

### SECTION 1: Identification

#### 1.1. Product identifier

Product form : Substance  
Name : Sulfur hexafluoride  
CAS No : 2551-62-4  
Formula : SF6  
Other means of identification : Sulfur hexafluoride  
Product group : Core Products

#### 1.2. Recommended use and restrictions on use

Recommended uses and restrictions : Industrial use  
Use as directed

#### 1.3. Supplier

Praxair Canada inc.  
1200 – 1 City Centre Drive  
Mississauga - Canada L5B 1M2  
T 1-905-803-1600 - F 1-905-803-1682  
[www.praxair.ca](http://www.praxair.ca)

#### 1.4. Emergency telephone number

Emergency number : 1-800-363-0042  
Call emergency number 24 hours a day only for spills, leaks, fire, exposure, or accidents involving this product.  
For routine information, contact your supplier or Praxair sales representative.

### SECTION 2: Hazard identification

#### 2.1. Classification of the substance or mixture

##### GHS-CA classification

Liquefied gas H280  
Simple asphyxiant H380

#### 2.2. GHS Label elements, including precautionary statements

##### GHS-CA labelling

Hazard pictograms :



GHS04

Signal word : WARNING

Hazard statements : CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED  
MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION  
MAY CAUSE FROSTBITE

Precautionary statements : Do not handle until all safety precautions have been read and understood  
Do not get in eyes, on skin, or on clothing  
Use and store only outdoors or in a well-ventilated area  
Protect from sunlight when ambient temperature exceeds 52°C (125°F)  
Use a back flow preventive device in the piping  
Close valve after each use and when empty  
When returning cylinder, install leak tight valve outlet cap or plug  
Read and follow the Safety Data Sheet (SDS) before use



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### 2.3. Other hazards

Other hazards not contributing to the classification : Asphyxiant in high concentrations. Contact with liquid may cause cold burns/frostbite.

### 2.4. Unknown acute toxicity (GHS-CA)

No data available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name	CAS No.	% (Vol.)	Common Name (synonyms)
Sulfur hexafluoride (Main constituent)	(CAS No) 2551-62-4	100	Sulfur fluoride (SF6) / Sulfur fluoride (SF6), (OC-6-11)- / Sulphur hexafluoride / Sulfur hexafluoride (SF6) / Sulphur hexafluoride (SF6) / Sulfur fluoride / Sulfur fluoride, (OC-6-11)-

### 3.2. Mixtures

Not applicable

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

- First-aid measures after inhalation : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Apply artificial respiration if breathing stopped.
- First-aid measures after skin contact : In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance. The liquid may cause frostbite. For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105°F (41°C). Water temperature should be tolerable to normal skin. Maintain skin warming for at least 15 minutes or until normal coloring and sensation have returned to the affected area. In case of massive exposure, remove clothing while showering with warm water. Seek medical evaluation and treatment as soon as possible.
- First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. Contact an ophthalmologist immediately.
- First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

### 4.2. Most important symptoms and effects (acute and delayed)

No additional information available

### 4.3. Immediate medical attention and special treatment, if necessary

Other medical advice or treatment : None.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable extinguishing media

No additional information available

### 5.2. Unsuitable extinguishing media

Unsuitable extinguishing media : Do not use water jet to extinguish.

### 5.3. Specific hazards arising from the hazardous product

- Reactivity : No reactivity hazard other than the effects described in sub-sections below.
- Reactivity in case of fire : No reactivity hazard other than the effects described in sub-sections below.

### 5.4. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Evacuate all personnel from the danger area. Use self-contained breathing apparatus (SCBA) and protective clothing. Immediately cool containers with water from maximum distance. Stop flow of gas if safe to do so, while continuing cooling water spray. Remove ignition sources if safe to do so. Remove containers from area of fire if safe to do so. On-site fire brigades must comply with their provincial and local fire code regulations.
- Protection during firefighting : Compressed gas: asphyxiant. Suffocation hazard by lack of oxygen.
- Special protective equipment for fire fighters : Use self-contained breathing apparatus. Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters.

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Specific methods : Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas containers to rupture. Cool endangered containers with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems

Stop flow of product if safe to do so

Use water spray or fog to knock down fire fumes if possible.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area. Ensure adequate air ventilation. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Monitor concentration of released product. Try to stop release.

