



**ZRC PRODUCTS COMPANY**

21 NEWPORT AVE., QUINCY, MASS. 02171

ZRC COLD GALVANIZING COMPOUND

# MATERIAL SAFETY DATA SHEET

FOR COATINGS, RESINS AND RELATED MATERIALS

## HAZARD RATING

4 = Extreme  
3 = High  
2 = Moderate  
1 = Slight  
0 = Insignificant



HMS\*

H HEALTH	2
F FLAMMABILITY	2
R REACTIVITY	1

PERSONAL PROTECTION  
NO. L603R @ 1981 NFCA

AND  
BOOTS

### Section I

MANUFACTURER'S NAME: Z.R.C. Products Company

STREET ADDRESS: 21 Newport Ave, Quincy, MA 02171

TELEPHONE NO.: (617) 328-6700

DATE OF PREPARATION: April 29 1987

PRODUCT CLASS: Esterified epoxy based Zinc-Rich Metal Primer

MANUFACTURER'S CODE IDENTIFICATION: 8281-10001/10004

TRADE NAME: Z.R.C. Cold Galvanizing Compound

*if aerosol see pg. 2*

### Section II - HAZARDOUS INGREDIENTS

INGREDIENT (CAS#)*	PERCENT by weight	LEL	TLV		PEL		VAPOR PRESSURE mm @ 20°C
			ppm	(mg/M <sup>3</sup> )	ppm	(mg/M <sup>3</sup> )	
Zinc (CAS# 7440-66-6)	78.9	na			TWA (Dust) 50 (15) (Mppcf)		na
Zinc Oxide (CAS# 1314-13-2)	2	na	TWA (Fume) TWA (Dust) STEL (Fume)	(5) (10) (10)	TWA (Fume) (5)		na
Petroleum Distillates (CAS# 8052-41-3)	12	0.8	TWA 100 STEL 200	(525) (1050)	TWA 500 (2900)		2
Xylene (CAS# 1330-20-7)	1.1	1.0	TWA 100 STEL 150	(435) (655)	TWA 100 (435)		6
			ACGIH Values		OSHA Values		

### Section III - PHYSICAL DATA - FIRE AND EXPLOSION HAZARD DATA

BOILING RANGE 291-345°F (144-174°C) VAPOR DENSITY  LIGHTER THAN AIR  HEAVIER THAN AIR EVAPORATION RATE  SLOWER THAN ETHER  FASTER THAN ETHER

PERCENT VOLATILE BY VOLUME 47% WEIGHT PER GALLON 24 lbs. @ 77°F SPECIFIC GRAVITY 2.88 @ 77°F VAPOR MIXTURE (see Section II) FLASH POINT 104°F SETA (60°C)

FLAMMABILITY LIMITS IN AIR LEL 7% by vol. LEL 0.9% by vol. FLAMMABILITY CLASSIFICATION DOT Combustible Liquid OSHA Combustible Liquid Class II OSHA Class 29 CFR-1910-106a

AUTO IGNITION TEMPERATURE Not Determined SOLUBILITY IN WATER Insignificant REACTIVITY IN WATER See Section IV

APPEARANCE AND ODOR Grey liquid with odor typical of petroleum distillates.

EXTINGUISHING MEDIA Approved Class B Fire Extinguisher, foam or dry chemical. DO NOT USE WATER. Combustion in a limited amount of air can generate toxic carbon monoxide. Use full protective equipment and self-contained breathing apparatus for respiratory protection in fighting fires in enclosures. In a fire situation or when the material is heated it becomes a highly flammable liquid with a moderate explosion hazard. Once ignited the product will burn readily in air.

UNUSUAL FIRE AND EXPLOSION HAZARDS Keep containers closed tightly. Isolate from heat, electrical equipment, sparks and open flame. Zinc present in a finely divided form, is hazardous when atomized in air and, if sparked, explosion is possible. Closed containers may explode when exposed to extreme heat. Application to hot surfaces requires special precautions. During emergency conditions, overexposure to decomposition products (gaseous oxides of carbon and nitrogen) may cause a health hazard. Symptoms may not be immediately apparent. Obtain Medical Attention. Heavier than air vapors may flow along surfaces to distant ignition sources and flash back. Moisture and acid contamination can result in hydrogen gas evolution, causing cans to bulge with increased pressure. Cans so deformed should not be moved, opened or punctured. Call (617) 328-6700. See also Sections IV and V.

