MATERIAL
SAFETY
DATA SHEET

PRODUCT NAME	CAS#
Hexafluoroethane	75-16-4
TRADE NAME AND SYNONYMS	**DOT I.D. NO.**
Hexafluoroethane	UN 2193
CHEMICAL NAME AND SYNONYMS	**DOT HAZARD CLASS**
Halocarbon 116	Division 2.2
ISSUE DATE AND REVISIONS	**FORMULA**
Revised June 2007	C_2F_6

HEALTH HAZARD DATA

EMERGENCY OVERVIEW

Hexafluoroethane is a nonflammable, colorless, odorless liquefied compressed gas packaged in cylinders under its own vapor pressure of 430.3 psig at 70°F. It can cause rapid suffocation when concentrations are sufficient to reduce oxygen levels below 19.5%. Self-Contained Breathing Apparatus (SCBA) may be required for rescue workers. Contact with product can cause frostbite.

SYMPTOMS OF OVER-EXPOSURE

Effects of over-exposure of Hexafluoroethane may cause suffocation by displacing the oxygen in air. Exposure to an oxygen deficient atmosphere (less than 19.5%) may cause dizziness, drowsiness, nausea, vomiting, excessive salivation, diminished mental alertness, loss of consciousness and death. Exposure to atmospheres containing less than 12% oxygen will bring about unconsciousness without warning and so quickly that the individuals cannot help themselves. Inhalation of high concentrations may also causes mild central nervous system depression and cardiac arrhythmias (heartbeat irregularities).

TOXICOLOGICAL PROPERTIES

Hexafluoroethane 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.

Hexafluoroethane is not listed in the IARC, NTP, FEDERAL OSHA Z LIST or CAL/OSHA.

No mutagenicity or teratogenicity effects on humans have been described for Hexafluoroethane.

RECOMMENDED FIRST AID TREATMENT

PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO HEXAFLUOROETHANE. RESCUERS SHOULD BE EQUIPPED WITH ADEQUATE PERSONAL PROTECTIVE APPARATUS.

Inhalation: Victim(s) should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Further treatment should be symptomatic and supportive.
Eye Contact: Flush eyes with plenty of lukewarm water for several minutes.
Skin Contact: Remove contaminated clothing and flush with plenty of lukewarm water for several minutes.

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES

None

PHYSICAL DATA

BOILING POINT -78.2°C	**CRITICAL TEMPERATURE** 19.7°C
MOLAR SPECIFIC HEAT (25 oC, 1 bar abs, constant volume) 131.29J/mol°K	**CRITICAL PRESSURE** 29.8 bar abs
SOLUBILITY IN WATER 0.0015%(by weight)	**SPECIFIC VOLUME(21.1 oC, 1 bar abs)** 174.8 dm^3/kg
EVAPORATION RATE N/A	**SPECIFIC GRAVITY (AIR=1)** 4.823 at 70°F
APPEARANCE AND ODOR Colorless, nonflammable, liquefied, odorless gas	

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) N/A	**AUTO IGNITION TEMPERATURE** N/A	**FLAMMABLE LIMITS % BY VOLUME** LEL N/A UEL N/A
EXTINGUISHING MEDIA Nonflammable. Use extinguishing media appropriate for surrounding fire.		
SPECIAL FIRE FIGHTING PROCEDURES Structural fire-fighters must wear Self-Contained Breathing Apparatus and full protective equipment. In the event of fire, cool containers of this product with water to prevent failure. Use a water spray or fog to reduce of direct vapors. If unruptured cylinders are exposed to heat, the cylinder may rupture or explode and release the content. It my be prudent to remove potentially heat-exposed cylinders from the area surrounding a fire, if it is safe for fire-fighters to do so.		
UNUSUAL FIRE AND EXPLOSION HAZARDS Most cylinders are designed to vent contents when exposed to elevated temperatures. Pressure in a cylinder can build up due to heat and it may rupture if pressure relief devices should fail to function.		

REACTIVITY DATA

STABILITY		**CONDITIONS TO AVOID**
Unstable		Cylinder should not be exposed to temperatures in excess of 125°F (52°C).
Stable	X	
INCOMPATIBILITY (Materials to avoid) Alkali or alkaline earth metals – powered aluminum, zinc, etc.		
HAZARDOUS DECOMPOSITION PRODUCTS N/A		
HAZARDOUS POLYMERIZATION		**CONDITIONS TO AVOID**
May Occur		N/A
Will Not Occur	X	

SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED Uncontrolled releases should be responded by trained personnel using pre-planned procedures. Proper protective equipment should be used. In case of an accidental release, evacuate all personnel upwind and away from affected area, protect people, and respond with trained personnel.
WASTE DISPOSAL METHOD Waste disposal must be in accordance with appropriate Federal, State, and local regulations. For emergency disposal assistance, contact HSG for specific advice.

SPECIAL PROTECTION INFORMATION

RESPIRTORY PROTECTION (Specify type) Positive pressure air line with mask or self-contained breathing apparatus should be available for emergency use.	
VENTILATION See Local Exhaust	**SPECIAL** N/A
MECHANICAL (Gen.) N/A	**OTHER** N/A
LOCAL EXHAUST To prevent accumulation of high concentrations so as to reduce the oxygen level in the air to less than 19.5 percent.	
PROTECTIVE GLOVES Leather gloves	
EYE PROTECTION Chemical splash goggles and face shield	
OTHER PROTECTIVE EQUIPMENT Safety shoes	

SPECIAL PRECAUTIONS*

SPECIAL LABELING INFORMATION DOT Shipping Name: Hexafluoroethane DOT Shipping Label: Nonflammable Gas	DOT Hazard Class: Division 2.2 I.D. No.: UN 2193
SPECIAL WORK AND HYGIENE RECOMMENDATIONS As with all chemicals, avoid getting this product in you. Do not eat or drink while handling this product. Be aware of any signs of dizziness or fatigue, exposures to fatal concentrations of this product could occur without any significant warning symptoms.	
SPECIAL HANDLING AND STORAGE RECOMMENDATIONS Cylinders should be stored in dry, well-ventilated areas away from sources of heat, compressed gases can present significant safety hazards. Store containers away from heavily trafficked areas and emergency exits. Do not use this product with or near incompatible chemicals like sodium, potassium, calcium, zinc, magnesium and powdered aluminum. Acceptable materials for construction for equipment used in the handling of this product include most commonly used metals (steel, cast iron, brass, copper, tin, lead, and aluminum).	
OTHER RECOMMENDATIONS OR PRECAUTIONS Protect cylinders against physical damage. Store in cool, dry, well-ventilated area, away from sources of heat, ignition and direct sunlight. Do not allow area where cylinders are stored to exceed 125^{o}F. Use a check valve or trap in the discharge line to prevent hazardous backflow. Cylinders should be stored upright and be firmly secured to prevent falling or being knocked over.	