

# SAFETY DATA SHEET

## 1. Identification

**Product identifier** ZRC Zero-VOC Water-Based Galvanizing Compound - Powder Component

### Other means of identification

**Product code** 40003

**Recommended use** Paint. Industrial coating.

**Recommended restrictions** None known.

### Manufacturer/Importer/Supplier/Distributor information

**Supplier** KERRY INDUSTRIAL SUPPLIES LTD.

**Address** 5250 FINCH AVE EAST, UNIT 8 & 9  
SCARBOROUGH ON M1S 5A4  
Canada

**Telephone** (416) 291-7106

**Manufacturer Address** ZRC Worldwide  
145 Enterprise Drive  
Marshfield, MA 02050  
United States of America

**Telephone** +1 781-319-0400

**Email** info@zrcworldwide.com

**Emergency telephone** CHEMTREC:  
+1 703-527-3887 (CCN15781)

## 2. Hazard identification

**Physical hazards** Combustible dusts Category 1

**Health hazards** Not classified.

**Environmental hazards** Hazardous to the aquatic environment, acute hazard Category 1

Hazardous to the aquatic environment, long-term hazard Category 1

### Label elements



**Signal word** Warning

**Hazard statement** May form combustible dust concentrations in air. Very toxic to aquatic life with long lasting effects.

### Precautionary statement

**Prevention** Prevent dust accumulation to minimize explosion hazard. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Avoid release to the environment. Observe good industrial hygiene practices.

**Response** Take off contaminated clothing and wash it before reuse. In case of fire: Use special powder against metal fires, dry sand to extinguish. Collect spillage.

**Storage** Not assigned.

**Disposal** Dispose of contents/container in accordance with local/regional/national/international regulations.

**Supplemental information** None.

**Other hazards**

Inhalation of powder or fumes may cause metal fume fever.

**3. Composition/information on ingredients****Mixtures**

Chemical name	Common name and synonyms	CAS number	%
Zinc		7440-66-6	90 - 100
Zinc oxide		1314-13-2	1 - 5

**Composition comments**

The exact concentrations of the above listed chemicals are being withheld as a trade secret. All concentrations are in percent by weight unless otherwise indicated.

**4. First-aid measures****Inhalation**

In case of inhalation of dust: Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact**

Wash off with soap and water. Get medical attention if irritation develops and persists.

**Eye contact**

Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists.

**Ingestion**

Rinse mouth. Get medical attention if symptoms occur.

**Most important symptoms/effects, acute and delayed**

Dusts may irritate the respiratory tract, skin and eyes. Inhalation of powder or fumes may cause metal fume fever.

**Indication of immediate medical attention and special treatment needed**

Treat symptomatically.

**General information**

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

**5. Fire-fighting measures****Suitable extinguishing media**

Special powder against metal fires. Dry sand.  
Apply extinguishing media carefully to avoid creating airborne dust. Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture.

**Unsuitable extinguishing media**

Do not use water as an extinguisher.

**Specific hazards arising from the chemical**

Explosion hazard: Avoid generating dust; fine dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard. During fire, gases hazardous to health may be formed such as: Fumes of metal oxides.

**Special protective equipment and precautions for firefighters**

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions**

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Cool containers exposed to flames with water until well after the fire is out.

**Specific methods**

Use standard firefighting procedures and consider the hazards of other involved materials.

**General fire hazards**

May form combustible dust concentrations in air.

**6. Accidental release measures****Personal precautions, protective equipment and emergency procedures**

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Use only non-sparking tools. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of dust. Wear a respirator if dust is generated above exposure limits. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

## Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Collect dust using a vacuum cleaner equipped with HEPA filter. Prevent product from entering drains. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

## Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

### Precautions for safe handling

Minimise dust generation and accumulation. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Explosion-proof general and local exhaust ventilation. Avoid inhalation of dust. Avoid prolonged exposure. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

### Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Store at temperatures between 0°C/32°F and 43°C/109°F. Store away from incompatible materials (see section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. ACGIH Threshold Limit Values (TLV)

Components	Type	Value	Form
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m <sup>3</sup>	Respirable fraction.
	TWA	2 mg/m <sup>3</sup>	Respirable fraction.
Contains	Type	Value	Form
Dust	TWA	3 mg/m <sup>3</sup>	Respirable particles.
		10 mg/m <sup>3</sup>	Inhalable particles.

#### Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended

Components	Type	Value	Form
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m <sup>3</sup>	Respirable.
	TWA	2 mg/m <sup>3</sup>	Respirable.
Contains	Type	Value	Form
Dust	TWA	3 mg/m <sup>3</sup>	Respirable particles.
		10 mg/m <sup>3</sup>	Total particulate.
		10 mg/m <sup>3</sup>	Total

#### Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m <sup>3</sup>	Respirable.
	TWA	2 mg/m <sup>3</sup>	Respirable.
Contains	Type	Value	Form
Dust	TWA	3 mg/m <sup>3</sup>	Respirable fraction.
		10 mg/m <sup>3</sup>	Total dust.

**Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended**

Components	Type	Value	Form
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable fraction.
	TWA	2 mg/m3	Respirable fraction.
<b>Contains</b>	<b>Type</b>	<b>Value</b>	<b>Form</b>
Dust	TWA	3 mg/m3	Respirable particles.

**Canada. New Brunswick OELs: Threshold Limit Values (TLVs) Based on the 1991 and 1997 ACGIH TLVs and BEIs Publication (New Brunswick Regulation 91-191)**

Components	Type	Value	Form
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable fraction.
	TWA	2 mg/m3	Respirable fraction.

**Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended**

Components	Type	Value	Form
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable fraction.
	TWA	2 mg/m3	Respirable fraction.
<b>Contains</b>	<b>Type</b>	<b>Value</b>	<b>Form</b>
Dust	TWA	3 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.

**Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety)**

Components	Type	Value	Form
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable dust.
	TWA	2 mg/m3	Respirable dust.
<b>Contains</b>	<b>Type</b>	<b>Value</b>	<b>Form</b>
Dust	TWA	10 mg/m3	Total dust.

**Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended**

Components	Type	Value	Form
Zinc oxide (CAS 1314-13-2)	15 minute	10 mg/m3	Respirable fraction and dust or fume.
	8 hour	2 mg/m3	Respirable fraction and dust or fume.
		2 mg/m3	
<b>Contains</b>	<b>Type</b>	<b>Value</b>	<b>Form</b>
Dust	15 minute	6 mg/m3	Respirable fraction.
		20 mg/m3	Inhalable fraction.
		3 mg/m3	Respirable fraction.
		10 mg/m3	Inhalable fraction.

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls**

Explosion-proof general and local exhaust ventilation. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Wear dust-resistant safety goggles.

**Skin protection**

**Hand protection** Wear protective gloves. Suitable gloves can be recommended by the glove supplier.

<b>Other</b>	Wear suitable protective clothing.
<b>Respiratory protection</b>	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Wear respirator with dust filter. Selection and use of respiratory protective equipment should be in accordance with CSA Standard Z94.4.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

<b>Physical state</b>	Solid.
<b>Form</b>	Powder.
<b>Colour</b>	Grey.
<b>Odour</b>	Odourless.
<b>Odour threshold</b>	Not applicable (material is odorless).
<b>Melting point/freezing point</b>	419 °C (786.2 °F)
<b>Boiling point or initial boiling point and boiling range</b>	906 °C (1662.8 °F)
<b>Flammability</b>	Fine particles may form explosive mixtures with air.
<b>Upper/lower flammability or explosive limits</b>	
<b>Explosive limit - lower (%)</b>	Property has not been measured.
<b>Explosive limit – upper (%)</b>	Property has not been measured.
<b>Flash point</b>	Property has not been measured.
<b>Auto-ignition temperature</b>	600 °C (1112 °F)
<b>Decomposition temperature</b>	Property has not been measured.
<b>pH</b>	> 7 - < 7.1 (25 °C/77 °F)
<b>Kinematic viscosity</b>	Not applicable, material is a solid.
<b>Solubility</b>	
<b>Solubility (water)</b>	Insoluble in water.
<b>Partition coefficient (n-octanol/water) (log value)</b>	Not applicable, product is a mixture.
<b>Vapour pressure</b>	Not applicable, material is a solid.
<b>Density and/or relative density</b>	
<b>Density</b>	Property has not been measured.
<b>Relative density</b>	Property has not been measured.
<b>Vapour density</b>	Not applicable, material is a solid.
<b>Particle characteristics</b>	Property has not been measured.
<b>Other information</b>	
<b>Bulk density</b>	58.7 lb/gal
<b>Dust explosion properties</b>	
<b>Minimum explosible concentration (MEC)</b>	480 g/m <sup>3</sup>
<b>Evaporation rate</b>	Not applicable, material is a solid.
<b>Explosive properties</b>	Combustible dust hazard.
<b>Oxidising properties</b>	Not oxidising.
<b>Viscosity</b>	Not applicable, material is a solid.

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Material is stable under normal conditions.

