

### SECTION: 1. Product and company identification

#### 1.1. Product identifier

Product form : Substance  
 Substance name : PTG-4084  
 Chemical name : Sulfur hexafluoride  
 CAS No : 2551-62-4  
 Formula : SF6

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Industrial use; Use as directed.  
 Restrictions on use : No additional information

#### 1.3. Details of the supplier of the safety data sheet

Manufactured For: Scientific Gas Australia Pty Ltd. Unit 10, 12 Anderson Street Banksmeadow NSW, 2019 - Australia T PH 1300 880 531	By: PortaGas (Praxair, Inc.) 1202 E Sam Houston Pkwy S Pasadena, TX 77503 T 281-928-6477
New Zealand: Airtanks Limited Unit 3, 5/343 Church Street, Onehunga, Auckland 1061, New Zealand Phone: +64 9 930 6360	

#### 1.4. Emergency telephone number

Emergency number : Australian Poison Information Centre: 13 11 26;  
 Australian Fire Brigade: 000  
 Onsite Emergency: 1-800-645-4633

CHEMTREC, 24hr/day 7days/week  
 — Within USA: 1-800-424-9300, Outside USA: 001-703-527-3887  
 (collect calls accepted, Contract 17729)

### SECTION 2: Hazard identification

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

##### Classification (GHS-AU)

Press. Gas (Liq.) H280  
 Simple asphyxiant SIAS

#### 2.2. Label elements

##### GHS AU labelling

Hazard pictograms (GHS AU) :



GHS04

Signal word (GHS AU) : WARNING  
 Hazard statements (GHS AU) : H280 - CONTAINS GAS UNDER PRESSURE; MAY EXPLODE IF HEATED  
 OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION  
 Precautionary statements (GHS AU) : P403 - Use and store only outdoors or in a well-ventilated place.  
 CGA-PG27 - Read and follow the Safety Data Sheet (SDS) before use.  
 CGA-PG21 - Open valve slowly.



# PTG-4084

## Safety Data Sheet PTG-4084

Prepared in accordance with the model Work Health and Safety Regulations

Date of issue: 08/12/2015 Revision date: 06/03/2024 Supersedes: 09/25/2019 Version: 1.3

- CGA-PG12 - Do not open valve until connected to equipment prepared for use.
- CGA-PG11 - Never put cylinders into unventilated areas of passenger vehicles.
- CGA-PG10 - Use only with equipment rated for cylinder pressure.
- CGA-PG06 - Close valve after each use and when empty.
- CGA-PG05 - Use a back flow preventive device in the piping.
- CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C (125°F).
- CGA-MP01 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention.
- P261 - Avoid breathing gas, vapors

### 2.3. Other hazards

Other hazards which do not result in classification : Asphyxiant in high concentrations. Contact with liquid may cause cold burns/frostbite.

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substance

Name : PTG-4084

CAS No : 2551-62-4

Name	Product identifier	%
Sulfur hexafluoride	(CAS No) 2551-62-4	< 100

### 3.2. Mixture

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, both acute and delayed

### 4.3. Indication of any immediate medical attention and special treatment needed

None.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

HazChem code : 2TE.

### 5.2. Special hazards arising from the substance or mixture

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

**5.3. Advice for firefighters**

- 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. 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 OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.
- Hazchem Code : 2TE
- 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.
- 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.

**6.1.1. For non-emergency personnel**

**6.1.2. For emergency responders**

**6.2. Environmental precautions**

Try to stop release. Prevent waste from contaminating the surrounding environment. Prevent soil and water pollution. Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

**6.3. Methods and material for containment and cleaning up**

**6.4. Reference to other sections**

See also sections 8 and 13.

**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 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.

### 7.3. Specific end use(s)

None.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

PTG-4084 (2551-62-4)		
ACGIH	ACGIH OEL TWA	1000 ppm
USA OSHA	OSHA PEL TWA	6000 mg/m <sup>3</sup>
USA OSHA	OSHA PEL TWA	1000 ppm
AU SWA TWA PPM	OES TWA	1000 ppm
AU SWA TWA MGM3	OES TWA	5970 mg/m <sup>3</sup>
AU SWA STEL MGM3	OES STEL	5970 mg/m <sup>3</sup>
Sulfur hexafluoride (2551-62-4)		
ACGIH	ACGIH OEL TWA	1000 ppm
USA OSHA	OSHA PEL TWA	6000 mg/m <sup>3</sup>
USA OSHA	OSHA PEL TWA	1000 ppm
AU SWA TWA PPM	OES TWA	1000 ppm
AU SWA TWA MGM3	OES TWA	5970 mg/m <sup>3</sup>
AU SWA STEL MGM3	OES STEL	5970 mg/m <sup>3</sup>

### 8.2. Exposure controls

Appropriate engineering controls

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

Personal protective equipment

: Gloves. Safety glasses.



Hand protection

: Wear working gloves when handling gas containers.

Eye protection

: Wear safety glasses when handling cylinders; vapor-proof goggles and a face shield during cylinder changeout or whenever contact with product is possible. Select eye protection in accordance with AS/NZS 1336 and AS/NZS 1337.

Skin and body protection	: Wear work gloves and metatarsal shoes for cylinder handling. Protective equipment where needed. Select in accordance with AS/NZS 2161, AS/NZS 2210.1, and AS/NZS 4503.
Respiratory protection	: When workplace conditions warrant respirator use, follow a respiratory protection program that meets AS/NSZ 1715, AS/NSZ 1716, ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable). Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure. 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.
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	: Wear safety shoes while handling containers. Wear leather safety gloves and safety shoes when handling cylinders.

