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GREAT LAKES CHEMICAL – MONOBROMOTRIFLUOROMETHANE, TECHNICAL MATERIAL SAFETY DATA SHEET NSN: 6830009659647 Manufacturer's CAGE: 2E394 Part No. Indicator: A

General Information

Item Name: MONOBROMOTRIFLUOROMETHANE, TECHNICAL Company's Name: GREAT LAKES CHEMICAL CORP Company's Street: HIGHWAY 52 NW Company's P. O. Box: 2200 Company's City: WEST LAFAYETTE Company's State: IN Company's Country: US Company's Zip Code: 47906 Company's Emerg Ph #: 501-862-5141 Company's Info Ph #: 317-497-6100 Distributor/Vendor # 1: AMERICAN FIRE AND ELECTRIC INDUSTRIES IN Distributor/Vendor # 1 Cage: 47229 Record No. For Safety Entry: 003 Tot Safety Entries This Stk#: 007 Status: SE Date MSDS Prepared: 01JUN93 Safety Data Review Date: 03FEB94 Supply Item Manager: CX MSDS Serial Number: BHVWL Specification Number: MIL-M-12218 Hazard Characteristic Code: G3 Unit Of Issue: LB Unit Of Issue Container Qty: 1-CYLINDER Type Of Container: CYLINDER Net Unit Weight: UNKNOWN

Ingredients/Identity Information

Proprietary: NO Ingredient: BROMOTRIFLUOROMETHANE (SARA III) Ingredient Sequence Number: 01 Percent: >99.6% NIOSH (RTECS) Number: PA5425000 CAS Number: 75-63-8 OSHA PEL: 1000 PPM ACGIH TLV: 1000 PPM; 9394 Other Recommended Limit: NONE SPECIFIED

Physical/Chemical Characteristics

Appearance And Odor: COLORLESS GAS. ODORLESS. Boiling Point: -72F,-58C Melting Point: -270F,-168C Vapor Pressure (MM Hg/70 F): 6200 @ 0 C Vapor Density (Air=1): 5.1 Specific Gravity: 1.57 Decomposition Temperature: UNKNOWN Evaporation Rate And Ref: UNKNOWN Solubility In Water: NEGLIGIBLE Percent Volatiles By Volume: GAS Corrosion Rate (IPY): UNKNOWN

Fire and Explosion Hazard Data

Flash Point: NON-FLAMMABLE Extinguishing Media: A FIRE EXTINGUISHING AGENT. USE MEDIA SUITABLE FOR FLAMMABLE MATERIALS IN THE AREA. Special Fire Fighting Proc: USE WATER SPRAY TO COOL CYLINDERS INVOLVED IN FIRES. WEAR SELF-CONTAINED BREATHING APPARATUS. Unusual Fire And Expl Hazrds: WHEN EXPOSED TO TEMPERATURES ABOVE 1000F, HALON 1310 MAY RELEASE TOXIC FUMES OF HYDROGEN FLUORIDE, HYDROGEN BROMIDE, CARBONYL FLUORIDE AND CARBONYL BROMIDE. Reactivity Data

Stability: YES Cond To Avoid (Stability): PRODUCT MAY DEGRADE CERTAIN POLYMERIC MATERIALS. Materials To Avoid: ACTIVE METALS, METAL HYDRIDE FIRES, MATERIAL CONTAINING OWN OXYGEN.PRODUCT WILL NOT EXTINGUISH FIRES OF THESE MATERIALS. Hazardous Decomp Products: IN PRESENCE OF FLAMES/HOT SURFACES: HYDROGEN FLUORIDE, HYDROGEN BROMIDE, BROMINE, CARBONYL FLUORIDE, CARBONYL BROMIDE. Hazardous Poly Occur: NO Conditions To Avoid (Poly): WILL NOT OCCUR.

Health Hazard Data

LD50-LC50 Mixture: ORAL LD50 (RAT) IS UNKNOWN. Route Of Entry - Inhalation: YES Route Of Entry - Skin: NO Route Of Entry - Ingestion: NO Health Haz Acute And Chronic: HAS ANESTHETIC AND CARDIAC EFFECTS IN HUMANS AT CONCENTRATIONS >10% BY VOLUME, CONCENTRATIONS BELOW 10% ARE CONSIDERED SAFE FOR 0 TO 5 MINUTE EXPOSURES. HALON 1301 IS CLASSIFIED AS GROUP 6 (LEAST TOXIC) IN THE UNDERWRITERS LABORATORIES CLASSIFICATION OF COMPARATIVE LIFE HAZARDS OF FIRE EXTINGUISHING AGENTS. Carcinogenicity - NTP: NO Carcinogenicity - IARC: NO Carcinogenicity - OSHA: NO Explanation Carcinogenicity: THIS COMPOUND IS REPORTED TO BE NON-MUTAGENIC IN THE AMES TEST. Signs/Symptoms Of Overexp: THE ANESTHETIC EFFECT AT LEVELS BELOW 10% IS SIMILAR TO A FEELING OF MILD INTOXICATION. ANESTHETIC **EFFECTS** END RAPIDLY AFTER EXPOSURE IS TERMINATED. PROLONGED EXPOSURE TO CONCENTRATIONS ABOVE 10% (15-20%), MAY LEAD TO UNCONSCIOUSNESS AND POSSIBLY DEATH. Med Cond Aggravated By Exp: CARDIAC PROBLEMS MAY BE AGGRAVATED BY OVEREXPOSURE.

