



# PRODUCT INFORMATION SHEET

**MATERION**

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

<b>Name of the substance</b>	Vanadium Product
<b>Identification number</b>	231-171-1 (EC number)
<b>Synonyms</b>	Vanadium
<b>Document number</b>	WAMTFP-082
<b>Issue date</b>	02-June-2015
<b>Version number</b>	04
<b>Revision date</b>	18-September-2018
<b>Supersedes date</b>	04-June-2018

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

<b>Identified uses</b>	Not available.
<b>Uses advised against</b>	None known.

### 1.3. Details of the supplier of the product information sheet

#### Supplier

<b>Company name</b>	Materion Advanced Materials Group	
<b>Address</b>	42 Mt. Ebo Road South Brewster, NY 10509 United States	
<b>Division</b>		
<b>Telephone</b>	Supplier Phone	1+845.279.0900
<b>e-mail</b>	Not available.	
<b>Contact person</b>	Not available.	

<b>1.4. Emergency telephone number</b>	Chemtrec	1+703.527.3887
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## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008 as amended

<b>Hazard summary</b>	Not available.
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### 2.2. Label elements

#### Label according to Regulation (EC) No. 1272/2008 as amended

<b>Contains:</b>	Vanadium
<b>Hazard pictograms</b>	None.
<b>Signal word</b>	None.
<b>Hazard statements</b>	The material as sold in solid form is generally not considered hazardous. However, if the process involves grinding, melting, cutting or any other process that causes a release of dust or fumes, hazardous levels of airborne particulate could be generated.

#### Precautionary statements

<b>Prevention</b>	Not available.
<b>Response</b>	Not available.
<b>Storage</b>	Not available.
<b>Disposal</b>	Not available.

<b>Supplemental label information</b>	None.
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<b>2.3. Other hazards</b>	None known.
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## SECTION 3: Composition/information on ingredients

### 3.1. Substances

**General information**

<b>Chemical name</b>	<b>%</b>	<b>CAS-No. / EC No.</b>	<b>REACH Registration No.</b>	<b>INDEX No.</b>	<b>Notes</b>
Vanadium	99 - 100	7440-62-2 231-171-1	-	-	
<b>Classification:</b>	-				

**SECTION 4: First aid measures**

**General information** Not available.

**4.1. Description of first aid measures**

**Inhalation** Not available.

**Skin contact** Not available.

**Eye contact** Not available.

**Ingestion** Not available.

**4.2. Most important symptoms and effects, both acute and delayed** Not available.

**4.3. Indication of any immediate medical attention and special treatment needed** Not available.

**SECTION 5: Firefighting measures**

**General fire hazards** Not available.

**5.1. Extinguishing media**

**Suitable extinguishing media** Not available.

**Unsuitable extinguishing media** Not available.

**5.2. Special hazards arising from the substance or mixture** Not available.

**5.3. Advice for firefighters**

**Special protective equipment for firefighters** Not available.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** Not available.

**For emergency responders** Not available.

**6.2. Environmental precautions** Not available.

**6.3. Methods and material for containment and cleaning up** Not available.

**6.4. Reference to other sections** Not available.

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling** Not available.

**7.2. Conditions for safe storage, including any incompatibilities** Not available.

**7.3. Specific end use(s)** Not available.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters**

## Occupational exposure limits

### Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

Material	Type	Value	Form
Vanadium Product	MAK	0,5 mg/m <sup>3</sup>	Inhalable fraction.
	STEL	1 mg/m <sup>3</sup>	Inhalable fraction.
Components	Type	Value	Form
Vanadium (CAS 7440-62-2)	MAK	0,5 mg/m <sup>3</sup>	Inhalable fraction.
	STEL	1 mg/m <sup>3</sup>	Inhalable fraction.

### Czech Republic. OELs. Government Decree 361

Material	Type	Value	Form
Vanadium Product	Ceiling	0,15 mg/m <sup>3</sup>	Dust.
	TWA	0,05 mg/m <sup>3</sup>	Dust.
Components	Type	Value	Form
Vanadium (CAS 7440-62-2)	Ceiling	0,15 mg/m <sup>3</sup>	Dust.
	TWA	0,05 mg/m <sup>3</sup>	Dust.

### Latvia. OELs. Occupational exposure limit values of chemical substances in work environment

Material	Type	Value	Form
Vanadium Product	TWA	4 mg/m <sup>3</sup>	Dust.
		1 mg/m <sup>3</sup>	
Components	Type	Value	Form
Vanadium (CAS 7440-62-2)	TWA	4 mg/m <sup>3</sup>	Dust.
		1 mg/m <sup>3</sup>	

### Norway. Administrative Norms for Contaminants in the Workplace

Material	Type	Value	Form
Vanadium Product	Ceiling	0,05 mg/m <sup>3</sup>	Fume.
	TLV	0,2 mg/m <sup>3</sup>	Dust.
Components	Type	Value	Form
Vanadium (CAS 7440-62-2)	Ceiling	0,05 mg/m <sup>3</sup>	Fume.
	TLV	0,2 mg/m <sup>3</sup>	Dust.

### Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

Material	Type	Value	Form
Vanadium Product	TWA	0,5 mg/m <sup>3</sup>	Inhalable fraction.
Components	Type	Value	Form
Vanadium (CAS 7440-62-2)	TWA	0,5 mg/m <sup>3</sup>	Inhalable fraction.

**Biological limit values** No biological exposure limits noted for the ingredient(s).

**Recommended monitoring procedures** Not available.

**Derived no effect levels (DNELs)** Not available.

**Predicted no effect concentrations (PNECs)** Not available.

## 8.2. Exposure controls

**Appropriate engineering controls** Not available.

### Individual protection measures, such as personal protective equipment

**General information** Not available.

**Eye/face protection** Not available.

#### Skin protection

- **Hand protection** Not available.

