

## **Safety data sheet according to 1907/2006/EC, Article 31**

Printing date 04.12.2021

Version number 2 (replaces version 1)

Revision: 04.12.2021

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

- **1.1 Product identifier**
- **Trade name:** Vanadium V- 1 g/l in 2% H<sub>2</sub>SO<sub>4</sub>
- **SDS number:** CH4047
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
Only for the use of professionals users
- **Life cycle stages**  
F Formulation or re-packing  
IS Use at industrial Sites
- **Application of the substance / the mixture** Chemicals products for laboratory
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
CARLO ERBA REAGENTS  
Chaussée du Vexin  
Parc d'Affaires des Portes - BP616  
27106 VAL DE REUIL Cedex  
Téléphone: +33 (0)2 32 09 20 00  
Télécopie: +33 (0)2 32 09 20 20
- **Further information obtainable from:**  
Q.A / Normative  
email: MSDS\_CER-SDS@cer.dgroup.it
- **1.4 Emergency telephone number:**  
France (ORFILA 24h/24) - Tel : +33 (0)1 45 42 59 59  
Ireland - Tel : 00 353 1 8092568 - 00 353 1 8379964 (24h/24)  
EU Tel : 112

### **SECTION 2: Hazards identification**

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**  
The product is not classified, according to the CLP regulation.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008** Void
- **Hazard pictograms** Void
- **Signal word** Void
- **Hazard statements** Void
- **Additional information:**  
Product contains: Reportable explosives precursors. Making available, introduction, possession and use according to Regulation (EU) 2019/1148, Article 9.  
Safety data sheet available on request.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### **SECTION 3: Composition/information on ingredients**

- **3.2 Mixtures**
- **Description:** Mixture made by the following substances:

(Contd. on page 2)

EU

***Safety data sheet***  
*according to 1907/2006/EC, Article 31*

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*Trade name: Vanadium V- 1 g/l in 2% H<sub>2</sub>SO<sub>4</sub>*

(Contd. of page 1)

### *Dangerous components:*

<b>CAS:</b> 7664-93-9 <b>EINECS:</b> 231-639-5 <b>Index number:</b> 016-020-00-8 <b>Reg.nr.:</b> 01-2119458838-20	<b>sulfuric acid</b>  <b>Skin Corr. 1A, H314; Eye Dam. 1, H318</b> <b>Specific concentration limits:</b> Skin Corr. 1A; H314: $C \geq 15\%$ <b>Skin Irrit. 2; H315:</b> $5\% \leq C < 15\%$ <b>Eye Dam. 1; H318:</b> $C \geq 15\%$ <b>Eye Irrit. 2; H319:</b> $5\% \leq C < 15\%$	<5%
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## **SECTION 4: First aid measures**

- **4.1 Description of first aid measures**
- **After inhalation:** Supply fresh air; consult a doctor in case of complaints.
- **After skin contact:**  
Immediately wash with water and soap and rinse thoroughly. Wash contaminated clothing before reuse.  
Generally the product does not irritate the skin.  
If skin irritation continues, consult a doctor.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## ***SECTION 5: Firefighting measures***

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** Do not inhale gases in case of fire or combustion.
- **Additional information** Keep receptacles cool with water spray.

## ***SECTION 6: Accidental release measures***

- **6.1 Personal precautions, protective equipment and emergency procedures** Ensure adequate ventilation
- **6.2 Environmental precautions:**
  - Do not allow to penetrate the ground/soil.
  - Dilute with plenty of water after collecting the liquid.
- **6.3 Methods and material for containment and cleaning up:**
  - Collect the liquid with vacuum in a suitable container and absorb the remainder with a porous material (diatomite, acid binders, universal binders, etc).
- **6.4 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.

## ***SECTION 7: Handling and storage***

- **7.1 Precautions for safe handling** No special precautions are necessary if used correctly.
- **Information about fire - and explosion protection:** The product is not flammable.