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: EVACUATE AREA. WEAR SELF-CONTAINED BREATHING APPARATUS. VENTILATE ENCLOSED AREAS. Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER. Waste Disposal Method: DISPOSE OF WASTE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. RETURN CYLINDERS TO GREAT LAKES CHEMICAL CORPORATION, EL DORADO, ARKANSAS. Precautions-Handling/Storing: PROTECT CYLINDERS FROM DAMAGE. STORAGE TEMP. SHOULD NOT EXCEED 125F. CYLINDERS SHOULD BE SECURED FOR STORAGE WITH VALVE PROTECTION CAP INSTALLED. Other Precautions: DETERMINE THAT PIPING IS EMPTY BEFORE DOING MAINTENANCE WORK. PERIODICALLY CHECK CYLINDERS TO ENSURE VALVES ARE NOT LEAKING. DO NOT WEAR CONTACT LENSES.

Control Measures

Respiratory Protection: WEAR NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS AT CONCENTRATIONS GREATER THAN 10,000 PPM AS RECOMMENDED BY NIOSH. CONSULT ANSI STANDARD AND OSHA REGULATIONS CONCERNING THE USE OF RESPIRATORY EQUIPMENT. Ventilation: MECHANICAL: ALL INDOOR AREAS SHOULD BE WELL VENTILATED. USE LOCAL EXHAUST FOR MATERIAL TRANSFER AND HANDLING OPERATIONS. Protective Gloves: LINED NEOPRENE OR LEATHER RECOMMENDED. Eye Protection: CHEMICAL SAFETY GOGGLES.

Other Protective Equipment: DO NOT WEAR CONTACT LENSES.

Work Hygienic Practices: WASH AFTER HANDLING AND BEFORE EATING, DRINKING, OR SMOKING.

Suppl. Safety & Health Data: AVOID EXPOSURE TO THIS PRODUCT AND DECOMPOSITION PRODUCTS WHEN WEARING CONTACT LENSES; CLOUDING OF LENSES MAY OCCUR. SMOKING IN AREAS WHERE THIS CHEMICAL IS RELEASED CAN CAUSE FORMATIONOF TOXIC AND IRRITATING HALOGENS AND HALOGEN ACIDS WHICH COULD BE INHALED WITH THE SMOKE.

Transportation Data

Trans Data Review Date: 94034 DOT PSN Code: CEX DOT Proper Shipping Name: BROMOTRIFLUOROMETHANE OR REFRIGERANT GAS, R 13B1. DOT Class: 2.2 DOT ID Number: UN1009 DOT Label: NONFLAMMABLE GASS IMO PSN Code: CMN IMO Proper Shipping Name: BROMOTRIFLUOROMETHANE IMO Regulations Page Number: 2109 IMO UN Number: 1009 IMO UN Class: 2(2.2) IMO Subsidiary Risk Label: -IATA PSN Code: DYC IATA UN ID Number¹⁰⁰⁹ IATA Proper Shipping Name: BROMOTRIFLUOROMETHANE IATA UN Class: 2.2 IATA Label: NON-FLAMMABLE GAS AFI PSN Code: DYC AFI Prop. Shipping Name: BROMOTRIFLUOROMETHANE (R13B1) AFI Class: 2.2 AFI ID Number: UN1009 AFI Basic Pac Ref: 6-6,6-8 Additional Trans Data:

Disposal Data

Label Data

Label Required: YES Technical Review Date: 03FEB94 Label Status: F Chronic Hazard: YES Signal Word: DANGER! Acute Health Hazard-Severe: X Contact Hazard-Moderate: X Fire Hazard-None: X Reactivity Hazard-None: X Special Hazard Precautions: HAS ANESTHETIC AND CARDIAC EFFECTS IN HUMANS AT CONCENTRATIONS >10% BY VOLUME, CONCENTRATIONS BELOW 10% ARE CONSIDERED SAFE FOR 0 TO 5 MINUTE EXPOSURES. IS CLASSIFIED AS **GROUP 6 (LEAST TOXIC) IN THE UNDERWRITERS LABORATORIES** CLASSIFICATION OF FLUSH WITH LARGE AMOUNTS OF WATER. GET MEDICAL ATTENTION. SKIN: FLUSH AREA WITH WATER. IF FROSTBITE OCCURS, GET MEDICAL ATTENTION. INHALATION: MOVE TO FRESH AIR. IF NOT BREATHING, GIVE CPR. IF BREATHING DIFFICULT, GIVE OXYGEN. GET MEDICAL ATTENTION. INGESTION: NOT LIKELY TO OCCUR. HOWEVER, GET MEDICAL ATTENTION. Protect Eve: Y Protect Skin: Y Protect Respiratory: Y Label Name: GREAT LAKES CHEMICAL CORP Label Street: HIGHWAY 52 NW Label P.O. Box: 2200 Label City: WEST LAFAYETTE Label State: IN Label Zip Code: 47906 Label Country: US Label Emergency Number: 501-862-5141 OR 317-497-6100