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Material Safety Data Sheet

Transportation Emergency: 1-800-451-8346

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SECTION 1. ----- CHEMICAL IDENTIFICATION-----

CATALOG #: M047-3-X0
NAME: SILVER BIFLUORIDE
SYNONYMS: HYDROGEN SILVER FLUORIDE *
SILVER HYDROGEN DIFLUORIDE *
SILVER HYDROGEN FLUORIDE *
SILVER MONOHYDROGEN DIFLUORIDE

SECTION 2. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

CAS NUMBER: 12249-52-4
MOLECULAR FORMULA: AgF_2H
MOLECULAR WEIGHT: 146.87

SECTION 3. ----- HAZARDS IDENTIFICATION -----

LABEL PRECAUTIONARY STATEMENTS

TOXIC
TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
CORROSIVE.
CAUSES BURNS.
TARGET ORGAN(S): KIDNEYS.

SECTION 4. ----- FIRST-AID MEASURES-----

IF INHALED

IF BREATHED IN, MOVE PERSON INTO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT A PHYSICIAN.

IN CASE OF SKIN CONTACT

TAKE OFF CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH OFF WITH SOAP AND PLENTY OF WATER. TAKE VICTIM IMMEDIATELY TO HOSPITAL.

IN CASE OF EYE CONTACT

RINSE THOROUGHLY WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND CONSULT A PHYSICIAN. CONTINUE RINSING EYES DURING TRANSPORT TO HOSPITAL.

IF SWALLOWED

DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. RINSE MOUTH WITH WATER. CONSULT A PHYSICIAN.

SECTION 5. ----- FIRE FIGHTING MEASURES -----

EXTINGUISHING MEDIA

SUITABLE: NONCOMBUSTIBLE. USE EXTINGUISHING MEDIA APPROPRIATE TO SURROUNDING FIRE CONDITIONS.

FIREFIGHTING

PROTECTIVE EQUIPMENT: WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

SPECIFIC HAZARD(S): EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

EXPOSURE HAZARD(S)

MATERIAL: CORROSIVE.

SECTION 6. ----- ACCIDENTAL RELEASE MEASURES-----

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

EVACUATE AREA.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS, AND HEAVY RUBBER GLOVES.

METHODS FOR CLEANING UP

SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL. AVOID RAISING DUST.

SECTION 7. ----- HANDLING AND STORAGE-----

HANDLING

USER EXPOSURE: DO NOT BREATHE DUST. AVOID CONTACT WITH EYES, SKIN, AND CLOTHING. AVOID PROLONGED OR REPEATED EXPOSURE.

STORAGE

SUITABLE: KEEP TIGHTLY CLOSED. STORE IN A COOL DRY PLACE.

SECTION 8. ----- EXPOSURE CONTROLS/PERSONAL PROTECTION-----

ENGINEERING CONTROLS

SAFETY SHOWER AND EYE BATH. USE ONLY IN A CHEMICAL FUME HOOD.

PERSONAL PROTECTIVE EQUIPMENT

OTHER: WEAR APPROPRIATE GOVERNMENT APPROVED RESPIRATOR, CHEMICAL-RESISTANT GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.

GENERAL HYGIENE MEASURES

WASH THOROUGHLY AFTER HANDLING. WASH CONTAMINATED CLOTHING BEFORE REUSE. DISCARD CONTAMINATED SHOES.

EXPOSURE LIMITS, RTECS

| <u>COUNTRY</u> | <u>SOURCE</u> | <u>TYPE</u> | <u>VALUE</u> |
|----------------|-------------------|-------------|---------------------------------|
| USA | ACGIH | TWA | 2.5 mg(F)/m ³ |
| USA | MSHA STANDARD-AIR | TWA | 2.5 mg(F)/m ³ |
| USA | OSHA | PEL | 8H TWA 2.5 mg(F)/m ³ |
| USA | NIOSH | TWA | 2.5 mg(F)/m ³ |

SECTION 9. ----- PHYSICAL AND CHEMICAL PROPERTIES -----

APPEARANCE

SOLID

PHYSICAL PROPERTIES

NONE ESTABLISHED

SECTION 10. -----STABILITY AND REACTIVITY -----

STABILITY

STABLE: STABLE.

MATERIALS TO AVOID: STRONG OXIDIZING AGENTS.

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS DECOMPOSITION PRODUCTS: SILVER OXIDES; HYDROGEN FLUORIDE.

HAZARDOUS POLYMERIZATION

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

SECTION 11. ----- TOXICOLOGICAL INFORMATION -----

ROUTE OF EXPOSURE

SKIN CONTACT: CAUSES BURNS.

SKIN ABSORPTION: TOXIC IF ABSORBED THROUGH THE SKIN.

EYE CONTACT: CAUSES BURNS.

INHALATION: MATERIAL IS EXTREMELY DESTRUCTIVE TO THE TISSUE OF THE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.

INGESTION: TOXIC IF SWALLOWED.

TARGET ORGAN(S) OR SYSTEM(S)

KIDNEYS.

SIGNS AND SYMPTOMS OF EXPOSURE

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT, EYES, AND SKIN.

INHALATION MAY RESULT IN SPASM, INFLAMMATION AND EDEMA OF THE LARYNX AND BRONCHI, CHEMICAL PNEUMONITIS, AND PULMONARY EDEMA.

SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING, WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA, AND VOMITING.

INGESTION OF LARGE QUANTITIES OF POTASSIUM ION MAY CAUSE LOWERED BLOOD PRESSURE, COMA, AND DEATH. SYMPTOMS OF FLUORIDE OVEREXPOSURE MAY INCLUDE SALIVATION, NAUSEA, VOMITING, ABDOMINAL PAIN, FEVER, AND LABORED BREATHING. FLUORIDE ION CAN REDUCE SERUM CALCIUM LEVELS POSSIBLY CAUSING FATAL HYPOCALCEMIA. PROLONGED EXPOSURE TO FLUORIDE DUSTS, VAPORS, OR MISTS RESULTS IN PERFORATION OF THE NASAL SEPTUM. CHRONIC EFFECTS INCLUDE EXCESSIVE CALCIFICATION OF THE BONES, LIGAMENTS, AND TENDONS.

ACGIH CARCINOGEN LIST

RATING: A4

SECTION 12. ----- ECOLOGICAL INFORMATION -----

DATA NOT YET AVAILABLE.

SECTION 13. ----- DISPOSAL CONSIDERATIONS -----

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE
OF THIS MATERIAL. OBSERVE ALL FEDERAL, STATE, AND LOCAL
ENVIRONMENTAL REGULATIONS.

SECTION 14. ----- TRANSPORT INFORMATION -----

DOT
UN#: 3290
CLASS: 6.1 [8]
PACKING GROUP: PACKING GROUP II

SECTION 15. ----- REGULATORY INFORMATION -----

EU DIRECTIVES CLASSIFICATION
SYMBOL OF DANGER: T-C
INDICATION OF DANGER: TOXIC. CORROSIVE.
RISK STATEMENTS: R23/24/25,R34
SAFETY STATEMENTS: S17,S22,S24/25,S26,S36/37/39,S45
UNITED STATES REGULATORY INFORMATION
TSCA: NOT LISTED ON TSCA INVENTORY; FOR R&D USE ONLY

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. SYNQUEST LABS, INC. SHALL
NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING
OR FROM CONTACT WITH THE ABOVE PRODUCT.