## 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
Color	: Colorless.
Odor	: Odorless.
Odor threshold	: Odor threshold is subjective and inadequate to warn for overexposure.
pH	: Not applicable.
Relative evaporation rate (butyl acetate=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	: No data available
Decomposition temperature	: No data available
Flammability	: No data available
Vapor pressure	: 21 bar(a)
Critical pressure	: 3760 kPa
Relative vapor 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
Partition coefficient n-octanol/water (Log Pow)	: Not applicable.
Partition coefficient n-octanol/water (Log Kow)	: Not applicable.
Viscosity, kinematic	: Not applicable.
Viscosity, dynamic	: Not applicable.
Explosive properties	: Not applicable.
Oxidizing properties	: None.
Explosion limits	: Not known.

### 9.2. Other information

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

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

None.

### 10.4. Conditions to avoid

Avoid moisture in installation systems.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : 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 applicable

## SECTION 12: Ecological information

### 12.1. Toxicity

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

### 12.2. Persistence and degradability

#### PTG-4084 (2551-62-4)

Persistence and degradability	Not applicable for inorganic gases.
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#### Sulfur hexafluoride (2551-62-4)

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

#### PTG-4084 (2551-62-4)

Partition coefficient n-octanol/water (Log Pow)	Not applicable.
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<b>PTG-4084 (2551-62-4)</b>	
Partition coefficient n-octanol/water (Log Kow)	Not applicable.
Bioaccumulative potential	No data available.

<b>Sulfur hexafluoride (2551-62-4)</b>	
Partition coefficient n-octanol/water (Log Pow)	Not applicable.

### 12.4. Mobility in soil

<b>PTG-4084 (2551-62-4)</b>	
Mobility in soil	No data available.
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution. Partition into soil is unlikely.

<b>Sulfur hexafluoride (2551-62-4)</b>	
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution. Partition into soil is unlikely.

### 12.5. Other adverse effects

- Effect on ozone layer : None.
- Global warming potential [CO2=1] : 22800
- Effect on the global warming : Contains Fluorinated greenhouse gases covered by the Kyoto protocol.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

- Waste treatment methods : Do not discharge into any place where its accumulation could be dangerous. Avoid discharge to atmosphere.
- Product/Packaging disposal recommendations : Dispose of contents/container in accordance with local/regional/national/international regulations. Contact supplier for any special requirements.

## SECTION 14: Transport information

### Transport of Australian Dangerous Goods

- UN-No. (ADG) : UN1080
- Proper Shipping Name (ADG) : SULPHUR HEXAFLUORIDE
- Class (ADG) : 2.2 - 2.2 - Class 2.2 - Non-flammable compressed gas
- Danger labels (ADG) : 2.2 - Non-flammable, non-toxic gases



### In accordance with DOT

- Transport document description : UN1080 Sulfur hexafluoride, 2.2
- UN-No.(DOT) : UN1080
- Proper Shipping Name (DOT) : Sulfur hexafluoride
- Class (DOT) : 2.2 - 2.2 - Class 2.2 - Non-flammable compressed gas
- Hazard labels (DOT) : 2.2 - Non-flammable gas



### Additional information

Emergency Response Guide (ERG) Number	: 126
HazChem code	: 2TE.
Other information	: No supplementary information available.
Special transport precautions	: Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers: <ul style="list-style-type: none"> <li>- Ensure there is adequate ventilation.</li> <li>- Ensure that containers are firmly secured.</li> <li>- Ensure cylinder valve is closed and not leaking.</li> <li>- Ensure valve outlet cap nut or plug (where provided) is correctly fitted.</li> <li>- Ensure valve protection device (where provided) is correctly fitted.</li> </ul>

### Transport by sea

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

### Air transport

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

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### PTG-4084 (2551-62-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Sudden release of pressure hazard
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### 15.2. International regulations

#### CANADA

#### PTG-4084 (2551-62-4)

Listed on the Canadian DSL (Domestic Substances List)

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

Listed on the Canadian DSL (Domestic Substances List)

### EU-Regulations

#### PTG-4084 (2551-62-4)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)





# PTG-4084

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### 15.2.2. National regulations

#### PTG-4084 (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 Japanese ENCS (Existing & New Chemical Substances) inventory  
 Listed on the Japanese ISHL (Industrial Safety and Health Law)  
 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 Canadian IDL (Ingredient Disclosure List)  
 Listed on INSQ (Mexican National Inventory of Chemical Substances)  
 Listed on the TCSI (Taiwan Chemical Substance Inventory)

### 15.3. US State regulations

#### PTG-4084(2551-62-4)

U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

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

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
No	No	No	No	

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

U.S. - Massachusetts - Right To Know List  
 U.S. - New Jersey - Right to Know Hazardous Substance List  
 U.S. - Pennsylvania - RTK (Right to Know) List

**SECTION 16: Other information**

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.

Linde 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 Linde 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 Linde Inc, it is the user's obligation to determine the conditions of safe use of the product.

Linde SDSs are furnished on sale or delivery by Linde or the independent distributors and suppliers who package and sell our products. To obtain current SDSs for these products, contact your sales representative, local distributor, or supplier, or download from [www.lindeus.com](http://www.lindeus.com). If you have questions regarding Linde SDSs, would like the document number and date of the latest SDS, or would like the names of the Linde suppliers in your area, phone or write the Linde Call Center (Phone: 1-844-44-Linde (1-844-445-4633); Address: Linde Call Center, Linde Inc, P.O. Box 44, Tonawanda, NY 14151-0044).

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NFPA health hazard

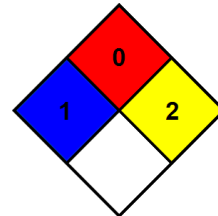
: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard

: 0 - Materials that will not burn.

NFPA instability

: 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.



**HMIS III Rating**

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability : 0 Minimal Hazard

Physical : 0 Minimal Hazard

SDS Australia - 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.*