

Specification Sheet

Vanadium Pentoxide Nanoparticles

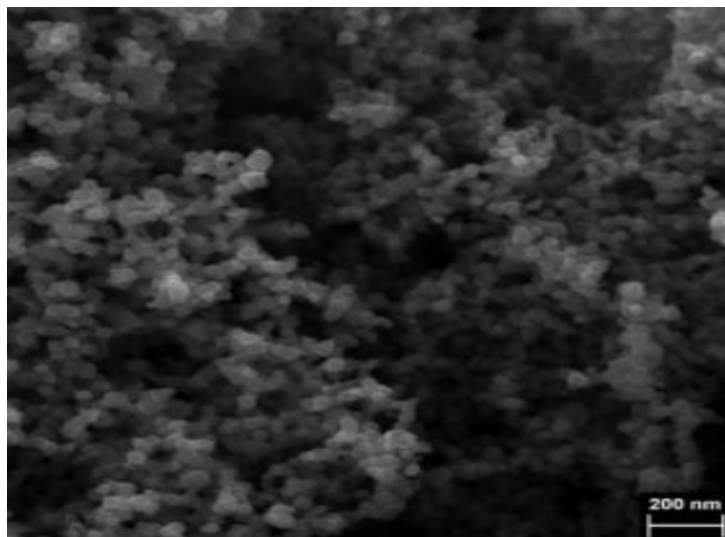
(V₂O₅, Purity: 99.9%, APS: 80nm)

Stock No: NS6130-03-399, CAS: 1314-62-1

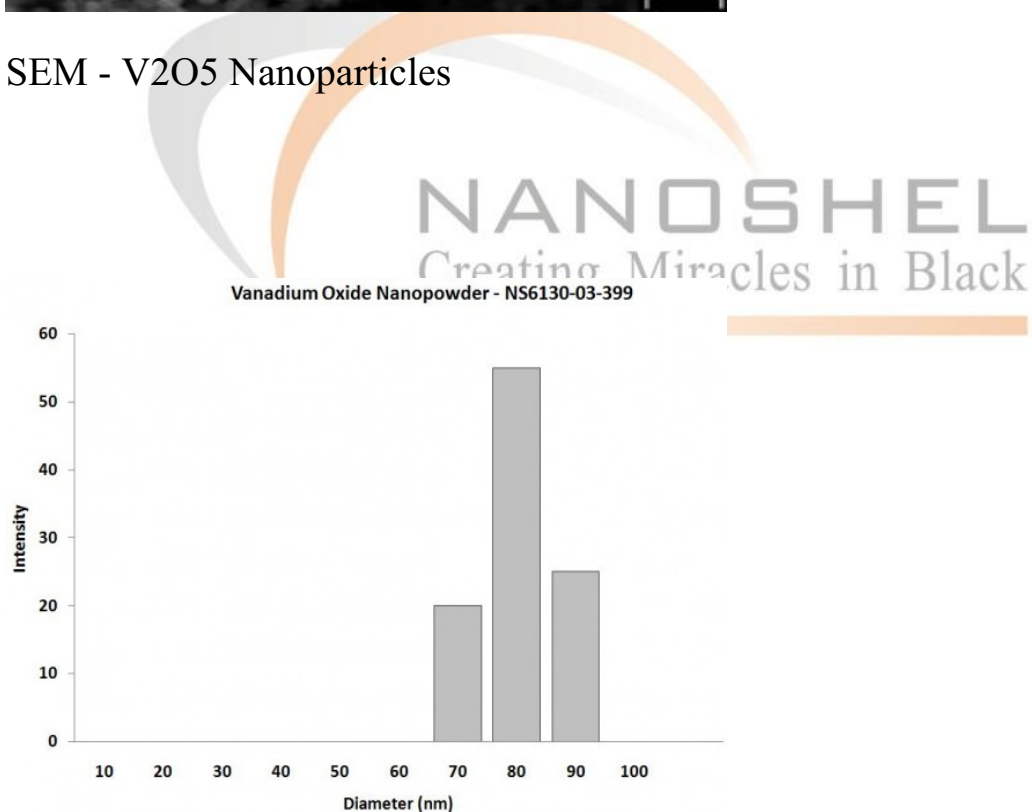
Product	:	Vanadium Pentoxide Nanoparticles
Stock No	:	NS6130-03-399
CAS	:	1314-62-1
Purity	:	99.9%
APS	:	80nm
Molecular Formula	:	V ₂ O ₅
Molecular Weight	:	181.88g/mol
Form	:	Powder
Color	:	Yellow – Orange
Density	:	3.36 g/cm ³
Melting Point	:	690 °C
Boiling Point	:	1750 °C
Main Inspect Verifier	:	Manager QC

