

Safety Data Sheet (SDS)

GHS/OSHA Compliant

Section I Product and Company Identification

IDENTITY	P57072	Hafnium (Hf)	ANALYTICAL STANDARD DISSOLVED IN	Hydrochloric acid MATRIX
Manufacturer's Name	ABSOLUTE STANDARDS INC	Emergency Telephone USA & CANADA	1-800-535-5053	
Address	60 Trigo Drive Middletown, CT 06457	Emergency Telephone International	1-352-323-3500	
		Date Prepared/Revised	January 1, 2026	

Section II - Hazards Identification

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

H272	May intensify fire; oxidiser.	H301, H311	Toxic if swallowed or in contact with skin
H290	May be corrosive to metals.	H314	Causes severe skin burns and eye damage.
P271	Use in ventilated area	P280	Use gloves, eye protection/face shield
P302,332	If on skin, wash with soap and water	P305,351,338	If in eyes, remove contacts, rinse with water



Signal Word: DANGER

Section III - Composition

Components:	CAS#	OSHA PEL (TWA)	LD50	% (optional)
Hydrochloric acid	7647-01-0	2 ppm	NA	< 2 %
Water	7732-18-5	NA	NA	>97.8%
Hafnium oxychloride octahydrate	14456-34-9	NA	NA	<0.1%

INTENDED USE: REFERENCE MATERIAL

Section IV. FIRST AID MEASURES

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance. Move to safe area.
If inhaled	If inhaled, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact	Wash with soap and water. Consult a physician.
In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	Do NOT induce vomiting. Rinse mouth with water. Consult a physician.

Section V. FIREFIGHTING MEASURES

Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Protective equipment for fire	Wear self contained breathing apparatus for fire fighting if necessary.
Hazardous Decomposition products	Hydrogen chloride gas

Section VI. ACCIDENTAL RELEASE MEASURES

Personal precautions	Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Vapours accumulate to form explosive concentrations.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Clean up	Contain spillage, and then collect and place in container for disposal according to local regulations (see section 13).

Section VII. HANDLING AND STORAGE

Precautions for safe handling	Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use ventilation. Keep away from sources of ignition. No smoking. Prevent the build up of electrostatic charge.
Storage Conditions	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Section VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Hydrochloric acid	CAS#: 7647-01-0	TWA: 5 ppm
Gold (Au)	CAS#: 7440-57-5	OSHA PEL (TWA) 7.5mg/m3
Personal protective equipment	Respiratory protection	Handle with gloves. Gloves must be inspected prior to use. Eye protection.
Avoid contact with skin, eyes and clothing. Wash hands thoroughly after handling the product.		

Section IX - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point	100°C	Specific Gravity (H ₂ O = 1)	1
Vapor Pressure (mm Hg)	NA	Melting Point	0.0°C
Vapor Density (AIR = 1)	NA	Evaporation rate (Butyl Acetate = 1)	NA
Solubility in Water	Completely miscible		
Appearance and Odor	CLEAR OR COLORED LIQUID WITH CHARACTERISTIC ACID ODOR.		

Section X. STABILITY AND REACTIVITY

Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Vapours form explosive mixture with air.
Conditions to avoid	Heat, flames, sparks, extreme temperature and sunlight.
Materials to avoid	Bases, Oxidizing agents, Reducing agents, Acetone, Phosphorous oxychloride.
Hazardous decomposition products - No data available	

Section XI. TOXICOLOGICAL INFORMATION

LD50 Oral - Rat	No data available
LC50 Inhalation - Rat	No data available
LD50 Dermal - Guinea pig	No data available
Causes skin irritation.	
Eye irritation	
Causes respiratory tract irritation.	

Section XII. ECOLOGICAL INFORMATION FOR REPORTABLE QUANTITY OF 13514 lbs.

LC50	No data available
EC50	No data available

Section XIII. DISPOSAL CONSIDERATIONS

Dispose with normal Laboratory WATER Waste.

Section XIV. TRANSPORT INFORMATION

DOT (US)	IATA
UN number: 3264 Class: 8 Packing group: III	UN number: 3264 Class: 8 Packing group: III
Proper shipping name: HYDROCHLORIC ACID < 10%	Proper shipping name: HYDROCHLORIC ACID < 10%
Reportable Quantity (RQ): 13514 lbs	

Section XV. REGULATORY INFORMATION

OSHA Hazards Target Organ Effect, Toxic by inhalation., Toxic by ingestion, Toxic by skin absorption, Irritant
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Section XVI. Misc. INFORMATION

The information in this Material Safety Data Sheet meets the requirements of the United States Occupational Safety and Health Act and regulations promulgated thereunder (29 CFR 1910.1200 et. seq.) and Global Harmonized System (GHS). This document is intended only as a guide to the appropriate precautionary handling of the material by trained personnel, or supervised by a person trained in chemical handling. The user is responsible for determining the precautions and dangers of this chemical for his or her particular application. Depending on usage, protective clothing including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/fumes. Exposure to this product may have serious adverse health effects. This chemical may interact with other substances. Since the potential uses are so varied, ABSOLUTE STANDARDS INC. cannot warn of all the potential dangers of use or interaction with other chemicals or substances. ABSOLUTE STANDARDS INC. warrants that the chemical meets the specifications set forth on the label. ABSOLUTE STANDARDS INC DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR APPLICATION. The user should recognize that this product can cause severe injury or death, especially if improperly handled or the known dangers of use are not heeded. READ ALL PRECAUTIONARY INFORMATION. As new documented general safety information becomes available, Absolute Standards Inc. will periodically revise this Material Safety Data Sheet. If you have any questions, please call Technical Service at 1-203-281-2917 for assistance.