

# MATERIAL SAFETY DATA SHEET (MSDS)

TROY CHEMICAL CORP. 1 Avenue L Newark, NJ 07105		FOR MSDS INFORMATION: (973) 589-2500 24 HOUR EMERGENCY PHONE NUMBER CHEMTREC 1-800-424-9300		Troymax™ Zirconium 12 Product Code: 60144X Effective Date: December 13, 2007 Replaces: December 11, 2007	
1. PRODUCT & COMPANY IDENTIFICATION					
PRODUCT NAME		Troymax™ Zirconium 12			
CHEMICAL NAME		Not applicable			
CHEMICAL FAMILY		Metal carboxylate		MANUFACTURER	
FORMULA		Proprietary		Troy Chemical Corporation	
SYNONYMS		None		1 Avenue L Newark, N.J. 07105	
2. COMPOSITION/INFORMATION ON INGREDIENTS					
The listed components are considered to be hazardous based on OSHA's Hazard Communication Standard. For further regulatory information, see Section 15.					
CHEMICAL NAME	CAS#	%	AGENCY	EXPOSURE LIMITS	
Hydrotreated heavy naphtha	64742-48-9	50-70	OSHA	TWA: 500 ppm	
			ACGIH	TWA: 100 ppm	
Zirconium carboxylate mixture	Mixture	30-50	OSHA/ACGIH	TWA: 5 mg/m3 (as metal)	
			ACGIH	STEL: 10 mg/m3 (as metal)	
contains: Zirconium 2-ethylhexanoate	22464-99-9	**			
Zirconium acetate	5153-24-2	**			
Glycol ether	Proprietary	0.5-2	Not applicable	None established	
			**The sum of the two components is 30-50%		
OSHA Regulatory Status: This product is classified as hazardous under OSHA regulations.					
3. HAZARDS IDENTIFICATION					
EMERGENCY OVERVIEW					
Troymax™ Zirconium 12 is a yellow liquid with a solvent odor. Combustible liquid. May cause eye, skin, and respiratory irritation. If swallowed, aspiration into the lungs can cause lung damage. May cause dermal sensitization.					
ROUTES OF ENTRY	Ingestion, skin contact, skin absorption, eyes, inhalation				
INGESTION	Single dose oral toxicity is low. Swallowing small amounts during normal handling is not likely to cause harmful effects. Ingestion of excessive quantities may cause gastrointestinal irritation (nausea, vomiting, and diarrhea). Aspiration of material into the lungs can cause lung damage.				
SKIN	Direct contact may cause skin irritation. Solvents may be absorbed through the skin and may contribute to symptoms of toxicity from other routes of exposure. Sensitization dermatitis may occur in persons who have been previously exposed to zirconium compounds.				
EYE CONTACT	Exposure to liquid or vapors may cause eye irritation. Symptoms may include stinging, pain, tearing, and redness.				
INHALATION	Short-term inhalation toxicity is low. Breathing small amounts during normal handling is not likely to cause harmful effects. Excessive inhalation may be harmful and may cause respiratory irritation, nausea, vomiting, drunkenness, and lung damage. Symptoms are more typically seen at air concentrations exceeding the recommended exposure limits.				
CHRONIC EFFECTS					
Repeated or prolonged inhalation may cause central nervous system effects. May affect the kidneys based on animal studies.					
TARGET ORGANS	Central nervous system, kidneys.				
CARCINOGENICITY	This product (or component) is not listed as a carcinogen according to OSHA, NTP, IARC, and ACGIH.				
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE					
May aggravate pre-existing kidney, respiratory and skin disorders and allergies.					
4. FIRST AID MEASURES					
INGESTION	Get medical attention immediately. Do not induce vomiting. If vomiting occurs, keep head lower than hips to prevent aspiration.				
SKIN CONTACT	Remove contaminated clothing and shoes promptly. Wash affected areas with soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15 minutes). If irritation or redness persists, get medical attention. Wash clothing before reuse.				
EYE CONTACT	Wash eyes immediately with large amounts of water for at least 15 minutes. Get medical attention immediately.				
INHALATION	Remove from exposure area to fresh air promptly. If breathing is difficult, oxygen should be administered by qualified personnel. If breathing has stopped, perform artificial respiration. Keep person warm and at rest. Treat symptomatically and supportively. Get medical attention.				
NOTES TO PHYSICIAN					
None					
5. FIRE FIGHTING MEASURES					
FLASH POINT	>39°C (>102°F) (ASTM D3278-96 Setafash Closed-Cup)				
FLAMMABLE LIMITS	0.6% - 7% (for hydrotreated heavy naphtha)				
AUTOIGNITION TEMPERATURE	>255°C (>491°F)				
FLAMMABILITY CLASS	Combustible liquid - Class II				
HAZARDOUS PRODUCTS OF COMBUSTION	Carbon monoxide, carbon dioxide, zirconium oxides, and various hydrocarbons.				
FIRE EXTINGUISHING MEDIA	Dry chemical, carbon dioxide, water spray, or regular foam.				
FIRE FIGHTING INSTRUCTIONS	Move container from fire area if you can do it without risk. Apply cooling water to sides of containers that are exposed to flames until well after fire is out. Avoid breathing vapors, keep upwind. Positive pressure self-contained breathing apparatus with full facepiece and structural firefighters' protective clothing will provide limited protection.				
UNUSUAL FIRE & EXPLOSION HAZARDS	Solvent vapors are heavier than air and may travel along the ground or be moved by ventilation and ignited by flames and ignition sources. Runoff to sewer may create fire or explosion hazard. Never use welding or cutting torch on or near drum (even empty) because product (even residue) can ignite explosively.				

