

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Heraeus

## Ir(IV) Chloride Hydrate HSTDP

Version  
5.0

Revision Date:  
23.06.2020

Date of last issue: 25.02.2020  
Date of first issue: 26.11.2015

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Trade name : Ir(IV) Chloride Hydrate HSTDP  
Product code : 81147140  
Substance name : Iridium(IV) chloride hydrate  
CAS-No. : 119401-96-6

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

Use of the Sub-  
stance/Mixture : Industrial use

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

Company : Heraeus Deutschland GmbH & Co. KG  
Heraeusstr. 12-14  
63450 Hanau  
Telephone : +496181351  
E-mail address of person  
responsible for the SDS : [sds@heraeus.com](mailto:sds@heraeus.com)  
(Heraeus Holding: EHS Chemical Safety)

#### 1.4 Emergency telephone number

Emergency telephone num-  
ber : +49 6132-84463  
International Emergency Number  
This telephone number is available 24 hours per day, 7 days  
per week.

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

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

Corrosive to metals, Category 1	H290: May be corrosive to metals.
Acute toxicity, Category 4	H302: Harmful if swallowed.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.

#### 2.2 Label elements

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

Hazard pictograms : 

Signal word : Warning

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Hazard statements : H290 May be corrosive to metals.  
H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.

Precautionary statements : **Prevention:**  
P234 Keep only in original packaging.  
P264 Wash skin thoroughly after handling.  
P280 Wear protective gloves/ eye protection/ face protection.  
**Response:**  
P337 + P313 If eye irritation persists: Get medical advice/  
attention.  
P390 Absorb spillage to prevent material damage.  
**Disposal:**  
P501 Dispose of contents/ container to an approved waste  
disposal plant.

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Chemical nature : inorganic

Chemical name	CAS-No. EC-No. Index-No.	Concentration (% w/w)
Iridium(IV) chloride hydrate	119401-96-6	100

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General advice : First aider needs to protect himself.  
Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.

If inhaled : Move to fresh air.  
Get medical attention.

In case of skin contact : Take off all contaminated clothing immediately.

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- Get medical attention immediately.  
Wash off with soap and plenty of water.
- In case of eye contact : In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Keep eye wide open while rinsing.  
Protect unharmed eye.  
Call a physician immediately.
- If swallowed : Immediately give large quantities of water to drink.  
Do NOT induce vomiting.  
Get medical attention.

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

- Risks : Harmful if swallowed.  
Causes skin irritation.  
Causes serious eye irritation.

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

- Treatment : Treat symptomatically.
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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.

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

- Specific hazards during fire-fighting : Exposure to decomposition products may be a hazard to health.
- Hazardous combustion products : Halogens  
Hydrogen chloride  
Metal oxides

### 5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.
- Further information : Use a water spray to cool fully closed containers.  
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

Personal precautions : Follow safe handling advice and personal protective equipment recommendations.  
Ensure adequate ventilation.  
Evacuate personnel to safe areas.  
Refer to protective measures listed in sections 7 and 8.

#### 6.2 Environmental precautions

Environmental precautions : Do not allow contact with soil, surface or ground water.  
Do not let product enter drains.

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

Methods for cleaning up : Pick up and arrange disposal without creating dust.  
Sweep up or vacuum up spillage and collect in suitable container for disposal.

#### 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Advice on safe handling : Provide sufficient air exchange and/or exhaust in work rooms.  
Wear personal protective equipment.  
Avoid inhalation, ingestion and contact with skin and eyes.  
Smoking, eating and drinking should be prohibited in the application area.

Hygiene measures : Keep away from food and drink. Wash hands before breaks and at the end of workday. Keep working clothes separately.  
Remove and wash contaminated clothing and gloves, including the inside, before re-use.

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

Requirements for storage areas and containers : Keep tightly closed in a dry, cool and well-ventilated place.

Storage class (TRGS 510) : 13, Non Combustible Solids

#### 7.3 Specific end use(s)

Specific use(s) : No data available

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### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

#### 8.2 Exposure controls

##### Engineering measures

Provide sufficient air exchange and/or exhaust in work rooms.

