

## SAFETY DATA SHEET

### ITEM# 78-046-Z/O ZIRCONIUM OXIDE COATING

#### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier** 78-046-Z/O  
**Product Name** Zirconium Oxide Coating  
**Product Code**

**Safety Data Sheet Supplier Information:** Romanoff International Supply Corporation  
9 Deforest Street  
Amityville, NY 11701 US  
Tel: 631-842-2400

#### Emergency Telephone Number

CHEMTEL, ACCOUNT #MIS4594445 COLLECT CALLS ACCEPTED  
USA, CANADA 1-800-255-3924 AUSTRALIA: 1-300-954-583 BRAZIL:  
0-800-591-6042 CHINA: 400-120-0751 INDIA: 000-800-100-4086  
MEXICO: 01-800-099-0731  
ALL OTHER COUNTRIES: 1-813-248-0585

#### 2. HAZARDS IDENTIFICATION

##### GHS CLASSIFICATION:

##### SIGNAL WORD

Danger

##### SYMBOL(S)



##### PRIMARY ROUTES OF EXPOSURE

Inhalation and contact to the eyes.

##### HAZARD STATEMENTS

Eye corrosion	Category 1	H318	Causes serious eye damage.
Inhalation	Category 4	H332	Harmful if inhaled.
STOT:SE	Category 3	H335	May cause respiratory irritation.

##### PRECAUTIONARY STATEMENT(S)

P261	Avoid breathing in dust / fume / gas / mist / vapors / spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear eye protection / face protection.
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or a doctor / physician.
P312	Call a POISON CENTER or doctor / physician if you feel unwell.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents / container in accordance with local / regional / national / international regulations.

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Health 1  
Fire 0  
Reactivity 0



## 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Hazard Components		Wt.%
	Identifiers		
Zirconium Oxide	CAS No.	1314-23-4	65-70
Water	CAS No.	7732-18-5	30-35
Aluminum Oxide	CAS No.	1318-23-6	1-5

## 4. FIRST AID MEASURES

<b>EYES</b>	Flush eyes, including under the eyelids, with large amounts of water. If irritation persists, seek medical attention.
<b>SKIN</b>	Wash thoroughly with mild soap and water.
<b>INGESTION</b>	Give copious amounts of water and seek medical attention.
<b>INHALATION</b>	Remove to fresh air. Seek medical attention if symptoms persist.

## 5. FIRE FIGHTING MEASURES

<b>Extinguishing Media</b>	This water-based refractory coating is non-combustible. Use extinguishing media appropriate to the surrounding fire.
<b>Flammability Classification</b>	Non-flammable.
<b>Special Hazards Arising from the Chemical</b>	Upon initial exposure to high temperatures, small amounts of nitric oxide fumes will be emitted which can be corrosive to the upper respiratory system.
<b>Hazardous Combustion Products</b>	Oxides of nitrogen in small amounts.
<b>Specific Protective Equipment and Precautions (Firefighters)</b>	As in any fire, wear self-contained breathing apparatus (SCBA), NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions, Protective Equipment and Emergency</b>	Clean up personnel should wear rubber gloves and goggles to prevent irritation from contact.
<b>Procedures</b>	Contain the spill using a mineral absorbent. It can be readily neutralized using agents such as lime or sodium carbonate.
<b>Environmental Precautions</b>	Do not allow product to reach sewage system or any water course.
<b>Methods and Materials For Containment and Cleaning Up</b>	No special measures are required; refer to environmental and personal precautions, and other sections of this document.

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### 7. HANDLING AND STORAGE

#### SAFE HANDLING PRECAUTIONS

Practice good housekeeping. Personnel should wear the appropriate equipment when handling the paint in order to minimize contact / exposure.

#### SAFE STORAGE PRECAUTIONS

Store in the original container. Do not store in metal containers since the nitric acid component may be corrosive to the container.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### Exposure Limits / Guidelines

#### Engineering Measures / Controls

Provide adequate ventilation to control dust or vapors below the regulated exposure limits (PEL and TLV).

