

MINNESOTA MINING & MFG CO INDUSTRIAL CHEM PRODUCTS -- FC 41 FLUORINERT BRAND  
ELECTRONIC LIQUID (SEE SUPPLEMENT) -- 6850-01-198-3079

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

Product ID:FC 41 FLUORINERT BRAND ELECTRONIC LIQUID (SEE SUPPLEMENT)

MSDS Date:01/29/1998

FSC:6850

NIIN:01-198-3079

MSDS Number: BGQJZ

=== Responsible Party ===

Company Name:MINNESOTA MINING & MFG CO INDUSTRIAL CHEM PRODUCTS

Address:

3M CTR

City:ST PAUL

State:MN

ZIP:55144

Country:US

Info Phone Num:612-733-5454/612-733-1110

Emergency Phone Num:1-800-364-3577

Preparer's Name:(MSDS DOC#10-3784-5)

CAGE:28112

=== Contractor Identification ===

Company Name:EMULTEC INDUSTRIAL PRODUCTS INC

Address:1150 HAYDEN DR SUITE 100

Box:City:CHARROLLTON

State:TX

ZIP:75006

Country:US

Phone:972-417-1288

Contract Num:SP0450-00-M-D494

CAGE:0WA27

Company Name:MINNESOTA MINING AND MFG CO PERFORMANCE CHEM AND FLUIDS DIV

Address:3M CTR

Box:City:SAINT P

AUL

State:MN

ZIP:55144-1000

Country:US

Phone:800-364-3577/651-737-6501

CAGE:28112

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

Ingred Name:PERFLUORO COMPOUNDS, C5-18

CAS:86508-42-1

Fraction by Wt: 100%

Other REC Limits:NONE RECOMMENDED

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

LD50 LC50 Mixture:NOT KNOWN

Routes of Entry: Inhalation:NO Skin:NO Ingestion:NO

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

Health Hazards Acute and Chronic:

EYE/SKIN:NO ADVERSE HEALTH EFFECTS

EXPECTED. AFTER MATL HAS BEEN IN USE CONTAMINANTS MAY BE INTRODUCED THAT MAY CAUSE EYE/SKIN IRRIT. INHAL:NO ADVERSE HEALTH EFFECTS ARE EXPECTED UNLESS PRODUCT IS OVE RHEATED & DECOMPOSITION OCCURS.

INGEST:NO ADVERSE HEALTH EFFECTS ARE EXPECTED.

Effects of Overexposure:EYE:REDNESS, SWELLING, PAIN, TEARING.

SKIN:REDNESS, SWELLING, ITCHING. INHAL:COUGHING.

Medical Cond Aggravated by Exposure:NONE SPECIFIED BY MANUFACTURER.

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=== First Aid Measures =====

First Aid:EYE:FLUSH W/LARGE AMTS OF WATER. GET IMMED MED ATTENTION.

SKIN: WASH AREA W/SOAP & WATER. INHAL:IF SIGNS/SYMPTOMS OCCUR

REMOVE PERSON TO FRESH AIR. IF THEY CONTINUE CALL DOCTOR.

SWALLOWED: NO NEED FO R FIRST AID IS ANTICIPATED. CONSULT A PHYSICIAN.

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

Flash Point Method:SCC

Flash Point:NONE

Extinguishing Media:NONFLAMMABLE.

Fire Fighting Procedures:WEAR

FULL PROTECTIVE CLOTH W/HELMET,SCBA & +

PRESSURE OR PRESSURE DEMAND,BUNKER COAT & PANTS,BANDS AROUND ARMS/WAIST/LEGS,FACE MASK & COVERING FOR EXPOSED HEAD.

Unusual Fire/Explosion Hazard:EXPOSURE TO EXTREME HEAT CAN GIVE RISE TO THERMAL DECOMPOSITION. IF THE PRODUCT IS EXPOSED TO EXTREME CONDITION OF HEAT FROM MISUSE OR EQUIPMENT FAILURE, TOXIC DECOMPOSITION PRODUCTS THAT INCLUDE HYD ROGEN FLUORIDE AND PERFLUOROISOBUTYLENE CAN OCCUR.

