



# Material Safety Data Sheet

## 1. Product and Company Identification

Product name : **Tungsten Hexafluoride**

Chemical formula : F6W

Synonyms : Tungsten fluoride (WF6), (OC-6-11)-; (OC-6-11) Tungsten Fluoride (WF6); Tungsten fluoride (WF6); Wolfram Hexafluoride; Hexafluorotungsten; Tungsten (6+) Fluoride; Tungsten Hexafluoride (WF6); Tungsten VI Fluoride; Tungsten fluoride; UN 2196

Company : Specialty Gases of America, Inc  
6055 Brent Dr.  
Toledo, OH 43611

Telephone : 419-729-7732

Emergency : 800-424-9300

## 2. Composition/Information on Ingredients

Components	CAS Number	% Volume
Tungsten hexafluoride	7783-82-6	100%

### Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following:  
Tungsten compounds, n.o.s., Fluorides.

## 3. Hazards Identification

### Emergency Overview

Containers may rupture or explode if exposed to heat. May ignite combustibles. Reacts violently with water to generate toxic and/or flammable gases.

May cause respiratory tract burns, skin burns, eye burns, mucous membrane burns, tears.

### Potential Health Effects

Inhalation : Same as reported in digestion, asthma, dizziness, lung digestion.

Eye contact : Burns, tearing.

Skin contact : Absorption may occur, same as effects reported in short term ingestion.

Ingestion : Burns, rash, nausea, diarrhea, stomach pain, difficulty breathing, irregular heartbeat, headache, tingling sensation, visual disturbances, dilated pupils, bluish skin color, paralysis, convulsions, coma.

Chronic Health Hazard : Not available.

## 4. First Aid Measures

Eye contact : Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

Skin contact : Wash skin with soap and water for at least 15 minutes while removing

		contaminated clothing and shoes. Thoroughly clean and dry contaminated clothing before reuse. Destroy contaminated shoes.
Ingestion	:	If swallowed, drink plenty of water, do NOT induce vomiting. Get immediate medical attention.
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.
Notes to physician	:	For inhalation, consider oxygen. Avoid gastric lavage or emesis.
Antidote	:	Dimercaprol; calcium disodium edetate; calcium gluconate; intravenous; milk of magnesia.

## 5. Fire-Fighting Measures

Suitable extinguishing media	:	Carbon dioxide, regular dry chemical. Large fires: Use regular foam or flood with fine water spray.
Specific hazards	:	Negligible fire hazard. Oxidizer. May ignite or explode on contact with combustible materials. Containers may rupture or explode if exposed to heat.
Fire fighting	:	Do not get water inside container. 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. Keep unnecessary people away, isolate hazard area and deny entry. Use extinguishing agents appropriate for surrounding fire. Flood with fine water spray. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Consider downwind evacuation if material is leaking.

## 6. Accidental Release Measures

Occupational spill/release	:	Stop leak if possible without personal risk. Reduce vapors with water spray. Do not get water directly on material. Do not get water inside container. Keep unnecessary people away, isolate hazard area and deny entry. Small spills: Flood with water. Large spills: Dike for later disposal. Stay upwind and keep out of low areas. Ventilate closed spaces before entering. Evacuation radius: 150 feet.
Additional advice	:	None.

## 7. Handling and Storage

### Handling

Secure cylinder when using to protect from falling. Use suitable hand truck to move cylinders.

### Storage

Store in accordance with all current regulations and standards. Store in a cool, dry place. Store in a well-ventilated area. Keep separated from incompatible substances. Do not puncture or burn containers, even when empty. Store below 52°C.

## 8. Exposure Controls / Personal Protection

### Exposure limits

ACGIH	:	2.5 mg/m <sup>3</sup> TWA (as F)
OSHA (final)	:	2.5 mg/m <sup>3</sup> TWA as F
OSHA (vacated)	:	2.5 mg/m <sup>3</sup> TWA

### Component Biological Limit Values

ACGIH : Fluorides in urine: 3 mg/g creatinine, prior to shift (B, Ns); Fluorides in urine: 10 mg/g creatinine, end of shift (B, Ns).

### Engineering measures/Ventilation

Ensure compliance with applicable exposure limits. Provide local exhaust or process enclosure ventilation system.

### Personal protective equipment

Respiratory protection : 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 a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.  
Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Hand protection : Wear appropriate chemical resistant gloves.

Eye protection : Wear splash resistant safety goggles with a faceshield. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin and body protection : Wear appropriate chemical resistant clothing.

## **9. Physical and Chemical Properties**

Form : Gas liquid.  
Color : Colorless or yellow.  
Odor : Odorless.  
Molecular weight : 297.84  
Vapor density : 10.6 (air = 1)  
Vapor pressure : 863 mmHg @ 21°C  
Boiling point : 18 – 20°C  
Melting point : 2 – 3°C  
Water solubility : Decomposes, reacts.  
Solvent solubility : Soluble: alkali, carbon disulfide, hydrogen fluoride.

## **10. Stability and Reactivity**

Stability : Reacts violently with water to generate toxic and/or flammable gases.  
Conditions to avoid : Minimize contact with material. Avoid inhalation of material or combustion by-products. Containers may rupture or explode if exposed to heat.  
Materials to avoid : Combustible materials, reducing agents, acids, metals.  
Hazardous decomposition products : Thermal decomposition products: hydrogen fluoride.

## **11. Toxicological Information**

The components of this material have been reviewed in various sources and no selected endpoints have been identified.

Acute Toxicity Level

TUNGSTEN : Highly toxic: Inhalation.  
HEXAFLUORIDE  
(7783-82-6)

Component Carcinogenicity

ACGIH : A4 – Not Classifiable as a Human Carcinogen.

Local Effects

TUNGSTEN : Corrosive: Inhalation, skin, eye.  
HEXAFLUORIDE Lacrimator: Eye.  
(7783-82-6)

Medical Conditions Aggravated by Exposure

Central nervous system disorders, bone, joint or tooth disorders, eye disorders, kidney disorders, respiratory disorders, skin disorders and allergies.

Additional Data

May cross the placenta. May be excreted in breast milk.

**12. Ecological Information**

No LOLI ecotoxicity data are available for this product's components.

**13. Disposal Considerations**

Waste from residues : Dispose in accordance with all applicable regulations. Subject to disposal  
/ unused products regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001. D003.  
Contaminated : Return cylinder to supplier.  
packaging

**14. Transport Information**

DOT (US only)

Proper shipping : Tungsten Hexafluoride  
name  
Class : 2.3  
UN/ID No. : UN2196  
Labeling : Poison Gas, Corrosive  
Additional Info : Toxic-Inhalation Hazard Zone B

**15. Regulatory Information**

U.S. Federal Regulations

None of this product's components are listed under SARA Section 302/304 (40 CFR 355 Appendix A), SARA Section 311/312 (40 CFR 370.21), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

SARA 311/312

Acute: Yes  
Chronic: Yes  
Fire: Yes  
Reactive: Yes  
Pressure: Yes

### U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
TUNGSTEN HEXAFLUORIDE (related to: Tungsten compounds, n.o.s.) (related to: Fluorides)	7783-82-6	Yes	No	Yes	Yes	No	Yes

Not regulated under California Proposition 65

### **16. Other Information**

Prepared by : Specialty Gases of America, Inc.

For additional information, please visit our website at [www.americangasgroup.com](http://www.americangasgroup.com).