

GELEST, INC.

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MATERIAL SAFETY
DATA SHEET

EMERGENCY TELEPHONE
CHEMTREC: 1-800-424-9300

NAME USED ON LABEL: **HAFNIUM t-BUTOXIDE - AKH326**
CHEMICAL NAME: HAFNIUM t-BUTOXIDE
SYNONYMS: HAFNIUM t-BUTYLATE, TETRA-t-BUTOXYHAFNIUM
CHEMICAL FAMILY: HAFNIUM COMPOUND
FORMULA: C₁₆H₃₆O₄Hf
HMIS CODES HEALTH: 2 FLAMMABILITY: 1 REACTIVITY: 1

INGREDIENTS

IDENTITY	CAS NO.	%	TLV
HAFNIUM t-BUTOXIDE	2172-02-3	>95	not established

PHYSICAL DATA

Boiling Point: 90°C at 5mm	Melting Point: not determined
Specific Gravity: 1.17	Vapor Pressure, 67°C: 1.5mm
Vapor Density (air=1): >1	Solubility in water: insoluble
% volatiles: <3	Evaporation rate: NA
Molecular Weight: 470.95	Other: NA
Appearance & Color: Straw to amber viscous liquid, characteristic odor	

FIRE & EXPLOSION DATA

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

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 and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

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ENVIRONMENTAL INFORMATION

Spill response: Sweep material and transfer to a suitable container for disposal.

Recommended Disposal: Dispose of as solid waste. Follow all chemical pollution control regulations.

HEALTH HAZARD DATA

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

Skin contact: May produce irritation or contact dermatitis. Prompt and thorough washing with soap and water will reduce or eliminate potential dermal effects.

Inhalation: Inhalation of dust or particulates may irritate the respiratory tract.

Oral Toxicity: not determined

Chronic Toxicity: not determined

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. Administer oxygen if needed. Call a physician.

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

REACTIVITY DATA

Stability: Stable

Conditions to avoid: Material decomposes slowly in contact with air by reaction with water.

Hazardous decomposition products: Organic acid vapors and hafnium oxide fumes.

SPECIAL PROTECTION INFORMATION

Ventilation: Local exhaust is required. Mechanical is recommended.

Respiratory Protection: If exposure exceeds TLV, NIOSH approved dust and mist 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: None required

DOT HAZARD CLASS: None required

DOT LABEL: None required

DOT ID No: None required

Prepared by safety and environmental affairs

ISSUE DATE AKH326: 8/3/07

SUPERSEDES: 11/13/02

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