



Material Safety Data Sheet

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SECTION 1: Product Identification

Product name	Tris(i-propoxy)methylcyclopentadienylhafnium, 98%
CAS #	NA
Catalog #	0722400
Chemical family	Cyclopentadienyl metal alkoxide

SECTION 2: Composition, Information on Ingredients

Component	%	CAS #	EINECS #	Hazard Symbol	R-Phrase
Tris(i-propoxy)methylcyclopentadienylhafnium	98	NA	None	F	10 14 34

SECTION 3: Hazard Identification

Emergency overview	Flammable. Causes burns. Reacts with water.
Eye contact	Causes eye burns.
Skin contact	Causes burns to the skin. May be harmful if absorbed through the skin.
Inhalation	Inhalation can lead to burns of the respiratory tract.
Ingestion	Causes gastrointestinal tract burns.
Chronic health effects	Not available.

SECTION 4: First Aid Measures

Eye exposure	Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
Skin exposure	Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Inhalation	Remove from exposure to fresh air. Closely monitor the victim for signs of respiratory problems, such as difficulty in breathing, pain, etc. In such cases seek immediate medical assistance.
Ingestion	Do not induce vomiting. Get medical aid immediately. If victim is conscious and alert, give 2-4 cupfuls of milk or water.

SECTION 5: Fire Fighting Measures

General information	If this material is involved in a fire, fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing. Flammable. If involved in a fire this material may emit toxic organic fumes. Water Reactive. Material will react with water and may release a flammable and/or toxic gas.
Extinguishing media	Do not use water! Carbon dioxide, dry chemical powder, or appropriate foam.

SECTION 6: Accidental Release Measures

Spill and leak procedures	Eliminate all ignition sources. Avoid contact with water. Small spills can be mixed with vermiculite or sodium carbonate or other inert material and swept up.
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SECTION 7: Handling and Storage	
Handling	Avoid breathing vapor, dust, mist, or gas. Avoid contact with skin, eyes, and clothing. Keep away from heat, sparks and flame. Handle under an inert atmosphere of nitrogen. Don't allow contact with water. Use only in a chemical fume hood.
Storage	Store in a cool, dry place. Store in a tightly closed container. Keep away from heat, sparks, flame and sources of ignition. Flammable area. Avoid contact with water and store under an inert atmosphere of nitrogen or argon.
SECTION 8: Exposure Controls and Personal Protection	
Eye protection	Always wear approved safety glasses when handling a chemical substance in the laboratory.
Skin protection	Wear protective gloves.
Ventilation	If possible, handle the material in an efficient fume hood.
Respirator	If ventilation is not available a respirator should be worn. The use of respirators requires Respirator Protection Program to be in compliance with 29CFR 1910.134.
SECTION 9: Physical and Chemical Properties	
Appearance	Yellow liq.
Odor	Not available.
Melting point	Not available.
Boiling point	Not available.
Flash point	Not available.
Solubility in water	Reacts with water.
Specific gravity	Not available.
Molecular formula	C ₁₅ H ₂₈ HfO ₃
Molecular weight	434.87
SECTION 10: Stability and Reactivity	
Stability	Moisture and air-sensitive liquid.
Hazardous polymerization	No hazardous polymerization.
Conditions to avoid	Incompatible materials, exposure to moisture, air or water, contact with ignition sources
Incompatibilities with other materials	Oxidizing agents, water, air.
Hazardous decomposition products	Carbon dioxide, carbon monoxide, hafnium oxide and organic fumes.
SECTION 11: Toxicological Information	
RTECS Data	No information available in the RTECS files.
Carcinogenic effects	No data available.
Mutagenic effects	No data available.
Tetratogenic effects	No data available.
SECTION 12: Ecological Information	
Ecological information	No information available.

SECTION 13: Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

SECTION 14: Transport Information

Shipping name (CFR)	Organometallic substance, liquid, water-reactive, flammable*
Hazard class (CFR)	4.3
Additional hazard class (CFR)	3
Packing group (CFR)	II
UN ID number (CFR)	3399
Shipping name (IATA)	Organometallic substance, liquid, water-reactive, flammable*
Hazard class (IATA)	4.3
Additional hazard class (IATA)	3
Packing group (IATA)	II
UN ID number (IATA)	3399

SECTION 15: Regulatory Information

TSCA	NA
SARA	Not reportable under SARA Title 313.

SECTION 16: Other Information

Preparation date	26.11.08
Revision date	26.11.08

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