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MATERIAL SAFETY DATA SHEET

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

CATALOG #: 207934  
NAME: TETRAFLUOROBORIC ACID, 48 WT. % SOLUTION  
IN WATER

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

CAS #: 14872-11-0  
MF: HBF4  
EC NO: 240-898-3

SYNONYMS

HYDROFLUORIC ACID \* HYDROFLUORIC ACID \* HYDROGEN TETRAFLUOROBORATE \*  
TETRAFLUOROBORIC ACID \*

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

LABEL PRECAUTIONARY STATEMENTS

TOXIC  
TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.  
CAUSES BURNS.  
LACRIMATOR.

IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE  
IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF  
WATER AND SEEK MEDICAL ADVICE.

AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF WATER.  
TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING.  
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE  
PROTECTION.

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

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS  
AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED  
CLOTHING AND SHOES.

ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS  
WITH FINGERS.  
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL  
RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.  
CALL A PHYSICIAN.  
WASH CONTAMINATED CLOTHING BEFORE REUSE.  
DISCARD CONTAMINATED SHOES.

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

EXTINGUISHING MEDIA  
DRY CHEMICAL POWDER.  
SPECIAL FIREFIGHTING PROCEDURES

WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO  
PREVENT CONTACT WITH SKIN AND EYES.  
UNUSUAL FIRE AND EXPLOSION HAZARDS

EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

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

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

ABSORB ON SAND OR VERMICULITE AND PLACE IN CLOSED CONTAINERS FOR  
DISPOSAL.

VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

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.

USE ONLY IN A CHEMICAL FUME HOOD.  
SAFETY SHOWER AND EYE BATH.  
FACE SHIELD (8-INCH MINIMUM).

DO NOT GET IN EYES, ON SKIN, ON CLOTHING.  
AVOID PROLONGED OR REPEATED EXPOSURE.  
WASH THOROUGHLY AFTER HANDLING.  
CORROSIVE.

TOXIC.  
LACRIMATOR.  
KEEP TIGHTLY CLOSED.  
STORE IN A COOL DRY PLACE.

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

APPEARANCE AND ODOR  
COLORLESS LIQUID

PHYSICAL PROPERTIES  
FLASHPOINT NONE  
VAPOR PRESSURE: 9MM 20 C  
SPECIFIC GRAVITY: 1.400  
VAPOR DENSITY: 3

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

INCOMPATIBILITIES  
STRONG BASES  
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS  
HYDROGEN FLUORIDE

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

ACUTE EFFECTS  
HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.

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.

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

RTCS #: ED488000

ECATEL(1-); TETRAFLUORO-, HYDROGEN  
TOXICITY DATA  
OEL-RAT LD50:100 MG/KG NTIS\*\* OTS0570943  
IPR-RAT LD50:10 MG/KG NTIS\*\* OTS0570943

TARGET ORGAN DATA

BEHAVIORAL (SOMNLENCE)  
BEHAVIORAL (ATAxia)  
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES  
(RTCS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTCS FOR  
COMPLETE INFORMATION.

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

DATA NOT YET AVAILABLE.

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

FOR SMALL QUANTITIES: CAUTIOUSLY ADD TO A LARGE STIRRED EXCESS OF  
WATER. ADJUST THE PH TO NEUTRAL, SEPARATE ANY INSOLUBLE SOLIDS OR  
LIQUIDS AND PACKAGE THEM FOR HAZARDOUS-WASTE DISPOSAL. FLUSH THE  
AQUEOUS SOLUTION DOWN THE DRAIN WITH PLENTY OF WATER. THE HYDROLYSIS  
AND NEUTRALIZATION REACTIONS MAY GENERATE HEAT AND FUMES WHICH CAN BE  
CONTROLLED BY THE RATE OF ADDITION.

OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

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

CONTACT ALDRICH CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

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

EUROPEAN INFORMATION  
EC INDEX NO: 009-010-00-X  
TOXIC  
R 34  
CAUSES BURNS.  
S 26

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF  
WATER AND SEEK MEDICAL ADVICE.

S 27  
TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING.

S 45  
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE  
IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

REVIEWS, STANDARDS, AND REGULATIONS  
OEL-MAX  
OSHA PEL (GEN INDU):8H TWA 2.5 MG(F)/M3  
CFR88 29.1910.1000.1994

OSHA PEL (CONSTRUCT):8H TWA 2.5 MG(F)/M3  
CFR88 29.1926.55.1994

OSHA PEL (SHIPYARD):8H TWA 2.5 MG(F)/M3  
CFR88 29.1915.1000.1993

OSHA PEL (FED CONT):8H TWA 2.5 MG(F)/M3  
CFR88 41.50-204.50.1994

NIOSH REL TO FLUORIDES, INORGANIC-AIR:10H TWA 2.5 MG(F)/M3  
NIOSH\* DBHS #92-100,1992

NOHS 1974: HZD 33415; NIS 25; TNP 889; NOS 19; THE 6793  
NOHS 1983: HZD 33415; NIS 45; TNP 1771; NOS 33; THE 28169; TPE 6073

EPA TSCA SECTION 818(CHEMICAL INVENTORY)  
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JANUARY 2001

SECTION 16. - - - - - OTHER INFORMATION - - - - -

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