



Material Safety Data Sheet  
Vanadium (IV) chloride

MSDS# 95621

Section 1 - Chemical Product and Company Identification

MSDS Name: Vanadium (IV) chloride  
Catalog Numbers: AC299690000, AC299690250, AC299691000  
Synonyms: Vanadium tetrachloride

Company Identification: Acros Organics BVBA  
Janssen Pharmaceuticaaan 3a  
2440 Geel, Belgium

Company Identification: (USA) Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

For information in the US, call: 800-ACROS-01

For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99

Emergency Number US: 201-796-7100

CHEMTREC Phone Number, US: 800-424-9300

CHEMTREC Phone Number, Europe: 703-527-3887

Section 2 - Composition, Information on Ingredients

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CAS#: 7632-51-1  
Chemical Name: Vanadium tetrachloride  
%: 100  
EINECS#: 231-561-1  
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Hazard Symbols:



Risk Phrases:

T C



25 34

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Corrosive. Water-reactive. Harmful if swallowed. Causes eye and skin burns. May cause severe respiratory tract irritation with possible burns. May cause severe digestive tract irritation with possible burns. May ignite or explode on contact with moist air. Reacts violently and/or explosively with water, steam or moisture. Target Organs: Respiratory system, gastrointestinal system, eyes, skin.

Potential Health Effects

Eye: Causes eye burns. May result in corneal injury. May cause blindness.

Skin: Causes skin burns. Causes redness and pain.

Ingestion: May cause severe and permanent damage to the digestive tract. Poison by ingestion. Causes gastrointestinal tract burns.

Inhalation: May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. Causes chemical burns to the respiratory tract. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.

Chronic: No information found.

#### Section 4 - First Aid Measures

Eyes: Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Remove contaminated clothing and shoes. Destroy contaminated shoes.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician:

#### Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Water reactive. Material will react with water and may release a flammable and/or toxic gas. Substance is noncombustible. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. May ignite or explode on contact with steam or moist air.

Extinguishing Media: Use dry sand or earth to smother fire. DO NOT USE WATER! Do NOT get water inside containers. Contact professional fire-fighters immediately. Cool containers with flooding quantities of water until well after fire is out. For small fires, use dry chemical or carbon dioxide. For large fires, flood fire area with large quantities of water, while knocking down vapors with water fog.

Autoignition Temperature: Not available.

Flash Point: Not available

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

NFPA Rating: ; Special Hazard: -W-

#### Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation. Do not expose spill to water.

#### Section 7 - Handling and Storage

Handling: Do not allow water to get into the container because of violent reaction. Do not breathe dust, mist, or vapor. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Do not allow contact with water. Use only in a chemical fume hood. Discard contaminated shoes.

Storage: Keep container closed when not in use. Store in a tightly closed container. Keep under a nitrogen blanket. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from water. Corrosives area.

#### Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Vanadium tetrachloride	none listed	none listed	none listed

OSHA Vacated PELs: Vanadium tetrachloride: None listed

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

#### Exposure Limits

#### Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

#### Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: red-brown

Odor: Not available

pH: Not available

Vapor Pressure: 7.8 mbar @ 20 deg C

Vapor Density: 6.65

Evaporation Rate: Not available

Viscosity: Not available

Boiling Point: 148.5 deg C @ 760.00mm Hg ( 299.30°F)

Freezing/Melting Point: -28 deg C ( -18.40°F)

Decomposition Temperature: Not available

Solubility in water: decomposes violently in water

Specific Gravity/Density: 1.816 @ 30 C

Molecular Formula: Cl4V

Molecular Weight: 192.75

#### Section 10 - Stability and Reactivity

Chemical Stability: Unstable. Combines vigorously or explosively with water.

Conditions to Avoid: High temperatures, incompatible materials, exposure to moist air or water.

Incompatibilities with Other Materials: Strong oxidizing agents, water.

Hazardous Decomposition Products: Chlorine.

Hazardous Polymerization: Will not occur.

#### Section 11 - Toxicological Information

RTECS#: CAS# 7632-51-1: YW2625000

RTECS:

LD50/LC50: CAS# 7632-51-1: Oral, rat: LD50 = 160 mg/kg;

Carcinogenicity: Vanadium tetrachloride - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: See actual entry in RTECS for complete information.

#### Section 12 - Ecological Information

Not available

#### Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

#### Section 14 - Transport Information

US DOT

Shipping Name: VANADIUM TETRACHLORIDE

Hazard Class: 8

UN Number: UN2444

Packing Group: I

Canada TDG

Shipping Name: Not available  
Hazard Class:  
UN Number:  
Packing Group:

## Section 15 - Regulatory Information

### European/International Regulations

#### European Labeling in Accordance with EC Directives

Hazard Symbols: T C

Risk Phrases:

R 25 Toxic if swallowed.

R 34 Causes burns.

Safety Phrases:

S 25 Avoid contact with eyes.

S 28A After contact with skin, wash immediately with plenty of water.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

#### WGK (Water Danger/Protection)

CAS# 7632-51-1: Not available

#### Canada

CAS# 7632-51-1 is listed on Canada's NDSL List

Canadian WHMIS Classifications: Not available

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 7632-51-1 is listed on Canada's Ingredient Disclosure List

#### US Federal

##### TSCA

CAS# 7632-51-1 is listed on the TSCA Inventory.

## Section 16 - Other Information

MSDS Creation Date: 2/22/1999

Revision #5 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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