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<b>6. ACCIDENTAL RELEASE MEASURES</b>					
Keep unnecessary people away; isolate hazard area and deny entry. Wear protective equipment as specified in Section 8. Stay upwind; keep out of low areas. Positive pressure self-contained breathing apparatus and structural firefighters' protective clothing will provide limited protection. Shut off ignition sources; no flares, smoking, or flames in hazard area. Stop leak if you can do it without risk. Use water spray to reduce vapor, but it may not prevent ignition in closed spaces. For small spills, absorb with vermiculite or other noncombustible absorbent material and place into containers for later disposal. For large spills, dike far ahead of liquid spill for later disposal. If water pollution occurs, notify the appropriate authorities. <b>Observe all Federal, State, and Local regulations regarding notifications of accidental releases.</b>					
<b>7. HANDLING &amp; STORAGE</b>					
Avoid contact with skin, eyes, or clothing. Avoid breathing vapor or mist. Wash thoroughly after handling. Keep container tightly closed. Use only with adequate ventilation. "Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner, or properly disposed of. Store away from incompatible substances in a cool, dry, ventilated area. Store in accordance with 29CFR1910.106. Substances with low electroconductivity, which may be ignited by electrostatic sparks, should be stored in containers which meet the bonding and grounding guidelines in NFPA77, Recommended Practice on Static Electricity. Plastic drums are non-conductive and, appropriate safety measures must be taken to prevent possible ignition when filling or dispensing flammable or combustible liquids. Storage and dispensing operations must comply with appropriate regulations (such as NFPA). <b>Observe all Federal, State, and Local regulations when storing or disposing of this substance.</b>					
<b>8. PERSONAL PROTECTION/EXPOSURE CONTROLS</b>					
<b>VENTILATION</b>		Provide adequate ventilation or local exhaust to meet established exposure limits.			
<b>EYE/FACE PROTECTION</b>		If potential for contact with liquid exists, use splash-proof safety goggles or other approved eye protection.			
<b>SKIN PROTECTION</b>		Wear impervious gloves and apron to prevent skin contact. Wear impermeable suit if exposure is possible to a large portion of the body.			
<b>RESPIRATORY PROTECTION</b>		A respiratory protection program meeting OSHA 1910.134 must be followed whenever workplace conditions warrant the use of a respirator. If exposure may exceed recommended limits, a NIOSH/MSHA-approved respirator should be used based on exposure levels found in the workplace.			
<b>OTHER</b>		Eyewash and safety shower should be available within the immediate work area for emergency use.			
