

FM-200

MSDS Number

CJDMD

National Stock Number

4210-01-059-5681

Product Name

FM-200

Manufacturer

GREAT LAKES CHEMICAL CORP

Product Identification

Product ID:FM-200
MSDS Date:04/07/1998
FSC:4210
NIIN:01-059-5681
Status Code:A
MSDS Number: CJDMD

Responsible Party

GREAT LAKES CHEMICAL CORPORATION

HIGHWAY 52 NW

WEST LAFAYETTE , IN 47996-2200

US

Emergency Phone: 800-949-5167

Info Phone: 765-497-6100/FX 765-497-6123

Cage: 2E394

Contractor

KEYSTONE FIRE PROTECTION CO.

MONTGOMERYVILLE, PA 18936

US

215-641-0100/ FAX 215-641-9638

Cage: 1U693

Ingredients

1,1,1,2,3,3,3,-HEPTAFLUOROPROPANE

CAS: 431-89-0

Hazards

Routes of Entry: Inhalation:YES Skin:NO Ingestion:NO
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:EYE:DIRECT CONTACT W/LIQ OR COLD GAS
CAN CAUSE CHILLING OR POSSIBLY FROSTBITE OF EXPO TISSUES.
SKIN:DIRECT CONTACT W/LIQ OR COLD GAS CAN CAUSE CHILLING OR
POSSIBLY FROSTBITE OF EXPO TISSUES. INGEST:NO T EXPECTED TO BE HAZ
IN NORMAL INDUSTRIAL USE.INHAL:INHAL OF HI CONC CAN BE HARMFUL OR
FATAL DUE TO OXY DEPREIVATION &/OR HEART
IRREGULARITIES(ARRHYTHMIAS).MISUSE OF PROD BY DELIBERATELY INHAL HI
CONC OF THIS GAS COULD CAUSE DEATH W/O WARNING.
Explanation of Carcinogenicity:PER
MSDS:CARCINOGENICITY:NTP/IARC/OSHA/ACGIH/OTHTGER:NO.
Effects of Overexposure:SYMPTOMS SIMILAR TO OXY
DEPRIVATION(HEAD,NAU,DIZZ OR LOSS OF CONSCIOUSNESS)MAY RESULT FRM
OVEREXPO BY INHAL.HEART IRREGULARITIES SUCH AS IRREG PULSE OR HEART

PALPITATIONS MAY INDICATE CARDIAC SENS. COL D, WHITE OR DISCOLORED SKIN OR IN SEVERE CASES BLISTERING, CAN BE A SIGN OF FROSTBITE CAUSED BY COLD LIQUID OR GASES.

Medical Cond Aggravated by Exposure: PERSONS W/PRE-EXIST CARDIAC, RESP, CNS DISORDERS MAY BE MORE SUSCEPT TO EFFECTS OF OVEREXP. USE OF EPINEPHRINE OR SIMILAR CMPDS CAN INCR SUSCEPTIB TO HEART IRREG CAUSED BY EXCE EXPO TO THESE TYPE CMPDS.

First Aid

First Aid: EYE: FLUSH W/WATER. GET MED ATTN. SKIN: FLUSH W/WATER; IF FROSTBITE OCCURS GET MED ATTN. INGEST: NO INFO AVAILABLE. INHAL: REMOVE PERSON TO FRESH AIR; IF NOT BREATHING GIVE ARTIFICIAL RESP. IF BREATHING IS DIFFICULT GIVE OXY. GET MED ATTN. ANTIDOTES: NO INFO AVAILABLE. NOTES TO DR &/OR PROTECTION FOR 1ST AIDERS: THE USE OF EPINEPHRINE OR SIMILAR CMPDS CAN INCR SUSCEPTIBILITY TO HEART IRREGULARITIES CAUSED BY EXCESSIVE EXPO TO THESE TYPES OF CMPDS.

