

## Chemical Safety Data Sheet MSDS / SDS

## Platinum SDS

Revision Date:2024-04-25 Revision Number:1

Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8
Section 9	Section 10	Section 11	Section 12	Section 13	Section 14	Section 15	Section 16

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****Product identifier**

Product name: Platinum  
CAS: 7440-06-4

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

Relevant identified uses: For R&D use only. Not for medicinal, household or other use.  
Uses advised against: none

**Company Identification**

Company: Chemicalbook.in  
Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090  
Telephone: +91 9550333722

**SECTION 2: Hazards identification****Classification of the substance or mixture**

Not classified.

**GHS label elements, including precautionary statements**

Signal word                      No signal word

**Hazard statement(s)**

none

**Precautionary statement(s)****Prevention**

none

**Response**

none

**Storage**

none

**Disposal**

none

**Other hazards which do not result in classification**

no data available

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

Chemical name:                      Platinum

Common names and  
synonyms:                              Platinum

CAS number:                            7440-06-4

EC number:                              231-116-1

Concentration:                        100%

## SECTION 4: First aid measures

### Description of necessary first-aid measures

#### If inhaled

Fresh air, rest.

#### Following skin contact

Remove contaminated clothes. Rinse and then wash skin with water and soap.

#### Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

#### Following ingestion

Rinse mouth. Refer for medical attention .

### Most important symptoms/effects, acute and delayed

Exposure Routes: inhalation, ingestion, skin and/or eye contact Symptoms: Irritation skin, respiratory system; dermatitis Target Organs: Eyes, skin, respiratory system (NIOSH, 2016)

### Indication of immediate medical attention and special treatment needed, if necessary

Basic treatment: Establish a patent airway. Suction if necessary. Watch for signs of respiratory insufficiency and assist ventilations if needed. Administer oxygen by nonrebreather mask at 10 to 15 L/min. Monitor for pulmonary edema and treat if necessary . Monitor for shock and treat if necessary . Anticipate seizures and treat if necessary . For eye contamination, flush eyes immediately with water. Irrigate each eye continuously with normal saline during transport . Do not use emetics. For ingestion, rinse mouth and administer 5 ml/kg up to 200 ml of water for dilution if the patient can swallow, has a strong gag reflex, and does not drool . Cover skin burns with dry sterile dressings after decontamination . Poison A and B

## SECTION 5: Firefighting measures

### Suitable extinguishing media

Excerpt from ERG Guide 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: DO NOT USE WATER, FOAM OR CO<sub>2</sub>. Dousing metallic fires with water will generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment (i.e., building, cargo hold, etc.). Use DRY sand, graphite powder, dry sodium chloride-based extinguishers, G-1? or Met-L-X? powder. Confining and smothering metal fires is preferable rather than applying water. Move

containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: If impossible to extinguish, protect surroundings and allow fire to burn itself out. (ERG, 2016)

### **Specific hazards arising from the chemical**

Excerpt from ERG Guide 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: May react violently or explosively on contact with water. Some are transported in flammable liquids. May be ignited by friction, heat, sparks or flames. Some of these materials will burn with intense heat. Dusts or fumes may form explosive mixtures in air. Containers may explode when heated. May re-ignite after fire is extinguished. (ERG, 2016)

### **Special protective actions for fire-fighters**

In case of fire in the surroundings, use appropriate extinguishing media.

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

### **Personal precautions, protective equipment and emergency procedures**

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting.

### **Environmental precautions**

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting.

### **Methods and materials for containment and cleaning up**

Persons not wearing protective equipment and clothing should be restricted from areas of spills until cleanup has been completed. If soluble platinum salts or liquids containing soluble salts are spilled, the following steps should be taken: 1. Ventilate area of spill; 2. Collect spilled material in the most convenient and safe manner for reclamation or for disposal in a secured sanitary landfill. Liquids containing soluble platinum salts should be absorbed in vermiculite, dry sand, earth, or a similar material, Soluble platinum salts

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

### **Precautions for safe handling**

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust

and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

**Conditions for safe storage, including any incompatibilities**

Well closed.

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

**Control parameters**

**Occupational Exposure limit values**

TLV: 1 mg/m<sup>3</sup>, as TWA.EU-OEL: 1 mg/m<sup>3</sup> as TWA.MAK: (as Pt): sensitization of respiratory tract and skin (SAH)

**Biological limit values**

no data available

**Appropriate engineering controls**

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

**Individual protection measures, such as personal protective equipment (PPE)**

**Eye/face protection**

Wear safety goggles.

**Skin protection**

Protective gloves.

**Respiratory protection**

Use local exhaust or breathing protection.

