



# SAFETY DATA SHEET

Creation Date 12-Oct-2010

Revision Date 27-Nov-2014

Revision Number 4

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identification

**Product Description:** **Potassium tetrachloroplatinate(II)**  
**Cat No. :** **195360010; 195360000; 195360050; 195360250**  
**Synonyms** Potassium platinochloride; Platinous potassium chloride; Potassium chloroplatinite  
**CAS-No** 10025-99-7  
**EC-No.** 233-050-9  
**Molecular Formula** Cl<sub>4</sub> K<sub>2</sub> Pt

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

**Recommended Use** Laboratory chemicals.  
**Uses advised against** No Information available

### 1.3. Details of the supplier of the safety data sheet

**Company** Acros Organics BVBA  
Janssen Pharmaceuticaaan 3a  
2440 Geel, Belgium  
**E-mail address** begel.sdsdesk@thermofisher.com

### 1.4. Emergency telephone number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

#### CLP Classification - Regulation (EC) No 1272/2008

##### Physical hazards

Based on available data, the classification criteria are not met

##### Health hazards

|                                   |            |
|-----------------------------------|------------|
| Acute oral toxicity               | Category 3 |
| Skin Corrosion/irritation         | Category 2 |
| Serious Eye Damage/Eye Irritation | Category 1 |
| Respiratory Sensitization         | Category 1 |
| Skin Sensitization                | Category 1 |

##### Environmental hazards

Based on available data, the classification criteria are not met

#### Classification according to EU Directives 67/548/EEC or 1999/45/EC

**Symbol(s)** T - Toxic

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## R-phrases(s)

R25 - Toxic if swallowed  
R38 - Irritating to skin  
R41 - Risk of serious damage to eyes  
R42/43 - May cause sensitization by inhalation and skin contact

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

## 2.2. Label elements



Signal Word

Danger

## Hazard Statements

H301 - Toxic if swallowed  
H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H318 - Causes serious eye damage  
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

## Precautionary Statements

P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray  
P280 - Wear eye protection/ face protection  
P304 + P341 - IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a POISON CENTER or doctor/ physician  
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician

## 2.3. Other hazards

No information available

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

| Component                          | CAS-No     | EC-No.            | Weight % | CLP Classification - Regulation (EC) No 1272/2008   | DSD Classification - 67/548/EEC                               |
|------------------------------------|------------|-------------------|----------|---|---|
| Potassium tetrachloroplatinate(II) | 10025-99-7 | EEC No. 233-050-9 | >95      | Acute Tox. 3 (H301)<br>Skin Irrit. 2 (H315)<br>Eye Dam. 1 (H318)<br>Resp. Sens. 1 (H334)<br>Skin Sens. 1 (H317) | T; R25<br>Xi; R38-41<br>R42/43<br>T; R25<br>Xi; R41<br>R42/43 |

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

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

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|                                   |   |
|-----------------------------------|---|
| <b>Eye Contact</b>                | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.   |
| <b>Skin Contact</b>               | Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.  |
| <b>Ingestion</b>                  | Do not induce vomiting. Call a physician or Poison Control Center immediately.  |
| <b>Inhalation</b>                 | Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required. |
| <b>Protection of First-aiders</b> | Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.  |

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

Causes eye burns. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause allergic skin reaction. . Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

## **4.3. Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

## **SECTION 5: FIREFIGHTING MEASURES**

### **5.1. Extinguishing media**

#### **Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### **Extinguishing media which must not be used for safety reasons**

No information available.

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

This material poses an explosion hazard.

#### **Hazardous Combustion Products**

Hydrogen chloride gas, Platinum oxide.

### **5.3. Advice for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

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

Ensure adequate ventilation. Use personal protective equipment. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Avoid dust formation.

### **6.2. Environmental precautions**

Should not be released into the environment. See Section 12 for additional ecological information. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

### **6.3. Methods and material for containment and cleaning up**

Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

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## 6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Use only under a chemical fume hood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Avoid dust formation. Do not breathe vapors/dust. Do not ingest.

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

Keep containers tightly closed in a dry, cool and well-ventilated place.

