



I. Product and Company Information

SII Product Name(s):	Zirconic® HS	Synonym:	
Chemical Name:	Zirconium Sulfate Solution	CAS Number:	14644-61-2
Manufacturer's Name: Southern Ionics Incorporated 579 Commerce Street West Point, MS 39773 Customer Service: 1-800-953-3585 Web Site www.southernionics.com	Emergency Contacts: Afterhours (Southern Ionics) 1-888-610-2379 For Chemical Emergency, Spill or Accident Call CHEMTREC at 1-800-424-9300 CHEMTREC CCN - 20596		

II. Hazard Identification

OSHA HCS / GHS Classification(s):	Hazard Statement(s):		
Corrosive to Metals, Category 1	May be corrosive to metals.		
Serious Eye Damage, Category 1	Causes severe eye damage.		
Skin Corrosion, Category 1	Causes severe skin burns.		
Specific Target Organ Systemic Toxicity - single exposure, Category 3, Respiratory system	May cause respiratory irritation.		
Acute Aquatic Hazard, Category 3	Harmful to aquatic life.		
Signal Word:	Precautionary Statement(s):		
Danger	Prevention:	Wear protective gloves, clothing, eye, and face protection.	
GHS Symbol(s): 		Wash affected body part thoroughly after handling.	
		Avoid breathing mist and vapors.	
		Use in well-ventilated areas.	
		Keep in original container.	
		Avoid release to the environment.	
	Response:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.	
IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water.			
IF INHALED: Remove victim to fresh air and keep comfortable for breathing.			
IF SWALLOWED: Rinse mouth. Do not induce vomiting.			
Immediately call a POISON CENTER or doctor/ physician.			
	Wash contaminated clothing before reuse.		

III. Composition / Information on Ingredients

Chemical Name:	CAS Reg #'s	%
Zirconium Basic Sulfate	62010-10-0	40 - 60
Sulfuric Acid	7664-93-9	10 - 20
Water	7732-18-5	Balance

IV. First Aid Measures

Eyes:	Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Remove any contact lenses. Seek medical attention.
Dermal / Skin:	Remove contaminated clothing and wash exposed area thoroughly with soap and water. Seek medical attention, if you feel unwell.
Inhalation:	Move to fresh air immediately. If breathing is difficult, give oxygen. Seek medical attention, if you feel unwell.
Ingestion:	If swallowed, DO NOT induce vomiting. Rinse mouth. Seek medical attention, if you feel unwell.

V. Fire Fighting Measures

NFPA Hazard Rating:	Health (Blue)	Fire (Red)	Reactivity (Yellow)	Special Instructions (White)
	3	0	2	None
NFPA Hazard Classification: 0 = Least 1 = Slight 2 = Moderate 3 = High 4 = Extreme				
Extinguishing Media:	Use extinguishing media appropriate for surrounding fire.			
Special Firefighting Procedure:	This solution is acidic and corrosive to skin, eyes, and mucous membranes. Wear NIOSH-approved self-contained breathing apparatus (SCBA).			

VI. Accidental Release Measures

Precaution if Spilled or Released:	Steps should be taken to contain spilled liquids and prevent discharges to streams or sewer systems.
Neutralizing Chemicals:	Neutralize with appropriate alkali, such as sodium hydroxide or soda ash, to a neutral pH.

VII. Handling and Storage

Handling:	Handle all chemicals with respect. Keep separated from incompatible substances. Handle only with equipment, materials, and supplies specified by their manufacturer as being compatible and appropriate for use with this product.
Storage:	Store at appropriate temperature to protect from freezing or crystallization. Consult the appropriate SII Product Bulletin for temperature recommendations. Do not store this material near food, animal feed or drinking water. Store in well-ventilated area. Store away from excessive heat and from reactive materials. Keep container tightly closed when not in use.

VIII. Exposure Control / Personal Protective Equipment

Component Workplace Control Parameters:				
Components:	CAS-No.	Value	Parameters	Basis
Zirconium Sulfate	14644-61-2	TWA	5 mg/m ³	OSHA as Zirconium
Sulfuric Acid	7664-93-9	TWA	1 mg/m ³	OSHA
Engineering Controls:	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.			
General Hygiene:	Practice good personal hygiene after using this material, especially before eating, drinking, smoking, or using the toilet.			
Personal Protection Equipment:				
Eye:	Use chemical splash goggles and face shield. Eye protection worn must be compatible with respiratory protection system if employed.			
Skin:	Chemically resistant gloves, clothing, and footwear should be worn whenever this material is handled.			
Respiratory:	None required under normal conditions. When conditions warrant a respirator, use NIOSH approved respirator.			