##### Personal protective equipment

Eye protection : Safety glasses with side-shields

Hand protection

Remarks : Before removing gloves clean them with soap and water. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Filter type ABEK-P

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### SECTION 9: Physical and chemical properties

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

Appearance : powder  
Colour : black  
Odour : odourless  
Odour Threshold : Not relevant

pH : Not applicable

Melting point/range : No data available

: Not applicable

Flash point : Not applicable

Evaporation rate : Not applicable

Flammability (solid, gas) : No data available

Upper explosion limit / Upper flammability limit : Upper explosion limit ( 21 °C)(1013 hPa)  
Not applicable

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Lower explosion limit / Lower flammability limit	:	Lower explosion limit ( 21 °C)(1013 hPa) Not applicable
Vapour pressure	:	Not applicable
Relative vapour density	:	Not applicable
Relative density	:	No data available
Density	:	No data available
Solubility(ies)		
Water solubility	:	soluble (20 °C, 1.013 hPa)
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	Not applicable
Viscosity, kinematic	:	Not applicable
Explosive properties	:	No data available
Oxidizing properties	:	No data available

### 9.2 Other information

Self-ignition : No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No dangerous reaction known under conditions of normal use.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

### 10.4 Conditions to avoid

Conditions to avoid : No data available

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### 10.5 Incompatible materials

Materials to avoid : No data available

### 10.6 Hazardous decomposition products

No data available

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Harmful if swallowed.

#### Components:

#### Iridium(IV) chloride hydrate:

Acute oral toxicity : LD50 Oral (Rat): 1.560 mg/kg

#### Skin corrosion/irritation

Causes skin irritation.

#### Serious eye damage/eye irritation

Causes serious eye irritation.

#### Respiratory or skin sensitisation

#### Skin sensitisation

Not classified based on available information.

#### Respiratory sensitisation

Not classified based on available information.

#### Germ cell mutagenicity

Not classified based on available information.

#### Carcinogenicity

Not classified based on available information.

#### Reproductive toxicity

Not classified based on available information.

#### STOT - single exposure

Not classified based on available information.

#### STOT - repeated exposure

Not classified based on available information.

#### Aspiration toxicity

Not classified based on available information.

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### SECTION 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

##### Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

#### 12.6 Other adverse effects

No data available

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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

Product : If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging : Dispose of as unused product.

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### SECTION 14: Transport information

#### 14.1 UN number

ADN : UN 1759

ADR : UN 1759

RID : UN 1759

IMDG : UN 1759

IATA : UN 1759

#### 14.2 UN proper shipping name

ADN : CORROSIVE SOLID, N.O.S.  
(Iridium(IV) chloride hydrate)

ADR : CORROSIVE SOLID, N.O.S.

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(Iridium(IV) chloride hydrate)

**RID** : CORROSIVE SOLID, N.O.S.  
(Iridium(IV) chloride hydrate)

**IMDG** : CORROSIVE SOLID, N.O.S.  
(Iridium(IV) chloride hydrate)

**IATA** : Corrosive solid, n.o.s.  
(Iridium(IV) chloride hydrate)

### 14.3 Transport hazard class(es)

**ADN** : 8

**ADR** : 8

**RID** : 8

**IMDG** : 8

**IATA** : 8

### 14.4 Packing group

**ADN**  
Packing group : III  
Classification Code : C10  
Hazard Identification Number : 80  
Labels : 8

**ADR**  
Packing group : III  
Classification Code : C10  
Hazard Identification Number : 80  
Labels : 8  
Tunnel restriction code : (E)

**RID**  
Packing group : III  
Classification Code : C10  
Hazard Identification Number : 80  
Labels : 8

**IMDG**  
Packing group : III  
Labels : 8  
EmS Code : F-A, S-B

**IATA (Cargo)**  
Packing instruction (cargo aircraft) : 864  
Packing instruction (LQ) : Y845  
Packing group : III  
Labels : Corrosive

**IATA (Passenger)**  
Packing instruction (passenger aircraft) : 860  
Packing instruction (LQ) : Y845

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Packing group : III  
Labels : Corrosive

### 14.5 Environmental hazards

#### ADN

Environmentally hazardous : no

#### ADR

Environmentally hazardous : no

#### RID

Environmentally hazardous : no

#### IMDG

Marine pollutant : no

### 14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

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## SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable  
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable  
REACH - List of substances subject to authorisation (Annex XIV) : Not applicable  
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable  
Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable  
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.  
Not applicable

Water contaminating class (Germany) : WGK 3 highly hazardous to water  
Classification according to AwSV, Annex 1 (4)

### Other regulations:

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Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

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## SECTION 16: Other information

### Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific

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material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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