

MINNESOTA MINING AND MFG CO -- FC-77 FLUORINERT BRAND ELECTRONIC LIQUID (SEE SUPPL) -- 6850-00-964-0838

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

Product ID:FC-77 FLUORINERT BRAND ELECTRONIC LIQUID (SEE SUPPL)

MSDS Date:07/08/1999

FSC:6850

NIIN:00-964-0838

Status Code:A

MSDS Number: CLGSX

=== Responsible Party ===

Company Name:MINNESOTA MINING AND MFG CO

Address:3M CENTER

City:SAINT PAUL

State:MN

ZIP:

55144-1000

Country:US

Info Phone Num:800-364-3557 / 651-737-6501(24 HR)

Emergency Phone Num:612-737-6501

Resp. Party Other MSDS Num.:DOCUMENT: 10-3791-0

Preparer's Name:NOT PROVIDED

CAGE:76381

=== Contractor Identification ===

Company Name:MINNESOTA MINING AND MFG CO, DBA 3M

Address:3M CENTER BLDG 224-5S-04

Box:City:SAINT PAUL

State:MN

ZIP:55144-1000

Country:US

Phone:866-556 5712 / 612-733-1110

Contract Num:SP0450-01-D-4083

CAGE:76381

===== Composition/Information on Ingredients =====

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Ingred Name:PERFLUORO COMPOUNDS, (PRIMARYLY COMPOUNDS WITH 8 CARBONS)

CAS:86508-42-1

= Wt:100.

Other REC Limits:NOT PROVIDED

===== Hazards Identification =====

LD50 LC50 Mixture:NOT PROVIDED

Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO

Health Hazards Acute and Chronic:EYE CONTACT: CONTACT WITH THE EYES

DURING PRODUCT USE IS NOT EXPECTED TO RESULT IN SIGNIFICANT

IRRITATION. SKIN CONTACT: CONTACT WITH THE SKIN DURING PRODUCT USE

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IS NOT EXPECTED TO RESULT IN SIGNIFICANT IRRITATION. INHALATION: HEALTH EFFECTS FROM INHALATION ARE NOT EXPECTED UNLESS THE PRODUCT IS OVER HEATED AND DECOMPOSITION OCCURS. IF SWALLOWED: INGESTION IS NOT A LIKELY ROUTE OF EXPOSURE TO THIS PRODUCT. IF THE PRODUCT IS EXPOSED TO EXTREME CONDITION OF HEAT FROM MISUSE OR EQUIPMENT FAILURE, TOXIC DECOMPOSITION PRODUCTS THAT INCLUDE HYDROGEN FLUORIDE AND PERFLUOROISOBUTYLENE CAN OCCUR.

Explanation of Carcinogenicity:NONE

Effects

Effects of Overexposure:ORAL PRACTICALLY
NON-TOXIC DERMAL MINIMALLY IRRITATING
EYE PRACTICALLY NON-IRRITATING
INHALATION PRACTICALLY NON-TOXIC

Medical Condition Aggravated by Exposure:NOT PROVIDED

===== First Aid Measures =====

First Aid:EYE CONTACT: IMMEDIATELY FLUSH EYES WITH LARGE AMOUNTS OF WATER. GET IMMEDIATE MEDICAL ATTENTION. SKIN CONTACT: WASH AFFECTED AREA WITH SOAP AND WATER. INHALATION: IF SIGNS/SYMPTOMS

OCCUR, REMOVE PERSON TO FRESH AIR. IF SIGNS/SYMPTOMS CONTINUE, CALL A PHYSICIAN. IF SWALLOWED: NO NEED FOR FIRST AID IS ANTICIPATED. THIS PRODUCT IS NOT EXPECTED TO BE IRRITATING TO THE EYES, SKIN OR RESPIRATORY SYSTEM AT ROOM TEMPERATURE CONDITIONS. THIS ASSESSMENT DOES NOT ACCOUNT FOR CONTAMINANTS FROM PRODUCT USE. THE SUGGESTED FIRST AID MEASURES ARE BASIC FIRST AID MEASURES FOR REMOVAL OF FOREIGN MATERIALS FROM THE SKIN AND/OR EYES.

