



## Material Safety Data Sheet Sulfur Hexafluoride SF<sub>6</sub>

# SF<sub>6</sub>

### 1. Chemical Product and Company Identification:

Company: Concorde Specialty Gases Inc.  
36 Eaton Rd.  
Eatontown, N.J. 07724 USA

Product Name: SF<sub>6</sub> – Sulfur Hexafluoride  
Other/Generic Names: Sulfur Fluoride  
Product Use: Industrial Chemical

### 2. Hazards Identification:

Emergency Overview: A colorless, odorless gas with no warning properties. Non-flammable. Avoid breathing vapors. Wear self-contained breathing or air-supplied respirator.

#### Potential Health Hazards

Skin: Direct contact with the liquefied material or escaping compressed gas may cause frostbite injury. Eyes: Direct contact with the liquefied material, compressed gas, may cause frostbite injury. Inhalation: Pure SF<sub>6</sub> is of a low order of toxicity, but may act as an asphyxiant if oxygen is reduced to below 16%, as indicated by paleness and possible cyanosis (blue skin). Ingestion: Not applicable (gas at normal conditions). Delayed Effects: None known. Ingredients found on one of the OSHA designated carcinogen lists are listed below.

Ingredient Name: No ingredients listed in this section.

#### Label Elements:

GHS-US labeling

Hazard Pictograms (GHS-US):



GHS04

Signal word (GHS-US): Warning

Hazard statements (GHS-US):

H280 – CONTAINS GAS UNDER PRESSURE MAY EXPLODE IF HEATED

OSHA-H01 – MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION.

CGA-HG01 – MAY CAUSE FROSTBITE

Precautionary statements (GHS-US):

P202 – Do not handle until all safety precautions have been read and understood.

P262 – Do not get in eyes, on skin, or on clothing.

P271+P403 – Use and store only outdoors or in a well-ventilated place.

CGA-PG05 – Use a back flow preventive device in the piping.

CGA-PG06 – Close valve after each use and when empty.

CGA-PG02 – Protect from sunlight when ambient temperature exceeds 52°C (125°F)

### 3. Composition/Information on Ingredients:

Ingredient Name: Sulfur Hexafluoride

Trace impurities and additional material names not listed above may also appear in Section 15 towards the end of the MSDS. These materials may be listed for local "Right-to-Know" compliance and for other reasons.

### 4. First aid measures

Skin: Wash exposed area extremely thoroughly, but gently. In cases of frostbite-like injury, wash with soap and water. Contact a physician if irritation or pain persists.

Eyes: Flush eyes with copious amounts of warm water for at least 15 minutes. Contact a Physician if irritation, pain, swelling, excessive tearing, or photophobia (painful sensitiveness to strong light) persists.

Inhalation: Immediately remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen-provided a qualified operator is available.

Contact a physician.

Ingestion: Not applicable.

Advice to Physician: No specific treatment. Treat according to symptoms present.

### 5. Fire fighting measures

Flammable Properties: Flash Point: N/A Flash Point Method: N/A

Auto-ignition Temp: N/A Upper Flame Limit (volume % in air): N/A

Lower Flame Limit (volume % in air): N/A Flame Propagation Rate (Solids): N/A OSHA

Flammability Class: Non-combustible gas Extinguishing Media: If involved in a fire, use dry chemical or carbon dioxide for small fires or water spray, fog or regular foam for large fires.

Unusual Fire and Explosion Hazards: Cylinders may explode in heat of fire. Fire may produce irritating or poisonous gases.

Special Fire Fighting Precautions/Instructions: Wear self-contained breathing apparatus.

Cool cylinders, exposed to heat of fire, by flooding with water. Apply water from as far a distance as possible.

### 6. Accidental release measures

#### IN CASE OF SPILL OR OTHER RELEASE

Always wear recommended personal protective equipment. Evacuate unprotected personnel.

Stay upwind. Protected personnel (see section 8) may shut off lead if without risk. Product will destroy itself. Spills and releases may have to be reported to Federal and/or local authorities.

See section 15 regarding reporting requirements.

### 7. Handling and Storage

Normal Handling: Always wear recommended personal protective equipment. Observe precautions on cylinder label. Protect cylinders from physical damage.

Storage Recommendations: Protect cylinders from physical damage, heat and sunlight.

Store in an area of low fire risk. For additional information, see Compressed Gas Association Pamphlet, "Safe Handling of Compressed Gases in Containers", 7th Edition, 1984.

## 8. Exposure controls and personal protection

Engineering Controls: General mechanical ventilation

Personal Protective Equipment Skin Protection: Rubber gloves and coveralls.

Eye Protection: Safety glasses.

