

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Product identifier ZRC Galviline Galvanizing Repair Compound
Version # 01
Issue date 05-February-2014
Revision date -
Supersedes date -
CAS # Mixture
Product code 20012 - 20014
Product use Corrosion protection of iron and steel.
Manufacturer
Supplier/Manufacturer ZRC Worldwide
Address 145 Enterprise Drive, Marshfield, MA 02050
Telephone 781-319-0400
Emergency telephone (CHEMTREC) 703-527-3887 CCN15781

2. Hazards Identification

Emergency overview WARNING
 Combustible liquid. May be ignited by heat, sparks or flames.
 Causes skin irritation. Prolonged exposure may cause chronic effects.

Potential health effects
Routes of exposure Inhalation. Ingestion. Skin contact. Eye contact.
Eyes Do not get this material in contact with eyes. Direct contact with eyes may cause temporary irritation.
Skin Do not get this material in contact with skin. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Inhalation Do not breathe dust/fume/gas/mist/vapors/spray. Prolonged inhalation may be harmful.
Ingestion Do not ingest. Harmful if swallowed.
Target organs Eyes. Skin. Reproductive system.
Signs and symptoms Causes skin irritation. Direct contact with eyes may cause temporary irritation. Swallowing may cause gastrointestinal irritation.
Potential environmental effects Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Zinc	7440-66-6	75 - 85
Solvent naphtha (petroleum), medium aliph.	64742-88-7	4 - 6
Distillates (petroleum), hydrotreated light	64742-47-8	4 - 5
Zinc oxide	1314-13-2	2 - 3
Solvent naphtha (petroleum), light aromatic	64742-95-6	0.5 - 0.9

4. First Aid Measures

First aid procedures
Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.
Inhalation Move to fresh air. Get medical attention if any discomfort continues.

Ingestion	Rinse mouth. Get medical attention if any discomfort occurs.
Notes to physician	Provide general supportive measures and treat symptomatically.
General advice	In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

5. Fire Fighting Measures

Flammable properties	Combustible by WHMIS criteria. Heat may cause the containers to explode.
Extinguishing media	
Suitable extinguishing media	Dry chemical, CO2, water spray, fog, or foam.
Unsuitable extinguishing media	Do not use water jet.
Protection of firefighters	
Protective equipment for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Use standard firefighting procedures and consider the hazards of other involved materials. In the event of fire, cool tanks with water spray. Move containers from fire area if you can do so without risk. In case of fire and/or explosion do not breathe fumes. Water runoff can cause environmental damage.
Explosion data	
Sensitivity to static discharge	Not sensitive.
Sensitivity to mechanical impact	Not sensitive.
Hazardous combustion products	Carbon dioxide. Carbon monoxide. Zinc oxides.

6. Accidental Release Measures

Personal precautions	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Ventilate closed spaces before entering them. For personal protection, see Section 8 of the MSDS.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water. Contact local authorities in case of spillage to drain/aquatic environment.
Methods for containment	Stop leak if you can do so without risk. Prevent entry into waterways, sewer, basements or confined areas.
Methods for cleaning up	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if possible without any risk. Collect spillage. Scoop up or absorb the product, then place into a suitable clean, dry, non-combustible container for prompt disposal. Should not be released into the environment. Clean up in accordance with all applicable regulations. Prevent product from entering drains. For waste disposal, see section 13 of the MSDS.
Other information	Clean up in accordance with all applicable regulations. Prevent product from entering drains.

7. Handling and Storage

Handling	Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Use non-sparking tools and explosion-proof equipment. Do not taste or swallow. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains.
Storage	Do not handle or store near an open flame, heat or other sources of ignition. Keep at temperature not exceeding 49 °C. This material can accumulate static charge which may cause spark and become an ignition source. Store in a closed container away from incompatible materials. Store in a well-ventilated place. Keep container dry.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

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

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

Components	Type	Value	Form
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)	TWA	200 mg/m3	Vapor.
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable.
	TWA	2 mg/m3	Respirable.

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

Components	Type	Value	Form
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)	TWA	200 mg/m3	Non-aerosol.
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable.
	TWA	2 mg/m3	Respirable.

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

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)

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

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Fume.
		10 mg/m3	Total dust.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Zinc oxide (CAS 1314-13-2)	PEL	5 mg/m3	Fume.
		5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

Exposure guidelines**Canada - Alberta OELs: Skin designation**

Distillates (petroleum), hydrotreated light (CAS 64742-47-8) Can be absorbed through the skin.

