

# Safety Data Sheet

acc. to OSHA Hazard Communication Standard (29 CFR 1910.1200)

Printing date 06/16/2015

Reviewed on 11/25/2014

## 1 Identification

- **Product identifier**
- **Trade name:** Vanadium(V) trifluoride oxide
- **Article number:** 121285
- **CAS Number:**  
13709-31-4
- **EC number:**  
237-250-7
- **Application of the substance / the mixture** Laboratory chemicals for research and development
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
BeanTown Chemical  
9 Sagamore Park Road  
Hudson, NH 03051  
USA
- 
- **Phone:** (603) 402-2234
- **Fax:** (603) 402-9713
- **Email:** [technical@beantownchem.com](mailto:technical@beantownchem.com)
- **www.beantownchem.com**
- **Information department:** Technical Support Department
- **Emergency telephone number:**  
During normal operating hours, please call (603) 402-2234  
After hours, please call Chemtrec at (800) 424-9300

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS06 Skull and crossbones

Acute Tox. 1 H300 Fatal if swallowed.

Acute Tox. 1 H310 Fatal in contact with skin.

Acute Tox. 1 H330 Fatal if inhaled.



GHS05 Corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

- **Label elements**
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05



GHS06

- **Signal word** Danger

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- **Hazard-determining components of labeling:**

*Vanadium(V) trifluoride oxide*

- **Hazard statements**

*Fatal if swallowed, in contact with skin or if inhaled.*

*Causes severe skin burns and eye damage.*

- **Precautionary statements**

*If swallowed: Immediately call a poison center/doctor.*

*IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.*

*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

*Specific treatment is urgent (see on this label).*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Substances**

- **CAS No. Description**

*13709-31-4 Vanadium(V) trifluoride oxide*

- **Identification number(s)**

- **EC number:** 237-250-7

### 4 First-aid measures

- **Description of first aid measures**

- **General information:**

*Immediately remove any clothing soiled by the product.*

*Remove breathing apparatus only after contaminated clothing have been completely removed.*

*In case of irregular breathing or respiratory arrest provide artificial respiration.*

- **After inhalation:**

*Supply fresh air or oxygen; call for doctor.*

*In case of unconsciousness place patient stably in side position for transportation.*

- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

- **After swallowing:**

*Do not induce vomiting; immediately call for medical help.*

*Drink copious amounts of water and provide fresh air. Immediately call a doctor.*

- **Information for doctor:**

- **Most important symptoms and effects, both acute and delayed** No further relevant information available.

- **Indication of any immediate medical attention and special treatment needed**

*No further relevant information available.*

### 5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:**

*CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.*

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- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Do not allow product to reach sewage system or any water course.  
Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Thorough dedusting.  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:**  
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.

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*Avoid contact with the eyes.*

*Avoid contact with the eyes and skin.*

**· Breathing equipment:**

*In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.*

**· Protection of hands:**

*Protective gloves*

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.*

*Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.*

*Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*

**· Material of gloves**

*The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.*

**· Penetration time of glove material**

*The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.*

**· Eye protection:** *Tightly sealed goggles*

## 9 Physical and chemical properties

**· Information on basic physical and chemical properties**

**· General Information**

**· Appearance:**

<b>Form:</b>	Powder
<b>Color:</b>	Not determined.
<b>Odor:</b>	Characteristic
<b>Odour threshold:</b>	Not determined.

**· pH-value:** Not applicable.

**· Change in condition**

<b>Melting point/Melting range:</b>	300 °C (572 °F)
<b>Boiling point/Boiling range:</b>	Undetermined

**· Flash point:** Not applicable.

**· Flammability (solid, gaseous):** Product is not flammable.

**· Ignition temperature:**

**Decomposition temperature:** Not determined.

**· Auto igniting:** Not determined.

**· Danger of explosion:** Product does not present an explosion hazard.

**· Explosion limits:**

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.

**· Vapor pressure:** Not applicable.

<b>Density:</b>	Not determined.
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.

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- |   |  |
|---|--|
| <b>· Solubility in / Miscibility with Water:</b>  | Insoluble.                                 |
| <b>· Partition coefficient (n-octanol/water):</b> | Not determined.                            |
| <b>· Viscosity:</b>                               |  |
| <b>Dynamic:</b>                                   | Not applicable.                            |
| <b>Kinematic:</b>                                 | Not applicable.                            |
| <b>Organic solvents:</b>                          | 0.0 %                                      |
| <b>· Solids content:</b>                          | 100.0 %                                    |
| <b>· Other information</b>                        | No further relevant information available. |

## 10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:**  
Strong caustic effect.  
Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
Danger through skin absorption.  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **Carcinogenic categories**

<b>· IARC (International Agency for Research on Cancer)</b>
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Substance is not listed.
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<b>· NTP (National Toxicology Program)</b>
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Substance is not listed.
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<b>· OSHA-Ca (Occupational Safety &amp; Health Administration)</b>
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Substance is not listed.
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## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.

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- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Must not reach bodies of water or drainage ditch undiluted or unneutralized.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

<b>· UN-Number</b>	UN3290
<b>· DOT, IMDG, IATA</b>	
<b>· UN proper shipping name</b>	Toxic solid, corrosive, inorganic, n.o.s. (Vanadium(V) trifluoride oxide)
<b>· DOT</b>	
<b>· IMDG, IATA</b>	TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S. (Vanadium(V) trifluoride oxide)
<b>· Transport hazard class(es)</b>	
<b>· DOT</b>	
<b>· Class</b>	6.1 Toxic substances
<b>· Label</b>	6.1, 8
<b>· IMDG</b>	
<b>· Class</b>	6.1 Toxic substances
<b>· Label</b>	6.1/8
<b>· IATA</b>	
<b>· Class</b>	6.1 Toxic substances
<b>· Label</b>	6.1 (8)
<b>· Packing group</b>	
<b>· DOT, IMDG, IATA</b>	II
<b>· Environmental hazards:</b>	
<b>· Marine pollutant:</b>	No
<b>· Special precautions for user</b>	Warning: Toxic substances
<b>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.

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· **Transport/Additional information:**

· **DOT**

· **Quantity limitations**

On passenger aircraft/rail: 15 kg

On cargo aircraft only: 50 kg

· **IMDG**

· **Limited quantities (LQ)**

500 g

· **Excepted quantities (EQ)**

Code: E4

Maximum net quantity per inner packaging: 1 g

Maximum net quantity per outer packaging: 500 g

· **UN "Model Regulation":**

UN3290, Toxic solid, corrosive, inorganic, n.o.s. (Vanadium(V) trifluoride oxide), 6.1 (8), II

## 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Sara**

· **Section 355 (extremely hazardous substances):**

Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**

Substance is not listed.

· **TSCA (Toxic Substances Control Act):**

Substance is not listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity:**

Substance is not listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

Substance is not listed.

· **TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

· **RTECS**

Substance is not listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

US

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**16 Other information**

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

**· NFPA ratings (scale 0-4)**

Health = 4

Fire = 0

Reactivity = 0

**· HMIS ratings (scale 0-4)**

Health = 4

Fire = 0

Reactivity = 0

**· Department issuing SDS:** Technical Support Department**· Contact:** Technical Support Department**· Date of preparation / last revision** 06/16/2015 / -**· Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*Acute Tox. 1: Acute toxicity, Hazard Category 1*

*Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A*

*Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1*