



Material Safety Data Sheet

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SECTION 1: Product Identification

Product name	Tris(t-butoxy)cyclopentadienylhafnium, 98%
CAS #	Not available
Catalog #	0722200
Chemical family	Cyclopentadienyl metal derivatives

SECTION 2: Composition, Information on Ingredients

Component	%	CAS #	EINECS #	Hazard Symbol	R-Phrase
Tris(t-butoxy)cyclopentadienylhafnium	98	Not available	none	F	10 36/37/38

SECTION 3: Hazard Identification

Emergency overview	Flammable. Irritating to the eyes, skin and respiratory tract.
Eye contact	May cause mild irritation of the eyes.
Skin contact	May cause mild irritation of the skin.
Inhalation	May cause mild irritation of the respiratory tract.
Ingestion	No information available about toxicological effect of the ingestion.
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. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.

SECTION 5: Fire Fighting Measures

General information	Flammable liquid. 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. If involved in a fire this material may emit toxic organic fumes.
Extinguishing media	Use foam, dry chemical, or carbon dioxide.

SECTION 6: Accidental Release Measures

Spill and leak procedures	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	Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Handle material under inert atmosphere of argon or nitrogen.
Storage	Store in a cool, dry place. Store in a tightly closed container under inert atmosphere of nitrogen and argon. Keep away from the sources of ignition, heat and direct sunlight. Flammable area.
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	Always handle 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	from colorless to light yellow liq.
Odor	None
Melting point	No data
Boiling point	No data
Flash point	No data
Solubility in water	No data
Density	No data
Molecular formula	C17H32HfO3
Molecular weight	462.93
SECTION 10: Stability and Reactivity	
Stability	Air and moisture sensitive liq.
Hazardous polymerization	No hazardous polymerization.
Conditions to avoid	Contact with moisture and air, contact with ignition sources.
Incompatibilities with other materials	Water, air, oxidizing agents, heat.
Hazardous decomposition products	Carbon monoxide, carbon dioxide, hafnium oxide, 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.
Tetragenic 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)	Flammable liquid, N.O.S.
Hazard class (CFR)	3
Additional hazard class (CFR)	NA
Packing group (CFR)	II
UN ID number (CFR)	1993
Shipping name (IATA)	Flammable liquid, N.O.S.
Hazard class (IATA)	3
Additional hazard class (IATA)	NA
Packing group (IATA)	II
UN ID number (IATA)	1993
SECTION 15: Regulatory Information	
TSCA	Not listed in the TSCA inventory
SARA	Not reportable under SARA Title 313.
SECTION 16: Other Information	
Preparation date	29.04.08
Last revision date	29.04.08
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