MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Specialty Chemical Products, Inc
1407 Pennsylvania Avenue
South Houston, TX 77587
Information: 713-944-0900

Emergency Contact:
CHEMTREC 1-800-424-9300
Calls Originating Outside the US:
703-527-3887 (Collect Calls Accepted)

2. COMPOSITION, INFORMATION ON INGREDIENTS

SUBSTANCE: DIFLUOROMETHANE

TRADE NAMES/SYNONYMS:
HALOCARBON 32; CH2F2; 00230881; RTECS PA8537500

CHEMICAL FAMILY: halogenated, aliphatic

CREATION DATE: Jan 19 2005

COMPONENT: DIFLUOROMETHANE

CAS NUMBER: 75-10-5

PERCENTAGE: 100

3. HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4):
HEALTH=2 FIRE=4 REACTIVITY=0

EMERGENCY OVERVIEW:

COLOR: colorless

PHYSICAL FORM: liquefied gas

ODOR: ether odor, sweet odor

MAJOR HEALTH HAZARDS: No significant target effects reported.

PHYSICAL HAZARDS: Flammable gas. May cause flash fire.

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: nausea, difficulty breathing, headache, drowsiness, dizziness, loss of coordination, unconsciousness

LONG TERM EXPOSURE: no information on significant adverse effects
SKIN CONTACT:

SHORT TERM EXPOSURE: blisters, frostbite
LONG TERM EXPOSURE: no information is available

EYE CONTACT:

SHORT TERM EXPOSURE: frostbite, blurred vision
LONG TERM EXPOSURE: no information is available

INGESTION:

SHORT TERM EXPOSURE: ingestion of a gas is unlikely
LONG TERM EXPOSURE: ingestion of a gas is unlikely

4. FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

SKIN CONTACT: If frostbite or freezing occur, immediately flush with plenty of lukewarm water (105-115 F; 41-46 C). DO NOT USE HOT WATER. If warm water is not available, gently wrap affected parts in blankets. Get immediate medical attention.

EYE CONTACT: Contact with liquid: Immediately flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

INGESTION: If a large amount is swallowed, get medical attention.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Severe fire hazard. Containers may rupture or explode if exposed to heat.

EXTINGUISHING MEDIA: carbon dioxide, regular dry chemical Large fires: Flood with fine water spray.

FIRE FIGHTING: Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck: Stop leak if possible without personal risk. Let burn unless leak can be stopped immediately. For smaller tanks or cylinders, extinguish and isolate from other flammables. Evacuation radius: 800 meters (1/2 mile). Do not attempt to extinguish fire unless flow of material can be stopped first. Flood with fine water spray. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Evacuate if fire gets out of control or containers are directly exposed to fire. Evacuation radius: 500 meters (1/3 mile). Consider downwind evacuation if material is leaking.
LOWER FLAMMABLE LIMIT: 12.7 % by volume

UPPER FLAMMABLE LIMIT: 33.4 % by volume

AUTOIGNITION: >1382 F (>750 C)

HAZARDOUS COMBUSTION PRODUCTS:
Thermal decomposition or combustion products: oxides of carbon, hydrogen fluoride, carbon halides

6. ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE:

7. HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. Store in a tightly closed container. Store below 49 C. Store in a clean, cool, dry place. Avoid friction and static electricity. Do not puncture container.

HANDLING: Do not puncture container.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS: DIFLUOROMETHANE:
1000 ppm AIHA WEEL TWA

VENTILATION: Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

EYE PROTECTION: For the gas: Eye protection not required, but recommended. For the liquid: Wear splash resistant safety goggles. Contact lenses should not be worn. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: For the gas: Protective clothing is not required. For the liquid: Wear appropriate protective, cold insulating clothing.

GLOVES: Wear insulated gloves.

PROTECTIVE MATERIAL TYPES: leather, neoprene, butyl rubber, polyvinyl alcohol (PVA)
RESPIRATOR: Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.

For Unknown Concentrations or Immediately Dangerous to Life or Health
Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode. Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: gas
APPEARANCE: clear
COLOR: colorless
PHYSICAL FORM: liquefied gas
ODOR: ether odor, sweet odor
MOLECULAR WEIGHT: 52.03
MOLECULAR FORMULA: C-H2-F2
BOILING POINT: -62 F (-52 C)
FREEZING POINT: -215 to -213 F (-137 to -136 C)
VAPOR PRESSURE: 12825 mmHg @ 25 C
VAPOR DENSITY (air=1): 1.8
SPECIFIC GRAVITY (water=1): 1.1
WATER SOLUBILITY: 0.44% @ 25 C
PH: neutral
VOLATILITY: 100%
ODOR THRESHOLD: Not available
EVAPORATION RATE: >1 (carbon tetrachloride=1)
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not applicable
SOLVENT SOLUBILITY:
   Soluble: alcohol
10. STABILITY AND REACTIVITY

**REACTIVITY:** Stable at normal temperatures and pressure.

**CONDITIONS TO AVOID:** Avoid heat, flames, sparks and other sources of ignition. Minimize contact with material. Containers may rupture or explode if exposed to heat.

**INCOMPATIBILITIES:** bases, metals, alkali metals, calcium, oxidizing materials

**HAZARDOUS DECOMPOSITION:** Thermal decomposition or combustion products: oxides of carbon, hydrogen fluoride, carbon halides

**POLYMERIZATION:** Will not polymerize.

11. TOXICOLOGICAL INFORMATION

**DIFLUOROMETHANE:**

**TOXICITY DATA:** 1890 gm/m3/4 hour(s) inhalation-rat LC50; 1890 mg/kg oral-rat LD50

**ACUTE TOXICITY LEVEL:** Moderately Toxic: ingestion Relatively Non-toxic: inhalation

**REPRODUCTIVE EFFECTS DATA:** Available.

**ADDITIONAL DATA:** Stimulants such as epinephrine may induce ventricular fibrillation.

12. ECOLOGICAL INFORMATION

**FATE AND TRANSPORT:** KOW: 7762.47 (log = 3.90) (estimated from water solubility)

**KOC:** 6854.88 (log = 3.84) (estimated from water solubility)

**HENRY'S LAW CONSTANT:** 2 E -1 atm-m3/mol

**BIOCONCENTRATION:** 5.38 (estimated from water solubility)

**AQUATIC PROCESSES:** 1.8760297 hours (River Model: 1 m deep, 1 m/s flow, 3 m/s wind)

**ENVIRONMENTAL SUMMARY:** Relatively non-persistent in the environment. Not expected to leach through the soil or the sediment. Accumulates very little in the bodies of living organisms. Highly volatile from water.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.
14. TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:
PROPER SHIPPING NAME: Difluoromethane
ID NUMBER: UN3252
HAZARD CLASS OR DIVISION: 2.1
LABELING REQUIREMENTS: 2.1
QUANTITY LIMITATIONS:
PASSenger AIRCRAFT OR RAILCAR: Forbidden
CARGO AIRCRAFT ONLY: 150 kg

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:
SHIPPING NAME: Difluoromethane
UN NUMBER: UN3252
CLASS: 2.1

15. REGULATORY INFORMATION

STATE REGULATIONS: California Proposition 65: Not regulated.
CANADIAN REGULATIONS: WHMIS CLASSIFICATION: Not determined.
NATIONAL INVENTORY STATUS:
U.S. INVENTORY (TSCA): Listed on inventory.
TSCA 12(b) EXPORT NOTIFICATION: Not listed. CANADA INVENTORY (DSL/NDSL): Not determined.
16. OTHER INFORMATION

MSDS SUMMARY OF CHANGES

15. REGULATORY INFORMATION
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