

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	Sulfur Hexafluoride
Chemical Formula	F ₆ S
Molecular Weight	146.06 g/mol
CAS No.	2551-62-4
EC No.	219-854-2
Supplier Address*	ISOFLEX USA P.O. Box 29475 San Francisco, CA 94129 United States
Telephone	+1 415-440-4433
Fax	+1 415-563-4433
Emergency Phone Number (both supplier and manufacturer)	+1 707-766-4207 *May include subsidiaries or affiliate companies/divisions
Email	iusa@isoflex.com
Website	www.isoflex.com
Preparation Information	ISOFLEX USA Product Safety +1 415-440-4433

2. HAZARDOUS IDENTIFICATION

Classification of the substance or mixture: Gases under pressure (Liquified gas), H280
Simple Asphyxiant
For the full text of the H-Statements mentioned in this section, see Section 16.

GHS label elements

Pictogram



Precautionary Label Statements

Warning

Hazard Statement(s)

H280: Contains gas under pressure; may explode if heated. May displace oxygen and cause rapid suffocation.

Precautionary Statement(s)

P410 + P403: Protect from sunlight. Store in a well-ventilated place.

Supplemental Information

Contains fluorinated greenhouse gases

Other Hazards

Asphyxiant in high concentrations
Contact with liquid may cause cold burns/frostbite

3. COMPOSITION / INFORMATION ON INGREDIENTS

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4. FIRST AID MEASURES

General Advice

Consult a physician. Show this SDS to the doctor in attendance. Move out of dangerous area. Hydrofluoric (HF) acid burns require immediate and specialized first aid and medical treatment. Symptoms may be delayed up to 24 hours depending on the concentration of HF. After decontamination with water, further damage can occur due to penetration/absorption of the fluoride ion. Treatment should be directed toward binding the fluoride ion as well as the effects of the exposure. Skin exposures can be treated with a 2.5% calcium gluconate gel repeated until burning ceases. More serious skin exposures may require subcutaneous calcium gluconate except for digital areas unless the physician is experienced in this technique, due to the potential for tissue injury from increased pressure. Absorption can readily occur through the subungual areas and should be considered when undergoing contamination. Prevention of absorption of the fluoride ion in cases of ingestion can be obtained by giving milk, chewable calcium carbonate tablets or Milk of Magnesia to conscious victims. Conditions such as hypocalcemia, hypomagnesemia and cardiac arrhythmias should be monitored for, since they can occur after exposure.

Inhalation Exposure

Move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Oral Exposure

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Dermal Exposure

Wash exposed area with soap and plenty of water. Consult a physician. First treatment with calcium gluconate paste.

Eye Exposure

Immediately flush eyes with plenty of water.

5. FIREFIGHTING MEASURES

Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special Hazards

Sulphur oxides, hydrogen fluoride

Firefighting

Protective Equipment

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

Further Information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

<i>Environmental Precautions</i>	Do not let product enter drains.
<i>Methods for Cleaning Up</i>	Clean up promptly by sweeping or vacuum.
<i>Reference to Other Sections</i>	For disposal see Section 13.

7. HANDLING AND STORAGE

<i>Handling</i>	For precautions see Section 2.2.
<i>Storage</i>	Keep in a tightly closed container in a dry and well-ventilated place. Contents under pressure. Do not store in glass. Storage class (TRGS 510): 2A: Gases

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component	CAS No.	Value	Control Parameters	Basis
Sulfur hexafluoride	2551-62-4	TWA	1,000 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Asphyxia		
		TWA	1,000 ppm 6,000 mg/m ³	USA. NIOSH Recommended Exposure Limits
	May contain highly toxic sulfur pentafluoride as an impurity.			
		TWA	1,000 ppm 6,000 mg/m ³	USA. Occupational Exposure Limits (OSHA) – Table Z-1 Limits for Air Contaminants
	The value in mg/m ³ is approximate.			
		PEL	1,000 ppm 6,000 mg/m ³	California permissible exposure limits for chemical contaminants (Title 8, Article 107)

Personal Protective Equipment

Personal Respirators

Where risk assessment shows air-purifying respirators are appropriate, use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Skin Protection

Use impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye Protection

Use equipment for eye protection tested and approved under appropriate standards such as NIOSH (US) or EN 166 (EU).