**Thermal hazards**

no data available

## SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Silvery, whitish-gray, malleable, ductile metal. Mp: 1772°C; bp: 2187°C. Density: 21.45 g cm <sup>-3</sup> at room conditions (very dense). Also shipped as a finely divided powder (platinum black), as a sponge, and as particles deposited on a supporting material such as alumina. Has strong catalytic activity in these forms; finely divided platinum can be dangerous to handle in the vicinity of other chemicals on this account. Used platinum catalysts are particularly dangerous and can be explosive.
Colour:	Silver-gray, lustrous, malleable and ductile metal; face-centered cubic structure. Also prepd in the form of a black powder (platinum black) and as spongy masses (platinum sponge).
Odour:	no data available
Melting point/freezing point:	1772°C
Boiling point or initial boiling point and boiling range:	3827°C(lit.)
Flammability:	Noncombustible Solid in bulk form, but finely divided powder can be dangerous to handle.
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	3825°C
Auto-ignition temperature:	no data available
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	Insoluble (NIOSH, 2016)
Partition coefficient n-octanol/water:	0.03

Vapour pressure:	0 mm Hg (approx) (NIOSH, 2016)
Density and/or relative density:	21.45g/cm <sup>3</sup> (lit.)
Relative vapour density:	no data available
Particle characteristics:	no data available

## SECTION 10: Stability and reactivity

### Reactivity

Platinum is a catalytic substance and may cause reaction in contact with many organic and inorganic substances, causing fire and explosion hazard.

### Chemical stability

no data available

### Possibility of hazardous reactions

Flammable in a state of powder. Massive platinum (lump, ingot, etc.) is generally inert. Dissolves readily in aqua regia (mixture of concentrated hydrochloride and concentrated nitric acids). Reacts rapidly with molten alkali metal oxides and peroxides. Reacts with F<sub>2</sub> and Cl<sub>2</sub> at red heat. Absorbs large volumes of hydrogen when hot. Catalyzes the exothermic oxidation of ammonia by air. Finely divided platinum is incompatible with aluminum, acetone, arsenic, ethane, hydrazine, hydrogen peroxide, lithium, phosphorus, selenium, tellurium and many fluorides. Explosion can occur upon contact with hydrogen peroxide. Platinum black, sponge and supported catalysts have strong catalytic activity; can be dangerous to handle in the vicinity of other chemicals on this account. Used platinum catalysts are particularly dangerous and can cause explosions. Ethanol or methanol can ignite on contact with a platinum-black catalyst. (Urban 1794).

### Conditions to avoid

no data available

### Incompatible materials

May undergo hazardous reactions with aluminum; acetone; arsenic; carbon + methanol; nitrosyl chloride; dioxygen difluoride; ethanol; hydrazine; hydrogen + air; hydrogen peroxide; lithium; methyl hydroperoxide; ozonides; peroxymonosulfuric acid;

phosphorus; selenium; tellurium; vanadium dichloride + water.

**Hazardous decomposition products**

no data available

**SECTION 11: Toxicological information**

**Acute toxicity**

Oral: no data available

Inhalation: no data available

Dermal: no data available

**Skin corrosion/irritation**

no data available

**Serious eye damage/irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

no data available

**Reproductive toxicity**

no data available

**STOT-single exposure**

The substance is irritating to the eyes and respiratory tract.

**STOT-repeated exposure**

no data available

**Aspiration hazard**

Evaporation at 20°C is negligible; a nuisance-causing concentration of airborne particles can, however, be reached quickly, especially if powdered.

**SECTION 12: Ecological information****Toxicity**

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

**Persistence and degradability**

no data available

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**Other adverse effects**

no data available

## SECTION 13: Disposal considerations

### Disposal methods

#### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

## SECTION 14: Transport information

### UN Number

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### **Environmental hazards**

ADR/RID: No

IMDG: No

IATA: No

### **Special precautions for user**

no data available

### **Transport in bulk according to IMO instruments**

no data available

## **SECTION 15: Regulatory information**

**Safety, health and environmental regulations specific for the product in question**

**European Inventory of Existing Commercial Chemical Substances (EINECS)**

Listed.

**EC Inventory**

Listed.

**United States Toxic Substances Control Act (TSCA) Inventory**

Listed.

**China Catalog of Hazardous chemicals 2015**

Not Listed.

**New Zealand Inventory of Chemicals (NZIoC)**

Listed.

**(PICCS)**

Listed.

**Vietnam National Chemical Inventory**

Listed.

**IECSC)**

Listed.

**Korea Existing Chemicals List (KECL)**

Listed.

## **SECTION 16: Other information**

### **Abbreviations and acronyms**

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

### **References**

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:  
[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website:  
<http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

### **Other Information**

The recommendations on this card do not apply to soluble platinum salts.

Disclaimer: 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. We as supplier shall not be held liable for any