Fire Fighting

Flash Point: NONFLAMMABLE GAS
Autoignition Temp: Autoignition Temp Text: N/A
Extinguishing Media: ALL CONVENTIONAL MEDIA ARE SUITABLE.
Fire Fighting Procedures: KEEP CYLINDERS COOL WITH H2O SPRAY APPLIED FROM SAFE DISTANCE. USE A SELF-CONTAINED BREATHING APPARATUS IF CONTAINERS RUPTURE OR RELEASE UNDER FIRE CONDITIONS. DO NOT ALLOW REENTRY TO AREAS WHERE MATL WAS RELEASED WITHOUT FIRST VENTILATING TO REMOVE PRODUCTS OF COMBUSTION/DECOMPOSITION.
Unusual Fire/Explosion Hazard: ALTHOUGH CNTNRS ARE PROVIDED WI/PRESSURE & TEMP RELIEF DEVICES CNTNR CAN RUPTURE IF EXPO TO LOCALIZED HEAT. THERM DECOMP WILL GEN TOX/CORRO GASES. DECOMP BY ELEV TEMPS (FIRE COND, GLOWING METAL SURF) MAY GEN HAZ DECOMP PROD COMMON TO OTHER CFC, HCFC, HBFC, INCLUDE HYDROGEN FLUORIDE, CARBON MONOXIDE, CO2 & OTHERS.

Accidental Release

Spill Release Procedures: EVACUATE AREA, VENTILATE. DONT ENTER AREAS WHERE HI CONC MAY EXIST (ESPECIALLY CONFINED OR POORLY VENTILATED AREAS) W/O APPROPRIATE PROTECTIVE EQPMT INCLUDING SELF-CONTAINED BREATHING APPARATUS.

Handling

Handling and Storage Precautions: USE SAME TYPE OF PRECAUT AS WOULD BE USED IN HANDLING ANY CRYOGENIC GAS. PROTECT CNTNR FRM DMG. HNDL IN WELL VENTILATED AREA. WHEN MATL USED AS FIREFIGHTING AGENT IN FIXED OR PORTABLE EXTINGUISHING SYST, FOLLOW MFG INSTRUCT FOR OPERATION/INSPECTION/MAINTENANCE/REPAIR OF SYST. (SEE OTHER INFO)
Other Precautions: DIRECT EYE/SKIN CONTACT W/LIQ OR COLD GAS CAN CAUSE CHILLING OR POSSIBLY FROSTBITE OF EXPOSED TISSUES. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS. INHAL OF HIGH CONC CAN BE HARMFUL OR FATAL DUE TO OXY DEPRIVATION &/OR HEART IRREGULARITIES.

Exposure Controls

Respiratory Protection: WEAR NIOSH/MSHA APPROV SELF-CONTAINED BREATHING APPARATUS IN EMERGENCY SITUATIONS. CONSULT OSHA RESP PROTECTION INFO LOCATED @ 29CFR1910.134 & AMER NATL STD INSTITUTES PRACTICES OF RESP PROT Z88.2.
Ventilation: ENGINEERING CONTROL: NO INFO AVAILABLE. VENTI: USE LOCAL VENTILATION TO MIN EXPO TO GAS. USE MECHANICAL VENTI FOR GENERAL AREA CONTROL.
Protective Gloves: USE LINED NEOPRENE GLOVES IF HANDLING LIQ.
Eye Protection: CHEM SPLASH GOGGLES WHEN HANDLING LIQ.
Other Protective Equipment: CLOTHING DESIGNED TO MINIMIZE SKIN CONTACT.
Work Hygienic Practices: WASH THOROUGHLY AFTER HANDLING. WASH CONTAM CLOTH BEFORE REUSE. MAKE SURE PIPING IS EMPTY BEFORE DOING MAINTENANCE WORK.
Supplemental Safety and Health
THIS IS PART B OF 2-PART SYSTEM. SEE SAME NSN CAGE: 0KDP7 (SERIAL #CJDMG) FOR PART A. KEY1: HCC=G3.

Chemical Properties

HCC:G3
Boiling Pt:=-16.3C, 2.5F
Melt/Freeze Pt:=-131.C, -203.8F
Vapor Pres:58.8 PSIA@70F
Vapor Density:6.04
Spec Gravity:1.46 H2O=1
pH:NOT AVAILABLE
Viscosity:NOT AVAILABLE
Evaporation Rate & Reference:NOT AVAILABLE
Solubility in Water:260 MG/L
Appearance and Odor:COLORLESS, ODORLESS GAS
Percent Volatiles by Volume:N/AVAI

Stability

Stability Indicator/Materials to Avoid:YES
POWDERED METALS(EX AL,MG,ZN)& STRONG ALKALIS,OXIDIZERS OR REDUCING AGENTS ARE NOT COMPATIBLE W/THIS & MOST OTHER HALOGENATED ORGANIC CMPDS.
Stability Condition to Avoid:NONE
Hazardous Decomposition Products:THERMAL DECOMPO MAY PRODUCE THE FOLLOWING:HYDROGEN FLUORIDE,CARBON MONOXIDE,& CARBON DIOXIDE.

