MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TAIYU INDUSTRIAL GASES Limited
16/F, Kowloon building,
555 Nathan Road, Mongkok
Kowloon,
Hong Kong
TELEPHONE NUMBER: (852)22979277

Chengdu Taiyu Industrial Gases Co.,Ltd
Chengluo Avenue, Longquan District,
Chengdu City, China (Mainland)
TELEPHONE NUMBER: (86) 28-88455212(commonly)

SUBSTANCE: SULFUR HEXAFLUORIDE

TRADE NAMES/SYNONYMS:
MTG MSDS 81; SULFUR FLUORIDE; SULPHUR HEXAFLUORIDE; ELEGAS; UN 1080; F6S; MAT22300; RTECS WS4900000

CHEMICAL FAMILY: inorganic, gas
CREATION DATE: Jan 24 1989
REVISION DATE: Dec 15 20

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: SULFUR HEXAFLUORIDE
CAS NUMBER: 2551-62-4
PERCENTAGE: 100.0

3. HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=1 FIRE=0 REACTIVITY=0
EMERGENCY OVERVIEW:
COLOR: colorless
PHYSICAL FORM: gas

ODOR: odorless
MAJOR HEALTH HAZARDS: difficulty breathing
PHYSICAL HAZARDS: Containers may rupture or explode if exposed to heat.
POTENTIAL HEALTH EFFECTS:

INHALATION:
SHORT TERM EXPOSURE: nausea, vomiting, difficulty breathing, dizziness, fatigue, emotional
disturbances, tingling sensation, suffocation, convulsions, coma
LONG TERM EXPOSURE: no information on significant adverse effects

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

EYE CONTACT:
SHORT TERM EXPOSURE: no information on significant adverse effects
LONG TERM EXPOSURE: no information is available

INGESTION:
SHORT TERM EXPOSURE: no information on significant adverse effects
LONG TERM EXPOSURE: no information is available

4. FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.
SKIN CONTACT: Wash exposed skin with soap and water.
EYE CONTACT: Flush eyes with plenty of water.
INGESTION: If a large amount is swallowed, get medical attention.
NOTE TO PHYSICIAN: For inhalation, consider oxygen.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Negligible fire hazard. Containers may rupture or explode if
exposed to heat.
EXTINGUISHING MEDIA: carbon dioxide, regular dry chemical
Large fires: Use regular foam or 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. 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, evacuation radius: 800 meters (1/2 mile). Use extinguishing agents appropriate for surrounding fire. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Do not get water directly on material. Reduce vapors with water spray. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Consider downwind evacuation if material is leaking.
FLASH POINT: not flammable

HAZARDOUS COMBUSTION PRODUCTS:
Thermal decomposition products or combustion: fluorinated compounds, oxides of sulfur, sulfur compounds, hydrogen fluoride, hydrogen sulfide.

6. ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE:
Stop leak if possible without personal risk. Keep unnecessary people away, isolate hazard area and denyentry. Stay upwind and keep out of low areas.

7. HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. Store below 49 C. Avoid shock. Store in a well-ventilated area. Store in a tightly closed container. Keep separated from
incompatible substances. Secure to prevent tipping. Keep away from heat, sparks and flame. Store in a cool, dry place. Subject to storage regulations: U.S. OSHA 29 CFR 1910.101.
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8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:
SULFUR HEXAFLUORIDE:
1000 ppm (6000 mg/m3) OSHA TWA
1000 ppm ACGIH TWA
1000 ppm (6000 mg/m3) NIOSH recommended TWA 10 hour(s)
VENTILATION: Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.
EYE PROTECTION: Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.
CLOTHING: Protective clothing is not required.
GLOVES: Wear appropriate chemical resistant gloves.
PROTECTIVE MATERIAL TYPES: leather
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 full face piece and operated in a pressure-demand or other positive-pressure
mode in combination with a separate escape supply.
Any self-contained breathing apparatus with a full face piece.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: gas
COLOR: colorless

ODOR: odorless
MOLECULAR WEIGHT: 146.06
MOLECULAR FORMULA: F6-S
BOILING POINT: Not available
FREEZING POINT: -58.9 F (-50.5 C)
SUBLIMATION POINT: -83 F (-63.8 C)
VAPOR PRESSURE: 16548 mmHg @ 20 C
VAPOR DENSITY (air=1): 5.1
SPECIFIC GRAVITY (water=1): 1.68
WATER SOLUBILITY: slightly soluble
PH: Not applicable
VOLATILITY: 100%
VOLATILITY BY VOLUME: 100%
ODOR THRESHOLD: Not available
EVAPORATION RATE: Not applicable
VISCOSITY: 0.0156 cP @ 25 C
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not applicable
SOLVENT SOLUBILITY:
Soluble: alcohol, ether, potassium hydroxide solutions, transformer oil
Slightly Soluble: ethanol
Insoluble: hydrochloric acid, ammonia

10. STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: Protect from physical damage and heat. Containers may rupture or explode if exposed to heat.
INCOMPATIBILITIES: combustible materials, metals, oxidizing materials

HAZARDOUS DECOMPOSITION:
Thermal decomposition products or combustion: fluorinated compounds, oxides of sulfur, sulfur compounds, hydrogen fluoride, hydrogen sulfide
POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION

SULFUR HEXAFLUORIDE:
ACUTE TOXICITY LEVEL: Insufficient Data.

12. ECOLOGICAL INFORMATION

FATE AND TRANSPORT:
KOW: 1.68 (log = 0.226)
KOC: 195 (log = 2.29) estimated
HENRY'S LAW CONSTANT: 4.5
ENVIRONMENTAL SUMMARY: Leaches through the soil or the sediment at a moderate rate.

Highly volatile from water.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:
PROPER SHIPPING NAME: Sulfur hexafluoride
ID NUMBER: UN1080
HAZARD CLASS OR DIVISION: 2.2
LABELING REQUIREMENTS: 2.2
CANADIAN TRANSPORTATION OF DANGEROUS GOODS:
SHIPPING NAME: Sulfur hexafluoride
UN NUMBER: UN1080
CLASS: 2.2

15. REGULATORY INFORMATION

U.S. REGULATIONS:
CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.
SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.30): Not regulated.
SARA TITLE III SECTION 304 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355.40): Not regulated.
SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370.21):
ACUTE: Yes
CHRONIC: Yes
FIRE: No
REACTIVE: No
SUDDEN RELEASE: Yes
SARA TITLE III SECTION 313 (40 CFR 372.65): Not regulated.
OSHA PROCESS SAFETY (29CFR1910.119): Not regulated.
STATE REGULATIONS:
California Proposition 65: Not regulated.
CANADIAN REGULATIONS:
WHMIS CLASSIFICATION: A.
NATIONAL INVENTORY STATUS:
U.S. INVENTORY (TSCA): Listed on inventory.
TSCA 12(b) EXPORT NOTIFICATION: Not listed.
CANADA INVENTORY (DSL/NDSL): Not determined
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16. OTHER INFORMATION

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES:
Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).