Material Safety Data Sheet

Issuing Date 11/9/2011 **Revision Number** 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name **ACID-ZIRCONYL-SPADNS REAGENT**

Product Code(s) 3875

Recommended Use Test kit reagent. Industrial (not for food or food contact use). Laboratory chemicals.

Company

LaMotte Company, Inc.
802 Washington Avenue
P.O. Box 329
Chestertown, MD 21620
USA

Emergency Telephone Number

24 Hour Emergency Number (CHEM-TEL):
USA, Canada, Puerto Rico 1-800-255-3924
Outside North American Continent (Call collect) 813-248-0585

2. HAZARDS IDENTIFICATION

DANGER! POISON!

Emergency Overview

Corrosive
Liquid and mist can cause severe burns to all body tissue
Harmful or fatal if swallowed
Inhalation may cause coughing, chest pains, damage to lungs

Appearance Dark red **Physical State** Liquid **Odor** Slight chlorine

Potential Health Effects

Principle Routes of Exposure Inhalation, skin contact, and ingestion

Acute Toxicity

Eyes Corrosive to the eyes and may cause severe damage including blindness.

Skin Can cause redness, pain, and severe skin burns . May discolor the skin. Harmful if absorbed through skin.

Inhalation Can be extremely destructive to tissues of the mucous membranes and upper respiratory tract. Can cause burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting.

Ingestion Can burn mouth, throat, stomach, and GI tract. Can cause immediate pain and burning in the mouth, throat, esphogus and GI tract. May cause nausea, vomiting, and diarrhea, and in severe cases death.

Chronic Effects

Chronic exposure to corrosive mists or vapors may cause erosion of the teeth Repeated exposure may cause damage to the tissues of the mucous membranes, respiratory tract, eyes, and skin

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Zirconium, dichlorooxo-, octahydrate	13520-92-8	<0.02
2,7-Naphthalenedisulfonic acid, 4,5-dihydroxy-3-[(4-sulfophenyl)azo]-, trisodium salt	23647-14-5	<0.2
Hydrochloric acid	7647-01-0	10-20
Water	7732-18-5	to 100%

4. FIRST AID MEASURES

General Advice Show this safety data sheet to the doctor in attendance. Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapors/spray.

Eye Contact Immediately flush eyes with gentle stream of water for at least 15 minutes, occasionally lifting upper and lower eyelids. Call a physician immediately. Immediate medical attention is required.

Skin Contact Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Excess acid on skin can be neutralized with a 2% solution of sodium bicarbonate in water. Call a physician immediately. Immediate medical attention is required.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and contact emergency personnel. Call a physician immediately.

Ingestion Call a physician immediately. DO NOT INDUCE VOMITING. If spontaneous vomiting occurs, place the victim's head below knee level.

Protection of First-aiders Use personal protective equipment. See Section 8 for more detail. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

5. FIRE-FIGHTING MEASURES

Flammable Properties Not flammable.
Flash Point Not applicable

Suitable Extinguishing Media Dry chemical, CO_2, water spray or alcohol-resistant foam.

Explosion Data

Specific Hazards Arising from the Chemical

Contact with most metals causes the formation of explosive and flammable hydrogen gas. Thermal decomposition can lead to release of toxic and corrosive gases/vapors.

NFPA	**Health Hazard** 3	**Flammability** 0	**Stability** 0	**Physical and Chemical Hazards** -
HMIS	**Health Hazard** 3	**Flammability** 0	**Stability** 2	

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Ensure adequate ventilation. Use personal protective equipment. Refer to Section 8. Avoid contact with skin, eyes and inhalation of vapors.

Methods for Cleaning Up Neutralize spill with alkaline material (sodium bicarbonate), being careful to prevent splattering, then containerize slurry and hold for later disposal. If local regulations permit, dilute slurry with water and rinse to drain with excess water. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Handling Handle in accordance with good industrial hygiene and safety practice. Prevent contact with skin, eyes, and clothing. Do not ingest. Do not eat, drink, or smoke when using this product. When diluting always add acid to water, NEVER add water to acid.

Storage Keep containers tightly closed in a dry, cool, and well-ventilated place. Store away from strong bases or metals. Keep away from heat and incompatibles. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Zirconium, dichlorooxo-, octahydrate 13520-92-8	= 10 mg/m³ STEL TWA: 5 mg/m³	TWA: 5 mg/m³	IDLH: 50 mg/m³ except Zirconium tetrachloride TWA: 5 mg/m³ STEL: 10 mg/m³
2,7-Naphthalenedisulfonic acid, 4,5-dihydroxy-3-[(4-sulfophenyl)azo]-, trisodium salt 23647-14-5	None Known	None Known	None Known
Hydrochloric acid 7647-01-0	None Known	Ceiling 5 ppm (7mg/m³)	IDLH: 50 ppm Ceiling: 7 mg/m³ Ceiling: 5 ppm
Water 7732-18-5	None Known	None Known	None Known

NIOSH IDLH: Immediately Dangerous to Life or Health

Engineering Measures Showers, eyewash stations, and ventilation systems. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/Face Protection Safety glasses with side-shields. If splashes are likely to occur, wear:. Face-shield. Maintain eye wash and quick drench shower facilities in work area.