#### SPECIAL FIRE FIGHTING PROCEDURES

DO NOT USE WATER IN ANY FORM. Water may be used to cool closed containers to prevent pressure build up and possible autoignition or explosion when exposed to extreme heat, but care should be taken to prevent water access to wet paint and spray residues. See also Section VII.

\*CAS #s are identification numbers assigned by Chemical Abstract Service for reference to hazardous information on file at the American Chemical Society. For information call 1-800-848-6538. For health emergencies call Poison Control Center (24 hours) at 1-213-664-2121, for transportation emergencies call CHEMTREC 1-800-424-9300.





**ZRC PRODUCTS COMPANY**

21 NEWPORT AVE., QUINCY, MASS. 02171

Z.R.C. COLD GALVANIZING COMPOUND (AEROSOL)

**MATERIAL SAFETY DATA SHEET**

FOR COATINGS, RESINS AND RELATED MATERIALS

HAZARD RATING

4 = Extreme  
3 = High  
2 = Moderate  
1 = Slight  
0 = Insignificant



H HEALTH 2  
F FLAMMABILITY 4  
R REACTIVITY 1

PERSONAL PROTECTION J  
NO. 1503R ©1981 NIOSH

AND BOOST

Section I

MANUFACTURER'S NAME: Z.R.C. Products Company

STREET ADDRESS: 21 Newport Ave., Quincy, Mass., 02171

TELEPHONE NO.: (617) 328 6700

DATE OF PREPARATION: January 1st 1987

PRODUCT CLASS: Esterified epoxy zinc rich metal primer

MANUFACTURER'S CODE IDENTIFICATION: 8281-1000  
Lab. # 30588

TRADE NAME: Z.R.C. Cold Galvanizing Compound (Aerosol)

Section II - HAZARDOUS INGREDIENTS

INGREDIENT (CAS#)	PERCENT by weight	LEL	TLV		PEL		VAPOR PRESSURE mm @ 20°C
			ppm	(mg/M <sup>3</sup> )	ppm	(mg/M <sup>3</sup> )	
Toluene (CAS# 108-88-3)	15	1.2	TWA 100 STEL 150	(375) (560)	TWA 200 Ceiling 300 Peak 500 (10 minutes)		36.7 (@ 30°C)
Methylene Chloride (CAS# 75-09-2)	20	15.5	TWA 100 STEL 500	(350) (1740)	TWA 500 Ceiling 1000 Peak 2000 ± 5 mins in any 2 hrs		348.9
Zinc (CAS# 7440-66-6)	39.4	na			TWA (Dust) 50 (Mppcf)	(15)	na
Zinc Oxide (CAS# 1314-13-2)	1.6	na	TWA (fume) TWA (dust) STEL(fume)	(5) (10) (10)	TWA (Fume)	(5)	na
Xylene (CAS# 1330-20-7)	10	1.0	TWA 100 STEL 150	(435) (655)	TWA 100	(435)	6
V.M.&P. Naphtha (CAS# 8032-32-4)	5	0.9	TWA 300 STEL 400	(1350) (1800)	TWA 300	(1350)	2
Propane (CAS# 74-98-6)	10	2.3	TWA 1000		TWA 1000	(1800)	(123psia @70°F)
Aerosol contents under pressure of 55±5psi			ACGIH Values		OSHA Values		

Section III - PHYSICAL DATA - FIRE AND EXPLOSION HAZARD DATA

BOILING RANGE -42.1 to 144°C  
 VAPOR DENSITY  LIGHTER THAN AIR  HEAVIER THAN AIR  
 EVAPORATION RATE  SLOWER THAN ETHER  FASTER THAN ETHER \*  
 \*Propellant  
 PERCENT VOLATILE BY VOLUME weight 55%  
 WEIGHT PER 11.2 GALLON N/A  
 SPECIFIC GRAVITY 1.34 N/A  
 VAPOR PRESSURE 50 ± 10mm @ 21°C  
 FLASH POINT Below 20°F (-7°C) (T.O.C.)  
 FLAMMABILITY UEL 66.4% LEL 0.9%  
 FLAMMABILITY CLASSIFICATION DOT OSHA  
 Consumer Commodity - Hazard Class ORM-D-AIR  
 Flammable Class 1A. OSHA Class 29(1910-106a)  
 Label: Extremely Flammable - RSP. CFR-16-1500.3(6) (V)  
 AUTO IGNITION TEMPERATURE Not Determined  
 SOLUBILITY IN WATER Insignificant  
 REACTIVITY IN WATER See Section IV

APPEARANCE AND ODOR Grey liquid with odor typical of aliphatic, aromatic and halogenated hydrocarbon mix.