Environmental Exposure

Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	Liquefied gas
Odor	No data available

Safety Data

Odor Threshold:	No data available
pH:	No data available
Melting/Freezing Point:	-50 °C (-58 °F)
Initial Boiling Point:	-64 °C (-83 °F) at 1 hPa
Flash Point:	Not applicable
Flammability (Solid, Gas):	No data available
Flammability/Explosive Limits:	No data available
Vapor Density:	5.04 (Air = 1.0)
Vapor Pressure:	29 hPa at 21.1 °C (70.0 °F) / 22,157 hPa at 20 °C (68 °F)
Relative Density:	No data available
Solubility (H ₂ O):	No data available
Partition Coefficient:	No data available (n-octanol/water)
Auto-ignition Temperature:	No data available
Decomposition Temperature:	No data available
Viscosity:	No data available
Explosive Properties:	No data available
Oxidizing Properties:	No data available

10. STABILITY AND REACTIVITY

<i>Reactivity</i>	No data available
<i>Chemical Stability</i>	Stable under recommended storage conditions
<i>Possibility of Hazardous Reactions</i>	No data available
<i>Conditions to Avoid</i>	Reacts dangerously with glass
<i>Incompatible Materials</i>	Strong oxidizing agents, glass
<i>Decomposition Products</i>	Hazardous decomposition products formed under fire conditions: Sulphur oxides, hydrogen fluoride Other decomposition products: No data available In the event of fire: See section 5

11. TOXICOLOGICAL INFORMATION

Acute Toxicity	No data available
<i>Inhalation</i>	No data available
<i>Dermal</i>	No data available
<i>LD50 Intravenous</i>	Rabbit – 5,790 mg/kg
Skin Corrosion/Irritation	No data available
Serious Eye Damage/Eye Irritation	No data available
Respiratory or Skin Sensitization	No data available
Germ Cell Mutagenicity	No data available

Carcinogenicity

IARC No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA No component of this product present at levels greater than or equal to 0.1% is identified as a regulated carcinogen by OSHA.

Reproductive Toxicity No data available

Teratogenicity No data available

Specific Target Organ Toxicity / Single Exposure No data available

Specific Target Organ Toxicity / Repeated Exposure No data available

Aspiration Hazard No data available

Additional Information RTECS: WS4900000
Fluoride ion can reduce serum calcium levels, possibly causing fatal hypocalcemia.
May be harmful. Nausea, dizziness, headache, central nervous system depression may occur.

12. ECOLOGICAL INFORMATION

Toxicity No data available

Persistence and Degradability No data available

Bioaccumulative Potential No data available

Mobility in Soil No data available

PBT and vPvB Assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other Adverse Effects No data available

13. DISPOSAL CONSIDERATIONS

Product Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated Packaging Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)**

Proper Shipping Name Sulfur hexafluoride

Class 2.2

UN No. 1080

Reportable Quantity (RQ)

Poison Inhalation Hazard No

sIMDG

<i>Proper Shipping Name</i>	SULPHUR HEXAFLUORIDE
<i>Class</i>	2.2
<i>UN No.</i>	1080
<i>EMS No.</i>	F-C, S-V

IATA

<i>Proper Shipping Name</i>	Sulphur hexafluoride
<i>Class</i>	2.2
<i>UN No.</i>	1080

15. REGULATORY INFORMATION

SARA 302 Components	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
SARA 311/312 Hazards	Sudden Release of Pressure Hazard
Massachusetts Right to Know Components	Sulfur hexafluoride / CAS No. 2551-62-4 / Revision Date 1993-02-16
Pennsylvania Right to Know Components	Sulfur hexafluoride / CAS No. 2551-62-4 / Revision Date 1993-02-16
New Jersey Right to Know Components	Sulfur hexafluoride / CAS No. 2551-62-4 / Revision Date 1993-02-16
California Prop. 65 Components	This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

