

# SAFETY DATA SHEET

## 1. PRODUCT

### 1.1 Product identifiers

Name: Platinum(IV) oxide

CAS-No.: 1314-15-4

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

Identified uses : Laboratory chemicals, Manufacture of substances

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture


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

Oxidizing solids (Category 2), H272

Eye irritation (Category 2A), H319

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

### 2.2 GHS Label elements, including precautionary statements

|                            |   |
|----------------------------|---|
| Pictogram                  |   |
| Signal word                | Danger  |
| Hazard statement(s)        | H272 May intensify fire; oxidiser.<br>H319 Causes serious eye irritation.   |
| Precautionary statement(s) | P210 Keep away from heat.<br>P220 Keep/Store away from clothing/ combustible materials.<br>P221 Take any precaution to avoid mixing with combustibles.<br>P264 Wash skin thoroughly after handling.<br>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.<br>P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br>P337 + P313 If eye irritation persists: Get medical advice/ attention.<br>P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.<br>P501 Dispose of contents/ container to an approved waste disposal plant. |

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

No data available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Synonyms: Adam's catalyst

Formula: O<sub>2</sub>Pt

CAS-No.: 1314-15-4

EC-No.: 215-223-0

#### Hazardous components

| Component        | Classification                        | Concentration |
|------------------|---------------------------------------|---------------|
| Platinum dioxide | Ox. Sol. 2; Eye Irrit. 2A; H272, H319 | -             |

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

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## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

|   |
|---|
| <b>General advice</b>   |
| Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.       |
| <b>If inhaled</b>   |
| If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. |
| <b>In case of skin contact</b>  |
| Wash off with soap and plenty of water. Consult a physician.  |
| <b>In case of eye contact</b>   |
| Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.                          |
| <b>If swallowed</b>   |
| Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.             |

### 4.2 Most important symptoms and effects, both acute and delayed

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

### 4.2 Indication of any immediate medical attention and special treatment needed

no data available

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## 5. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

#### Suitable extinguishing media

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

### 5.2 Special hazards arising from the substance or mixture

no data available

### 5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

### 5.4 Further information

Use water spray to cool unopened containers.

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## 6. ACCIDENTAL RELEASE MEASURES

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

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter drains.

### 6.3 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.

### 6.4 Reference to other sections

For disposal see section 13.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Keep away from heat and sources of ignition. Normal measures for preventive fire protection.

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

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

### 7.3 Specific end use(s)

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

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

### 8.2 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.<br>Full contact<br>Material: Nitrile rubber<br>Minimum layer thickness: 0.11 mm<br>Break through time: 480 min<br>Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)<br>Splash contact<br>Material: Nitrile rubber<br>Minimum layer thickness: 0.11 mm<br>Break through time: 480 min<br>Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)<br>data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374<br>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                   | impervious 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 | Do not let product enter drains.  |

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

|  |   |
|--|---|
| Appearance                                   | Form: solid                                 |
| Odour  | no data available                           |
| Odour Threshold                              | no data available                           |
| pH   | no data available                           |
| Melting point/freezing point                 | Melting point/range: 450 °C (842 °F) - lit. |
| Initial boiling point and boiling range      | no data available                           |
| Flash point                                  | not applicable                              |
| Evaporation rate                             | no data available                           |
| Flammability (solid, gas)                    | no data available                           |
| Upper/lower flammability or explosive limits | no data available                           |
| Vapour pressure                              | no data available                           |
| Vapour density                               | no data available                           |
| Relative density                             | no data available                           |
| 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                           |

## 9.2 Other safety information

no data available

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Organic materials, Powdered metals

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - rat - > 8,000 mg/kg  
 Inhalation: no data available  
 Dermal: no data available  
 no data available

#### Skin corrosion/irritation

Skin - rabbit  
 Result: No skin irritation

#### Serious eye damage/eye irritation

|   |
|---|
| no data available   |
| <b>Respiratory or skin sensitisation</b>  |
| no data available   |
| <b>Germ cell mutagenicity</b>   |
| no data available   |
| <b>Carcinogenicity</b>  |
| 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.<br>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.<br>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.<br>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. |
| <b>Reproductive toxicity</b>  |
| no data available<br>no data available  |
| <b>Specific target organ toxicity -single exposure</b>  |
| no data available   |
| <b>Specific target organ toxicity -repeated exposure</b>  |
| no data available   |
| <b>Aspiration hazard</b>  |
| no data available   |
| <b>Additional Information</b>   |
| RTECS: Not available  |

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

no data available

### 12.2 Persistence and degradability

no data available

### 12.3 Bioaccumulative potential

no data available

### 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

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

|  |
|--|
| <b>Product</b>   |
| 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. Contact a licensed professional waste disposal service to dispose of this material. |
| <b>Contaminated packaging</b>  |
| Dispose of as unused product.  |

## 14. TRANSPORT INFORMATION

## DOT (US)

UN number: 1479 Class: 5.1 Packing group: II

Proper shipping name: Oxidizing solid, n.o.s. (Platinum dioxide)

Marine pollutant: No

Poison Inhalation Hazard: No

## IMDG

UN number: 1479 Class: 5.1 Packing group: II EMS-No: F-A, S-Q

Proper shipping name: OXIDIZING SOLID, N.O.S. (Platinum dioxide)

Marine pollutant: No

## IATA

UN number: 1479 Class: 5.1 Packing group: II

Proper shipping name: Oxidizing solid, n.o.s. (Platinum dioxide)

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## 15. REGULATORY INFORMATION

### SARA 302 Components

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

### SARA 313 Components

SARA 313: 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

Reactivity Hazard, Acute Health Hazard

### Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

### Pennsylvania Right To Know Components

| Component        | CAS-No.   | Revision Date |
|------------------|-----------|---------------|
| Platinum dioxide | 1314-15-4 |               |

### New Jersey Right To Know Components

| Component        | CAS-No.   | Revision Date |
|------------------|-----------|---------------|
| Platinum dioxide | 1314-15-4 |               |

### 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

### Full text of H-Statements referred to under sections 2 and 3.

Eye Irrit. Eye irritation

H272 May intensify fire; oxidiser.

H319 Causes serious eye irritation.

Ox. Sol. Oxidizing solids

### HMIS Rating

Health hazard: 2

Chronic Health Hazard:

Flammability: 0

Physical Hazard 2

**NFPA Rating**

Health hazard: 2

Fire Hazard: 0

Reactivity Hazard: 2

Special hazard.I: OX

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