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MSDS: Sulfur Hexafluoride

PRODUCT INFORMATION

PRODUCT: Sulfur Hexafluoride
TRADE NAME: Sulfur Hexafluoride
CHEMICAL NAME: Sulfur Hexafluoride
SYNONYMS: Sulfur Fluoride; Sulphur Hexafluoride
FORMULA: SF₆
CHEMICAL FAMILY: Inorganic Fluoride
SUPPLIER'S NAME: MEGS Inc.
SUPPLIER'S ADDRESS: 2675 De Miniac
Ville St-Laurent, Qc, H4S 1E5
EMERGENCY PHONE NUMBER: (514) 956-7503
MOLECULAR WEIGHT: 146.06
PRODUCT USE: Various
**PRODUCT IDENTIFICATION UN 1080
NUMBER:**

HAZARDOUS INGREDIENTS

| CHEMICAL ID | CONCENTRATION | CAS # | LD(50) | LC(50) |
|---------------------|---------------|-----------|-----------------------|--------|
| Sulfur Hexafluoride | 100% | 2551-62-4 | Ivn-Rbt 5790 mg/kg | None |

PHYSICAL DATA

PHYSICAL STATE: Gas and liquid under pressure
APPEARANCE: Colorless gas and liquid
ODOR: Odorless
ODOR THRESHOLD: Not applicable
SPECIFIC GRAVITY (H₂O = 1): See Vapor Density (air = 1)
VAPOR PRESSURE: 1838 kPa @ 15°C
VAPOR DENSITY (air = 1): 5.1
EVAPORATION RATE: Not applicable, (gas)

BOILING POINT: Sublimation Point = -63.8°C
FREEZING POINT: -50.8°C

pH: Unknown

GAS DENSITY: 6.177 kg/m³ @ 15°C, 101.3 kPa

COEFFICIENT OF WATER/OIL @ 15°C, Bunsen Coefficient =
DISTRIBUTION: 0.0064

FIRE OR EXPLOSION HAZARD

CONDITIONS OF FLAMMABILITY: Nonflammable gas

MEANS OF EXTINCTION: Nonflammable gas

FLASHPOINT AND METHOD OF DETERMINATION: Nonflammable gas

UPPER EXPLOSION LIMIT (% BY VOL): Nonflammable gas

LOWER EXPLOSION LIMIT (% BY VOL): Nonflammable gas

AUTO-IGNITION TEMPERATURE: Nonflammable gas

FLAMMABILITY CLASSIFICATION: Nonflammable gas

HAZARDOUS COMBUSTION PRODUCTS: Nonflammable gas

EXPLOSION DATA: Nonflammable gas

SENSITIVITY TO STATIC DISCHARGE: None

REACTIVITY DATA

CHEMICAL STABILITY: Stable

INCOMPATIBLE MATERIALS: Sulfur hexafluoride is thermally stable up to 800°C. Other metals can cause slow decomposition to SF₂, S₂F, SF₄, and S₂F₁₀. If oxygen is present, thionyl fluoride compounds such as SOF₂, SO₂F will be formed as well as other toxic fluoride compounds.

CONDITIONS OF REACTIVITY: Unknown

HAZARDOUS DECOMPOSITION PRODUCTS: See Incompatible Materials, above.

TOXICOLOGICAL PROPERTIES

ROUTES OF ENTRY:

SKIN CONTACT: None

SKIN ABSORPTION: None

EYE: None

INHALATION: Effects of exposure to high concentrations so as to displace the oxygen in the air necessary for life are headache, dizziness, labored breathing and eventual unconsciousness.

INGESTION: None

ACUTE OVER EXPOSURE EFFECTS: Sulfur Hexafluoride is nontoxic, but the liberation of a large amount in a confined area could displace the amount of oxygen in air necessary to support life.

CHRONIC OVER EXPOSURE EFFECTS: None

EXPOSURE LIMITS: TWA = 1,000 molar ppm (ACGIH 1995-1996)

IRRITANCY OF PRODUCT: None

SENSITIZATION TO MATERIAL: None

CARCINOGENICITY, REPRODUCTIVE EFFECTS: None

TERATOGENICITY, MUTAGENICITY: None

TOXICOLOGICALLY SYNERGISTIC PRODUCTS: None

PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT: Protective gloves. Safety goggles or glasses. Safety shoes.

SPECIFIC ENGINEERING CONTROLS: At normal temperatures, sulfur hexafluoride is noncorrosive and may be used with any common structural material. At elevated temp, sulfur hexafluoride is stable in the presence of aluminum, stainless steel, copper, brasses or silver.

LEAK AND SPILL PROCEDURES: EVACUATE ALL PERSONNEL FROM AFFECTED AREA.

Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with an inert gas prior to attempting repairs. If leak is on container or container valve, contact the closest MEGS location.

WASTE DISPOSAL: Do not attempt to dispose of waste or unused quantities. Return in the shipping container properly labeled, with any valve outlet plugs or

caps secured and valve protection cap in place to MEGS for proper disposal. For emergency disposal, contact the closest MEGS location.

HANDLING PROCEDURES AND EQUIPMENT: USE ONLY IN WELL-VENTILATED AREAS.

Valve protection caps must remain in place unless container is secured with valve outlet piped to the point of use. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting to lower pressure piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder. Do not tamper with (valve) safety device. Close valve after each use and when empty.

STORAGE REQUIREMENTS: Protect cylinders from physical damage. Store in cool, dry, well-ventilated area of non combustible construction away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 52°C. Cylinders must be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in - first out" inventory system to prevent full cylinders being stored for excessive periods of time.

TDG CLASSIFICATION: 2.2

WHMIS CLASSIFICATION: A

SPECIAL SHIPPING INFORMATION: Always secure cylinders in an upright position before transporting them. NEVER transport cylinders in trunks of vehicles, enclosed vans, truck cabs or in passenger compartments. Transport cylinders secured in open flatbed or in open pick-up type vehicles.

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| FIRST AID MEASURES |
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SPECIFIC FIRST AID PROCEDURES: PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO SULFUR HEXAFLUORIDE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS.

INHALATION: Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, given assisted resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.

EYE CONTACT: Flush contaminated eye(s) with copious quantities of water.

Part eyelids to assure complete flushing. Continue for a minimum of 15 minutes.

SKIN CONTACT: Frostbite: FLUSH AFFECTED AREAS WITH LUKEWARM WATER. DO NOT USE HOT WATER. A physician should see the patient promptly if the cryogenic "burn" has resulted in blistering of the dermal surface or deep tissue freezing.

PREPARATION INFORMATION

PREPARED BY: Safety Department

DATE PREPARED: 09/01/1999

LAST REVISION DATE: 05/01/2006

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