(Contd. on page 3)

- 11 -

**Safety data sheet**  
according to 1907/2006/EC, Article 31

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**Trade name:** Vanadium V- 1 g/l in 2% H<sub>2</sub>SO<sub>4</sub>

(Contd. of page 2)

- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
  - **Requirements to be met by storerooms and receptacles:**  
Provide floor trough without outlet.  
Use only receptacles specifically permitted for this substance/product.
  - **Information about storage in one common storage facility:** Not required.
  - **Further information about storage conditions:** None.
- **7.3 Specific end use(s)** No further relevant information available.

## \* SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

**CAS: 7664-93-9 sulfuric acid**IOELV | Long-term value: 0.05 mg/m<sup>3</sup>

- **DNELs**

**CAS: 7664-93-9 sulfuric acid**

Inhalative	DNEL (workers-local effects Acute)	0.1 mg/m <sup>3</sup>
	DNEL (workers-local chronic effects)	0.05 mg/m <sup>3</sup>

- **PNECs**

**CAS: 7664-93-9 sulfuric acid**

PNEC (Fresh water)	2.5 mg/l
PNEC (Freshwater sediment)	0.002 mg/kg
PNEC (Marine water)	0.25 mg/l
PNEC (Seawater sediment)	0.002 mg/l

- **Additional information:** The lists valid during the making were used as basis.

- **8.2 Exposure controls**

- **Appropriate engineering controls** No further data; see item 7.

- **Individual protection measures, such as personal protective equipment**

- **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Wash hands before breaks and at the end of work.

- **Respiratory protection:**

Filter P2

The selected respiratory protection must comply with standard EN 136/140/143/145/149.

- **Hand protection**

The selected protective gloves have to satisfy the specifications of REGULATION (EU) 2016/425 and the standard EN 374 derived from it.

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

Rubber gloves

- **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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

(Contd. on page 4)

EU

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**· Eye/face protection**



Safety glasses

(Contd. of page 3)

**· Body protection: Protective work clothing**

**· Environmental exposure controls**

*In case of unintended release of the product: See section 6 of the Safety Data Sheet.*

**· Risk management measures** Keep good industrial hygiene.

### SECTION 9: Physical and chemical properties

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

<b>· Molecular weight</b>	
<b>· Physical state</b>	Fluid
<b>· Colour:</b>	According to product specification
<b>· Odour:</b>	Characteristic
<b>· Odour threshold:</b>	Not determined.
<b>· Melting point/freezing point:</b>	Undetermined.
<b>· Flammability</b>	Not applicable.
<b>· Lower and upper explosion limit</b>	
<b>· Lower:</b>	Not determined.
<b>· Upper:</b>	Not determined.
<b>· Flash point:</b>	Not applicable.
<b>· Auto-ignition temperature:</b>	Product is not selfigniting.
<b>· Viscosity:</b>	
<b>· Kinematic viscosity</b>	Not determined.
<b>· Dynamic:</b>	Not determined.
<b>· Solubility</b>	
<b>· water:</b>	Fully miscible.
<b>· Partition coefficient n-octanol/water (log value)</b>	Not determined.
<b>· Vapour pressure:</b>	Not determined.
<b>· Vapour pressure (2):</b>	
<b>· Density and/or relative density</b>	
<b>· Density at 20 °C:</b>	1.01 g/cm <sup>3</sup>
<b>· Relative density</b>	Not determined.
<b>· Vapour density</b>	Not determined.

**· 9.2 Other information**

<b>· Appearance:</b>	
<b>· Form:</b>	Fluid
<b>· Important information on protection of health and environment, and on safety.</b>	
<b>· Explosive properties:</b>	Product does not present an explosion hazard.
<b>· Solvent separation test:</b>	
<b>· Solids content:</b>	0.0 %
<b>· Change in condition</b>	
<b>· Evaporation rate</b>	Not determined.