<b>9. PHYSICAL AND CHEMICAL PROPERTIES</b>					
<b>APPEARANCE</b>		Yellow liquid	<b>SPECIFIC GRAVITY AT 25°C. (Water=1)</b>		0.93-1.02
<b>ODOR</b>		Solvent odor	<b>WATER SOLUBILITY</b>		Insoluble
<b>INITIAL BOILING POINT</b>		163°C (325°F)	<b>pH</b>		Not determined
<b>VAPOR PRESSURE AT 20°C.</b>		<1.5 mm Hg (for hydrotreated heavy naphtha)	<b>EVAPORATION RATE (Butyl acetate=1)</b>		<1
<b>VAPOR DENSITY (Air=1)</b>		>1	<b>% VOLATILES BY WEIGHT</b>		60%
			<b>VISCOSITY AT 25°C. (Gardner)</b>		A max
<b>10. STABILITY &amp; REACTIVITY</b>					
<b>REACTIVITY</b>		Stable under normal temperatures and pressures.			
<b>CONDITIONS TO AVOID</b>		Avoid heat or sources of ignition.			
<b>INCOMPATIBILITY</b>		Avoid contact with strong acids, bases, and oxidizing agents.			
<b>HAZARDOUS DECOMPOSITION</b>		Decomposition may release carbon monoxide, carbon dioxide, zirconium oxides, and various hydrocarbons.			
<b>HAZARDOUS POLYMERIZATION</b>		Hazardous polymerization does not occur.			
<b>11. TOXICOLOGICAL INFORMATION</b>					
No data is available on this product, however, toxicological data is included on the hazardous ingredients. For additional information, contact Troy Chemical Corporation:					
<b>ACUTE ORAL EFFECTS</b>					
Hydrotreated heavy naphtha: LD50 (oral, rat) >5000 mg/kg.					
Glycol ether: LD50 (oral, rat) - 3200 mg/kg.					
<b>ACUTE SKIN EFFECTS</b>					
Hydrotreated heavy naphtha: LD50 (dermal, rabbit) >2000 mg/kg; mild irritation.					
Zirconium compounds: Sensitization dermatitis has been reported for some zirconium compounds.					
<b>ACUTE EYE EFFECTS</b>					
Hydrotreated heavy naphtha: slight irritation.					
<b>ACUTE INHALATION EFFECTS</b>					
No data available					
<b>SUBCHRONIC EFFECTS AND OTHER STUDIES</b>					
Hydrotreated heavy naphtha: Chronic exposure in workers resulted in eye and CNS effects.					
Glycol ether: In animal skin contact studies, dosage levels of 5-10 mg/kg caused central nervous system and kidney effects.					
<b>12. ECOLOGICAL INFORMATION</b>					
No data is available on this product, however, ecotoxicological data is included on the OSHA hazardous ingredients. For additional information, contact Troy Chemical Corporation:					
<b>ECOTOXICITY</b>					
Metal carboxylates: Metal compounds are known to have detrimental effects on aquatic organisms.					
Hydrotreated heavy naphtha: No acute toxicity to aquatic organisms is expected at the maximum water solubility of this material.					
LC50 (fish, 96 hr) >100 mg/L.					
EC50 (daphnia, 48 hr) >100 mg/L.					
EC50 (Algae, 72 hr) > 100 mg/L.					
<b>ENVIRONMENTAL FATE</b>					
Metal carboxylates: Metal compounds are known to persist in the environment.					
Hydrotreated heavy naphtha: Readily biodegradable. Long term adverse effects to aquatic organisms are not expected.					