Canada - British Columbia OELs: Skin designation

Distillates (petroleum), hydrotreated light (CAS 64742-47-8) Can be absorbed through the skin.

Canada - Ontario OELs: Skin designation

Distillates (petroleum), hydrotreated light (CAS 64742-47-8) Can be absorbed through the skin.

Canada - Saskatchewan OELs: Skin designation

Distillates (petroleum), hydrotreated light (CAS 64742-47-8) Can be absorbed through the skin.

Engineering controls

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment**Eye / face protection**

Do not get in eyes. If contact is likely, safety glasses with side shields are recommended.

Skin protection

Wear suitable protective clothing.

Respiratory protection

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

9. Physical & Chemical Properties

Appearance	Gray liquid.
Physical state	Liquid.
Form	Liquid.
Color	Gray.
Odor	Aliphatic. Hydrocarbon.
Odor threshold	Not available.
pH	Not available.
Vapor pressure	Not available.
Vapor density	> 1 (25°C / 77°F)
Boiling point	291.2 - 404.6 °F (144 - 207 °C)
Melting point/Freezing point	Not available.
Solubility (water)	Slightly soluble in water.
Specific gravity	Not available.
Flash point	111.2 °F (44.0 °C) Setflash
Flammability limits in air, upper, % by volume	7 %
Flammability limits in air, lower, % by volume	0.9 %
Auto-ignition temperature	Not available.
VOC	385 g/l (3.3 lb/gal)
Evaporation rate	< 1 (n-Butyl acetate=1)
Viscosity	1800 mPa·s (25°C / 77°F)
Bulk density	24 lb/gal

10. Chemical Stability & Reactivity Information

Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Avoid temperatures exceeding the flash point.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides. Zinc oxides.

11. Toxicological Information

Toxicological data

Components	Species	Test Results
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 5.28 mg/l, 4 hours
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg
Solvent naphtha (petroleum), medium aliph. (CAS 64742-88-7)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	3000 mg/kg
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg
Acute effects	Not classified.	
Sensitization	Not classified.	

Local effects	Direct contact with eyes may cause temporary irritation. May cause abdominal discomfort if swallowed. Causes skin irritation.
Chronic effects	Prolonged exposure may cause chronic effects.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. Not classifiable as to carcinogenicity to humans.
Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Reproductive effects	Not classified.
Symptoms and target organs	Direct contact with eyes may cause temporary irritation. Causes skin irritation. Swallowing may cause gastrointestinal irritation.

12. Ecological Information

Ecotoxicological data

Components	Species		Test Results
Zinc (CAS 7440-66-6)			
Aquatic			
Crustacea	LC50	Daphnia magna	0.068 mg/l, 48 hours
Fish	LC50	Bony fish superclass (Osteichthyes)	0.52 - 3.59 mg/l, 96 hours
Zinc oxide (CAS 1314-13-2)			
Aquatic			
Crustacea	LC50	Water flea (Daphnia magna)	0.098 mg/l, 48 Hours
Ecotoxicity	Components of this product are hazardous to aquatic life.		
Environmental effects	Very toxic to aquatic life with long lasting effects.		
Persistence and degradability	Not available.		
Bioaccumulation / Accumulation	Accumulation in aquatic organisms is expected.		

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. Dispose in accordance with all applicable regulations.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

TDG

UN number	UN1263
UN proper shipping name	Paint
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	III
Environmental hazards	Yes
Special precautions for user	Not available.

IATA

UN number	UN1263
UN proper shipping name	Paint
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	III
Environmental hazards	Yes
Special precautions for user	Read safety instructions, MSDS and emergency procedures before handling.

IMDG

UN number	UN1263
UN proper shipping name	Paint

Transport hazard class(es)

Class 3
Subsidiary risk -
Packing group III

Environmental hazards

Marine pollutant Yes
EmS F-E, S-E

Special precautions for user Read safety instructions, MSDS and emergency procedures before handling.

15. Regulatory Information**Canadian regulations**

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

WHMIS status

Controlled

WHMIS classification

B3 - Combustible Liquids
D2B - Other Toxic Effects-TOXIC

WHMIS labeling**Inventory status**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	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
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
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies 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**HMIS® ratings**

Health: 2
Flammability: 2
Physical hazard: 0

NFPA ratings

Health: 2
Flammability: 2
Instability: 0

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.