Note: Product Specification are subject to amendment and may change over time

Characterization of Vanadium Pentoxide Nanoparticles



SEM - V₂O₅ Nanoparticles



Particles Size Analysis



Vanadium Pentoxide



Certificate of Analysis

Vanadium Pentoxide Nanoparticles

(V₂O₅, Purity: 99.9%, APS: 80nm)

Stock No: NS6130-03-399, CAS: 1314-62-1

Product Name	:	Vanadium Pentoxide Nanoparticles
Stock No	:	NS6130-03-399
CAS	:	1314-62-1
Assay	:	99.9%
Other Metal	:	850ppm

Note 1: Values are given in % unless otherwise specified.

Note 2: All figures above are weight for weight as determined by ICP



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Creating Miracles in Black



VANADIUM

PENTOXIDE NANOPARTICLES

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Tel: 91+9779550077,9779238252

VANADIUM

PENTOXIDE NANOPARTICLES

Vanadium oxide is an inorganic compound and its chemical formula is V_2O_5 . It is amphoteric in nature. It is used as an excellent catalyst for industrial purposes. In metal-semiconductor transition there is abrupt change in optical and electrical properties. It is thermodynamically stable and also shows electrochromic properties. It is also used in the form of thin films and thin-films can be utilized in smart windows, optical filter, and reflectance mirrors. It is synthesized by sol-gel

method. This oxide is widely used in thermal sensing and switching. This compound based material is exhibited different types of chromogenic effects and also utilized in nanomedicines, automotive. It exhibits multi-colored electrochromism and this permits the utilization in electrochromic displays color filters. It creates many compounds with oxygen and an oxide compound shows various structural, optical and chemical properties.

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Quick FACTS


Product	: Vanadium Pentoxide Nanoparticles
Stock No	: NS6130-03-399
CAS	: 1314-62-1
Color	: Yellow – Orange
Form	: Powder

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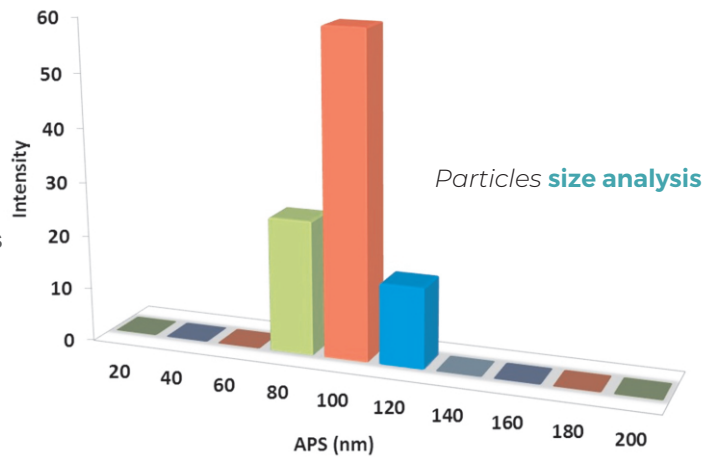


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APPLICATIONS

- ✓ In optical applications such as making of laser crystals
- ✓ In nanofiber applications
- ✓ In nanowire applications
- ✓ In the manufacture of some alloys and ceramics
- ✓ Used as a catalyst



Additional Powder Characteristics

Stock No.	Purity	APS
NS6130-03-399	99.9%	80nm

Technical Specification

Molecular Formula	Molecular Weight	Density	Melting Point	Boiling Point
V ₂ O ₅	181.88g/mol	3.36 g/cm ³	690 °C	1750 °C

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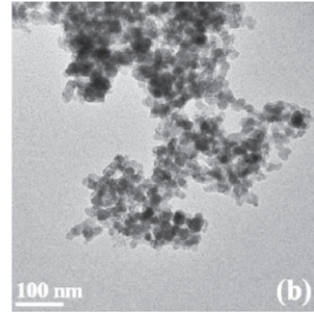
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Chemical Composition

Product	Weight Percent (nominal)	
	V ₂ O ₅	Other Metal
Vanadium Pentoxide Nanoparticles	99.9 %	1000 ppm

Properties

- ✓ Chemical Symbol: V₂O₅
- ✓ CAS No.: 1314-62-1
- ✓ Group: Vanadium 5 Oxygen 16
- ✓ Electronic configuration Vanadium [Ar] 3d 3 4s 2/ Oxygen [He] 2s 2 2p 4



Ordering Information and Stock Availability

- ✓ Product: Vanadium Pentoxide Nanoparticles
- ✓ Stock Availability: Available
- ✓ Distribution: Global
- ✓ Packing Sizes: 25Gms, 50Gms, 100Gms, 500Gms & Bulk Orders

Handling Recommendations

- ✓ Store in the original container in a dry location.
- ✓ Tumble contents prior to use to prevent segregation.
- ✓ Open containers should be stored in a drying oven to prevent moisture pickup.

