福建沃尔法化学科技有限公司
Fujian Wolfa Chemical Technology Co., Ltd

DESIGN REPORT OF SAFETY DATA SHEET

Revision Date: Feb. 1, 2025

Name of the Sample	HAFNIUM(IV) CHLORIDE
Applicant	Fujian Wolfa Chemical Technology Co., Ltd.
Supplier	Fujian Wolfa Chemical Technology Co., Ltd.
Composition of the Sample	HAFNIUM(IV) CHLORIDE: ≥99%
Warranty of Design	Globally Harmonized System of Classification and Labelling of Chemicals (GHS) - Eleventh Revised Edition
Design Result of SDS please see next page.	

Notes:This SDS is valid before the implementation of the Twelfth revised edition GHS.

Section 1 Product and Company Identification

> Product Identifier

Product Name	HAFNIUM(IV) CHLORIDE
Synonyms	——
CAS No.	13499-05-3
EC No.	236-826-5
Molecular Formula	Cl_4Hf

> Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Relevant Identified Uses	Please consult manufacturer.
Uses Advised Against	Please consult manufacturer.

> Details of the Supplier of the Safety Data Sheet

Applicant Name	Fujian Wolfa Chemical Technology Co., Ltd.
Application Address	Room 2620, Building 18, Xingguang Plaza, No.970 Anji South Road, Fengze District, Quanzhou City, Fujian Province
Applicant Post Code	362000
Applicant Telephone	+86-17854166533
Applicant Fax	——
Applicant E-mail	——
Supplier Name	Fujian Wolfa Chemical Technology Co., Ltd.
Supplier Address	Room 2620, Building 18, Xingguang Plaza, No.970 Anji South Road, Fengze District, Quanzhou City, Fujian Province
Supplier Post Code	362000
Supplier Telephone	+86-17854166533
Supplier Fax	——
Supplier E-mail	——

> Emergency Phone Number

Emergency Phone Number	+86-17854166533

Section 2 Hazards Identification

Hazard class and label elements of the product according to GHS (the Eleventh revised edition):

> GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Corrosive to metals	Category 1,H290
Skin Corrosion / Irritation	Category 1B,H314

> GHS Label Elements

Pictogram



Signal Word Danger

> Hazard Statements

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

> Precautionary Statements

Prevention

P234 Keep only in original container.

P260 Do not breathe dust or fume.

P264 Thoroughly wash face, hands and any exposed skin after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.

P304 + P340+P310 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.Immediately call a POISON CENTER or doctor/physician.

P305 + P351 + P338+P310 In case of eye contact, rinse cautiously with water for several minutes.Remove contact lenses if present and easy to do so.Continue rinsing.Immediately call a poison center or physician.

P363 Wash contaminated clothing before reuse.

P390 Absorb spillage to prevent material damage.

Storage

P405 Store locked up.

P406 Store in corrosive resistant/ container with a resistant inner liner.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 3 Composition/Information on Ingredients

Component	CAS No.	EC No.	Concentration (weight percent, %)
HAFNIUM(IV) CHLORIDE	13499-05-3	236-826-5	≥99

Section 4 First Aid Measures

> Description of First Aid Measures

General Advice	Consult a physician. Show this safety data sheet to the doctor in attendance.
Following eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Following skin contact	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.
If swallowed	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
If inhalation	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
First aid personnel protection	Ensure medical personnel are aware of the hazardous properties of the product and take personal protective measures to protect themselves and prevent the spread of contamination.

> Most Important Symptoms and Effects, both Acute and Delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

> Indication of Any Immediate Medical Attention and Special Treatment Needed

No data available.

Section 5 Fire Fighting Measures

> Extinguishing Media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

> Specific Hazards Arising from the chemical

Hydrogen chloride gas, Hafnium oxide.

> Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

Section 6 Accidental Release Measures

> Personal Precautions, Protective Equipment and Emergency Procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

> Environmental Precautions

Do not let product enter drains.

> Methods and Materials for Containment and Cleaning Up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Section 7 Handling and Storage

> Precautions for Handling

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.

> Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Moisture sensitive.

Section 8 Exposure Controls/Personal Protection

> Control Parameters

Hazard composition and occupational exposure limits

No information available.

