAPORATION RATE: Not applicable pH: Not available

BOILING POINT: 520oC MELTING POINT: 345oC (sublimes)

SOLUBILITY IN WATER: 39%

SPECIFIC GRAVITY: 1.53 (water = 1)

% VOLATILE BY VOLUME: Not available

BULK DENSITY: Not available ODOUR THRESHOLD: Not available

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

FIRE AND EXPLOSION DATA

CONDITIONS OF FLAMMABILITY: Non-flammable

MEANS OF EXTINGUISHING:

Use any appropriate medium for surrounding fires.

FLASH POINT: Not applicable

UPPER FLAMMABLE LIMIT: Not applicable

LOWER FLAMMABLE LIMIT: Not applicable

AUTO IGNITION TEMPERATURE: Not applicable

HAZARDOUS COMBUSTION PRODUCTS:

Under fire condition (temperatures above 335oC) material can evolve toxic fume of HCl, ammonia, and nitrogen oxides.

SPECIAL FIRE FIGHTING PROCEDURES:

Firefighters should wear self-contained breathing apparatus and full protective clothing. Use water spray to cool nearby containers and structures exposed to fire.

EXPLOSION HAZARDS: Not applicable



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REACTIVITY DATA

STABILITY: Stable HAZARDOUS POLYMERIZATION: Will not occur

INCOMPATIBILITY:

Keep water and moist air out of the container. Metals, metal oxides, hydroxides, amines and carbonates, alkalis and their carbonates, lead and silver salts, potassium chlorate.

HAZARDOUS REACTIONS/DECOMPOSITIONS:

Will liberate toxic fumes of ammonia, hydrogen chloride and oxides of nitrogen.

CONDITIONS TO AVOID: Temperatures over 315oC

HEALTH HAZARD DATA

INHALATION:

Inhalation of dust, fumes or vapours produces irritation of the upper respiratory tract resulting in coughing, excessive spitting and a choking sensation. Reactions reportedly are limited to mild irritation or inflammation of the nose and throat. Large quantities of fumes can be toxic.

SKIN CONTACT:

Exposure to vapours, fumes or dust may result in dermatitis.

EYE CONTACT:

Dusts will irritate the eyes and prolonged contact may damage the eyes. Vapours and solutions will also irritate the eyes.

INGESTION:

Swallowing this material causes irritation of the membranes of the mouth, esophagus, and gastrointestinal tract. Large doses can cause nausea, vomiting and acidosis.

CHRONIC EXPOSURE EFFECTS: No specific information available.

EXPOSURE LIMITS: Ammonium chloride (fume)

10 mg/m³ 8 hour average contamination limit

20 mg/m³ 15 minute average contamination limit

"Saskatchewan Occupational Health Regulations", January, 1989 Check local applicable legislation for exposure limits.

IRRITANCY: Not available

MUTAGENICITY: Not available

CARCINOGENICITY:

Not considered a carcinogen (NTP-National Toxicology Program, IARC-International Agency for Research on Cancer, OSHA- Occupational Safety and Health Administration).

SENSITIZATION TO PRODUCT: Not available

REPRODUCTIVE TOXICITY: Not available

TOXICOLOGICALLY SYNERGISTIC MATERIALS: Not available

TERATOGENICITY DATA: Not available

ANIMAL TOXICITY DATA: LD50 (Oral, Rat) - 1.65 g/kg.

FIRST AID MEASURES

INHALATION:

Remove to fresh air. Give artificial respiration if not breathing. Get immediate medical attention.

SKIN CONTACT:

Immediately flush skin with lots of running water for 15 minutes. Remove contaminated clothing and shoes; wash before reuse. Get immediate medical attention.

EYE CONTACT:

Immediately flush eyes with lots of running water for 15 minutes, lifting the upper and lower eyelids occasionally. Get immediate medical attention.



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INGESTION:

Do not induce vomiting. If conscious, give lots of water. Get immediate medical attention. Do not give anything by mouth to an unconscious or convulsing person.

PREVENTATIVE MEASURES

RESPIRATORY PROTECTION:

If use conditions generate dusts, wear a NIOSH approved respirator appropriate for those emission levels. Appropriate respirators may be a full facepiece or a half mask air-purifying cartridge respirator with particulate filters, a self-contained breathing apparatus in the pressure demand mode, or a supplied-air respirator.

SKIN PROTECTION:

Long-sleeved shirt, trousers, safety shoes, and gloves.

EYE/FACE PROTECTION:

Chemical goggles unless a full facepiece respirator is also worn. It is generally recognized that contact lenses should not be worn when working with chemicals because contact lenses may contribute to the severity of an eye injury.

SPECIAL HANDLING PROCEDURES:

Wash thoroughly after handling. Do not get in eyes, on skin, or on clothing.

STORAGE REQUIREMENTS:

Store in a cool, dry place. Keep containers, bags dry.

ENGINEERING CONTROLS:

Local mechanical exhaust ventilation capable of maintaining dust emissions at the point of use below the TLV.

SPECIAL SHIPPING REQUIREMENTS:

According to TDG regulation. NA 9085 Class 9.2 P.G. III

OTHER PRECAUTIONS:

Containers, even those that have been emptied, will retain product residue and vapours. Always obey hazard warnings and handle empty container as if they were full.

ENVIRONMENTAL PROTECTION DATA

STEPS IN THE EVENT OF A LEAK OR SPILL:

Wear protective equipment including rubber boots, gloves, apron, and a self-contained breathing apparatus in the pressure demand mode or a supplied-air respirator. If the spill or leak is small, a full facepiece air-purifying cartridge respirator equipped with particulate filters may be satisfactory. In any event, always wear eye protection. For small spills, sweep up and dispose of in TC approved waste containers. Keep out of sewers, storm drains, surface waters, and soil.

ENVIRONMENTAL EFFECTS: Not available

WASTE DISPOSAL METHODS: Comply with all applicable governmental regulations

PREPARATION INFORMATION

MSDS PREPARED BY: Technical Department Panther Industries Inc.

TELEPHONE NUMBER: (306) 567-2814 DATE PREPARED/REVISED: November 2007 DATE

PRINTED: Nov 2007

REFERENCES:

1. Various Supplier MSDS's.
2. Gessner G. Hawley "The Condensed Chemical Dictionary, Tenth Edition" (Van Nostrand, Reinhold Co.) 1981.
3. "Saskatchewan Occupational Health and Safety Regulations", January, 1989.