Safety Recommendations

Download MSDS/SDS NS6130-03-399

SDS are available from the Nanoshel

Website at

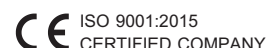
<https://www.nanoshel.com/sections/oxide-nanopowder>




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MATERIAL SAFETY DATA SHEET

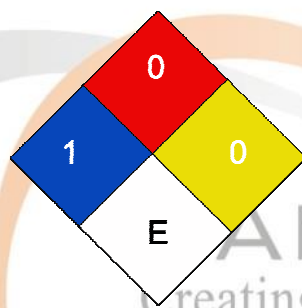
VANADIUM PENTOXIDE NANOPARTICLES

Stock #: NS6130-03-399

1. IDENTIFICATION OF THE PRODUCT AND THE COMPANY

Product Name : Vanadium Pentoxide Nanoparticles
 Use : Research and Development
 Address : Nanoshel LLC
 3422 Old Capitol Suit 1305
 Willmington DE – 19808+
 United States

Emergency : +1.532.253.9878



Health	1
Fire	0
Reactivity	0
Personal Protection	E

2. COMPOSITION & INFORMATION ON INGREDIENTS

Chemical Characterisation : V₂O₅
 Hazardous Ingredients : Nil

3. HAZARD IDENTIFICATION

Toxicity : No Data Available
 Eye Contact : Dust may cause irritation

4. FIRST AID MEASURES

Skin : Wash skin with soap and copious amounts of water

Eyes : Immediate and prolonged irritation treat with copious amounts of water.

Ingestion : Wash out mouth with water provided person Is Conscious.

Inhalation : If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen

5. FIREFIGHTING MEASURES

Extinguishing Data : Water Spray

Unsuitable Extinguishing Data : Carbon Dioxide, Dry Chemical Powder, Polymer Foam

Unusual Firefighting Hazards : Capable of creating a dust explosion

Special Firefighting Procedures : Use normal procedures which include wearing self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions : Wear respirator, chemical safety goggles, rubber boots and gloves.

Precautions to the Environment : Sweep up, place in a bag and hold for waste disposal.

Cleanup Procedures : Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

7. HANDLING AND STORAGE

Handling Precautions : Chemical Safety Goggles. Compatible with Chemical-resistant Gloves

Storage : Store in a cool dry place.

Unusable Packaging Materials : Wash thoroughly after handling. Irritating dust, Keep tightly closed

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Personal Protective Equipment

Respiratory : Self-contained breathing apparatus

Hand : Chemical-resistant Gloves

Eye : Avoid contact with eyes

Skin : Wash thoroughly after handling

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	:	Powder
Colour	:	Yellow-Orange
Odour	:	No Odour

Safety Related Information

FlashPoint	:	N/A
Boiling Point	:	1750 °C
Melting Point	:	690 °C
pH	:	N/A

10. STABILITY AND REACTIVITY

Stability	:	Completely Stable
Reactivity	:	Non Reactive/ Non Soluble

11. TOXICOLOGICAL INFORMATION

Possible Health Effects

Skin	:	No effect
Eyes	:	Irritation
Inhalation	:	No Chocking Hazard
Toxicity	:	Non-Toxic

12. ECOLOGICAL IMPACT

Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.
No Negative Ecological Impact, Data not Available

13. WASTE DISPOSAL

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator, equipped with an afterburner and scrubber

14. TRANSPORT INFORMATION (UN ORNEK OLARAK VERİLMİŞTİR)

HS Code	:	28259090
CAS	:	1314-62-1
Proper Shipping Name	:	Vanadium Pentoxide Nanoparticles
Air Transport (ICAO & IATA)	:	Oxide Nanopowder
Class	:	Non Hazardeous
Packing group	:	Normal Packing
Transport information	:	Not regulated for IATA (AIR)

15. OHTER REGULATORY INFORMATION

Federal and State Regulations: TSCA 8(b) inventory: Vanadium Pentoxide Nanoparticles

Other Regulations: EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada)

DSCL (EEC):

R36- Irritating to eyes

S2- Keep out of the reach of children

S46- If swallowed, seek medical advice immediately & show container or label

HMIS (U.S.A.):

Health Hazard: 1

Fire Hazard: 0

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 1

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves.

Lab coat.

Dust respirator. Be sure to use an approved/certified respirator or equivalent.

Splash goggles.

16. OTHER INFORMATION

References: Not available

Other Special Considerations: Not available