#### 6.2. Methods and materials for containment and cleaning up

#### 6.3. Reference to other sections

For further information refer to section 8: Exposure controls/personal protection

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Wear leather safety gloves and safety shoes when handling cylinders. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder by its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g. wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. For other precautions in using this product, see section 16.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a cool, well-ventilated place. Store and use with adequate ventilation. Store only where temperature will not exceed 125°F (52°C). Firmly secure containers upright to keep them from falling or being knocked over. Install valve protection cap, if provided, firmly in place by hand. Store full and empty containers separately. Use a first-in, first-out inventory system to prevent storing full containers for long periods

**OTHER PRECAUTIONS FOR HANDLING, STORAGE, AND USE:** When handling product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; store and use with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container where it may become part of an electrical circuit.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

Sulfur hexafluoride (2551-62-4)		
USA - ACGIH	ACGIH TLV-TWA (ppm)	1000 ppm
USA - OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	6000 mg/m <sup>3</sup>
USA - OSHA	OSHA PEL (TWA) (ppm)	1000 ppm
Canada (Quebec)	VEMP (mg/m <sup>3</sup> )	5970 mg/m <sup>3</sup>
Canada (Quebec)	VEMP (ppm)	1000 ppm
Alberta	OEL TWA (mg/m <sup>3</sup> )	5970 mg/m <sup>3</sup>
Alberta	OEL TWA (ppm)	1000 ppm

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Sulfur hexafluoride (2551-62-4)		
British Columbia	OEL TWA (ppm)	1000 ppm
Manitoba	OEL TWA (ppm)	1000 ppm
New Brunswick	OEL TWA (mg/m <sup>3</sup> )	5970 mg/m <sup>3</sup>
New Brunswick	OEL TWA (ppm)	1000 ppm
New Foundland & Labrador	OEL TWA (ppm)	1000 ppm
Nova Scotia	OEL TWA (ppm)	1000 ppm
Nunavut	OEL STEL (ppm)	1250 ppm
Nunavut	OEL TWA (ppm)	1000 ppm
Northwest Territories	OEL STEL (ppm)	1250 ppm
Northwest Territories	OEL TWA (ppm)	1000 ppm
Ontario	OEL TWA (ppm)	1000 ppm
Prince Edward Island	OEL TWA (ppm)	1000 ppm
Québec	VEMP (mg/m <sup>3</sup> )	5970 mg/m <sup>3</sup>
Québec	VEMP (ppm)	1000 ppm
Saskatchewan	OEL STEL (ppm)	1250 ppm
Saskatchewan	OEL TWA (ppm)	1000 ppm
Yukon	OEL STEL (mg/m <sup>3</sup> )	7500 mg/m <sup>3</sup>
Yukon	OEL STEL (ppm)	1250 ppm
Yukon	OEL TWA (mg/m <sup>3</sup> )	6000 mg/m <sup>3</sup>
Yukon	OEL TWA (ppm)	1000 ppm

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Oxygen detectors should be used when asphyxiating gases may be released. Consider work permit system e.g. for maintenance activities. Systems under pressure should be regularly checked for leakages. Provide adequate general and local exhaust ventilation. Ensure exposure is below occupational exposure limits (where available).

### 8.3. Individual protection measures/Personal protective equipment

Personal protective equipment : Safety glasses. Face shield. Gloves.



Hand protection : Wear working gloves when handling gas containers.

Eye protection : Wear goggles when transfilling or breaking transfer connections. Safety eye wear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Select in accordance with the current CSA standard Z94.3, "Industrial Eye and Face Protection", and any provincial regulations, local bylaws or guidelines.

Respiratory protection : **Respiratory protection:** Use respirable fume respirator or air supplied respirator when working in confined space or where local exhaust or ventilation does not keep exposure below TLV. Select in accordance with provincial regulations, local bylaws or guidelines. Selection should be based on the current CSA standard Z94.4, "Selection, Care, and Use of Respirators." Respirators should also be approved by NIOSH and MSHA. For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA).

Thermal hazard protection : Wear cold insulating gloves when transfilling or breaking transfer connections. None necessary.

Environmental exposure controls : Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

Other information : **Other protection** : Safety shoes for general handling at customer sites. Metatarsal shoes and cuffless trousers for cylinder handling at packaging and filling plants. Select in accordance with the current CSA standard Z195, "Protective Foot Wear", and any provincial regulations, local bylaws or guidelines. For working with flammable and oxidizing materials, consider the use of flame resistant anti-static safety clothing.



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### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Gas
Appearance	: Colorless gas.
Molecular mass	: 146 g/mol
Colour	: Colourless.
Odour	: No odour warning properties.
Odour threshold	: Odour threshold is subjective and inadequate to warn of overexposure.
pH	: Not applicable.
pH solution	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: Not applicable.
Melting point	: -50.8 °C
Freezing point	: No data available
Boiling point	: -63.8 °C
Flash point	: Not applicable.
Critical temperature	: 45.5 °C
Auto-ignition temperature	: 0 °C
Decomposition temperature	: No data available
Vapour pressure	: 2100 kPa
Vapour pressure at 50 °C	: No data available
Critical pressure	: 3760 kPa
Relative vapour density at 20 °C	: No data available
Relative density	: 1.4
Relative density of saturated gas/air mixture	: 5.04
Density	: 0.0061 g/cm <sup>3</sup> (at 20 °C)
Relative gas density	: 5
Solubility	: Water: 41 mg/l
Log Pow	: 1.68
Log Kow	: Not applicable.
Viscosity, kinematic	: Not applicable.
Viscosity, dynamic	: Not applicable.
Viscosity, kinematic (calculated value) (40 °C)	: No data available
Explosive properties	: Not applicable.
Oxidizing properties	: None.
Flammability (solid, gas)	: Non flammable

#### 9.2. Other information

Sublimation point	: -63.9 °C
Gas group	: Liquefied gas
Additional information	: Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Reactivity	: No reactivity hazard other than the effects described in sub-sections below.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: None.
Conditions to avoid	: None under recommended storage and handling conditions (see section 7).
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Not classified pH: Not applicable.
Serious eye damage/irritation	: Not classified pH: Not applicable.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : No ecological damage caused by this product.

