

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

Revision Date 31.07.2018

Version 2.7

**SECTION 1. Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Catalogue No. 170219

Product name Platinum standard solution traceable to SRM from NIST H<sub>2</sub>PtCl<sub>6</sub> in HCl  
2 mol/l 1000mg/l Pt Certipur®

REACH Registration Number This product is a mixture. REACH Registration Number see section 3.

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

Identified uses Reagent for analysis

For additional information on uses please refer to the Merck Chemicals portal ([www.merckgroup.com](http://www.merckgroup.com)).

**1.3 Details of the supplier of the safety data sheet**

Responsible Department LS-QHC \* e-mail: [prodsafe@merckgroup.com](mailto:prodsafe@merckgroup.com)

Regional representation Merck Chemicals Ltd \* Boulevard Industrial Park \* Padge Road \*  
Beeston \* Nottingham \* NG9 2JR \* Tel. 01159 430840 \*  
[information@merckchem.co.uk](mailto:information@merckchem.co.uk).

**1.4 Emergency telephone number** +49 (0) 6151 722440

**SECTION 2. Hazards identification****2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Corrosive to metals, Category 1, H290

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

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## 2.2 Label elements

### Labelling (REGULATION (EC) No 1272/2008)

#### *Hazard pictograms*



#### *Signal word*

Warning

#### *Hazard statements*

H290 May be corrosive to metals.

EUH208 - Contains:

Hexachloroplatinic(IV) acid

May produce an allergic reaction.

## 2.3 Other hazards

None known.

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## SECTION 3. Composition/information on ingredients

Chemical nature Aqueous solution

### 3.1 Substance

Not applicable

### 3.2 Mixture

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## Hazardous components (REGULATION (EC) No 1272/2008)

*Chemical name (Concentration)*

CAS-No. Registration number Classification

Hydrochloric Acid (>= 5 % - < 10 % )

*Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.*

- 01-2119484862-27-  
XXXX Corrosive to metals, Category 1, H290  
Skin corrosion, Category 1B, H314  
Specific target organ toxicity - single exposure, Category 3, H335

Hexachloroplatinic(IV) acid (>= 0.1 % - < 1 % )

16941-12-1 \*)  
Acute toxicity, Category 3, H301  
Skin corrosion, Category 1B, H314  
Respiratory sensitisation, Category 1, H334  
Skin sensitisation, Category 1, H317

\*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

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## SECTION 4. First aid measures

### 4.1 Description of first aid measures

After inhalation: fresh air. Consult doctor if feeling unwell.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

After eye contact: rinse out with plenty of water. Remove contact lenses.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

irritant effects  
Allergic reactions

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

No information available.

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## SECTION 5. Firefighting measures

### 5.1 Extinguishing media

#### *Suitable extinguishing media*

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

#### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

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

Not combustible.  
Ambient fire may liberate hazardous vapours.  
Fire may cause evolution of:  
Hydrogen chloride gas

### 5.3 Advice for firefighters

#### *Special protective equipment for firefighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

#### *Further information*

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6. Accidental release measures

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

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Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

## 6.2 Environmental precautions

Do not let product enter drains.

## 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent and neutralising material (e.g. Chemisorb® H<sup>+</sup>, Merck Art. No. 101595). Dispose of properly. Clean up affected area.

## 6.4 Reference to other sections

Indications about waste treatment see section 13.

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## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

#### *Advice on safe handling*

Observe label precautions.

#### *Hygiene measures*

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

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

#### *Requirements for storage areas and containers*

No metal containers.

#### *Storage conditions*

Tightly closed.

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Recommended storage temperature see product label.

## 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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## SECTION 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Components with workplace control parameters

##### Components

Basis	Value	Threshold limits	Remarks
<i>Hydrochloric Acid</i>			
EH40 WEL	Short Term Exposure Limit (STEL):	5 ppm 8 mg/m <sup>3</sup>	Form of exposure: Gas and aerosol mists.
	Time Weighted Average (TWA):	1 ppm 2 mg/m <sup>3</sup>	Form of exposure: Gas and aerosol mists.

##### *Hexachloroplatinic(IV) acid (16941-12-1)*

EH40 WEL	Time Weighted Average (TWA):	0.002 mg/m <sup>3</sup>	Expressed as: as Pt
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#### Derived No Effect Level (DNEL)

##### *Hydrochloric Acid*

Worker DNEL, acute	Local effects	inhalation	15 mg/m <sup>3</sup>
Worker DNEL, longterm	Local effects	inhalation	8 mg/m <sup>3</sup>

#### Recommended monitoring procedures

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

#### Predicted No Effect Concentration (PNEC)

##### *Hydrochloric Acid*

PNEC Fresh water	0.036 mg/l
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PNEC Marine water	0.036 mg/l
PNEC Aquatic intermittent release	0.045 mg/l
PNEC Sewage treatment plant	0.036 mg/l

## 8.2 Exposure controls

### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

### Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

#### *Eye/face protection*

Safety glasses

#### *Hand protection*

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0.11 mm
Break through time:	480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0.11 mm
Break through time:	480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

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The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

### *Other protective equipment*

protective clothing

### *Respiratory protection*

required when vapours/aerosols are generated.

Recommended Filter type: filter E-(P2)

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

### **Environmental exposure controls**

Do not let product enter drains.

