



W. C. Heraeus	<b>Safety Data Sheet</b>	revised: 25.06.2004
		Rev. Nr.: 2
trade name: <b>cis- Diamminedichloroplatinum(II); „Cisplatinum“ pharmaceutical grade</b>		Ident.- Nr.: 89730021

#### 4. First-aid measures

**General information**

In case of accident or if you feel unwell, seek medical advice immediately.

- |                                 |   |
|---------------------------------|---|
| <b>After inhalation:</b>        | Call a physician immediately.   |
| <b>After contact with skin:</b> | Wash off with soap and plenty of water. Remove immediately contaminated clothing and shoes. |
| <b>After contact with eyes:</b> | Rinse thoroughly with plenty of water, also under the eyelids. Summon eye specialist.       |
| <b>After ingestion:</b>         | Summon doctor.  |
| <b>Medical advice:</b>          | Area of application: cytostatics  |
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#### 5. Fire-fighting measures

**Suitable extinguishing media:**

Use extinguishing media that are appropriate to the environment. It can be extinguished with any means.

**Not suitable extinguishing media:**

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**Specific danger by the substance, its burning products or developing gases:**

Ambient fire may liberate hazardous vapours: HCl, NO<sub>x</sub>

**Special protective equipment for fire-fighting:**

Use of self-contained breathing apparatus and special chemical resistant clothes are required in fighting fires when chemicals are involved.

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#### 6. Accidental release measures

**Personal precautions:**

The usual precautionary measures for the handling of chemicals have to be observed. Eye protection, protective clothing and respiratory protection. Do not breathe dust and aerosols.

**Environmental precautions:**

Do not allow to enter in surface and ground water, into the sewage system or in earth.

**Methods for cleaning up/taking up:**

Take up mechanically. Clean up affected area. Avoid generation of dust.

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**Further information:**

Residues, which contain precious metals should be recycled in accordance with locally valid waste-disposal-regulations.

Residues and solutions, which can not be recycled, transfer to an approved waste disposal company.

## 7. Handling and storage

### 7.1 Handling

**Advice on safe handling:**

The usual precautionary measures for the handling of chemicals have to be observed.

Do not eat, drink and smoke at working place.

Only accessible to qualified persons.

Wear personal protective equipment.

Avoid formation of respiratory particles.

Provide sufficient air exchange and/or ventilation at the working place. Container may be opened only under exhaust ventilation hood.

**Precautionary measures against fire and explosion:**

Heating may cause decomposition; hazardous gases may be generated.

### 7.2 Storage

**Requirements for storage rooms and vessels:**

Store in tightly closed container in dry and cool area.

Protect from light.

**Further information for storage**

Do not store together with highly flammable substances.

Keep away from food and drink.

**Storage class**

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## 8. Exposure controls / Personal protection

### 8.1 Additional advice on system design

Provide sufficient air exchange and/or ventilation at the working place.

### 8.2 Advice on limits

We recommend to meet an index of 1 µg/m<sup>3</sup> (calculated as Pt).

### 8.3 Personal protection equipment

**Respiratory protection:**

Absolutely necessary.

**Hand protection:**

For the handling of the product impermeable protective gloves for example out of latex have to be used.

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<b>Eye protection:</b>	Use tightly fitting safety glasses / goggles.
<b>Body protection:</b>	Use protective clothing. Remove immediately contaminated clothing. Wash clothes before reuse. Avoid contact with skin, eyes and clothes.
<b>Protective and hygiene measure:</b>	The usual precautionary measures for the handling of chemicals have to be observed. Don't eat and drink at working place. Don't smoke. Wash hands before breaks and at the end of workday. Take a shower after handling the product. Contaminated working clothes should not be worn outside the work place. Keep away from food and drinks. Do not breathe dust.

## 9. Physical and chemical properties

### 9.1 Appearance

Form:	crystalline
Colour:	yellow
Odour:	odourless

### 9.2 Aspects relevant for security

	Test method
pH-value	5 - 7
Melting point:	not determined
Boiling point:	not applicable
Flash point:	not applicable
Ignition (solid):	no
Self ignition:	no
Explosions hazard:	not explosive
Explosion limits lower:	not applicable
upper:	not applicable
Density (20 °C):	3, 7 g/cm <sup>3</sup>
Bulk density:	~ 850 kg/m <sup>3</sup>
Solubility in water (20 °C):	2, 5 g/L
Thermal decomposition:	> 285 °C

### 9.3 Further information

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## 10. Stability and reactivity

### Conditions to avoid

In case of heating decomposition is possible (temperature > 200 °C).  
May decompose on long exposure to light.