#### 12.2. Persistence and degradability

##### Sulfur hexafluoride (2551-62-4)

Persistence and degradability	Not applicable for inorganic gases.
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#### 12.3. Bioaccumulative potential

##### Sulfur hexafluoride (2551-62-4)

Log Pow	1.68
Log Kow	Not applicable.
Bioaccumulative potential	No data available.

#### 12.4. Mobility in soil

##### Sulfur hexafluoride (2551-62-4)

Mobility in soil	No data available.
Log Pow	1.68
Log Kow	Not applicable.
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution.

#### 12.5. Other adverse effects

Effect on the ozone layer	: None
Global warming potential [CO <sub>2</sub> =1]	: 22200
Effect on global warming	: Contains Fluorinated greenhouse gases covered by the Kyoto protocol

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

Waste treatment methods : Do not discharge into any place where its accumulation could be dangerous. Avoid discharge to atmosphere.

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Waste disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

### SECTION 14: Transport information

#### 14.1. Basic shipping description

In accordance with TDG

#### TDG

UN-No. (TDG) : UN1080  
TDG Primary Hazard Classes : 2.2 - Class 2.2 - Non-Flammable, Non-Toxic Gas.  
Proper shipping name : SULFUR HEXAFLUORIDE

Explosive Limit and Limited Quantity Index : 0.125 L  
Passenger Carrying Road Vehicle or Passenger : 75 L  
Carrying Railway Vehicle Index

#### 14.3. Air and sea transport

#### IMDG

UN-No. (IMDG) : 1080  
Proper Shipping Name (IMDG) : SULPHUR HEXAFLUORIDE  
Class (IMDG) : 2 - Gases  
MFAG-No : 126

#### IATA

UN-No. (IATA) : 1080  
Proper Shipping Name (IATA) : Sulphur hexafluoride  
Class (IATA) : 2

### SECTION 15: Regulatory information

#### 15.1. National regulations

##### Sulfur hexafluoride (2551-62-4)

Listed on the Canadian DSL (Domestic Substances List)

#### 15.2. International regulations

##### Sulfur hexafluoride (2551-62-4)

Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)  
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory  
Listed on the Korean ECL (Existing Chemicals List)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)  
Listed on the United States TSCA (Toxic Substances Control Act) inventory  
Listed on INSQ (Mexican National Inventory of Chemical Substances)  
Listed on CICR (Turkish Inventory and Control of Chemicals)

### SECTION 16: Other information

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Indication of changes:  
Training advice : The hazard of asphyxiation is often overlooked and must be stressed during operator training.

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### Other information

: When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Before using any plastics, confirm their compatibility with this product

Praxair asks users of this product to study this SDS and become aware of the product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this SDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information

The opinions expressed herein are those of qualified experts within Praxair Canada Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use are not within the control of Praxair Canada Inc, it is the user's obligation to determine the conditions of safe use of the product. Praxair Canada Inc, SDSs are furnished on sale or delivery by Praxair Canada Inc, or the independent distributors and suppliers who package and sell our products. To obtain current SDSs for these products, contact your Praxair sales representative, local distributor, or supplier, or download from [www.praxair.ca](http://www.praxair.ca). If you have questions regarding Praxair SDSs, would like the document number and date of the latest SDS, or would like the names of the Praxair suppliers in your area, phone or write Praxair Canada Inc, (Phone: 1-888-257-5149; Address: Praxair Canada Inc, 1 City Centre Drive, Suite 1200, Mississauga, Ontario, L5B 1M2).

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### NFPA health hazard

: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

### NFPA fire hazard

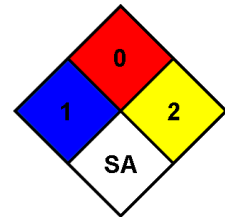
: 0 - Materials that will not burn.

### NFPA reactivity

: 2 - Normally unstable and readily undergo violent decomposition but do not detonate. Also: may react violently with water or may form potentially explosive mixtures with water.

### NFPA specific hazard

: SA - This denotes gases which are simple asphyxiants.



### HMIS III Rating

#### Health

: 1 Slight Hazard - Irritation or minor reversible injury possible

#### Flammability

: 0 Minimal Hazard - Materials that will not burn

#### Physical

: 2 Moderate Hazard - Materials that are unstable and may undergo violent chemical changes at normal temperature and pressure with low risk for explosion. Materials may react violently with water or form peroxides upon exposure to air.

### SDS Canada (GHS) - Praxair

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*