

SAFETY DATA SHEET

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SECTION 1. IDENTIFICATION

Product Identifier: Palladium Nanocubes**CAS Number: 7440-05-3**

Relevant identified uses of the substance: Scientific research and development

Supplier details:

NanoScientifica Scandinavia AB
Organization number: 559254-6393
Utlandagatan 12
SE-412 61 Göteborg
Tel: +46 73 481 5693

Emergency telephone number (Sweden)
112 (for emergencies)
1177 (for medical advice)
11 414 (for non-emergency incidents)
113 13 (for information about none acute accidents and emergencies)

SECTION 2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

2.1.1. Classification in accordance with 29 CFR 1910 (OSHA HCS)

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008. This substance is not classified as dangerous according to Directive 67/548/EEC

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

3.2. Mixtures

Palladium

Identification number(s):

CAS number: 7440-05-3 / EC number: 231-115-6

Water**Identification number(s):**

CAS number: 7732-18-5/ EC number: 231-791-2

SECTION 4. FIRST AID MEASURES**4.1. Description of first aid measures****General notes:**

i) **If inhaled:** Supply patient with fresh air. If breathing has stopped, provide artificial respiration. If breathing is difficult, give oxygen. Keep patient warm. Seek immediate medical advice.

ii) **In case of skin contact:** Immediately wash off with soap and copious amounts of water; rinse thoroughly. Seek immediate medical advice.

iii) **in case of eye contact:** Remove contacts if presents. Rinse opened eye for several minutes under running water. Consult a physician.

iv) **if swallowed:** Seek medical treatment.

Information for doctor:**4.2. Most important symptoms and effects, both acute and delayed.**

4.3. Indication of any immediate medical attention and special treatment needed: No data available

SECTION 5. FIREFIGHTING MEASURES**5.1. Extinguishing media**

Suitable extinguishing agents: Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

5.2. Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released: Carbon monoxide and carbon dioxide

Advice for firefighters Protective equipment:

Wear self-contained respirator. Wear fully protective impervious suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures: Use personal protective equipment, chemical resistant gloves, chemical safety glasses. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources

6.2. Environmental precautions: No special environmental precautions required

6.3. Methods and materials for containment and cleanup: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Ensure adequate ventilation.

6.4. Prevention of secondary hazards: No special precautions required.

6.5. 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. Handling

7.1.1. Precautions for safe handling: Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

7.1.2. Information about protection against explosions and fires: Protect against electrostatic charges. Fumes can combine with air to form an explosive mixture. Keep ignition sources away.

7.2. Conditions for safe storage, including any incompatibilities

Recommended storage between 2-8 °C. DO NOT FREEZE. Keep container tightly closed and away from light.

7.2.1. Requirements to be met by storerooms and receptacles: Store in a cool location.

7.2.2. Information about storage in one common storage facility: Do not store together with acids or bases. Store away from oxidizing agents. Store away from halogens. Store away from acid anhydrides.

7.2.3. Further information about storage conditions: Keep container tightly sealed. Store in cool, dry conditions in well-sealed containers.

7.4. Specific end use(s)

No data available

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Exposure controls

8.1.1. Personal protective equipment

Follow typical protective and hygienic practices for handling chemicals. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin. Maintain an ergonomically appropriate working environment.

8.1.1.1. Breathing equipment: Use suitable respirator when high concentrations are present.

8.1.1.1.1. Recommended filter device for short term use: Use a respirator with multi-purpose combination (US) or type ABEK (EN 14387) as a backup to engineering controls. Risk assessment should be performed to determine

if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards such as NIOSH (USA) or CEN (EU).

8.1.1.2. Protection of hands: Impervious gloves. Inspect gloves prior to use. Suitability of gloves should be determined both by material and quality, the latter of which may vary by manufacturer.

8.1.1.3. Eye protection: Safety glasses

8.1.1.4. Body protection: Protective work clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance: Brown/yellow liquid

Odor: No data available

Odor threshold: No data available.

pH: No data available.

Melting point/Melting range: No data available.

Boiling point/Boiling range: No data available.

Sublimation temperature / start: No data available

Flash point: No data available.

Flammability (solid, gas): No data available.

Ignition temperature: No data available.

Decomposition temperature: No data available

Autoignition: No data available.

Danger of explosion: Product is not explosive.

Relative density: No data available.

Vapor density: No data available.

Evaporation rate: No data available.

Viscosity

i) Dynamic at 20 °C (68 °F): No data available.

ii) Kinematic: No data available.

Other information: No data available

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity: No data available

10.2. Chemical stability: Stable under recommended storage conditions.

10.3. Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications.

10.4. Possibility of hazardous reactions: Reacts with strong oxidizing agents

Conditions to avoid: No data available

Incompatible materials: Acids, Oxidizing agents, Halogens, Acid anhydrides

Hazardous decomposition products: Carbon monoxide and carbon dioxide

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

LD/LC50 values that are relevant for classification:

-Oral

LD50

5045 mg/kg (rat)

-Dermal

LD50

12800 mg/kg (rabbit)

-Inhalative

LC50/8H

12560 ppm/8H (rat)

Skin irritation or corrosion: May cause irritation

Eye irritation or corrosion: Causes serious eye irritation.

Sensitization: No sensitizing effects known.

Germ cell mutagenicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.

Carcinogenicity

IARC-3: Not classifiable as to carcinogenicity to humans.

ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.

Reproductive toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.

Specific target organ system toxicity - repeated exposure: No effects known.

Specific target organ system toxicity - single exposure: May cause drowsiness or dizziness. May cause respiratory irritation.

Aspiration hazard: No effects known.

Subacute to chronic toxicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity Aquatic toxicity:

No data available

Persistence and degradability:

No data available

Bioaccumulative potential:

No data available

Mobility in soil:

No data available

Additional ecological information: Do not allow undiluted product or large quantities to reach groundwater, water courses, or sewage systems. Avoid transfer into the environment.

Results of PBT and vPvB assessment PBT: N/A

vPvB: N/A

Other adverse effects:

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

Recommendation: Consult official regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent:

Water, if necessary with cleansing agents.

SECTION 14. TRANSPORT INFORMATION

14.1 UN number	ADR/RID: -	IMDG: -	IATA: -
14.2 UN proper shipping name	ADR/RID: -	IMDG: -	IATA: -
14.3 Transport hazard class(es)	ADR/RID: -	IMDG: -	IATA: -
14.4 Packing group	ADR/RID: -	IMDG: -	IATA: -
14.5 Environmental hazards	ADR/RID: no	IMDG Marine pollutant: no	IATA: no
14.6 Special precautions for user	No data available		

SECTION 15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) N° 1907/2006///1272/2008

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

No data available.

15.2 Chemical Safety Assessment

No chemical safety assessment was carried out.

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Nanoscientifica Scandinavia shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 2020. NANOSCIENTIFICA SCANDINAVIA. GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.
