

ALADDIN SCIENTIFIC CORPORATION

14078 Meridian Parkway, Riverside, CA. 92518

# SAFETY DATA SHEET

Version: v1

Revision Date: 2024-01-17

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

### 1.1 Product identifiers

Product name : Hafnocene Dichloride  
Product Number : H157415  
Brand : aladdin  
CAS-No. : 12116-66-4

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

Identified uses : Laboratory chemicals, Manufacture of substances.

### 1.3 Company

Company : ALADDIN SCIENTIFIC CORPORATION  
Address : 14078 Meridian Parkway,  
Riverside, CA. 92518  
Telephone : +1 (833) 552-7181  
Fax : no data available

### 1.4 Emergency telephone number

CHEMTREC®, Inside the USA : 1-800-424-9300  
CHEMTREC®, Outside the USA :

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)  
CFR 1910.1200: Skin Corrosion/Irritation [Category 2] Eye Damage/Irritation [Category 2A] Specific Target Organ Toxicity (Single Exposure) [Category 2]

### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H314

Causes severe skin burns and eye damage

Precautionary statement(s)

P260

Do not breathe dust/fume/gas/mist/vapors/spray.

P261

Avoid breathing dust/fume/gas/mist/vapors/spray.

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P264	Wash hands [and ...] thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302	IF ON SKIN:
P361	Take off immediately all contaminated clothing.
P363	Wash contaminated clothing before reuse.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P352	IF ON SKIN: wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep 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.
P362+P364	Take off contaminated clothing and wash it before reuse.
P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container to an approved waste disposal plant.

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

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

Synonyms	: Bis(cyclopentadienyl)hafnium Dichloride
Formula	: C10H10Cl2Hf
Molecular weight	: 379.58
CAS No.	: 12116-66-4
EC-NO.	: no data available

Component	Classification	Concentration
Hafnocene Dichloride	no data available	>98.0%

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

General advice

no data available

If inhaled

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician.

In case of skin contact

Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. Call a POISON

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CENTER or doctor/physician.

In case of eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Call a POISON CENTER or doctor/physician.

If swallowed

Call a POISON CENTER or doctor/physician. Rinse mouth.

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

no data available

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

no data available

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### **SECTION 5: Firefighting measures**

#### **5.1 Extinguishing media**

Suitable extinguishing media

Dry chemical, foam, water spray, carbon dioxide.

Unsuitable extinguishing media

no data available

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

These products include: Carbon oxides Halogenated compounds. Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume. WARNING: Highly toxic HCl gas is produced during combustion. WARNING: Highly toxic HF gas is produced during combustion.

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

Wear self-contained breathing apparatus if possible.

#### **5.4 Further information**

Use water spray to cool unopened containers.

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### **SECTION 6: Accidental release measures**

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

Use personal protective equipment. Keep people away from and upwind of spill/leak. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc.

#### **6.2 Environmental precautions**

Prevent product from entering drains.

#### **6.3 Methods and materials for containment and cleaning up**

Clean up the dust and collect it in a closed container, taking care not to disperse it. Adhered or aggregated materials shall be disposed of in a timely manner in accordance with local laws and regulations.

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## 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent dispersion of dust. Wash hands and face thoroughly after handling. Use a closed system if possible. Use a local exhaust if dust or aerosol will be generated. Avoid contact with skin, eyes and clothing. Conditions for safe storage, including any incompatibilities

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

Keep container tightly closed. Store in a cool and dark place. Store under inert gas. Protect from moisture. Store locked up. Store away from incompatible materials such as oxidizing agents. Moisture-sensitive

### 7.3 Specific end use(s)

no data available

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

### 8.2 Exposure controls

Appropriate engineering controls

Follow safe industrial engineering/laboratory practices when handling any chemical. Install a closed system or local exhaust. Also install safety shower and eye bath.

Personal protective equipment

Eye/face protection

Safety goggles. A face-shield, if the situation requires.

Skin protection

Gloves must be checked before use. Please use proper methods to remove the gloves (do not touch the outer surface of the gloves), and avoid any skin parts contacting the product. After use, please handle the contaminated gloves carefully according to relevant laws and regulations and effective laboratory rules and procedures. Please clean and blow dry the protective gloves selected for your hands must meet the specifications given in regulation (EU) 2016 / 425 and the en 374 standard derived from it.

Body Protection

Impervious gloves. Impervious protective clothing. Protective boots, if the situation requires.

Respiratory protection

Dust respirator, self-contained breathing apparatus(SCBA), supplied air respirator, etc. Use respirators approved under appropriate government standards and follow local and national regulations.

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. 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

a) Appearance	form: Crystal - Powder Solid color: White - Slightly pale reddish yellow
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	233°C (451°F)
f) Initial boiling point and boiling range	no data available
g) Flash point	no data available
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	no data available
n) Water solubility	Water:Insoluble;Soluble:Hot toluene
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

### 9.2 Other safety information

no data available

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## SECTION 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

Oxidizing agents

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## 10.6 Hazardous decomposition products

Carbon dioxide, Carbon monoxide, Hydrogen chloride

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute toxicity

ivn-mus LD50:100 mg/kg

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

RTECS Number:MG4815000

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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

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**12.5 Results of PBT and vPvB assessment**

no data available

**12.6 Other adverse effects**

no data available

**SECTION 13:**

**13.1 Disposal considerations**

Product

Disposal of product: Recycle to process if possible. It is the generator's responsibility to comply with Federal, State and Local rules and regulations. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. This section is intended to provide assistance but does not replace these laws, nor does compliance in accordance with this section ensure regulatory compliance according to the law. US EPA guidelines for Identification and Listing of Hazardous Waste are listed in 40 CFR Parts 261. The product should not be allowed to enter the environment, drains, water ways, or the soil. Other considerations: Observe all federal, state and local regulations when disposing of the substance.

Contaminated packaging

Disposal of container: Dispose of as unused product. Do not re-use empty containers.

**SECTION 14: Transport information**

DOT (US)

UN number: no data available

Packing group: no data available

Class: no data available

Proper shipping name: no data available

Reportable Quantity(RQ): no data available

Poison Inhalation Hazard: no data available

Environmental Hazards: no data available

IMDG

UN number: no data available

Packing group: no data available

EMS-No: no data available

Proper shipping name: no data available

IATA

UN number: no data available

Packing group: no data available

Class: no data available

Proper shipping name: no data available

**SECTION 15: Regulatory information**

**Toxic Substance Control Act**

This product is ON the EPA Toxic Substances Control Act (TSCA) inventory. US Federal Regulations

**US Federal Regulations**

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SARA 313: Not Listed

SARA 302: Not Listed

**State Regulations**

Massachusetts Not Listed

New Jersey Not Listed

Pennsylvania Not Listed

**Other Information**

NFPA Rating: HMIS Classification: Health: 2 Health: 2 Flammability: 0 Flammability: 0 Instability: 0 Physical: 0

**International Inventories**

Canada: NDSL On NDSL

EC-No: 235-177-5

**SECTION 16: Other information**

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