**· Information with regard to physical hazard classes**

<b>· Explosives</b>	Void
<b>· Flammable gases</b>	Void
<b>· Aerosols</b>	Void

(Contd. on page 5)

EU

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**Trade name:** Vanadium V- 1 g/l in 2% H<sub>2</sub>SO<sub>4</sub>

(Contd. of page 4)

· <b>Oxidising gases</b>	Void
· <b>Gases under pressure</b>	Void
· <b>Flammable liquids</b>	Void
· <b>Flammable solids</b>	Void
· <b>Self-reactive substances and mixtures</b>	Void
· <b>Pyrophoric liquids</b>	Void
· <b>Pyrophoric solids</b>	Void
· <b>Self-heating substances and mixtures</b>	Void
· <b>Substances and mixtures, which emit flammable gases in contact with water</b>	Void
· <b>Oxidising liquids</b>	Void
· <b>Oxidising solids</b>	Void
· <b>Organic peroxides</b>	Void
· <b>Corrosive to metals</b>	Void
· <b>Desensitised explosives</b>	Void

## SECTION 10: Stability and reactivity

- **10.1 Reactivity** See 10.3
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**  
No decomposition products known, more dangerous than the product as such.

## SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

- **LD/LC50 values relevant for classification:**

CAS: 7664-93-9 sulfuric acid	
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Oral	LD50 2,140 mg/kg (rat)
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- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

- **Additional toxicological information:**

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.
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(Contd. on page 6)

EU

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according to 1907/2006/EC, Article 31

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**Trade name:** Vanadium V- 1 g/l in 2% H<sub>2</sub>SO<sub>4</sub>

(Contd. of page 5)

**· 11.2 Information on other hazards****· Endocrine disrupting properties**

None of the ingredients is listed.

**SECTION 12: Ecological information****· 12.1 Toxicity****· Aquatic toxicity:****CAS: 7664-93-9 sulfuric acid**

EC50/48h &gt;100 mg/l (Daphnia) (OECD 202)

LC50/96h 16 mg/l (fishes)

LC50 &gt;100 mg/l (algae) (72h)

**· 12.2 Persistence and degradability** No further relevant information available.**· Method****· Ecological information** Not available**· 12.3 Bioaccumulative potential** No further relevant information available.**· 12.4 Mobility in soil** No further relevant information available.**· 12.5 Results of PBT and vPvB assessment****· PBT:** Not applicable.**· vPvB:** Not applicable.**· 12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

**· 12.7 Other adverse effects****· Additional ecological information:****· General notes:** Not hazardous for water.**SECTION 13: Disposal considerations****· 13.1 Waste treatment methods****· Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Reutilise if possible or contact a waste processors for recycling or safe disposal.

**· Waste disposal key:**

The European Union does not establish uniform rules for the disposal of chemical waste, which are special waste. Their treatment and elimination of the domestic legislation of each country. So, in each case, you should contact the relevant authorities, or those companies legally authorized for elimination of waste.

2014/955/UE: Council Decision of 18 December 2014 amending the list of wastes contained in Decision 2000/532/EC.

Directive 2008/98/EC of the European parliament and of the council of 18 November 2008, in its latest valid version.

**· European waste catalogue**

HP4 Irritant - skin irritation and eye damage

**· Uncleaned packaging:**

The containers and packaging materials contaminated with dangerous substances or preparations, have the same treatment of products.

Directive 94/62/EC of the European Parliament and the Council of 20 December 1994 on packaging and packaging waste.

**· Recommendation:**

Disposal must be made according to official regulations.

(Contd. on page 7)

EU

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(Contd. of page 6)

*Packagings that may not be cleansed are to be disposed of in the same manner as the product.**· Recommended cleansing agents: Water, if necessary together with cleansing agents.***SECTION 14: Transport information****· 14.1 UN number or ID number****· ADR/RID, IMDG, IATA**

UN1760

**· 14.2 UN proper shipping name****· ADR/RID**

1760 CORROSIVE LIQUID, N.O.S. (SULPHURIC ACID)

**· IMDG****· IATA**

CORROSIVE LIQUID, N.O.S. (SULPHURIC ACID)

Corrosive liquid, n.o.s. (SULPHURIC ACID)

**· 14.3 Transport hazard class(es)****· ADR/RID****· Class**

8 (C9) Corrosive substances.