#### Personal Protective Equipment

Protective clothing should be selected specifically for the workplace, depending on the concentration and quality of the hazardous substances handled. The chemical resistance of the protective gear should be inquired from the respective supplier.

#### Respiratory

An appropriate NIOSH-approved respirator must be worn if exposure is likely to exceed the lowest TLV / PEL rated regulations.

#### Eye / Face

Safety goggles or side shielded safety glasses are recommended for any type of industrial handling.

#### Hands

Use impervious gloves.

#### Skin / Body

Normal work clothing. Note that long sleeved shirts, long pants, and gloves are recommended.

#### Exposure Guidelines

##### Zirconium Oxide

Guideline ACGIH (TLV): None established (treat as nuisance dust)  
 10 mg / m<sup>3</sup> (Total dust)  
 5 mg / m<sup>3</sup> (Respirable fraction)

Guideline OSHA (PEL): None established (treat as nuisance dust)  
 15 mg / m<sup>3</sup> (Total dust)  
 5 mg / m<sup>3</sup> (Respirable fraction)

##### Aluminum Oxide

Guideline ACGIH (TLV): 1 mg / m<sup>3</sup> (Respirable fraction)  
 Guideline OSHA (PEL): 15 mg / m<sup>3</sup>

##### Nitric Acid

Guideline ACGIH (TLV): 2 ppm (5.2 mg / m<sup>3</sup>)  
 Guideline OSHA (PEL): 2 ppm (5 mg / m<sup>3</sup>)

### 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid	Odor	Nearly odorless
Color	Cream	Vapor Pressure	10-20 mmHg
Specific Gravity	2.25 g / cc	Vapor Density	Greater than air (Air=1)
pH	1-3	Solubility in Water	Dilutable
Viscosity	2700 – 3700 cps	Freezing Point	-1° C (30° F)
Melting Point	Not determined	Boiling Point	100° C (212° F)
VOC Content	0 g / L	Percent Volatile	30% - 35%
Molecular Weight	n. ap.	Flash Point	None, no flash observed
Evaporation Rate	Similar to water	Flash Point Method	n. ap.



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### 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	This refractory coating is stable under all normal conditions of storage. Hazardous polymerization will not occur.
<b>Incompatible Materials</b>	Do not mix with alcohol. As a good practice, do not mix with any other materials.
<b>Conditions To Avoid</b>	None known.
<b>Hazardous Decomposition Products</b>	None known.

### 11. TOXICOLOGICAL INFORMATION

<b>Route(s) Of Entry / Exposure</b>	Note all values are calculated in accordance with OSHA 29CFR §1910 for mixtures.
<b>Ingestion</b>	LD <sub>50</sub> Oral - rat: 2074 mg / kg
<b>Skin Absorption</b>	LD <sub>50</sub> Dermal – rat: 2028 mg / kg
<b>Inhalation</b>	LC <sub>50</sub> Inhalation – rat (per 4 hours): 18.90 mg / L
<b>Eye Contact</b>	Corrosive burns after prolonged contact.
<b>Skin Contact</b>	Possible mild skin inflammation.
<b>Effects of Acute Exposure</b>	See sections above for eye contact, skin contact, ingestion, and inhalation.
<b>Effects of Chronic Exposure</b>	Excessive inhalation of dust above the TLV and PEL of dried material over long periods of time may cause respiratory problems.
<b>Exposure Limits</b>	
<b>NTP</b>	No ingredient of this product is present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed carcinogen by NTP.
<b>IARC</b>	No ingredient of this product is present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed carcinogen by IARC.
<b>ACGIH</b>	No ingredient of this product is present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed carcinogen by ACGIH.
<b>OSHA</b>	No ingredient of this product is present at levels greater than or equal to 0.1% is identified as a probable, possible, or confirmed carcinogen by OSHA.
<b>Reproductive Effects</b>	No adverse effect.
<b>Further Information</b>	Quantitative data on this product is not available. No toxic effects are to be expected when this product is handled appropriately.