> Exposure controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

> Personal Protection Equipment

Eye / Face Protection	Use eye protection equipment tested and approved according to official standards such as NIOSH (US) or EN 166 (EU).Use tightly fitting safety goggles.
Skin and Body Protection	Wear suitable protective gloves and protective clothing to prevent skin contact.
Respiratory Protection	Workers must use a suitable respirator when concentrations exceed exposure limits.To protect the wearer, respiratory protective equipment must be properly fitted, and used and maintained correctly.

Section 9 Physical and Chemical Properties

Appearance	Powder
Odor	No information available
Odor Threshold	No information available
pH	No information available
Melting Point/Freezing Point (℃)	No information available
Initial Boiling Point and Boiling Range (℃)	No information available
Flash Point (℃)	No information available
Evaporation Rate	No information available
Flammability	No information available
Upper/lower explosive limits[%(v/v)]	Upper limit: No information available; Lower limit: No information available
Vapor Pressure (KPa)	1 mm Hg (190 °C)
Relative Vapour Density (Air=1)	No information available
Relative Density (Water=1)	1.89 g/cm3
Solubility	No information available
n-Octanol/Water Partition Coefficient	No information available

Auto-Ignition Temperature (℃)	No information available
Decomposition Temperature (℃)	No information available
Kinematic Viscosity (mm2/s)	No information available
Particle characteristics	No information available
Critical Temperature (℃)	No information available

Section 10 Stability and Reactivity

Reactivity	No information available.
Chemical Stability	The product is stable when stored and used under normal ambient temperature.
Possibility of Hazardous Reactions	No information available.
Conditions to Avoid	Incompatible products: exposure to humid air or water.
Materials to avoid	Strong oxidizing agents.
Hazardous decomposition products	No data available.

Section 11 Toxicological Information

> Acute Toxicity

No information available.

> Skin Corrosion/Irritation

Causes severe skin burns and eye damage.

> Serious Eye Damage/Irritation

No information available.

> Respiratory Sensitization

No information available.

> Skin Sensitization

No information available.

> Germ Cell Mutagenicity

No information available.

> Carcinogenicity

No information available.

> Reproductive Toxicity

No information available.

> STOT-single Exposure

No information available.

> Aspiration Hazard

No information available.

Section 12 Ecological Information

> Acute aquatic Toxicity

No information available.

> Chronic aquatic toxicity

No information available.

> Others

Persistence and Degradability	No information available.
Bioaccumulative Potential	No information available.
Mobility in Soil	No information available.
Results of PBT and vPvB Assessment	No information available.

Section 13 Disposal Considerations

> Waste treatment methods

Waste Products	Dispose of residual and non-recyclable solution to a licensed company.
Contaminated Packaging	Return containers to the manufacturer or dispose of according to national and local regulations.
Other Information	Refer to national and local regulations before disposal. For safety precautions for disposers, refer to Section 8.

Section 14 Transport Information

Transporting Label



UN Number	3260
Proper Shipping Name	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
Hazard Class	8
Subsidiary Hazard Class	No
Packing Group	II

Section 15 Regulatory Information

> Regulatory Information

Component	EINECS	TSCA	DSL	IECSC	NZIoC	PICCS	KECL	AIIC	ENCS
HAFNIUM(IV) CHLORIDE	√	√	×	×	×	×	√	×	√

【EINECS】	European Inventory of Existing Commercial Chemical Substances
【TSCA】	Toxic Substances Control Act Inventory (United States)
【DSL】	Domestic Substances List (Canada)
【IECSC】	Inventory of Existing Chemical Substances in China
【NZIoC】	New Zealand Inventory of Chemicals
【PICCS】	Philippines Inventory of Chemicals and Chemical Substances
【KECL】	Korean Existing Chemicals List
【AIIC】	Australian Inventory of Industrial Chemicals
【ENCS】	Existing and New Chemical Substances (Japan)

Note

"√" Indicates that the substance included in the regulations

"×" That no data or included in the regulations

Section 16 Additional Information

Preparation Date	**Dec. 1, 2022**
Revision Date	**Feb. 1, 2025**
Revision Reason	**SDS Update Section**

Disclaimer

The information provided in this Safety Data Sheet is correct based on the latest knowledge, information and concepts available to us. The information provided is intended only as a guide for safe operation, use, processing, storage, transportation, disposal and discharge and is not intended as a guarantee or specification of quality. This information is only used for the specific substance specified and may not be suitable for mixing with any other substance or in all cases, unless otherwise specified in the context.