### 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### Exposure limits

List source(s):

| Component                          | Italy | Germany | Portugal                             | The Netherlands | Finland |
|------------------------------------|-------|---------|--------------------------------------|-----------------|---------|
| Potassium tetrachloroplatinate(II) |       |         | TWA: 0.002 mg/m <sup>3</sup> 8 horas |                 |         |

| Component                          | Austria                                    | Denmark | Switzerland                            | Poland | Norway |
|------------------------------------|--|---------|--|--------|--------|
| Potassium tetrachloroplatinate(II) | MAK-TMW: 0.002 mg/m <sup>3</sup> 8 Stunden |         | TWA: 0.002 mg/m <sup>3</sup> 8 Stunden |        |        |

#### Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

#### Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

MDHS46/2 Platinum metal and soluble platinum compounds in air Laboratory method using electrothermal atomic absorption spectrometry or inductively coupled plasma-mass spectrometry

**Derived No Effect Level (DNEL)** No information available

| Route of exposure | Acute effects (local) | Acute effects (systemic) | Chronic effects (local) | Chronic effects (systemic) |
|-------------------|-----------------------|--------------------------|-------------------------|----------------------------|
| Oral              |                       |                          |                         |                            |

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Dermal  
Inhalation

**Predicted No Effect Concentration (PNEC)** No information available.

## 8.2. Exposure controls

### Engineering Measures

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

**Eye Protection** Goggles (European standard - EN 166)

**Hand Protection** Protective gloves

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments        |
|----------------|-------------------|-----------------|-------------|-----------------------|
| Natural rubber | See manufacturers | -               | EN 374      | (minimum requirement) |
| Nitrile rubber | recommendations   |                 |             |                       |
| Neoprene       |                   |                 |             |                       |
| PVC            |                   |                 |             |                       |

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

**Respiratory Protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

**Large scale/emergency use** Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced  
**Recommended Filter type:** Particulates filter conforming to EN 143

**Small scale/Laboratory use** Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.  
**Recommended half mask:-** Particle filtering: EN149:2001  
When RPE is used a face piece Fit Test should be conducted

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** No information available.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

**Appearance** Red brown  
**Physical State** Solid

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|   |                          |                                   |
|---|--------------------------|-----------------------------------|
| Odor                                    | Odorless                 |                                   |
| Odor Threshold                          | No data available        |                                   |
| pH                                      | 4-5                      | 10 g/L aq.sol                     |
| Melting Point/Range                     | 250 °C / 482 °F          |                                   |
| Softening Point                         | No data available        |                                   |
| Boiling Point/Range                     | No information available |                                   |
| Flash Point                             | No information available | Method - No information available |
| Evaporation Rate                        | Not applicable           | Solid                             |
| Flammability (solid,gas)                | No information available |                                   |
| Explosion Limits                        | No data available        |                                   |
| Vapor Pressure                          | No data available        |                                   |
| Vapor Density                           | Not applicable           | Solid                             |
| Specific Gravity / Density              | 3.499                    |                                   |
| Bulk Density                            | No data available        |                                   |
| Water Solubility                        | 10 g/L (20°C)            |                                   |
| Solubility in other solvents            | No information available |                                   |
| Partition Coefficient (n-octanol/water) |                          |                                   |
| Autoignition Temperature                | Not applicable           |                                   |
| Decomposition Temperature               | 250 °C                   |                                   |
| Viscosity                               | Not applicable           | Solid                             |
| Explosive Properties                    | No information available |                                   |
| Oxidizing Properties                    | No information available |                                   |

## 9.2. Other information

|                   |                                   |
|-------------------|-----------------------------------|
| Molecular Formula | Cl <sub>4</sub> K <sub>2</sub> Pt |
| Molecular Weight  | 415.1                             |

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

None known, based on information available

### 10.2. Chemical stability

Stable under normal conditions

### 10.3. Possibility of hazardous reactions

|                          |  |
|--------------------------|--|
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions      | None under normal processing.            |

### 10.4. Conditions to avoid

Incompatible products. Excess heat. Avoid dust formation.

### 10.5. Incompatible materials

Strong oxidizing agents. Acids.

