

ZIEMER & ASSOCIATES, INC -- THORIUM FLUORIDE -- 5855-00-051-2792

===== Product Identification =====

Product ID:THORIUM FLUORIDE

MSDS Date:08/08/1990

FSC:5855

NIIN:00-051-2792

MSDS Number: CDYVC

=== Responsible Party ===

Company Name:ZIEMER & ASSOCIATES, INC

Address:501 S. ROCKFORD DRIVE

City:TEMPE

State:AZ

ZIP:85281-3021

Country:US

Info Phone Num:602-967-6061

Emergency Phone Num:602-967-6061

Prep

arer's Name:DLA.DSCR.HMIS

CAGE:0DVN8

=== Contractor Identification ===

Company Name:U.S. ARMY ARMAMENT RESEARCH AND DEVELOPMENT COMMND

Box:City:DOVER

State:NJ

ZIP:07801

Country:US

Phone:973-724-4021

CAGE:19200

Company Name:US ARMY COMMUNICATIONS & ELECTRONICS MATL READINES

Address:12 WD BLDG 601 MCAFEE CENTER

Box:City:FT. MONMOUTH

State:NJ

ZIP:07703

Country:US

Phone:732-532-5332

CAGE:80063

Company Name:ZIEMER & ASSOCIATES, INC

Address:501 S. ROCKFORD DRIVE

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Composition/Information on Ingredients
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Ingred Name:THORIUM TETRAFLUORIDE
CAS:13709-59-6
Fraction by Wt: 100%
Other REC Limits:SEE NRC LIMIT FOR TH
OSHA PEL:2.5 MG F/M3
ACGIH TLV:2.5 MG F/M3

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Hazards Identification
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LD50 LC50 Mixture:PRODUCT'S LD50 (ORAL RAT) WAS NOT STATED
Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES
Reports of Carcinogenicity:NTP:YES IARC:NO OSH
A:NO
Health Hazards Acute and Chronic:ACUTE-RESPIRATORY IRRITANT. DERMAL
IRRITANT. EYE IRRITANT. MAY CAUSE G/I IRRITATION. CHRONIC-ANY
EXPOSURE TO THORIUM FLUORIDE BY ANY ROUTE MAY LEAD TO CANCER AT
SITE OF RETENTION. WILL CAUSE FLUORIOS IS.
Explanation of Carcinogenicity:RADIOACTIVE. IF RETAINED IN BODY, MAY
CAUSE CANCER AT SITE OF RETENTION.
Effects of Overexposure:EYE:IRRITATION, INFLAMMATION, WATERING.
SKIN:IRRITATION, ITCHING, DERMATITIS. INHALATION:RESPIRATORY
IRRI
TATION, COUGHING, SNEEZING, DIFFICULTY BREATHING. MAY ALSO
CAUSE (FLUOROSIS) ANOREXIA, ANEMIA, LOSS OF WEIGHT. INGESTION:G/I
IRRITATION, NAUSEA, VOMITING, FLUOROSIS.
Medical Cond Aggravated by Exposure:PREVIOUS RESPIRATORY OR SKIN
DISORDERS.

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First Aid Measures
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First Aid:GET IMMEDIATE MEDICAL ATTENTION. EYE:FLUSH W/WATER FOR 15
MIN. SKIN:WASH W/SOAP & WATER. REMOVE CONTAMINATED CLOTHING &
LAUNDRER BEFORE REUSE. INHALED:REMOVE
FROM EXPOSURE. AID OR RESTORE
BREATHING AS NEEDED. INGESTED:GIVE 2 GLASSES OF WATER & INDUCE
VOMITING. GET IMMEDIATE MEDICAL ATTENTION.

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Fire Fighting Measures
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Flash Point:NA
Autoignition Temp:Autoignition Temp Text:NA
Lower Limits:NA
Upper Limits:NA
Extinguishing Media:USE DRY CHEMICAL, CARBON DIOXIDE
Fire Fighting Procedures:WEAR SELF-CONTAINED BREATHING APPARATUS & FULL
PROTECTIVE CLOTHING TO PREVENT CONTACT W/SKIN & EYES.
Unusual F

ire/Explosion Hazard:TOXIC & RADIOACTIVE FUMES MAY GENERATE IF INVOLVED IN A FIRE.