### 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	Data is lacking and inconclusive for this product.
<b>Persistence / Degradability</b>	Data is lacking and inconclusive for this product.
<b>Bio Accumulative Potential</b>	Data is lacking and inconclusive for this product.
<b>Mobility in Soil</b>	Data is lacking and inconclusive for this product.
<b>Other Adverse Effects</b>	Data is lacking and inconclusive for this product.

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### 13. DISPOSAL CONSIDERATIONS

**Description of Waste**
**Methods of Disposal**

Consult local, state, and federal regulations for compliance. Non-contaminated paint may be returned to the manufacturer for proper disposal. The dried paint generally does not exhibit any characteristics of a hazardous waste.

### 14. TRANSPORT INFORMATION

**UN Number**
**DOT, IMDG, IATA**

n. ap.

**Proper Shipping Name**
**DOT, IMDG, IATA**

n. ap.

**Hazard Class(es)**

DOT – Not Regulated

**DOT, IMDG, IATA**

ICAO / IATA – Not Dangerous or not hazardous goods not restricted for transport by air.

IMDG – Not Regulated

**Packaging Group**

DOT – Not Regulated

**DOT, IMDG, IATA**

ICAO / IATA – Not Dangerous or not hazardous goods not restricted for transport by air.

IMDG – Not Regulated

**Environmental Hazards**
**DOT, IMDG, IATA**

n. ap.

**Special Precautions**
**DOT, IMDG, IATA**

n. ap.

### 15. OTHER REGULATORY INFORMATION

**California Proposition 65 Warnings**

This product does not contain any material or ingredient that the State of California has found to cause cancer which would require a warning under the statute.

**TSCA Inventory**

All substances contained in this product are listed in the Toxic Substances Control Act Chemical Substance Inventory.

**HMIS (USA)**

HEALTH	1
FLAMMABILITY	0
REACTIVITY	0

PERSONAL PROTECTION E

**NFPA (USA)**


Health  
Flammability  
Reactivity  
Specific Hazard

**Protective Equipment**




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### 16. OTHER INFORMATION

**SDS Number:** 4339  
**SDS Revision Number:** 2.1.0  
**SDS Preparation or Revision Date:** March 23, 2015  
**SDS Prepared By:** R. Bowen  
**Date Printed:** March 23, 2015

#### Abbreviations

<b>Not Available</b>	n. av.
<b>Not Applicable</b>	n. ap.
<b>DOT</b>	US Department of Transportation
<b>IATA</b>	International Air Transportation Association
<b>IMDG</b>	International Maritime Code for Dangerous Goods
<b>ICAO</b>	International Civilian Aviation Organization
<b>GHS</b>	Globally Harmonized System of Classification and Labelling of Chemicals
<b>CAS</b>	Chemical Abstract Service
<b>HMIS</b>	Hazardous Materials Identification System (US)
<b>NFPA</b>	National Fire Protection Association (US)
<b>LC50</b>	Lethal concentration, 50 percent
<b>LD50</b>	Lethal dose, 50 percent
<b>STOT</b>	Specific Target Organ Toxicity
<b>RQ</b>	Reportable Quantity
<b>TPQ</b>	Threshold Planning Quantity
<b>CERCLA</b>	Comprehensive Environmental Response, Compensation and Liability Act
<b>SARA</b>	Superfund Amendments and Reauthorization Act
<b>TSCA</b>	Toxic Substances Control Act
<b>RTK</b>	Right to Know
<b>EPCRA</b>	Emergency Planning and Community Right to Know Act
<b>TLV</b>	Threshold Limit Values
<b>PEL</b>	Permissible Exposure Limits

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