**· Label**

8

**· IMDG, IATA****· Class**

8 Corrosive substances.

**· Label**

8

**· 14.4 Packing group****· ADR/RID, IMDG, IATA**

III

**· 14.5 Environmental hazards:**

Not applicable.

**· 14.6 Special precautions for user**

Warning: Corrosive substances.

**· Hazard identification number (Kemler code):**

80

**· EMS Number:**

F-A,S-B

**· Stowage Category**

A

**· Stowage Code**

SW2 Clear of living quarters.

**· 14.7 Maritime transport in bulk according to IMO instruments**

Not applicable.

**· Transport/Additional information:****· ADR/RID**

5L

**· Limited quantities (LQ)**

Code: E1

**· Excepted quantities (EQ)**Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 1000 ml**· Transport category**

3

**· Tunnel restriction code**

E

(Contd. on page 8)

EU

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**Trade name:** Vanadium V- 1 g/l in 2% H<sub>2</sub>SO<sub>4</sub>

(Contd. of page 7)

· <b>IMDG</b>	5L
· <b>Limited quantities (LQ)</b>	Code: E1
· <b>Excepted quantities (EQ)</b>	Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	UN 1760 CORROSIVE LIQUID, N.O.S. (SULPHURIC ACID), 8, III

<b>SECTION 15: Regulatory information</b>	
· <b>15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture</b>	
· <b>SARA Section 355 (extremely hazardous substances)</b>	All ingredients are listed.
· <b>SARA Section 313 (specific toxic chemical listings)</b>	All ingredients are listed.
· <b>Prop 65 - Chemicals known to cause cancer</b>	None of the ingredients is listed.
· <b>EPA (Environmental Protection Agency)</b>	None of the ingredients is listed.
· <b>TLV (Threshold Limit Value)</b>	All substances have the value A2.
· <b>MAK (German Maximum Workplace Concentration)</b>	All substances have the value 4.
· <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>	None of the ingredients is listed.
· <b>Directive 2012/18/EU</b>	
· <b>Named dangerous substances - ANNEX I</b>	None of the ingredients is listed.
· <b>REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)</b>	None of the ingredients is listed.
· <b>LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)</b>	None of the ingredients is listed.
· <b>DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II</b>	None of the ingredients is listed.
· <b>National regulations:</b>	
· <b>Waterhazard class:</b>	Generally not hazardous for water.
· <b>Other regulations, limitations and prohibitive regulations</b>	0.0 g/l 0.00 %
· <b>Substances of very high concern (SVHC) according to REACH, Article 57</b>	None of the ingredients is listed.
· <b>15.2 Chemical safety assessment:</b>	A Chemical Safety Assessment has not been carried out.

EU

(Contd. on page 9)

**Safety data sheet**  
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**Trade name:** Vanadium V- 1 g/l in 2% H<sub>2</sub>SO<sub>4</sub>

(Contd. of page 8)

**\* SECTION 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.*

**· Relevant phrases**

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

**· Department issuing SDS: Q.A./Normative**

**· Date of previous version:** 04.12.2021

**· Version number of previous version:** 1

**· Abbreviations and acronyms:**

RCR : Risk Characterisation Ratio

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

IMO : International Maritime Organization

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

**· Sources**

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006, REACH, in latest valid version.

Regulation (EC) N° 1272/2008 of the European Parliament and of the Council of 16 December 2008, CLP, in the latest valid version.

Globally Harmonized System, GHS

ADR, IMDG, IATA

PubChem : an open chemistry database at the National Institutes of Health (NIH)

ECHA : European Chemicals Agency

GESTIS : Information system on hazardous substances of the German Social Accident Insurance

**· \* Data compared to the previous version altered. .**

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