EXTINGUISHING MEDIA Approved Class B Fire Extinguisher, foam or dry chemical. DO NOT USE WATER. Combustion in a limited amount of air can generate toxic carbon monoxide. Use full protective equipment and self-contained breathing apparatus for respiratory protection in fighting fires in enclosures. In a fire situation or when the material is heated it becomes a highly flammable liquid with a moderate explosion hazard. Once ignited the product will burn readily in air.

UNUSUAL FIRE AND EXPLOSION HAZARDS Keep containers closed tightly. Isolate from heat, electrical equipment, sparks and open flame. Zinc present in a finely divided form, is hazardous when atomized in air and, if sparked, an explosion is possible. Closed containers may burst or explode when exposed to heat. Application to hot surfaces requires special precautions. During emergency conditions, overexposure to decomposition products (gaseous oxides of carbon and nitrogen and hydrogen chloride) may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention. Heavier than air vapors may flow along surfaces to distant ignition sources and flash back. Moisture and acid contamination can result in hydrogen gas evolution causing cans to bulge with increased pressure. Cans so deformed should not be moved, opened or punctured. Call (617) 328-6700. See also Sections IV and V.

SPECIAL FIRE FIGHTING PROCEDURES DO NOT USE WATER IN ANY FORM. Water may be used to cool closed containers to prevent pressure build up and possible autoignition or explosion when exposed to extreme heat, but care should be taken to prevent water access to wet paint and spray residues. See also Section VII.

\*CAS #s are identification numbers assigned by Chemical Abstract Service for reference to hazardous information on file at the American Chemical Society. For information call 1-800-848-6538. For health emergencies call Poison Control Center (24 hours) at 1-213-664-2121, for transportation emergencies call CHEMTREC 1-800-424-9300.



## Section IV - PHYSICAL HAZARDS

STABILITY  STABLE  HAZARDOUS POLYMERIZATION  MAY OCCUR  
 UNSTABLE  WILL NOT OCCUR

**MATERIALS AND CONDITIONS TO AVOID** This material is considered to be stable under its normal handling and storage conditions. It can react violently with strong oxidizing agents such as chlorine, oxygen, as well as water, weak and concentrated acids and alkalis. Store in dry areas away from oxidizing agents (chlorine, oxygen), all acids, alkalis and water. Avoid dusting and accumulations of spray residues.

**HAZARDOUS DECOMPOSITION PRODUCTS** Thermal degradation and water and alkali contact may produce hydrogen chloride and hydrogen with additional risks of explosion and fire. May produce fumes of zinc oxides and the oxides of carbon and nitrogen and hydrogen chloride when heated to decomposition. Acid contact will produce hydrogen.

## Section V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE 100 ppm OSHA PERMISSIBLE EXPOSURE LIMIT Mixture. (see Section II)

**PRIMARY ROUTE OF ENTRY** Inhalation and skin contact **MEDICAL CONDITIONS GENERALLY** Respiratory, brain and central nervous system conditions, dermatitis and other skin afflictions. Reports have linked methylene chloride exposure and cardiovascular problems.

### SIGNS AND SYMPTOMS OF OVER-EXPOSURE

Propane is an asphyxiant. Solvents contained in the mixture are central nervous system depressants. Symptoms of over-exposure include drowsiness, dizziness, headache, slurred speech, intoxication with euphoria and/or depression leading to stupor and unconsciousness. Nose and throat irritation may occur from inhalation. Skin contact may cause defatting and dermatitis. Eye contact with the liquid causes tears, burning, irritation, conjunctivitis. Ingestion will cause poisoning and may be fatal; Avoid aspiration if ingested. Do not induce vomiting. Lung contact may cause chemical pneumonitis. During welding and burning operations hazardous decomposition products may be evolved from the dried film. These may include but not be limited to zinc oxides as well as the gaseous oxides of carbon and nitrogen. Excessive inhalation of these fumes may produce symptoms known as fume fever and "zinc shakes" among other effects. Consult physician. b.) Chronic: Reports have associated repeated and prolonged overexposure to solvents with permanent damage to brain and central nervous system. Methylene chloride may produce an increase in carboxy hemoglobin. Methylene Chloride is considered to be a carcinogen by the National Toxicology Program, the International Agency for Research on Cancer, or the Occupational Safety and Health Administration (Suspected in Animals).