Disposal

Waste Disposal Methods:NON-CONTAM PROD IS RECLAIMABLE.CONTACT GREAT LAKES CHEM CORP FOR INFO.OTHERWISE DISPO OF WASTE IN APPROVED CHEM INCINERATOR EQUIPPED W/SCRUBBER AS ALLOWED BY CURRENT LOCAL,STATE/PROVINCE,FED/CANADIAN LAWS/REGULATIONS.

Toxicology

Toxicological Information:HUMAN HEALTH HAZ EXPECTED TO BE SIMILAR TO OTHER LIQ GAS(LIKE N2,CO2,CFC,HCFC,HBFC).DIRECT EYE/SKIN CONTACT W/LIQ/COLD GAS CAN CAUSE CHILL/POSSIBLY FROSTBITE OF EXPO TISSUES. INHAL HI CONC CAN BE HARM FUL/FATAL--OXY DEPRIVATION &/OR HEART IRREG(ARRHYTHMIAS).PROD MISUE BY DELIB INHAL HI CONC COULD CAUSE DEATH W/O WARNING.PERSONS W/PRE EXIST CARDIAC/CNS DIS- ORDERS MAYBE MORE SUSCEPT TO OVEREXPO EFFE CTS.WHEN TEST W/& W/O METABOLIC ACTIVATION OVER CONC RANGE OF 43.9-93.5% HEPTAFLUOROPROPANE WASNT MUTAGENIC IN S.TYPHIMURIUM. NEITHER TOXICITY/MUTAGENICITY OBSERV IN MOUSE LYMPHOMA ASSAY WHEN HEPTAFLU OROPROPANE TESTED(CONTD @ENVIRO INFO)

Other Information

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Ecology

Ecological:NO INFO AVAI. TOXI CONTD:TO 56.8%CONC.NO TOX&INCR IN MICRONU- CLEI OBSERV IN MICE EXPO TO 10.5%HEPTAFLUOROPROPANE.NO EVIDENCE THAT ITS CAPABLE OF INDUC GENE/CHROMOSOMAL MUTATIONS IN VITRO/CHROMOSOMAL EFFECTS IN VIVO. OTHER STUDIES ITDIDNT SHOW GENOTOX/CYTO-TOXI.ANIMAL STUDIES FOUND RAT 4HR LC50>788696PPM (~80%)HIGHEST LEVEL TESTED.CARDIAC SENS STUDY IN DOG FOUND NOAEL=9.0%,LOAEL=10.5%.90DAY INHAL STUDY DIDNT FIND EXPO RELATED EFFECTS @105000 PPM(10.5%VOL/VOL),HIGHEST LEVEL TESTED INHAL STUDIES LOOKING FOR DVLPM TAL EFFECTS ON PREG RABBIT/RAT/THEIR OFFSPRING DIDNT SHOW ANY EXPORELATED EFFECTS@HI GHEST CONC TESTED(105000PPM).

Transport

Transport Information:DOT PROPER SHIPPING NAME:HEPTAFLUOROPROPANE, 2.2, UN3296, PKG GROUP-NA,LABEL-NONFLAMM GAS, SPEC PROVISIONS:NA, PKG

EXCEPTIONS:306, NONBULK PKG 304, BULK PKG 314 & 315, AIR/RAIL
LIMIT:75KG, AIR CARGO L IMIT:150KG, VESSEL STOWAGE:NA,
RQ:NA.AIR-ICAO/IATA:HEPTAFLUORO- PROPANE,2.2,UN3296,NONFLAMM
GAS,PKG INSTRUCT 200,PKG INSTRO CARGO
200,PKG:150KG.WATER-IMDG:HEPTAFLUOROPROPANE,2.2,UN3296,MED 1STAID
GUID E CODE:350.ADDN INFO:EMS#2-09.

Regulatory

SARA Title III Information:ACUTE:YES.
CHRONIC/REACTIVE/FIRE/PRESSURE:NO.
Federal Regulatory Information:COMPONENTS OF THIS PROD ARE EITHER ON
TSCA INVENTORY OR EXEMPT(I.E.IMPURITIES,A POLYMER COMPLYING
W/EXEMPTION RULE @40CFR723.250)FROM INVENTORY.
State Regulatory Information:STATE REGULATIONS:NONE KNOWN.INTERNATIONAL
REGULATIONS:THIS MATL(OR EACH COMPONENT)IS LISTED ON FOLLOWING
INVENTORIES:EU-EINECS.CANADIAN WHMIS HAZ CLASS & DIV =A.