Skin and Body Protection Wear protective gloves/clothing. Nitrile rubber. Gloves & Lab Coat. Chemical resistant apron.

Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Dark red	**Odor**	Slight chlorine
Physical State	Liquid	**pH**	<1
Flash Point	Not applicable	**Autoignition Temperature**	Not applicable
Boiling Point/Range	No data available		
Freezing Point	No information available		
		Flammability Limits in Air	Not applicable
Explosion Limits	Not applicable		
Vapor Pressure	No information available	**Vapor Density**	No information available

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions of use and storage.

Incompatible Products Strong bases. Metals. Strong oxidizing agents. Strong reducing agents. Amines. Cyanides. Sulfides. Formaldehyde.

Conditions to Avoid Excessive heat. Incompatible products. Direct sunlight.

Hazardous Decomposition Products Hydrogen chloride. Chlorine gas.

Hazardous Reactions Thermal oxidative decomposition produces toxic chlorine gas and flammable hydrogen gas. May react with metals to produce flammable hydrogen gas.

Hazardous Polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Zirconium, dichlorooxo-, octahydrate	None Known	None Known	None Known
2,7-Naphthalenedisulfonic acid, 4,5-dihydroxy-3-[(4-sulfophenyl)azo] -, trisodium salt	None Known	None Known	None Known
Hydrochloric acid	700 mg/kg (Rat)	5010 mg/kg (Rabbit)	3124 ppm (Rat) 1 h
Water	90 mL/kg (Rat)	None Known	None Known

Chronic Toxicity

Chronic Toxicity Chronic exposure to corrosive mists or vapors may cause erosion of the teeth. Repeated exposure may cause damage to the tissues of the mucous membranes, respiratory tract, eyes, and skin.

Carcinogenicity Hydrochloric acid is classified by IARC as Group 3 - not classifiable as to its carcinogenicity to humans. Hydrochloric acid is classified by ACGIH as A4 - Not classifiable as a human carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Zirconium, dichlorooxo-, octahydrate	None Known	None Known	None Known	None Known

2,7-Naphthalenedisulfonic acid, 4,5-dihydroxy-3-[(4-sulfophenyl)azo]-, trisodium salt	None Known	None Known	None Known	None Known
Hydrochloric acid	None Known	None Known	None Known	None Known
Water	None Known	None Known	None Known	None Known

Endocrine Disruptor Information .

Chemical Name	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Zirconium, dichlorooxo-, octahydrate	None Known	None Known	None Known
2,7-Naphthalenedisulfonic acid, 4,5-dihydroxy-3-[(4-sulfophenyl)azo]-, trisodium salt	None Known	None Known	None Known
Hydrochloric acid	None Known	None Known	None Known
Water	None Known	None Known	None Known

12. ECOLOGICAL INFORMATION

Ecotoxicity

Concentrated Hydrochloric acid may be toxic to aquatic life.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Zirconium, dichlorooxo-, octahydrate	None Known	None Known	None Known	None Known
2,7-Naphthalenedisulfonic acid, 4,5-dihydroxy-3-[(4-sulfophenyl)azo]-, trisodium salt	None Known	None Known	None Known	None Known
Hydrochloric acid	None Known	LC50= 282 mg/L Gambusia affinis 96 h	None Known	None Known
Water	None Known	None Known	None Known	None Known

Persistence and Degradability No product level data available.

Chemical Name	Log Pow
Zirconium, dichlorooxo-, octahydrate	None Known
2,7-Naphthalenedisulfonic acid, 4,5-dihydroxy-3-[(4-sulfophenyl)azo]-, trisodium salt	None Known
Hydrochloric acid	None Known
Water	None Known

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method Dispose according to federal, state, and local regulations. If permitted, neutralize reagent with sodium bicarbonate/sodium carbonate, add slurry to large volume of water to dilute, rinse to drain with excess water.

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Zirconium, dichlorooxo-, octahydrate - 13520-92-8	None Known	None Known	None Known	None Known
2,7-Naphthalenedisulfonic acid, 4,5-dihydroxy-3-[(4-sulfophenyl)azo]-, trisodium salt - 23647-14-5	None Known	None Known	None Known	None Known
Hydrochloric acid - 7647-01-0	None Known	None Known	None Known	None Known
Water - 7732-18-5	None Known	None Known	None Known	None Known

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name	HYDROCHLORIC ACID
Hazard Class	8
UN-No	1789
Packing Group	II
Reportable Quantity (RQ)	5000

IATA

UN-No	1789
Proper Shipping Name	HYDROCHLORIC ACID SOLUTION
Hazard Class	8
Packing Group	II