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## 13. DISPOSAL INFORMATION

<b>RCRA HAZARDOUS WASTE</b>	This product is a RCRA hazardous waste based on its flash point (<60°C) therefore meeting the characteristic of ignitability.
<b>WASTE DISPOSAL PROCEDURE</b>	The user of this material has the responsibility to dispose of unused material, residues, and containers in compliance with all Federal, State, and Local Regulations

## 14. TRANSPORTATION INFORMATION

<b>DOT</b>	<b>SHIPPING NAME</b>	Non-hazardous additive/compound
	<b>LABELS REQUIRED</b>	None
<b>DOT (bulk only)</b>	<b>SHIPPING NAME</b>	UN1993 Flammable liquid, n.o.s. (contains: hydrotreated heavy naphtha), 3, PG III, ERG# 128
	<b>LABELS REQUIRED</b>	Flammable liquid
<b>IATA</b>	<b>SHIPPING NAME</b>	UN1993 Flammable liquid, n.o.s. (contains: hydrotreated heavy naphtha), 3, PG III, ERG# 3L
	<b>LABELS REQUIRED</b>	Flammable liquid
<b>IMDG</b>	<b>SHIPPING NAME</b>	UN1993 Flammable liquid, n.o.s. (contains: hydrotreated heavy naphtha), 3, PG III, FP >39C (>102F), EMS# F-E, S-E
	<b>LABELS REQUIRED</b>	Flammable liquid

## 15. REGULATORY INFORMATION

**CERCLA SECTION 103 (40CFR302.4)**  
 This product does not contain any chemicals that are reportable to the National Response Center under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

**SARA SECTION 302 (40CFR355.30), SARA SECTION 304 (40CFR355.40)**  
 This product does not contain any chemicals that require emergency planning based on Threshold Planning Quantities (TPQ) or release reporting based on Reportable Quantities (RQ).

**SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21)**

ACUTE	CHRONIC	FIRE	REACTIVE	PRESSURE
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**SARA SECTION 313 (40CFR372.65)**  
 This product does not contain any chemicals subject to the reporting requirements of the Emergency Planning and Community Right-to-Know Act of 1986.

**CHEMICAL INVENTORIES**  
 The ingredients of this product are all on the following Chemical Substance Inventories, are exempt from the Inventories, or are otherwise compliant with inventory requirements of the governing agency.

TSCA <input checked="" type="checkbox"/> U.S.	EINECS <input checked="" type="checkbox"/> Europe	DSL/NDL <input checked="" type="checkbox"/> Canada	AICS <input checked="" type="checkbox"/> Australia	ECL <input checked="" type="checkbox"/> Korea	MITI/ENCS <input checked="" type="checkbox"/> Japan	PICCS <input checked="" type="checkbox"/> Philippines
IECSC <input checked="" type="checkbox"/> China	NZIoC <input checked="" type="checkbox"/> New Zealand					

**CALIFORNIA PROPOSITION 65**  
 This product contains ethylbenzene which is known by the State of California to cause cancer.

**STATE RIGHT-TO-KNOW**  
 For additional information on components that require listing for compliance with State Right-to-Know regulations, contact Troy Chemical Corporation.

## 16. OTHER

**REVISIONS**      Prepared by: Environmental and Regulatory Affairs Dept.  
 This MSDS has been revised in the following sections: (revisions indicated in left border)  
 Sect. 12 (Ecological Information), Sect. 14 (Remove Marine Pollutant)

**ABBREVIATIONS**

PNOC - Particulates not otherwise classified	PNOR - Particulates not otherwise regulated
STEL - Short-term exposure limit	TLV - Threshold limit value
	TWA - Time-weighted average

HMIS RATING				NFPA RATING		
HEALTH	FLAMMABILITY	REACTIVITY	PERSONAL PROTECTION	HEALTH	FLAMMABILITY	REACTIVITY
2*	2	0	H	2	2	0

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