===== Fire Fighting Measures =====

Flash Point Method:SCC

Flash Point:NONE

Extinguishing Media:NONFLAMMABLE.

Fire Fighting Procedures:WHEN FIRE FIGHTING CONDITIONS ARE SEVERE AND THERMAL DECOMPOSITION IS POSSIBLE, WEAR FULL PROTECTIVE CLOTHING, INCLUDING HELMET, SELF-CONTAINED, POSITIVE PRESSURE OR PRESSURE DEMAND BREATHING APPARATUS, BUNKER COAT AND PANTS, BANDS AROUND ARMS AND LEGS, FACE MASK, AND PROTECTIVE COVERING FOR EXPOSED AREAS OF THE HEAD.

Unusual Fire/Explosion

xplosion Hazard:EXPOSURE TO EXTREME HEAT CAN GIVE RISE TO THERMAL DECOMPOSITION. KEEP CONTAINERS COOL WITH WATER SPRAY WHEN EXPOSED TO FIRE TO AVOID RUPTURE.

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

Spill Release Procedures:OBSERVE PRECAUTIONS FROM OTHER SECTIONS. IN ACCORDANCE WITH GOOD INDUSTRIAL PRACTICE, PROVIDE EXHAUST VENTILATION FOR LARGE SPILLS OR IN CONFINED SPACES. COLLECT SPILLED MATERIAL WITH AN ABSORBENT. PLACE IN AN APPROVED CONTAINER.

Neutralizing Agent:NOT RELEVANT

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

Handling and Storage Precautions:STORE UNDER NORMAL WAREHOUSE CONDITIONS.

Other Precautions:SMOKING WHILE USING THIS PRODUCT CAN RESULT IN CONTAMINATION OF THE TOBACCO AND/OR SMOKE AND LEAD TO THE FORMATION OF THE HAZARDOUS DECOMPOSITION PRODUCTS.

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

Respiratory Protection:IF THERMAL DECOMPOSITION OCCURS: AVOID BREATHING

OF THERMAL DECOMPOSITION PRODUCTS. SELECT ONE OF THE FOLLOWING NIOSH APPROVED RESPIRATORS BASED ON AIRBORNE CONCENTRATION OF CONTAMINANTS AND IN ACCORDANCE WITH OSHA REGULATIONS: HALF-MASK SUPPLIED AIR RESPIRATOR, FULL-FACE SUPPLIED AIR RESPIRATOR.

Ventilation:LOCAL EXHAUST VENTILATION SUFFICIENT TO MAINTAIN LEVELS OF THERMAL DECOMPOSITION PRODUCTS BELOW THEIR EXPOSURE GUIDELINES

Protective Gloves:GLOVES ARE NOT REQUIRED.

Eye Protection:AS A GOOD INDUSTRIAL HYGIENE PRACTICE: WEAR SAFETY GLASSES WITH SIDE SHIELDS.

Other Protective Equipment:NOT PROVIDED

Work Hygienic Practices:NOT PROVIDED

Supplemental Safety and Health

P/N: AMS H 81829. FOR INDUSTRIAL USE ONLY. NOT INTENDED FOR USE AS A MEDICAL DEVICE OR DRUG. ABBREVIATIONS: N/D - NOT DETERMINED N/A - NOT APPLICABLE CA - APPROXIMATELY

