



AMMONIUM BIFLUORIDE CRYSTALS

PRODUCT INFORMATION

CHEMICAL NAME: Ammonium acid fluoride, ammonium hydrogen fluoride.
 CHEMICAL FAMILY: Inorganic Fluoride
 SYNONYMS(S): Ammonium Bifluoride, Ammonium acid fluoride.
 SHIPPING NAME: Ammonium hydrogen fluoride, solid FORMULA: NH₄FHF
 PIN - UN/NA NUMBER(S): UN 1727 WHMIS: E
 PRODUCT USE:
 Chemical reagent; sterilizer for brewery, dairy and other equipment;
 electroplating.
 MANUFACTURER: LCI Ltd.
 P.O. Box 49000
 Jacksonville, Fl. Phone: 904-241-1200
 SUPPLIER: Panther Industries Inc.
 Box 628
 Davidson, SK S0G 1A0
 EMERGENCY TELEPHONE: (306) 567-2814

HAZARDOUS INGREDIENTS

INGREDIENTS:	%	C.A.S.REGISTRY #
Ammonium Bifluoride	98% max.	1341-49-7

PHYSICAL DATA

PHYSICAL STATE: Solid.
 ODOR AND APPEARANCE: White translucent flake, odourless to slightly acrid smell.
 pH: Not available. SPECIFIC GRAVITY: 1.503
 VAPOR PRESSURE: Not available. VAPOR DENSITY: Not available.
 % VOLATILES BY VOLUME: Not available
 COEFFICIENT OF WATER/OIL DISTRIBUTION: Not applicable.
 BULK DENSITY: 93.61 lb/ft.³ MOLECULAR WEIGHT: 62.01
 EVAPORATION RATE: Not available.
 SOLUBILITY IN WATER: Soluble in cold, decomposes in hot. 58.3 g/100g H₂O
 BOILING POINT: Approx. 239.5oC MELTING POINT: Decomposes @ 100oC
FIRE AND EXPLOSION DATA
 CONDITIONS OF FLAMMABILITY: Not available.
 MEANS OF EXTINCTION: Dry chemical, water spray, foam, CO₂
 FLASH POINT AND METHOD OF DETERMINATION: Not applicable.
 UPPER FLAMMABLE LIMIT: Not applicable.
 LOWER FLAMMABLE LIMIT: Not applicable.
 AUTO IGNITION TEMPERATURE: Not applicable.
SPECIAL FIRE FIGHTING PROCEDURES:
 Not a fire or explosion hazard, but may release toxic emissions if involved in a fire. Firefighters should wear self-contained breathing apparatus.

FIRE AND EXPLOSION HAZARDS:

Under fire conditions irritating and/or toxic smoke and fumes may be present.



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Decomposes with heat above 350oC releasing hydrogen fluoride and ammonia.

REACTIVITY DATA

STABILITY: Stable. HAZARDOUS POLYMERIZATION: Will not occur.

INCOMPATIBILITY: Acids, and alkalis.

HAZARDOUS REACTIONS/DECOMPOSITIONS:

If contacted with strong acids or alkalis; will release hydrogen fluoride and ammonia accordingly.

CONDITIONS TO AVOID:

Temperatures over 350oC will result in decomposition releasing hydrogen fluoride and ammonia. If contacted with strong acids, hydrogen fluoride will be released.

If contacted with strong alkali, ammonia will be released.

HEALTH HAZARD DATA

CHRONIC AND ACUTE EFFECTS ON ROUTE OF ENTRY:

INHALATION: Not available.

EYE CONTACT:

Corrosive, direct contact with eyes may cause severe irritation or burns.

SKIN CONTACT: Corrosive, May cause severe irritation or burns.

INGESTION: Severe irritation or burns.

EXPOSURE LIMITS: ACGTH TLV = 2.5 mg F/m3 MAC(dust)

Direct contact with the eyes or skin may cause severe irritation or burns. Acute over exposure to air borne or ingested soluble fluorides can cause vomiting, diarrhea and central nervous system disorders.

IRRITANCY: Not available.

SENSITIZATION TO PRODUCT: Not available.

ANIMAL TOXICITY DATA: Not applicable.

CARCINOGENICITY: Not applicable.

REPRODUCTIVE TOXICITY: Not applicable.

MUTAGENICITY: Not applicable.

NAME OF TOXICOLOGICALLY SYNERGISTIC PRODUCTS: Not applicable.

FIRST AID MEASURES

INHALATION: Remove to fresh air.

EYE CONTACT: Flush eyes with water for at least 30 min. Consult an eye physician.

SKIN CONTACT:

Wash thoroughly with large amounts of soap and water. Refer to physician if burns are suspected.

INGESTION:

Contact physician immediately. Fluoride poisoning can occur. If swallowed, give large quantities of water. Do not induce vomiting.

PREVENTATIVE MEASURES

RESPIRATORY PROTECTION:



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NIOSH approved for dusts and mists. Do not exceed use limits of respirator.

EYE/FACE PROTECTION: Safety glasses or goggles.

SKIN PROTECTION: Rubber gloves.

ENGINEERING CONTROLS:

Use local exhaust or other means to control airborne dust.

MATERIALS FOR PROTECTIVE CLOTHING: No specific clothing types required.

SPECIAL HANDLING PROCEDURES: Wash thoroughly after handling.

STORAGE REQUIREMENTS:

Store away from food and drink. Personnel should wear approved dust mask or respirator. Avoid breathing dust. Wear body protection as necessary (chemical goggles and rubber or neoprene gloves). Wash thoroughly after handling.

SPECIAL SHIPPING REQUIREMENTS:

Transportation in Canada is governed by Transport Canada. Refer to the Transportation of Dangerous Goods Regulations (TDG) for special shipping requirements for ammonium bifluoride. Transport in the U.S. is governed by the Department of Transport (DOT). Refer to DOT regulations (CFR 49) for special shipping requirements for ammonium bifluoride. (UN 1727 PG II CI 8(9.2))

ENVIRONMENTAL PROTECTION DATA

PROCEDURES TO BE FOLLOWED IN CASE OF A LEAK OR SPILL:

Collect as solid waste, flush area with large volumes of water. Run off should be treated with excess lime and the resulting sludge properly disposed.

WASTE DISPOSAL:

Dispose of material in landfill suitable for soluble fluorides in accordance with federal, state, and local environmental control regulations.

ENVIRONMENTAL EFFECTS: Not available

PREPARATION INFORMATION

MSDS PREPARED BY: Technical Dept. Panther Industries Inc.

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REFERENCES: 1. Manufacturers MSDS