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## **SECTION 9. Physical and chemical properties**

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

Form	liquid
Colour	yellow-orange
Odour	odourless
Odour Threshold	Not applicable
pH	ca. 0.5 at 20 °C



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Melting point No information available.

Boiling point No information available.

Flash point No information available.

Evaporation rate No information available.

Flammability (solid, gas) No information available.

Lower explosion limit No information available.

Upper explosion limit No information available.

Vapour pressure No information available.

Relative vapour density No information available.

Density ca. 1.034 g/cm<sup>3</sup>  
at 20 °C

Relative density No information available.

Water solubility No information available.

Partition coefficient: n-octanol/water No information available.

Auto-ignition temperature No information available.

Decomposition temperature No information available.

Viscosity, dynamic No information available.

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Explosive properties Not classified as explosive.

Oxidizing properties none

## 9.2 Other data

Corrosion May be corrosive to metals.

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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

See section 10.3

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Generates dangerous gases or fumes in contact with:

Metals

Violent reactions possible with:

The generally known reaction partners of water.

### 10.4 Conditions to avoid

no information available

### 10.5 Incompatible materials

Metals, metal alloys

### 10.6 Hazardous decomposition products

in the event of fire: See section 5.

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## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

#### Mixture

##### *Acute oral toxicity*

Acute toxicity estimate: > 2,000 mg/kg

Calculation method

Symptoms: Irritation of mucous membranes

Acute toxicity estimate: > 2,000 mg/kg

Calculation method

##### *Acute inhalation toxicity*

Symptoms: slight mucosal irritations

##### *Acute dermal toxicity*

This information is not available.

##### *Skin irritation*

slight irritation

##### *Eye irritation*

slight irritation

##### *Sensitisation*

Mixture may produce an allergic reaction.

##### *Germ cell mutagenicity*

This information is not available.

##### *Carcinogenicity*

This information is not available.

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## *Reproductive toxicity*

This information is not available.

## *Teratogenicity*

This information is not available.

## *Specific target organ toxicity - single exposure*

This information is not available.

## *Specific target organ toxicity - repeated exposure*

This information is not available.

## *Aspiration hazard*

This information is not available.

## **11.2 Further information**

Platinum compounds are generally highly toxic, even though the rate of absorption via the gastrointestinal tract is relatively poor. Symptoms of platinum intoxication are hepatic and renal damage, impaired hearing, and severe sensitization with allergic manifestations in predisposed persons (rhinitis, asthmatic attacks, urticaria). Platinum is not known to play a physiological role. However, when the product is handled appropriately, hazardous effects are unlikely to occur. Handle in accordance with good industrial hygiene and safety practice.

## **Components**

### *Hydrochloric Acid*

#### *Skin irritation*

Rabbit

Result: Corrosive

OECD Test Guideline 404

#### *Eye irritation*

Rabbit

Result: Irreversible effects on the eye

OECD Test Guideline 405

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## *Sensitisation*

Maximisation Test Guinea pig

Result: Does not cause skin sensitisation.

Method: OECD Test Guideline 406

## *Hexachloroplatinic(IV) acid*

### *Acute oral toxicity*

Acute toxicity estimate: 100.1 mg/kg

Expert judgement

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## SECTION 12. Ecological information

### Mixture

#### 12.1 Toxicity

No information available.

#### 12.2 Persistence and degradability

No information available.

#### 12.3 Bioaccumulative potential

No information available.

#### 12.4 Mobility in soil

No information available.

#### 12.5 Results of PBT and vPvB assessment

Substance(s) in the mixture do(es) not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII, or a PBT/vPvB assessment was not conducted.

#### 12.6 Other adverse effects

Discharge into the environment must be avoided.

### Components

#### *Hydrochloric Acid*

##### *Toxicity to fish*

Lepomis macrochirus (Bluegill sunfish): 20.5 mg/l; 96 h

OECD Test Guideline 203

##### *Toxicity to daphnia and other aquatic invertebrates*

EC50: 1.3 mg/l; 48 h

OECD Test Guideline 202

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Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

*Hexachloroplatinic(IV) acid*

No information available.

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## SECTION 13. Disposal considerations

*Waste treatment methods*

Notice Directive on waste 2008/98/EC.

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14. Transport information

**Land transport (ADR/RID)**

14.1 UN number	UN 1789
14.2 Proper shipping name	HYDROCHLORIC ACID
14.3 Class	8
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	E

**Inland waterway transport (ADN)**

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Not relevant

## Air transport (IATA)

14.1 UN number	UN 1789
14.2 Proper shipping name	HYDROCHLORIC ACID
14.3 Class	8
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	no

## Sea transport (IMDG)

14.1 UN number	UN 1789
14.2 Proper shipping name	HYDROCHLORIC ACID
14.3 Class	8
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
EmS	F-A S-B

## 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

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## SECTION 15. Regulatory information

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

#### *EU regulations*

Major Accident Hazard	SEVESO III
Legislation	Not applicable
Occupational restrictions	Take note of Dir 94/33/EC on the protection of young people at work.

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Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

Substances of very high concern (SVHC) This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of  $\geq 0.1\%$  (w/w).

#### National legislation

Storage class 8B

## 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

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## SECTION 16. Other information

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

H290	May be corrosive to metals.
H301	Toxic if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.

### Training advice

Provide adequate information, instruction and training for operators.



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## Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

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*The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.*