

## GELEST, INC.

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MATERIAL SAFETY  
DATA SHEET

EMERGENCY TELEPHONE  
CHEMTREC: 1-800-424-9300

NAME USED ON LABEL: **ZIRCONIUM n-PROPOXIDE 70% - AKZ975**

CHEMICAL NAME: ZIRCONIUM n-PROPOXIDE 70% in n-PROPANOL

SYNONYMS: ZIRCONIUM PROPYLATE, TETRAPROPYL ZIRCONATE

CHEMICAL FAMILY: ZIRCONIUM ALKOXIDE

FORMULA:  $C_{12}H_{28}O_4Zr$

HMIS CODES HEALTH: 2 FLAMMABILITY: 3 REACTIVITY: 1

### INGREDIENTS

IDENTITY	CAS NO.	%	TLV	OSHA PEL
ZIRCONIUM n-PROPOXIDE	23519-77-9	>65	not established	
n-PROPANOL	71-23-8	>25	(Zr = TWA: 5mg/m <sup>3</sup> ) TWA: 200ppm (skin) STEL: 250ppm(skin)	5mg/m <sup>3</sup> 200ppm 250ppm

### PHYSICAL DATA

Boiling Point: 97°C - initial (n-propanol)

for pure compound: 208°C/0.1mm

Melting Point: NA

Specific Gravity: 1.05-1.07

Vapor Pressure, 25°: 15mm

Vapor Density: 2.1 (n-propanol)

Solubility in water: reacts

% volatiles: >30%

Evaporation rate: NA

Molecular Weight: 327.56

Appearance & Color: Light amber liquid, characteristic odor

### FIRE & EXPLOSION DATA

Flash Point, COC: 23°C (73°F)

Autoignition Temp.: not determined

Flammability Limits-(n-propanol) LEL: 2.2% UEL: 13.7%

Extinguishing Media: Water spray, foam, carbon dioxide, dry chemical.

Special Fire Fighting Procedures: Avoid eye and skin contact. Do not breathe fumes or inhale vapors.

Unusual Fire and Explosion Hazards: Irritating fumes and organic acid vapors may develop when material is exposed to elevated temperatures or open flame.

## ENVIRONMENTAL INFORMATION

Spill response: Sweep material and transfer to a suitable container for disposal.

Recommended Disposal: Absorb onto clay or vermiculite. Dispose of as solid waste. Follow all chemical pollution control regulations.

## HEALTH HAZARD DATA

NOTE: Material may form zirconium oxides or zirconate polymers on the skin, eyes or in the lungs. Prolonged exposure to zirconium compounds can induce formation of granulomatous lesions in the lungs or on the skin.

Eye Contact: May cause immediate or delayed severe eye irritation.

Skin contact: May produce irritation or contact dermatitis. Prompt and thorough washing with soap and water will reduce or eliminate potential dermal effects.

Inhalation: Inhalation may irritate the respiratory tract.

Oral Toxicity: not determined: (n-propanol: orl-wmn, LDLo: 5700mg/kg; orl-rat, LD50: 1870mg/kg)

Chronic Toxicity: not determined

## SUGGESTED FIRST AID

EYES: In case of contact, immediately flush eyes with flowing water for at least 15 minutes. Get medical attention.

SKIN: Flush with water, then wash with soap and water.

INHALATION: Move exposed individual to fresh air. Administer oxygen if needed. Call a physician.

INGESTION: Never give fluids or induce vomiting if patient is unconscious or having convulsions. Get medical attention.

## REACTIVITY DATA

Stability: Stable

Conditions to avoid: Material decomposes slowly in contact with water.

Hazardous decomposition products: Organic acid vapors and zirconium oxide fumes.

## **SPECIAL PROTECTION INFORMATION**

Ventilation: Local exhaust is required. Mechanical is recommended.

Respiratory Protection: If exposure exceeds TLV, NIOSH approved dust and mist respirator.

Eye and Face Protection: Chemical worker's goggles. Do not wear contact lenses.

Other Clothing and Equipment: Rubber, neoprene or nitrile gloves. An eyewash and emergency shower should be available. Launder clothing before reuse.

## **OTHER PRECAUTIONS**

For research and industrial use only.

Storage and Handling: Store in sealed containers.

## **TRANSPORTATION**

DOT SHIPPING NAME: n-PROPANOL SOLUTION

DOT HAZARD CLASS: 3

DOT LABEL: FLAMMABLE LIQUID

DOT ID No: UN1274

PG: II

Prepared by safety and environmental affairs    ISSUE DATE AKZ975: 1/20/04  
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