

# SAFETY DATA SHEET

Date Printed: 05/13/2024

Date Revised: 01/15/2022

## SECTION 1. IDENTIFICATION

**Product Identifier:** (4N) 99.99% Platinum Nanoparticles

**Product Code:** PT-M-04-NP

**CAS Number:** 7440-06-4

**Relevant identified uses of the substance:** Scientific research and development

Supplier details:

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351  
Emergency telephone number:  
+1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable solids(Category 1), H228

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H228

Flammable solid.

Precautionary statement(s)

P210

Keep away from heat/sparks/open flames/hot surfaces. -No smoking.

P240

Ground/bond container and receiving equipment.

P241

Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P280

Wear protective gloves/ eye protection/ face protection.

P370 + P378

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Hazards not otherwise classified (HNOC) or not covered by GHS-none

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## **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substances

Formula: Pt

Molecular weight: 195.08 g/mol

CAS-No.: 7440-06-4

EC-No.: 231-116-1

Component: Platinum

Classification: Flam. Sol.1; H228

Concentration: <=100%

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## **SECTION 4. FIRST AID MEASURES**

Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

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## **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture

No data available

Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

Use water spray to cool unopened containers.

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

For personal protection see section 8.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

Keep in suitable, closed containers for disposal. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).

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## **SECTION 7. HANDLING AND STORAGE**

Precautions for safe handling

Avoid formation of dust and aerosols.

Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition -No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

Keep in a dry place.

Storage class (TRGS 510): Flammable solid hazardous materials

Specific end use(s)

Apart from the uses mentioned in section 1 no other specific uses are stipulated

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

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.

If used in solution, or mixed with other substances, and under conditions which differ from EN 374,

contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### Body Protection

Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

#### Appearance

Form: powder

#### Odor

No data available

#### Odor Threshold

No data available

#### pH

No data available

#### Melting point/freezing point

Melting point/range: 1,772 °C (3,222 °F)-lit.

Initial boiling point and boiling range: 3,827 °C (6,921 °F)-lit.

#### Flash point

N/A

#### Evaporation rate

No data available

#### Flammability (solid, gas)

The substance or mixture is a flammable solid with the category 1.

#### Upper/lower flammability or explosive limits

No data available

#### Vapor pressure

No data available

#### Vapor density

No data available

#### Relative density

21.45 g/mL

#### Water solubility

No data available

#### Partition coefficient: n-octanol/water

No data available

#### Auto-ignition temperature

No data available

#### Decomposition temperature

No data available

#### Viscosity

No data available

Explosive properties  
No data available  
Oxidizing properties  
No data available  
Other safety information  
No data available

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## **SECTION 10. STABILITY AND REACTIVITY**

Reactivity  
No data available  
Chemical stability  
Stable under recommended storage conditions.  
Possibility of hazardous reactions  
No data available  
Conditions to avoid  
Heat, flames and sparks.  
Incompatible materials  
Strong oxidizing agents, Alcohols  
Hazardous decomposition products  
Hazardous decomposition products  
-Carbon monoxide, Carbon dioxide (CO<sub>2</sub>), Sulphur oxides  
Other decomposition products  
-No data available  
In the event of fire: see section 5

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

Information on toxicological effects  
Acute toxicity  
No data available  
Inhalation: No data available  
Dermal: No data available  
Skin corrosion/irritation  
No data available  
Serious eye damage/eye irritation  
No data available  
Respiratory or skin sensitisation  
No data available  
Germ cell mutagenicity  
No data available  
Carcinogenicity  
Carcinogenicity- Rat-Implant  
Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Tumorigenic: Tumors at site or application.  
Carcinogenicity- Mouse-Implant  
Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Tumorigenic: Tumors at site or application.  
IARC:  
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH:

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP:

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA:

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

No data available

Specific target organ toxicity -single exposure

No data available

Specific target organ toxicity -repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: TP2160000

Stomach-Irregularities-Based on Human Evidence

Stomach-Irregularities-Based on Human Evidence

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## SECTION 12. ECOLOGICAL INFORMATION

Toxicity

No data available

Persistence and degradability:

No data available

Bioaccumulative potential:

No data available

Mobility in soil:

No data available

Results of PBT and vPvB assessment:

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

Other adverse effects

No data available

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## SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

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## SECTION 14. TRANSPORT INFORMATION

DOT (US)

UN number: 3089  
Class: 4.1  
Packing group: II  
Proper shipping name: Metal powders, flammable, n.o.s.  
Reportable Quantity(RQ):  
Poison Inhalation Hazard: No  
IMDG  
UN number: 3089  
Class: 4.1  
Packing group: II  
EMS-No: F-G, S-G  
Proper shipping name: METAL POWDER, FLAMMABLE, N.O.S.  
IATA  
UN number: 3089  
Class: 4.1  
Packing group: II  
Proper shipping name: Metal powder, flammable, n.o.s.

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## **SECTION 15. REGULATORY INFORMATION**

### **SARA 302 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### **SARA 313 Components**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### **SARA 311/312 Hazards**

Fire Hazard, Chronic Health Hazard

### **Massachusetts Right To Know Components**

Platinum

CAS-No. 7440-06-4

Revision Date

1993-04-24

### **Pennsylvania Right To Know Components**

Platinum

CAS-No. 7440-06-4

Revision Date

1993-04-24

### **New Jersey Right To Know Components**

Platinum

CAS-No. 7440-06-4

Revision Date

1993-04-24

### **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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## **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. American Elements 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 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.