- **Other** Not available.

**Respiratory protection** Not available.

**Thermal hazards** Not available.

**Hygiene measures** Not available.

**Environmental exposure controls** Not available.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Appearance

**Physical state** Solid.  
**Form** Not available.  
**Colour** Not available.  
**Odour** Not available.  
**Odour threshold** Not available.  
**pH** Not available.  
**Melting point/freezing point** 1910 °C (3470 °F)  
**Initial boiling point and boiling range** 3407 °C (6164,6 °F)  
**Flash point** Not available.  
**Evaporation rate** Not available.  
**Flammability (solid, gas)** Not available.

#### Upper/lower flammability or explosive limits

**Flammability limit - lower (%)** Not available.  
**Flammability limit - upper (%)** Not available.  
**Vapour pressure** < 0,0000001 kPa at 25 °C  
**Vapour density** Not available.  
**Relative density** Not available.  
**Solubility(ies)**  
**Solubility (water)** Not available.  
**Partition coefficient (n-octanol/water)** Not available.  
**Auto-ignition temperature** Not available.  
**Decomposition temperature** Not available.  
**Viscosity** Not available.  
**Explosive properties** Not available.  
**Oxidising properties** Not available.

### 9.2. Other information

**Density** 6,11 g/cm<sup>3</sup> estimated at 18,7 °C  
**Molecular formula** V  
**Molecular weight** 50,94 g/mol  
**Specific gravity** 6,11 at 18,7 °C

## SECTION 10: Stability and reactivity

**10.1. Reactivity** Not available.  
**10.2. Chemical stability** Not available.  
**10.3. Possibility of hazardous reactions** Not available.  
**10.4. Conditions to avoid** Not available.  
**10.5. Incompatible materials** Not available.  
**10.6. Hazardous decomposition products** Not available.

## SECTION 11: Toxicological information

**General information** Not available.

#### Information on likely routes of exposure

**Inhalation** Not available.  
**Skin contact** Not available.  
**Eye contact** Not available.

**Ingestion** Not available.  
**Symptoms** Not available.

### 11.1. Information on toxicological effects

**Acute toxicity** No data available.  
**Skin corrosion/irritation** Not available.  
**Serious eye damage/eye irritation** Not available.  
**Respiratory sensitisation** Not available.  
**Skin sensitisation** Not available.  
**Germ cell mutagenicity** Not available.

### Carcinogenicity

#### Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)

Not listed.

**Reproductive toxicity** Not available.  
**Specific target organ toxicity - single exposure** Not available.  
**Specific target organ toxicity - repeated exposure** Not available.  
**Aspiration hazard** Not available.  
**Mixture versus substance information** Not available.  
**Other information** Not available.

## SECTION 12: Ecological information

**12.1. Toxicity** No toxicity data noted for the ingredient(s).  
**12.2. Persistence and degradability** Not available.  
**12.3. Bioaccumulative potential** Not available.  
**Partition coefficient n-octanol/water (log Kow)** Not available.  
**Bioconcentration factor (BCF)** Not available.  
**12.4. Mobility in soil** Not available.  
**12.5. Results of PBT and vPvB assessment** Not a PBT or vPvB substance or mixture.  
**12.6. Other adverse effects** Not available.  
**12.7. Additional information**

#### Estonia Dangerous substances in soil Data

Vanadium (CAS 7440-62-2)

Vanadium (V) 1000 mg/kg  
Vanadium (V) 300 mg/kg  
Vanadium (V) 50 mg/kg

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**Residual waste** Not available.  
**Contaminated packaging** Not available.  
**EU waste code** Not available.

## SECTION 14: Transport information

### ADR

**14.1. UN number** UN3285  
**14.2. UN proper shipping name** Vanadium compound, n.o.s. (Vanadium Product)  
**14.3. Transport hazard class(es)**  
**Class** 6.1(PGIII)  
**Subsidiary risk** -  
**Label(s)** 6.1

**Hazard No. (ADR)** 60  
**Tunnel restriction code** E  
**14.4. Packing group** III  
**14.5. Environmental hazards** No.  
**14.6. Special precautions for user** Not available.

#### RID

**14.1. UN number** UN3285  
**14.2. UN proper shipping name** Vanadium compound, n.o.s. (Vanadium Product)  
**14.3. Transport hazard class(es)**  
**Class** 6.1(PGIII)  
**Subsidiary risk** -  
**Label(s)** 6.1  
**14.4. Packing group** III  
**14.5. Environmental hazards** No.  
**14.6. Special precautions for user** Not available.

#### ADN

**14.1. UN number** UN3285  
**14.2. UN proper shipping name** Vanadium compound, n.o.s. (Vanadium Product)  
**14.3. Transport hazard class(es)**  
**Class** 6.1(PGIII)  
**Subsidiary risk** -  
**Label(s)** 6.1  
**14.4. Packing group** III  
**14.5. Environmental hazards** No.  
**14.6. Special precautions for user** Not available.

#### IATA

14.1. - 14.6.: Not regulated as dangerous goods.

#### IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

#### ADN; ADR; RID



## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU regulations

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**  
Not listed.

**Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended**  
Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**  
Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**  
Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

Not listed.

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

#### **Authorisations**

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**

Not listed.

#### **Restrictions on use**

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Not listed.

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.**

Not listed.

#### **Other EU regulations**

**Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended**

Not listed.

#### **National regulations**

Not available.

#### **15.2. Chemical safety assessment**

Not available.

### **SECTION 16: Other information**

#### **List of abbreviations**

Not available.

#### **Information on evaluation method leading to the classification of mixture**

Not available.