### Materials to avoid

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### Dangerous compounds of decomposition

HCl, NO<sub>x</sub>

### Further information

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## 11. Toxicological information

### Acute toxicity

#### RTECS:

TDLo Intravenous human 72 mg/kg 25D - 1 (Cancer Therapy Reports, Part I, Washington DC)

LD50/oral/rat = 25, 8 mg/kg (Yakuri to Chiro, Pharmacology and Therapeutics, Tokio 1982)

LD50 Rodent - rat subcutaneous: 8, 1 mg/kg (Kiso to Rinsho, Clinical Report, Tokio 1981)

LD50 rodent – mouse intravenous: 11 mg/kg (Archivs of Toxicology, Supplement, Springer Verlag, New York, Volume 7, 1984)

### Further information

Carcinogenic and mutagenic properties are suspected.

Frequently with sensitization and transition to "platinosis" (= platinum allergy) with skin symptoms and/or disturbance of the respiratory tract (= bronchial asthma).

## 12. Ecological information

### Information on elimination, persistence and decomposition

No data.

### Effects on environmental compartments

No data.

### Ecotoxic effects

No data.

### Further informations:

Do not allow to enter surface and ground water, the sewage system or soil.

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### 13. Advice on disposal

**Disposal**

Product or residue of product should be recycled because of precious metal content (national regulations must be observed). Material can be returned to supplier or other recycling companies.

If residues of products are classified as waste from administrative bodies or recycling of precious metal is not intended, the following classification is valid:

EAK-No: 180108 Cytotoxic and cytostatic medicines

**Disposal of uncleaned packing / recommended detergents**

Uncleaned or with product residues contaminated packing should be treated like the product itself.

Packages, which do not contain product residues, should be recycled; if there does not exist a collecting system, packages can be treated as rubbish.

### 14. Transport information

**14.1 Land transport (ADR/RID/GGVS/GGVE)**

UN-No.: UN 3288  
 Proper Shipping Name : TOXIC SOLID, INORGANIC, N.O.S.  
 (CIS-DIAMMINEDICHLOROPLATINUM(II))  
 Class/ main risk: 6.1  
 Subsidiary risk: ---  
 Packing group: II  
 Label: 6.1

**14.2 Inland water ways transport**

Not classified.

**14.3 Marine transport (IMDG/GGVSee)**

UN-No.: UN 3288  
 Proper Shipping Name : TOXIC SOLID, INORGANIC, N.O.S.  
 (CIS-DIAMMINEDICHLOROPLATINUM(II))  
 Class/ main risk: 6.1  
 Subsidiary risk: ---  
 Packing group: II  
 Marine pollutant: no  
 Label: 6.1

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**14.4 Air transport(IATA/ICAO)**

UN-No.: UN 3288  
 Proper Shipping Name : TOXIC SOLID, INORGANIC, N.O.S.  
 (CIS-DIAMMINEDICHLOROPLATINUM(II))  
 Class/ main risk: 6.1  
 Subsidiary risk: ---  
 Packing group: II  
 Label: 6.1

**14.5 Further information**

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**15. Regulatory information**

**15.1 Labelling**

T Toxic.

**Hazardous component(s) to be indicated on label**

Cis-Diamminedichloroplatinum(II)

**R-Phrases:**

23/25 Toxic by inhalation and if swallowed.  
 36/37 Irritating to eyes and respiratory system.  
 42/43 May cause sensitization by inhalation and skin contact.  
 45 May cause cancer.  
 46 May cause heritable genetic damage.

**S-Phrases:**

22 Do not breathe dust.  
 28 After contact with skin, wash immediately with plenty of water.  
 36/37 Wear suitable protective clothing and gloves.  
 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**15.2 National regulations**

**Germany:**

**Prohibition to employ:** teenager under 18 years (Jugendarbeitsschutzgesetz), pregnant and nursing mothers (Mutterschutzverordnung)

**Water Endangerment** WGK-class: 3 strong water pollutant (regulation VwVwS, Annex 3)

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## 16. Other information

The data given here is based on today's stand of our knowledge and experience. The purpose of this Safety Data Sheet is to describe the product in terms of their safety requirements. The data does not signify any warranty with regard to the products properties.

Sector making out data sheet: HH-SUS