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

Spill Release Procedures:OBSERVE PRECAUTIONS FROM OTHER SECTIONS OF MSDS. COLLECT SPILLED MATERIAL WITH AN ABSORBENT. PLACE IN AN APPROVED CONTAINER.

Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

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

Handling and Storage Precautions:STORE IN ROOM TEMPERATURE. NO SMOKING WHILE HANDLING THIS MATERIAL. FOR INDUSTRIAL USE ONLY. NOT INTENDED FOR USE AS A MEDICAL DEVICE OR DRUG.

Oth

er Precautions:AVOID PROLONGED BREATHING OF VAPORS. AVOID INHALATION  
OF THERMAL DECOMPOSITION PRODUCTS.

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

Respiratory Protection:IF THERMAL DECOMPOSITION OCCURS SELECT ONE OF  
THE FOLLOWING NIOSH-APPROVED RESPIRATORS BASED ON AIRBORNE  
CONCENTRATION OF CONTAMINANTS AND IN ACCORDANCE WITH OSHA  
REGULATIONS:HALF-MASK SUPPLIED AIR RE SPIRATOR, FULL-FACE SUPPLIED  
AIR RESPIR.

Ventilation:LOCAL EXHAUST VENTILATION W/A  
MINIMUM CAPTURE VEL=50 LINEAR

FT/MIN IF INTERFERING AIR CURRENTS ARE PRESENT USE 100FT/MIN

Protective Gloves:NONE AT ROOM TEMP

Eye Protection:SAFETY GLASSES W/SIDE SHIELDS.

Other Protective Equipment:NONE SPECIFIED BY MANUFACTURER.

Work Hygienic Practices:WASH HANDS AFTER HANDLING & BEFORE  
EAT/SMOKE/DRINK. NO SMOKING WHILE HANDLING THIS MATERIAL.

Supplemental Safety and Health

3M ID NO:98-0211-0924-8; 98-0211-0925-5; 98-0211-3976-5;  
98-0211-3977-3. THIS MSDS SUPERSEDES 31AUG92.

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

HCC:N1

Boiling Pt.=139.C, 282.2F

B.P. Text:139-189C (TYPICAL)

Vapor Pres:3 MMHG

Vapor Density:22.5

Spec Gravity:1.9

Viscosity:2.7 CENTISTOKE

Evaporation Rate & Reference:>1(BUO AC=1)

Solubility in Water:NIL

Appearance and Odor:COLORLESS,ODORLESS LIQUID

Percent Volatiles by Volume:100%

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

Stability Indicator/Materials to Avoid:YES

FINELY DIVIDED ACTIVE METALS,

ALKALI AND ALKALINE EARTH METALS.

Stability Condition to Avoid:HIGH TEMPERATURES.

Hazardous Decomposition Products:THERM DECOMPOSITION MAY PRODUCE TOXIC VAPORS/GASES,CARBON MONOXIDE,CARBON DIOXIDE,HYDROGEN FLUORIDE,PERFLUOROISOBUTYLENE.

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

Ecological:CHEMICAL OXYGEN DEMAND: NIL. 20 DAY OXYGEN DEMAND: NIL. THIS SUBSTANCE DID NOT DEGRADE SIGNIFICANTLY IN READY BIODEGRADATION TEST. THIS COMPOUND IS COMPLETELY FLUORI

NATED (PERFLUORINATED), OR

IT CONTAINS PERFLUORINATED PORTIONS. PERFLUOROALKYL GROUPS RESIST DEGRADATION IN MOST NATURAL ENVIRONMENTS. HAS INSIGNIFICANT TOXICITY TO AQUATIC ORGANISMS. NO DATA ARE AVAILABLE ON THE TOXICITY EFFECTS OF THIS SUBSTANCE ON WASTEWATER TREATMENT SYSTEMS.

===== 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:NOT REGULATED BY ALL MODES OF TRANSPORTATION.

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

SARA Title III Information:EPCRA HAZARD CLASS: NONE.EPCRA 311/312 RQ:

NONE. SEC 307 TOXIC POLLUTANT: NONE. US EPA HAZ WASTE NUMBER: NONE.

Federal

Regulatory Information:THE COMPONENTS OF THIS PRODUCT ARE IN

COMPLIANCE WITH THE CHEMICAL REGISTRATION REQUIREMENTS OF TSCA, CDSL, AICS.

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