### EMERGENCY AND FIRST AID PROCEDURES

1.) Inhalation: Remove to fresh air. Keep warm and quiet. Give artificial respiration if required. Get medical assistance. 2.) Eyes: Wash eyes immediately with large amounts of water for at least 15 minutes. Take to physician for medical attention. 3.) Skin: Wash contact area promptly with soap and water. Promptly remove paint wet clothing. Consult physician if irritation persists. 4.) Ingestion: Do not induce vomiting without medical advice. Consult a physician, emergency room or Poison Center immediately. Observe all rules of good hygiene during and after use. Wash thoroughly before smoking or eating.

## Section VI - SPECIAL PROTECTION INFORMATION

**RESPIRATORY PROTECTION** In outdoor or open areas with unrestricted ventilation, use approved high efficiency mechanical respirator to remove particles of overspray during spray application. In areas of restricted ventilation, use high efficiency chemical/mechanical filters designed to remove a combination of particulates and vapor. In confined areas, use approved air line type respirators or hoods.

**VENTILATION** Work place areas require exhaust ventilation in accordance with OSHA regulation 29 CFR Part 1910 (107D) to maintain vapor levels below the TLV (especially during spraying, misting, or heating). Use an approved high efficiency respirator of the full face canister type (for limited time and concentrations), air supplied type of self-contained type respirators (for extended exposures involving high or unknown vapor concentrations or for non-routine or emergency conditions). Exhaust levels should be maintained at least 100 fpm.

**PROTECTIVE GLOVES** Neoprene gloves and aprons should be used to prevent prolonged or repeated skin contact. Use protective creams when skin contact is likely.

**EYE PROTECTION** Safety goggles with unperforated side shields or face shield should be used where splashing of solvent into eyes is possible. An eye wash fountain should also be available in areas where splashing is probable. When large amounts of material are used a safety shower should be available.

**OTHER PROTECTIVE EQUIPMENT** Ventilation equipment should be explosion-proof, and any tools used in the area should be of the non-sparking type. Wear chemical resistant boots. Remove and wash or discard contaminated clothing.

## Section VII - SPECIAL PRECAUTIONS - SPILL OR LEAK PROCEDURES

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE** This extremely flammable liquid should be stored in a cool, clean, well ventilated fire resistant storage room or in a solvent storage cabinet that meets OSHA requirements. Do not store in direct sunlight. Store large quantities only in buildings in compliance with OSHA 1910.105. Areas of use and storage for this material should have a good ventilation and all sources of open flame and high heat should be excluded. Prohibit smoking in these areas. Ensure sufficient ventilation to prevent accumulation of heavy vapors in low lying areas or sumps. Avoid prolonged contact with skin. Do not puncture, drag or slide container. Do not store above 120°F.

**OTHER PRECAUTIONS** Any deformed cans should not be moved, opened or punctured., call (617) 328-6700. Do not take internally. Keep away from children. Empty container may contain extremely flammable residues and explode if heated.

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED** For massive spills, evacuate the area. For all spills eliminate ignition sources. Dike and contain spills with dry inert materials (sand, earth, etc.). Eliminate all sources of moisture, and do not use water in clean up operations. Recover as much of the free liquid as possible for disposal, and use an absorbent to pick up the residue. Avoid discharging paint directly into a sewer or surface waters. Do not flush spills with water. Use non-sparking tools only. Spilled material may be slippery on floors.

**WASTE DISPOSAL METHOD** Dispose of the absorbed material or the free waste liquid in dry containers. Dispose of all materials including empty cans according to local, state and federal regulations. DO NOT INCINERATE, do not flush to sewers. Containers may explode if heated even when empty. It is recommended that solid waste be landfilled only at approved hazardous disposal sites using approved contractors.

**DISCLAIMER:** While the data and suggestions contained herein are based on information we believe to be reliable, it is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.

THIS PRODUCT IS A MIXTURE, AND MSDS FILES ON THE INDIVIDUAL COMPONENTS ARE AVAILABLE TO OBTAIN THE INFORMATION CONTAINED HEREIN.