Respiratory Protection: Self-contained breathing apparatus or air supplied respirator if needed.

Note that an accidental release of SF<sub>6</sub> may reduce the oxygen content of the local atmosphere below 16% (see section 3). Additional Recommendations: None

Exposure Guidelines

Ingredient Name ACGIH TLV OSHA PEL Other Limit

Sulfur Hexafluoride 1000ppm (1WA) 1000ppm (TWA) None

Limit established by Workplace Environmental Exposures Level (AIHA)

Biological Exposure Index (ACGIH)

Other Exposure Limits for Potential Decomposition Products: Non

## 9. Physical and chemical properties:

Appearance: Colorless gas

Physical State: Gas

Molecular Weight: 146.05

Chemical Formula: SF<sub>6</sub>

Odor: Odorless

Specific Gravity (water-1.0): Not applicable

## 10. Stability and reactivity

Normal Stable (Conditions to Avoid): Stable under normal conditions.

Incompatibilities: Avoid leakage of a liquefied gas such as SF<sub>6</sub> onto water or contact hot reactive metals. Hazardous Decomposition Products: Thermal and electrical arc decomposition products: GASES – fluorides or sulfur (particularly sulfured fluoride, a convulsing, and thionyl fluoride and thionyl tetrafluoride, pulmonary irritants).

SOLIDS – metal fluorides and sulfides, which can be highly toxic and irritating.

Should the presence of decomposition products be suspected, self-contained breathing apparatus must be worn to avoid possible contact.

Hazardous Polymerization: Will not occur. Solubility in Water (weight %): Slight

PH: Not applicable Boiling Point: Sublimes at -63.9°C, 1 atm

Melting Point: -50.8°C at 32.5 psia Vapor Pressure: Not applicable (gas)

Vapor Density (air-1.0): 5.1 at 1 atm, 21.1°C Evaporation Rate: Not applicable

% Volatile: Not applicable (gas) Flashpoints: Not applicable

## 11. Toxicological Information

Immediate (Acute) Effects: LD (rabbit): intravenous, 5700 mg/kg. Delayed (Subchronic and Chronic) Effects: None cited.

## 12. Ecological Information

Not Applicable (inorganic)

## 13. Disposable Considerations: RCRA

Is the unused product a RCRA hazardous waste if discarded? If yes, the RCRA ID number is: not applicable.

Other Disposal Considerations:

The information offered here is for the product as shipped.

Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

## 14. Transportation Information

US DOT Hazard Class: Class 2.2 – Non-flammable gas

US DOT ID Number: UN1080

UN1080 (Pin # in Canada)

C.A.S Registry No.: 2551-62-4

For additional information on shipping regulations regarding this material, contact Concorde Specialty Gases, Inc.



## 15. Regulations

Toxic Substances Control Act (TSCA)

TSCA Inventory Status: Material is listed on the TSCA inventory.

Other TSCA Issues: None

Sara Title III/CERCLA

“Reportable Quantities” (Rqs) and/or “Threshold Planning Quantities” (TPQ’s) exist for the following ingredients:

Ingredient Name Sara, CERCLA RZ (IB) Sara, EHA TPQ (IB)

No ingredients listed in this action.

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center: 1-800-424-8802 and to your local Emergency Planning Committee.

Section 311 Hazard Class: Immediate. Pressure.

SARA 313 Toxic Chemicals: The following ingredients are SARA 313 “Toxic Chemicals.”

CAS numbers and weight percents are found in Section 9 & 14.

Ingredient Name: “No ingredients listed in this section”

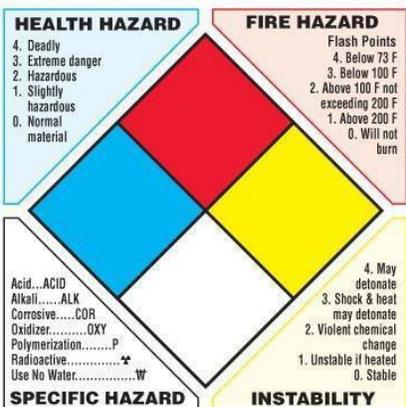
Additional Regulatory Information: None.

WHMIS Classification (Canada): Class A. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR. Foreign Inventory Status: Canadian DSL (Domestic Substances List)

EINCES (European Inventory of Existing Commercial Chemical Substances)

## 16 Other information:

For Hazardous Materials Emergency (Spill, Leak, Fire, Exposure or accident)  
Call Chemtrec at (800) 424-9300. Outside the U.S. call (703) 527-3887



### HMIS Ratings:

Health = **1**

Flammability = **0**

Physical Hazard = **0**

Although reasonable care has been taken in the preparation of this document, neither Concorde Specialty Gases, Inc. nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user.

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