

GELEST, INC.

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MATERIAL SAFETY
DATA SHEET

EMERGENCY TELEPHONE
CHEMTREC: 1-800-424-9300

NAME USED ON LABEL: **HAFNIUM DIMETHYLAMIDE - OMHF080**

CHEMICAL NAME: HAFNIUM DIMETHYLAMIDE

SYNONYMS: TETRAKIS(DIMETHYLAMIDO)HAFNIUM

CHEMICAL FAMILY: METAL-ORGANIC

FORMULA: C₈H₂₄N₄Hf

HMIS CODES HEALTH: 3 FLAMMABILITY: 3 REACTIVITY: 1

INGREDIENTS

IDENTITY	CAS NO.	%	TLV
HAFNIUM TETRAKIS(DIMETHYLAMIDE)	19962-11-9	>95	not established
(OSHA PEL for dimethylamine, TWA: 10ppm)			

PHYSICAL DATA

Boiling Point: >133°C at 1mm	Melting Point: 30°C
Specific Gravity: not determined	Vapor Pressure: <5mm
Vapor Density (air=1): >1	Solubility in water: reacts
% volatiles: NA	Evaporation rate: NA
Molecular Weight: 354.80	Other: NA
Appearance & Color: Pale yellow-amber solid with acrid amine odor	

FIRE & EXPLOSION DATA

Flash Point, COC : >65°C (>150°F) Autoignition Temp.: not determined
Flammability Limits- LEL: NA UEL: NA

Extinguishing Media: Water spray, foam, carbon dioxide, dry chemical.

Special Fire Fighting Procedures: Avoid eye and skin contact. Do not breathe fumes or inhale vapors.

Unusual Fire and Explosion Hazards: Irritating fumes of dimethylamine vapors may develop when material is exposed to water or open flame.

-1-(OMHF080)

ENVIRONMENTAL INFORMATION

Spill response: May be hazardous to aquatic life if released to open waters. Cover spill with absorbent material. Transfer to a suitable container for disposal.

Recommended Disposal: Hydrolyze material by mixing with water in a hood. Aqueous layer contains dimethylamine which should be neutralized with hydrochloric acid. Organic layer may be incinerated. Alternately, absorb onto clay or vermiculite and dispose of absorbent material as solid waste. Follow all chemical pollution control regulations.

HEALTH HAZARD DATA

Eye Contact: Will cause immediate or delayed severe eye irritation.

Skin contact: May produce irritation or contact dermatitis which may be delayed several hours. Prompt and thorough washing with soap and water will reduce or eliminate potential dermal effects.

Inhalation: Inhalation of vapors or particulates of will irritate the respiratory tract. Overexposure may produce coughing, headache and nausea.

Inhalation Toxicity: not determined

Oral Toxicity: not determined.

Chronic Toxicity: There are no known chronic effects related to this compound.

SUGGESTED FIRST AID

EYES: In case of contact, immediately flush eyes with flowing water for at least 15 minutes. Get medical attention.

SKIN: Flush with water, then wash with soap and water.

INHALATION: Move exposed individual to fresh air. Call a physician.

INGESTION: Never give fluids or induce vomiting if patient is unconscious or having convulsions. Get medical attention.

REACTIVITY DATA

Stability: Stable in sealed containers stored under a dry inert atmosphere.

Conditions to avoid: Combustible; avoid contact with heat, sparks or open flame.

Incompatibility (materials to avoid): Reacts with water and moisture in air liberating dimethylamine.

Avoid contact with alcohols, acids, oxidizers.

Hazardous decomposition products: Organic acid vapors, dimethylamine, hafnium dioxide.

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SPECIAL PROTECTION INFORMATION

Ventilation: Local exhaust is required. Mechanical is recommended.

Respiratory Protection: If exposure exceeds TLV air-supplied or combination organic vapor/amine gas respirator.

Eye and Face Protection: Chemical worker's goggles. Do not wear contact lenses.

Other Clothing and Equipment: Rubber, neoprene or nitrile gloves. An eyewash and emergency shower should be available. Launder clothing before reuse.

OTHER PRECAUTIONS

For research use only.

Storage and Handling: Store in sealed containers.

TRANSPORTATION

DOT SHIPPING NAME: CORROSIVE SOLIDS N.O.S.
HAFNIUM TETRAKIS(DIMETHYLAMIDE)

DOT HAZARD CLASS: 8
DOT LABEL: CORROSIVE
DOT ID No: UN 1759

PG: III

Prepared by safety and environmental affairs ISSUE DATE OMHF080: 12/29/05
SUPERSEDES: 4/7/03

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