<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Keep away from heat, sparks and open flame. Contact with incompatible materials. Minimise dust generation and accumulation.
<b>Incompatible materials</b>	Strong oxidising agents. Strong acids. Strong bases.
<b>Hazardous decomposition products</b>	Decomposition is not expected under normal conditions of use and storage. Fire or high temperatures create: Fumes of metal oxides.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Dust may irritate respiratory system. Prolonged inhalation may be harmful.
<b>Skin contact</b>	Dust or powder may irritate the skin.
<b>Eye contact</b>	Dust may irritate the eyes.
<b>Ingestion</b>	No harmful effects expected in amounts likely to be ingested by accident.

**Symptoms related to the physical, chemical and toxicological characteristics** Dusts may irritate the respiratory tract, skin and eyes. Inhalation of powder or fumes may cause metal fume fever.

### Information on toxicological effects

**Acute toxicity** Not expected to be acutely toxic.

Components	Species	Test Results
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Zinc (CAS 7440-66-6)

**Acute**

**Oral**

LD50

Mouse

> 5 g/kg

Zinc oxide (CAS 1314-13-2)

**Acute**

**Inhalation**

LC50

Mouse

> 5.7 mg/l, 4 Hours

**Oral**

LD50

Rat

> 5000 mg/kg

**Skin corrosion/irritation** May cause irritation through mechanical abrasion.

**Serious eye damage/eye irritation** Dust may irritate the eyes.

### Respiratory or skin sensitisation

**Canada - Alberta OELs: Irritant**

Irritant

**Respiratory sensitisation** Not a respiratory sensitiser.

**Skin sensitisation** This product is not expected to cause skin sensitisation.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** Not classifiable as to carcinogenicity to humans.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** Not classified.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not an aspiration hazard.

**Chronic effects** Prolonged inhalation may be harmful.

## 12. Ecological information

**Ecotoxicity** Very toxic to aquatic life with long lasting effects.

Components		Species	Test Results
Zinc (CAS 7440-66-6)			
<b>Aquatic</b>			
<i>Acute</i>			
Crustacea	EC50	Daphnia magna	0.07 mg/l
Fish	LC50	Oncorhynchus mykiss	0.14 mg/l

**Persistence and degradability** The product solely consists of inorganic compounds which are not biodegradable.

**Bioaccumulative potential** May accumulate in soil and water systems.

**Mobility in soil** The product is insoluble in water. Expected to have low mobility in soil.

**Other adverse effects** No data available.

## 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products** Dispose in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. Transport information

### TDG

<b>UN number</b>	UN3077
<b>UN proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc; Zinc oxide)
<b>Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary hazard</b>	-
<b>Packing group</b>	III
<b>Environmental hazards</b>	Yes
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

### IATA

<b>UN number</b>	UN3077
<b>UN proper shipping name</b>	Environmentally hazardous substance, solid, n.o.s. (Zinc; Zinc oxide)
<b>Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary hazard</b>	-
<b>Label(s)</b>	9
<b>Packing group</b>	III
<b>Environmental hazards</b>	Yes
<b>ERG Code</b>	9L
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

### IMDG

<b>UN number</b>	UN3077
<b>UN proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc; Zinc oxide)
<b>Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary hazard</b>	-

<b>Packing group</b>	III
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>EmS</b>	F-A, S-F
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.

## 15. Regulatory information

**Canadian regulations** This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

### Canada Controlled Drugs and Substances Act, Schedule I

Not regulated.

### Canada Controlled Drugs and Substances Act, Schedule II

Not regulated.

### Canada Controlled Drugs and Substances Act, Schedule III

Not regulated.

### Canada Controlled Drugs and Substances Act, Schedule IV

Not regulated.

### Canada Controlled Drugs and Substances Act, Schedule V

Not regulated.

### Canada Controlled Drugs and Substances Act, Schedule VI

Not regulated.

### Canada Controlled Drugs and Substances Act, Schedule VII

Not regulated.

### Canada Controlled Drugs and Substances Act, Schedule VIII

Not regulated.

### Export Control List (CEPA 1999, Schedule 3)

Not listed.

### Greenhouse Gases

Not listed.

### Precursor Control Regulations

Not regulated.

## International regulations

### Stockholm Convention

Not listed.

### Rotterdam Convention

Not listed.

### Kyoto Protocol

Not listed.

### Montreal Protocol

Not listed.

### Basel Convention

Zinc (CAS 7440-66-6)

## International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information

**Issue date** 31-May-2017

**Revision date** 31-March-2026

**Version No.** 04

**Disclaimer** ZRC Worldwide cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.