### 10.6. Hazardous decomposition products

Hydrogen chloride gas. Platinum oxide.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### Product Information

|                     |                   |
|---------------------|-------------------|
| (a) acute toxicity; |                   |
| Oral                | Category 3        |
| Dermal              | No data available |

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|  |   |
|--|---|
| Inhalation                                 | No data available   |
| (b) skin corrosion/irritation;             | Category 2  |
| (c) serious eye damage/irritation;         | Category 1  |
| (d) respiratory or skin sensitization;     |   |
| Respiratory                                | Category 1  |
| Skin                                       | Category 1  |
|  | No information available  |
| (e) germ cell mutagenicity;                | No data available   |
| (f) carcinogenicity;                       | No data available   |
|  | There are no known carcinogenic chemicals in this product   |
| (g) reproductive toxicity;                 | No data available   |
| (h) STOT-single exposure;                  | No data available   |
| (i) STOT-repeated exposure;                | No data available   |
| Target Organs                              | Respiratory system, Eyes, Skin.   |
| (j) aspiration hazard;                     | Not applicable  |
|  | Solid   |
| Symptoms / effects, both acute and delayed | Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing |

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

#### **Ecotoxicity effects**

Do not empty into drains. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

### 12.2. Persistence and degradability

#### **Persistence Degradability Degradation in sewage treatment plant**

The product includes heavy metals. Prevent release into the environment. Special pretreatment required  
May persist, based on information available.  
Not relevant for inorganic substances.  
Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

### 12.3. Bioaccumulative potential

May have some potential to bioaccumulate

### 12.4. Mobility in soil

The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

### 12.5. Results of PBT and vPvB assessment

No data available for assessment.

### 12.6. Other adverse effects

#### **Endocrine Disruptor Information Persistent Organic Pollutant Ozone Depletion Potential**

This product does not contain any known or suspected endocrine disruptors  
This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

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## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

|  |  |
|--|--|
| <b>Waste from Residues / Unused Products</b> | Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations. |
| <b>Contaminated Packaging</b>                | Dispose of this container to hazardous or special waste collection point.  |
| <b>European Waste Catalogue (EWC)</b>        | According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.   |
| <b>Other Information</b>                     | Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not dispose of waste into sewer.      |

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

|   |                               |
|---|-------------------------------|
| <b>14.1. UN number</b>                  | UN3288                        |
| <b>14.2. UN proper shipping name</b>    | Toxic solid, inorganic, n.o.s |
| <b>14.3. Transport hazard class(es)</b> | 6.1                           |
| <b>14.4. Packing group</b>              | III                           |

### ADR

|   |                               |
|---|-------------------------------|
| <b>14.1. UN number</b>                  | UN3288                        |
| <b>14.2. UN proper shipping name</b>    | Toxic solid, inorganic, n.o.s |
| <b>14.3. Transport hazard class(es)</b> | 6.1                           |
| <b>14.4. Packing group</b>              | III                           |

### IATA

|  |                                 |
|--|---------------------------------|
| <b>14.1. UN number</b>   | UN3288                          |
| <b>14.2. UN proper shipping name</b>   | Toxic solid, inorganic, n.o.s   |
| <b>14.3. Transport hazard class(es)</b>  | 6.1                             |
| <b>14.4. Packing group</b>   | III                             |
| <b>14.5. Environmental hazards</b>   | No hazards identified           |
| <b>14.6. Special precautions for user</b>  | No special precautions required |
| <b>14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable, packaged goods  |

## SECTION 15: REGULATORY INFORMATION

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

International Inventories X = listed

| Component                          | EINECS    | ELINCS | NLP | TSCA | DSL | NDSL | PICCS | ENCS | IECSC | AICS | KECL |
|------------------------------------|-----------|--------|-----|------|-----|------|-------|------|-------|------|------|
| Potassium tetrachloroplatinate(II) | 233-050-9 | -      |     | X    | X   | -    | X     | X    | X     | X    | X    |

### National Regulations



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| Component                          | France - INRS (Tables of occupational diseases)             |
|------------------------------------|---|
| Potassium tetrachloroplatinate(II) | Tableaux des maladies professionnelles (TMP) - RG 65, RG 66 |

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment.

Take note of Dir 94/33/EC on the protection of young people at work

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

## 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

## SECTION 16: OTHER INFORMATION

### Full text of R-phrases referred to under sections 2 and 3

R25 - Toxic if swallowed

R38 - Irritating to skin

R41 - Risk of serious damage to eyes

R42/43 - May cause sensitization by inhalation and skin contact

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

H301 - Toxic if swallowed

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**PNEC** - Predicted No Effect Concentration

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - Volatile Organic Compounds

### Key literature references and sources for data

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

### Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

**Creation Date** 12-Oct-2010  
**Revision Date** 27-Nov-2014  
**Revision Summary** Update to Format.

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**This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

## **Disclaimer**

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of Safety Data Sheet**