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

HCC:N1

NRC/State Lic Num:NOT RELEVANT

Boiling Pt:B.P. Text:90-107C

Decomp T

emp:Decomp Text:NOT PROVIDED
Vapor Pres:CA. 42 @ 20C
Vapor Density:CA 14
Spec Gravity:CA. 1.8
Viscosity:0.8 CST @ 20C
Evaporation Rate & Reference:>1 (N-BUTYL ACETATE=1)
Solubility in Water:NIL
Appearance and Odor:COLORLESS LIQUID - ODORLESS
Percent Volatiles by Volume:CA. 100
Corrosion Rate:NOT PROVIDED

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

Stability Indicator/Materials to Avoid:YES
FINELY DIVIDED ACTIVE METALS, ALKALI AND ALKALINE EARTH METALS.
Stability Condition to Avoid:NOT PROVIDED
Hazardous Decomposition Products:IF THE PRODUCT IS EXPOSED TO EXTREME
CONDITION OF HEAT FROM MISUSE OR EQUIPMENT FAILURE, TOXIC
DECOMPOSITION PRODUCTS THAT INCLUDE HYDROGEN FLUORIDE AND
PERFLUOROISOBUTYLENE CAN OCCUR

===== Toxicological Information =====

| Toxicological Information:EXPOSURE ROUTE | | SUMMARY OF TOXICITY FINDINGS | |
|--|------------|------------------------------|-----------------------|
| ORAL | | | |
| PRACTICALLY NON-TOXIC | DERMAL | | MINIMALLY IRRITATING |
| NON-IRRITATING | INHALATION | | PRACTICALLY NON-TOXIC |

===== Ecological Information =====

Ecological:BIODEGRADATION: CHEMICAL OXYGEN DEMAND (COD): NIL. 20-DAY
BIOCHEMICAL OXYGEN DEMAND (BOD20): NIL. AQUATIC TOXICITY: FATHEAD
MINNOW (PIMEPHALES PROMELAS) 96-HR. LL50: >1000 MG/L. WATER FLEA
(DAPHNI A MAGNA) 48-HR. EL50: >1500 MG/L. THIS SUBSTANCE IS
RESISTANT TO BIODEGRADATION AND IS THEREFORE LIKELY TO

PERSIST IN

THE ENVIRONMENT. THIS LOW-SOLUBILITY SUBSTANCE HAS INSIGNIFICANT TOXICITY TO AQUATIC ORGANISMS (LOWEST LL50 OR EL50 IS >1000 MG/L). LL50 (LETHAL LEVEL) AND EL50 ARE SIMILAR TO LC50 AND EC50, BUT TESTS THE WATER PHASE FROM INCOMPLETELY-MISCIBLE MIXTURES.

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

Waste Disposal Methods: AS A DISPOSAL ALTERNATIVE, INCINERATE IN THE PRESENCE OF A COMBUSTIBLE MATERIAL IN AN INDUSTRIAL OR COMMERCIAL FACILITY CAPABLE OF HANDLING HALOGENATED WASTE. RECLAIM IF FEASIBLE. FOR INFORMATION ON PRODUCT RETURN, CONTACT YOUR DISTRIBUTOR.

===== MSDS Transport Information =====

Transport Information: TRANSPORTATION INFORMATION: NOT REGULATED, ALL TRANSPORTATION MODES.

===== Regulatory Information =====

SARA Title III Information: SINCE REGULATIONS VARY, CONSULT APPLICABLE REGULATIONS OR AUTHORITIES BEFORE DISPOSAL

. U.S. CLEAN WATER ACT, SECTION 307, TOXIC POLLUTANTS = NONE. U.S. EPA HAZARDOUS WASTE NUMBER = NONE (NOT U.S. EPA HAZARDOUS). EPCRA 311/312 REPORTABLE QUANTITY = NOT REPORTABLE.

Federal Regulatory Information: THE COMPONENTS OF THIS PRODUCT ARE IN COMPLIANCE WITH THE CHEMICAL REGISTRATION REQUIREMENTS OF: TSCA, EINECS, CDSL, AICS, MITI.

State Regulatory Information: NOT PROVIDED

===== Other Information =====

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