IMDG/IMO

Proper Shipping Name	HYDROCHLORIC ACID SOLUTION
Hazard Class	8
UN-No	1789
Packing Group	II

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Zirconium, dichlorooxo-, octahydrate 13520-92-8 (<0.02)	TSCA	DSL	EINECS/ELINCS	ENCS	X	KECL	X	X
2,7-Naphthalenedisulfonic acid, 4,5-dihydroxy-3-[(4-sulfophenyl)azo]-, trisodium salt 23647-14-5 (<0.2)	Present	X	X	ENCS	X	KECL	X	X
Hydrochloric acid 7647-01-0 (10-20)	T	X	X	X	X	KE-20189 X	X	X
Water 7732-18-5 (to 100%)	Present	X	X	ENCS	X	KE-35400	X	X

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Zirconium, dichlorooxo-, octahydrate	13520-92-8	<0.02	None Known
2,7-Naphthalenedisulfonic acid, 4,5-dihydroxy-3-[(4-sulfophenyl)azo]-, trisodium salt	23647-14-5	<0.2	None Known
Hydrochloric acid	7647-01-0	10-20	1.0
Water	7732-18-5	to 100%	None Known

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Zirconium, dichlorooxo-, octahydrate 13520-92-8 (<0.02)	None Known	None Known	None Known	None Known
2,7-Naphthalenedisulfonic acid, 4,5-dihydroxy-3-[(4-sulfophenyl)azo]-, trisodium salt 23647-14-5 (<0.2)	None Known	None Known	None Known	None Known
Hydrochloric acid 7647-01-0 (10-20)	5000 lb	None Known	None Known	X
Water 7732-18-5 (to 100%)	None Known	None Known	None Known	None Known

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following HAPs: .

Chemical Name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Zirconium, dichlorooxo-, octahydrate	13520-92-8	<0.02	None Known	None Known	None Known	None Known
2,7-Naphthalenedisulfonic acid, 4,5-dihydroxy-3-[(4-sulfophenyl)azo]-, trisodium salt	23647-14-5	<0.2	None Known	None Known	None Known	None Known
Hydrochloric acid	7647-01-0	10-20	Present	None Known	None Known	None Known
Water	7732-18-5	to 100%	None Known	None Known	None Known	None Known

CERCLA

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Zirconium, dichlorooxo-, octahydrate	None Known	None Known
2,7-Naphthalenedisulfonic acid, 4,5-dihydroxy-3-[(4-sulfophenyl)azo]-, trisodium salt	None Known	None Known
Hydrochloric acid	5000 lb	5000 lb
Water	None Known	None Known

U.S. State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

Chemical Name	CAS-No	California Prop. 65
Zirconium, dichlorooxo-, octahydrate	13520-92-8	None Known
2,7-Naphthalenedisulfonic acid, 4,5-dihydroxy-3-[(4-sulfophenyl)azo]-, trisodium salt	23647-14-5	None Known
Hydrochloric acid	7647-01-0	None Known
Water	7732-18-5	None Known

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Zirconium, dichlorooxo-, octahydrate	None Known	None Known	None Known	None Known	X
2,7-Naphthalenedisulfonic acid, 4,5-dihydroxy-3-[(4-sulfophenyl)azo]-, trisodium salt	None Known	None Known	None Known	None Known	None Known
Hydrochloric acid	X	X	X	X	X
Water	None Known	None Known	None Known	None Known	None Known

International Regulations

Mexico - Grade

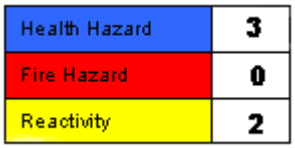
Chemical Name	Carcinogen Status	Exposure Limits
Zirconium, dichlorooxo-, octahydrate	None Known	Mexico: TWA= 5 mg/m^3
2,7-Naphthalenedisulfonic acid, 4,5-dihydroxy-3-[(4-sulfophenyl)azo]-, trisodium salt	None Known	None Known
Hydrochloric acid	None Known	None Known
Water	None Known	None Known

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Component	WHMIS Hazard Class
Zirconium, dichlorooxo-, octahydrate 13520-92-8 (<0.02)	1 % Uncontrolled product according to WHMIS classification criteria
2,7-Naphthalenedisulfonic acid, 4,5-dihydroxy-3-[(4-sulfophenyl)azo]-, trisodium salt 23647-14-5 (<0.2)	Uncontrolled product according to WHMIS classification criteria
Hydrochloric acid 7647-01-0 (10-20)	1 % A D1A E D1B E D1A E
Water 7732-18-5 (to 100%)	Uncontrolled product according to WHMIS classification criteria

16. OTHER INFORMATION

NFPA	HMIS	PPE	Transport Symbol
			

Prepared By Regulatory Affairs Department

Issuing Date 11/9/2011

Revision Date 10-Nov-2011

Revision Note
Initial Release

Disclaimer
The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS