



Centre Anti-Poison pour le Québec: (800) 463-5060

Tél. (Qc): (418) 660-8666 / 800-890-8666


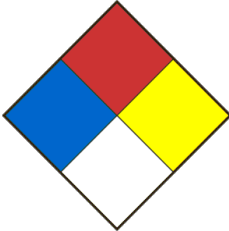
Fax. (Qc): (418) 660-8998

SAFETY DATA SHEET

SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier ZIRCONIUM (II) HYDRIDE		Product Use Laboratory use	
Chemical formula ZrH ₂		Product code ZT-1353	Molar weight 93,24
Chemical name / Commercial name / Synonymous ZIRCONIUM DIHYDRIDE, ZIRCONIUM HYDRIDE			
Supplier's name Laboratoire MAT		Address-Street 610, Adanac Street	
City Québec		Province Québec	
Postal code G1C 7B7	Internet www.labmat.com	Phone number 418-660-8666 / 800-890-8666	
Emergency phone	CANUTEC: 613-996-6666		CENTRE ANTI-POISON DU QUÉBEC 800-463-5060
Date SDS 10/30/2019	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

SECTION 02 - HAZARDS IDENTIFICATION

Classification WHIMS / GHS	<p>Skin corrosion/irritation - Skin irritation category 2</p> <p>Flammable solids category 1</p> <p>Serious eye damage/ Eye irritation category 2A</p> <p>Specific target organ toxicity - Single exposure category 3</p> <p>Acute toxicity - Oral category 4</p>
Signal Word	<p>DANGER</p>
Hazards statements (H)	<p>H228 Flammable solid.</p> <p>H315 Causes skin irritation.</p> <p>H319 Causes serious eye irritation.</p> <p>H335 May cause respiratory irritation.</p> <p>H302 Harmful if swallowed.</p>
Precautionary statements (P)	<p>P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.</p> <p>P240 Ground/bond container and receiving equipment.</p> <p>P241 Use explosion-proof electrical/ventilating/lighting equipment.</p> <p>P261 Avoid breathing dust / fume / gas / mist / vapours / spray.</p> <p>P264 Wash the areas of the body that have been in contact with the product after handling.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>P302 + P352 IF ON SKIN: Wash with plenty of soap and water.</p> <p>P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</p> <p>P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P312 Call a POISON CENTER or doctor/physician if you feel unwell.</p> <p>P321 Specific treatment (see section 4 of the SDS and on this label).</p> <p>P332 + P313 If skin irritation occurs: Get medical advice/attention.</p> <p>P337 + P313 If eye irritation persists: Get medical advice/attention.</p> <p>P362 + P364 Take off contaminated clothing and wash it before reuse.</p> <p>P370 + P378 In case of fire: Use dry powder type D fire extinguisher, limestone or sand or allow the fire to extinguish itself. DO NOT use water, carbon dioxide or halocarbons for extinction.</p> <p>P403 + P233 Store in a well-ventilated place. Keep container tightly closed.</p> <p>P405 Store locked up.</p> <p>P501 Dispose of contents/container in accordance with local / regional / national / international regulations or contact a specialist waste disposal company.</p> <p>P270 Do no eat, drink or smoke when using this product.</p> <p>P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.</p> <p>P330 Rinse mouth.</p>
PICTOGRAMS	
Other dangers	<p>NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)</p>
	<p>Health 2</p> <p>Fire 3</p> <p>Reactivity 3</p> <p>Special danger</p>

SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
Hydruure de zirconium (II)	7704-99-6	<=100

SECTION 04 - FIRST AID MEASURES

Eye contact	Wash eyes with large amounts of water for at least 15 minutes while holding eyelids apart to rinse eyes. If irritation persists, seek medical attention.
Skin contact	Wash skin with plenty of water for at least 15 minutes. Remove soiled clothing. If irritation persists, seek medical attention.
Inhalation	Move the unwell person to the fresh air. If breathing is difficult, give oxygen. Consult a physician.
Ingestion	Do NOT induce vomiting. If the person is conscious, rinse the mouth with water. Never give anything by mouth to an unconscious person. Consult a physician.
Most important symptoms and effects (acute and delayed)	Ref. section 11.
Immediate medical attention and special treatment, if necessary	In case of medical consultation, keep this sheet available.
General advice	Show this safety data sheet to the doctor in attendance.

SECTION 05 - FIREFIGHTING MEASURES

Flammability	Yes
Ignition conditions	Heat, sparks and open flame.
Suitable extinguishing media	Use dry powder type D fire extinguisher, limestone or sand or allow the fire to extinguish itself.
Unsuitable extinguishing media	DO NOT use water, carbon dioxide or halocarbons.
Hazardous combustion / decomposition products	Hazardous decomposition products formed under fire conditions. Zirconium oxides.
Special fire and explosion hazards	May react violently with incompatible products (Ref Section 10).
Special protective equipment and precautions for firefighters	Discard incompatible substances if this can be done without risk. Firefighters should be equipped with standard protective equipment, fireproof clothing, face mask, gloves, protective boots and, where appropriate, self-contained breathing apparatus.

