

NANOGRAFI NANOTECHNOLOGY

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

1.1 Product identifiers

Product Form	Substance
Trade Name	Vanadium (V) Micron Powder, Purity: 99.9 %, Size: 325 mesh
Product Number	NG01EM3401
CAS Number	7440-62-2

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

Use of the substance/mixture	Research
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1.3 Details of the supplier of safety data sheet

Company	Nanografi Nanotechnology
Address	ODTÜ Teknokent İvizler Binası B-1/H ODTÜ Teknokent 06531- ANKARA
Phone	+90 312 285 85 09
Fax	+90 312 210 13 09

1.4 Emergency Telephone Number

Emergency Telephone Number	+90 312 285 85 09
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SECTION 2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2 Label Elements

Hazard Pictograms	Not available
Signal Word	Not available

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Hazard Statements Not available

Precautionary Statements Not available

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3 Other Hazards

None.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms	Vanadium
Formula	V
CAS Number	7440-62-2

3.2 Mixtures

Not applicable.

SECTION 4 FIRST AID MEASURES

4.1 Description of first aid measures

First-aid measures after inhalation	Provide fresh air. Get medical attention if symptoms develop.
First-aid measures after skin contact	Wash off with plenty of water and soap.
First-aid measures after eye contact	Rinse opened eye for several minutes under running water. Get medical attention if symptoms persist.
First-aid measures after ingestion	Do not induce vomiting. Get medical attention if symptoms develop.

4.2 Most important symptoms and effects, including acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

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4.3 Indication of any immediate medical attention and special treatment needed

No data available.

4.4 Other Information

No data available.

SECTION 5 FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media	Powder suitable for metal fires. Clay. Sand.
Unsuitable Extinguishing Media	Water.

5.2 Special hazards arising from the substance or mixture

Hydrogen, Metal Oxide Fume

5.3 Advice for firefighters

Special protective equipment for firefighters	Wear self-contained breathing apparatus and full-protective gear.
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SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions	Avoid dust formation. Avoid breathing vapors, mist or gas. Remove all sources of ignition. For personal protection see section 8.
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6.2 Environmental precautions

Avoid release to the environment.

NANOGRAFI NANOTECHNOLOGY**6.3 Methods and material for containment and cleaning up**

Use vacuum cleaner or mechanical handling equipment. Avoid dust formation. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For further information refer to section 13.

SECTION 7 HANDLING AND STORAGE**7.1 Precautions for safe handling**

Precautions for Safe Handling	Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.
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7.2 Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Handle and store under inert gas. Keep away from sources of ignition.
Incompatible materials	Store away heat, moisture and combustible materials.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control parameters**

No data available.

8.2 Exposure controls

Appropriate Engineering Controls	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at
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Hand Protection	the end of workday. Keep away from foodstuffs, beverages and feed. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Eye Protection	Use chemical safety goggles (EN 166).
Skin and Body Protection	The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory Protection	Type N95 (US) or type P1 (EN 143) dust masks are required if high concentrations are present.
Environmental Exposure Controls	Avoid release to the environment.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

Physical State	Solid
Appearance	Powder
Odor	No data available
Odor Threshold	No data available
pH	No data available
Relative Evaporation Rate	No data available
Melting Point	1900 °C
Freezing Point	1900 °C
Boiling Point	3000 °C
Flash Point	No data available
Auto-ignition Temperature	No data available
Decomposition Temperature	No data available
Flammability (solid, gas)	No data available
Vapor Pressure	No data available

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Relative vapor density at 20°C	No data available
Relative Density	6.11 g/cm ³
Solubility in H ₂ O	No data available
Log Pow	No data available
Viscosity, Kinematic	No data available
Viscosity, Dynamic	No data available
Explosive Properties	No data available
Oxidizing Properties	No data available

9.2 Other information

No other information available.

SECTION 10 STABILITY AND REACTIVITY

10.1 Reactivity

No data available.

10.2 Chemical stability

Stable under normal conditions of use, storage, and transport.

10.3 Possibility of hazardous reactions

Reacts with strong oxidizing agents.

10.4 Conditions to avoid

No data available.

10.5 Incompatible materials

Acids, Strong Oxidizing Agents.

10.6 Hazardous decomposition products

Metal Oxide Fume

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SECTION 11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity	Not classified.
Skin corrosion/irritation	Not irritating.
Serious eye damage/irritation	Not irritating.
Respiratory or Skin Sensitization	Not sensitizing.
Germ Cell Mutagenicity	Not classified.
Carcinogenicity	No data available.
Reproductive Toxicity	Not classified.
STOT-Single Exposure	No data available.
STOT-Repeated Exposure	No data available.
Aspiration Hazard	No data available.
Other Information	RTECS: YW1355000 To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12 ECOLOGICAL INFORMATION

12.1 Toxicity

Ecology-general	No data available
Acute aquatic toxicity	No data available
Chronic aquatic toxicity	No data available

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

No data available.

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12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

No data available.

SECTION 13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Waste treatment methods Dispose of container and unused contents in accordance with state and local requirements.

Contaminated Packaging Dispose of as unused product.

SECTION 14 TRANSPORT INFORMATION

Not dangerous goods.

SECTION 15 REGULATORY INFORMATION

15.1 Safety, health and environmental regulations

SARA 313 Components

Vanadium CAS: 7440-62-2.

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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SECTION 16 OTHER INFORMATION

Disclaimer

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.