===== Accidental Release Measures =====

Spill Release Procedures:WEAR SELF-CONTAINED BREATHING APPARATUS & FULL PROTECTIVE CLOTHING. ISOLATE SPILL AREA. VENTILATE. VACUUM SPILL USING HIGH EFFICIENCY UNIT (HEPA) & PLACE IN CONTAINER FOR PROPER DISPOSAL. TAKE CARE NO T TO RAISE DUST.

Neutralizing Agent:MFR GAVE NO INFORMATION OF MSDS.

===== Handling and Storage =====

Handling and Storage Precautions:STORE IN TIGHTLY CLOSED CONTAINERS IN A COOL, DRY PLACE LABELED AS A RADIOACTIVE STORAGE AREA. WASH HANDS & FACE THOROUGHLY AFTER HANDLING.

Other Precautions:SHOWERING AFTER HANDLING IS RECOMMENDED. PERSONAL DOSIMETER SHOULD BE WORN BY PERSONNEL WORKING W/THIS MATERIAL.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:WEAR NIOSH-APPROVED DUST-MIST-FUME RESPIRATOR W/HIGH EFFICIENCY FILTERS APPROVED FOR RADIONUCLIDES. WEAR PERSONAL AIR MONITOR.

Ventilation:LOCAL EXHAUST TO MAINTIAN EXPOSURE BELOW NRC LIMIT. SPECIAL VENTILATION:WEAR PERSONAL AIR MONITOR & DOSIMETER.

Protective Gloves:NEOPRENE

Eye Protection:SAFETY GLASSES.

Other Protective Equipment:WEAR DISPOSABLE RADIATION RESISTANT PROTECTIVE CLOTHING TO PREVENT CONTAMINATION OF SKIN & CLOTHES.

Work Hygienic Practices:SHOWERING AFTER HANDLING IS RECOMMENDED.

PERSONAL DOSIMETER SHOULD BE WORN BY PERSONNEL WORKING W/THIS MATERIAL.

Supplemental Safety and Health

ADD THAT THIS INFO IS FOR RADIOACITVE INGREDIENT (TH232). NO MSDS IS REQUIRED FOR RECEIVER SUBASSEMBLY FOR THE TH232 SINCE THE QUANTITY IS W/I THE "EXCEPTED QUANTITY" FOR INSTRUMENTS & ARTICLES & NOT CONSIDERED HAZARDOUS BY OSHA. PROPER SHIPPING NAME FOR THIS ITEM IS "RADIOACTIVE MATERIAL, EXCEPTED PACKAGE, UN2910".

===== Physical/Chemical Properties =====

HCC:A2

NRC/State Lic Num

:NONE
Boiling Pt:B.P. Text:ND
Melt/Freeze Pt:M.P/F.P Text:>1652F,>900
Vapor Pres:NA
Spec Gravity:6.32
Evaporation Rate & Reference:NA
Solubility in Water:VERY SLIGHT
Appearance and Odor:WHITE CRYSTALLINE POWDER OR PIECES, NO ODOR. -
ALPHA RADIATION EMITTER
Percent Volatiles by Volume:NA
Corrosion Rate:UNKNOWN

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:NO
ACIDS, INTERAHALOGENS.
Stability Condition to Avoid:UNSTABLE - NATURAL RADIOACTIVE DECAY.
Hazardous Decomposition Products:FUMES (THERMAL). ALPHA, BETA, GAMMA
RADIATION. THORIUM DAUGHTERS.
Conditions to Avoid Polymerization:WILL NOT OCCUR. HEAT,
INCOMPATIBLE MATERIALS.

===== Disposal Considerations =====

Waste Disposal Methods:DISPOSE OF I/A/W FEDERAL, STATE & LOCAL
REGULATIONS.

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