<i>Prepared By</i>	ISOFLEX USA P.O. Box 29475 San Francisco, CA 94129 United States
<i>Issuing Date</i>	February 28, 2020
<i>Revision Date</i>	February 28, 2020
<i>Revision Number</i>	1
<i>Prepared By</i>	Lori McKannay Matthews
<i>Revision Note</i>	Required format update

ISOFLEX USA's Commonly Used Abbreviations and Acronyms*

ACGIH	American Conference of Governmental Industrial Hygienists
ADR	European Agreement Concerning the International Carriage of Dangerous Goods by Road
AICS	Australian Inventory of Chemical Substances
ALARA	As Low As Is Reasonably Achievable
AMU	Atomic Mass Unit
ANSI	American National Standards Institute

BLS	Basic Life Support
BOD5	Biochemical Oxygen Demand
CAM	Continuous Air Monitor
CAS	Chemical Abstracts Service (division of the American Chemical Society)
CEN	European Committee for Standardization
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CLP	Classification, Labelling and Packaging (European Union)
COD	Chemical Oxygen Demand
CPR	Controlled Products Regulations (Canada)
CWA	Clean Water Act (USA)
DAC	Derived Air Concentration (USA)
DOE	United States Department of Energy (USA)
DOT	United States Department of Transportation (USA)
DSL	Domestic Substances List (Canada)
EC50	Half Maximal Effective Concentration
ECL	Korean Existing Chemicals List
EINECS	European Inventory of Existing Commercial Chemical Substances
EHS	Environmentally Hazardous Substance
ELINCS	European List of Notified Chemical Substances
EMS	Emergency Response Procedures for Ships Carrying Dangerous Goods
EPA	Environmental Protection Agency (USA)
EPCRA	Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986
GHS	Globally Harmonized System
HMIS	Hazardous Materials Identification System (USA)
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	Intermediate Bulk Containers
ICAO	International Civil Aviation Organization
IDLH	Immediately Dangerous to Life or Health
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
IMDG	International Maritime Code for Dangerous Goods
LC50	Lethal concentration, 50 percent
LD50	Lethal dose, 50 percent
LDLO	Lethal Dose Low
LOEC	Lowest-Observed-Effective Concentration
MARPOL	International Convention for the Prevention of Pollution from Ships
MSHA	Mine Safety and Health Administration (USA)
NCRP	National Council on Radiation Protection & Measurements (USA)
NDSL	Non-Domestic Substances List (Canada)
NFPA	National Fire Protection Association (USA)
NIOSH	National Institute for Occupational Safety and Health (USA)
NOEC	No Observed Effect Concentration
N.O.S.	Not Otherwise Specified
NRC	Nuclear Regulatory Commission (USA)
NTP	National Toxicology Program (USA)
OSHA	Occupational Safety and Health Administration (USA)
PBT	Persistent Bioaccumulative and Toxic Chemical
PEL	Permissible Exposure Limit
PICCS	Philippines Inventory of Chemicals and Chemical Substances
PIH	Poisonous by Inhalation Hazard
RCRA	Resource Conservation and Recovery Act (USA)
RCT	Radiation Control Technician
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals (Europe)
RID	Regulations Concerning the International Transport of Dangerous Goods by Rail
RQ	Reportable Quantity
RTECS	Registry of Toxic Effects of Chemical Substances
SARA	Superfund Amendments and Reauthorization Act (USA)
SNUR	Significant New Use Rule (TSCA)
TDG	Transportation of Dangerous Goods (Canada)

TIH	Toxic by Inhalation Hazard
TLV	Threshold Limit Value
TPQ	Threshold Planning Quantity
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
UN	United Nations (Number)
VOC	Volatile Organic Compound
vPvB	Very Persistent Very Bioaccumulative Chemical
WGK	Wassergefährdungsklassen (Germany: Water Hazard Classes)
WHMIS	Workplace Hazardous Materials Information System

*One or more of the above-listed items may not appear in this document.

General Disclaimer

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