Other Protective Items:	Where splash is possible, full chemically resistant protective clothing and boots are required. Ensure that eyewash stations and safety showers are proximal to the work location.			
HMIS Classification:	Health (Blue)	Flammability (Red)	Physical Hazard (Yellow)	PPE (White)
	3	0	2	See PPE
Hazard Classification: 0 = Minimal 1= Slight 2 = Moderate 3 = Serious 4 = Severe				

IX. Physical and Chemical Properties

Physical State:	Liquid	pH:	Less than 1.0
Appearance:	Clear	Molecular Weight:	Not Determined
Odor:	slight acidic	Odor Threshold:	Not Available
Specific Gravity:(H₂O=1)	1.40 -1.60 @ 60°F (15.6°C)	Weight per Gallon:	11.6 - 13.4 lbs. @ 60°F (15.6°C)
Vapor Density: (Air=1)	Heavier than air	Vapor Pressure:	Less than 450 mm Hg at 86°F (30°C)
Boiling Point:	213.8°F (101°C)	Freezing/Melting Point:	5°F (-20°C)
Lower Explosive Limit:	Not Applicable	Upper Explosive Limit:	Not Applicable
Flash Point:	Not Applicable	Autoignition Temp:	Not Applicable
Solubility in water:	Miscible in water	:	
Other:			

X. Stability and Reactivity Data

Chemical Stability:	Product is stable under normal or expected use.
Conditions To Avoid:	Avoid exposure to excessive heat. Heating will liberate sulfuric acid mist and sulfur dioxide gas.
Incompatible Materials:	Avoid contact with combustible materials, carbides, chlorates, nitrates, fulminates, picrates, metallic powders, sulfides, strong reducing agents, or strong alkalis.
Hazardous Products of Decomposition:	Thermal decomposition may yield the following: Sulfur Trioxide.

XI. Toxicological Information

Routes of Entry:	<input checked="" type="checkbox"/> Eyes <input checked="" type="checkbox"/> Skin <input checked="" type="checkbox"/> Ingestion <input checked="" type="checkbox"/> Inhalation					
Sign and symptoms of Exposure:	May cause irritation to eyes, skin, and respiratory passages					
Eye Contact:	Causes severe eye damage.					
Ingestion:	May be harmful if swallowed.					
Skin Contact:	Causes severe skin burns.					
Inhalation:	May be harmful if inhaled. May cause respiratory tract irritation.					
Carcinogenicity: Sulfuric Acid (mist)¹	IARC	Group 1	NPT	Known	OSHA	No
Ingredient Name:	Species	Test	Route	Results		
Sulfuric acid	Rat	2140 mg/kg	oral	LD50		
Zirconium Sulfate	Rat	3500 mg/kg	oral	LD50		
Comments:	¹ An increased risk of cancer in humans has been shown in work-place based studies. This hazard is related to exposure to strong inorganic acid mist and not the acid solution.					

XII. Ecological Information

Ingredient Name:	Species	Test	Period	Results
Sulfuric Acid	Daphnia magna	>16 <28 mg/L	48 hours	LC50
Zirconium Sulfate ²	Flathead minnow	14 mg/L	96 hours	LC50
Zirconium Sulfate ³	Flathead minnow	145 mg/L	96 hours	LC50

Comments:	² This information was based on water hardness of 20. This result is being used for the GHS classification of this material.
	³ This information was based on a water hardness of 400.

XIII. Disposal Considerations

Waste Disposal:	Always dispose of material in accordance with local, state, and federal regulations.
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XIV. Transportation Information

Proper Shipping Name:	Corrosive Liquid, Acidic, Inorganic, n.o.s. (Zirconium Sulfate Solution)		
DOT Classification:	8		
Identification Number:	3264	Packing Group:	II
Other Labels:	Corrosive		
Comments:			

XV. Regulatory Information

Inventory Status:		US Regulations:	
U. S. TSCA	Yes	SARA 302 TPQ	Not Listed
Europe EINECS	Yes	SARA 304 RQ	Not Listed
Canadian DSL	Yes	SARA 313 List	Not Listed
Japan ENCS	Yes	CERCLA (RQ)	5,000 lbs.
Korean KECI	Yes	RCRA 261.33	Not Listed
Philippines PICCS	Yes		
Australian AICS	Yes		
China IECSC	Yes	SARA 311/312	<input checked="" type="checkbox"/> Acute <input type="checkbox"/> Chronic <input type="checkbox"/> Fire <input type="checkbox"/> Release of Pressure <input checked="" type="checkbox"/> Reactive
International Regulations:		Other Regulations:	
Canada WHMIS	Not Listed	California PROP 65	Yes (Acid mist)
EINECS	238-694-4		
Comments:			

XVI. Other Information

NSF Certification:	
Other:	_____
Revision Notes:	_____
MSDS Replacements	<u>SII MSDS 019 Zirconic® HS</u>

SALES OFFICE

For Product Information:
 TEL: 662-494-3055
 FAX: 662-494-2828

Post Office Drawer 1217
 West Point, MS 39773

To Place An Order:
 TEL: 800-953-3585
 FAX: 800-953-3588

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