SECTION 06 - ACCIDENTAL RELEASE MEASURES

Methods and materials for containment and cleaning up / Personnel precautions, protective equipment	Evacuate personnel to safe areas. Ensure adequate ventilation. Use personal protective equipment. Keep away from shock, friction, and sources of ignition. Pick up with a shovel or broom, taking care not to scatter dust. Dispose of residues in a container provided for the disposal of hazardous materials. Do not let product enter drains. Discharge into the environment must be avoided.
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SECTION 07 - HANDLING AND STORAGE

Conditions for safe storage	Keep container tightly closed in a dry and well-ventilated place. Keep container tightly sealed when not in use. Avoid contact with or storing next to oxidizers and acids. Store in cool place. Keep away from sources of heat, sunlight, static electricity and sources of ignition.
Methods of handling	Avoid contact with the skin, eyes and clothes. Ensure good ventilation. Avoid formation of dust and aerosols. Avoid friction, heat, sparks, and flames. Take measures to prevent the build up of electrostatic charge. Do not use tools that produce sparks.

SECTION 08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Workplace control parameters

Components	CAS-No.	Control	Value	Basis
ZIRCONIUM (II) HYDRIDE	7704-99-6	TWA	5 mg/m ³	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remark				
		STEL	10 mg/m ³	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		VEMP	5 mg/m ³	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		VECD	10 mg/m ³	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	5 mg/m ³	Canada. British Columbia OEL
		STEL	10 mg/m ³	Canada. British Columbia OEL

Data source	Sigma-Aldrich.
Ventilation	Use fan.
Respiratory	If the permissible levels are exceeded, use a mechanical filter / cartridge against NIOSH vapors or a respirator with air supply.
Gloves	Handle with gloves.
Eyes	Safety goggles with safety shutters.
Shoes	Safety shoes.
Clothing	Labcoat. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Engineering control	Have safety showers and eyewash stations in the workplace in case of an emergency and a ventilation system to maintain the level of concentrations in the air below the exposure limit values.

SECTION 09 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid.
Appearance	Poudre grise.
Odour	inodore.
Odour threshold	Data not available
pH	Donnée non disponible..
Melting point / Freezing point	800°C
Initial boiling point	Data not available
Boiling range	Data not available
Flash point	Data not available
Evaporation rate	Data not available
Flammability	Yes
Lower flammable / Explosive limit	Data not available
Upper flammable / Explosive limit	Data not available
Vapour pressure	Data not available
Vapour density	Data not available
Relative density	5.6g/cm ³
Solubility	Insoluble dans l'eau..
Partition coefficient water/n-octanol	Data not available
Auto-ignition temperature	200°C
Decomposition temperature	Data not available
Viscosity	Data not available

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	Non-reactive under normal conditions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Stable under normal conditions. Reacts with oxidizers and acids.
Conditions of instability (Including sensitivity to shock / static discharge / vibration)	Avoid friction, heat, sparks, static discharges, flames, and/or other ignition source. Avoid accumulation of dust particles in the air which can create an explosive mixture.
Incompatible material	Oxidation agents. Water Acids.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. Zirconium oxide.

SECTION 11 - TOXICOLOGICAL INFORMATION

ZIRCONIUM (II) HYDRIDE

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	May cause eye irritation.
- Skin	May cause skin irritation. May be harmful if absorbed through skin.
- Inhalation	May cause respiratory tract irritation. May be harmful if inhaled.
Acute toxicity (Ingestion)	May be harmful if swallowed.
Chronic exposure effects / symptoms	To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.
DL50 (specify species and route of entry)	LD50 Oral - Data not available. LD50 Dermal - Data not available.
CL50 (specify species and route of entry)	LC50 - Inhalation - Data not available.

SECTION 12 - ECOLOGICAL INFORMATION

Available ecological information	No
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SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal Method	Dispose of contents / container in accordance with local / regional / national / international regulations / or contact a specialist waste disposal company.
Contaminated Packaging	Dispose of as unused product.

SECTION 14 - TRANSPORT INFORMATION

UN Number	1437
UN Proper shipping name	HYDRURE DE ZIRCONIUM
Transport hazard class(es)	4.1 Flammable solids
Packing group	II
Limited quantity index	1kg
ERAP Index	-
Special precautions	-

SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Skin corrosion/irritation - Skin irritation category 2 Flammable solids category 1 Serious eye damage/ Eye irritation category 2A Specific target organ toxicity - Single exposure category 3 Acute toxicity - Oral category 4
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SECTION 16 - OTHER INFORMATION

Further information

The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. It does not represent any guarantee of the properties of the product. Laboratoire MAT Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

Last Update: 10/30/2019