

CROWN ALLOYS COMPANY

MATERIAL SAFETY DATA SHEET

Section 1 - COMPANY AND MATERIAL IDENTIFICATION

PRODUCT TYPE: Cold-galvanizing zinc primer in one gallon bulk containers.

TRADE NAME: CROWN-GALV (bulk)

CLASSIFICATION: Zinc Galvanizing (bulk)

VENDOR: Crown Alloys Company

ADDRESS: 30105 Stephenson Hwy.
Madison Heights, MI. 48071

TELEPHONE: (248) 588-3790 Emergency 24 hour telephone #
CHEMTEL (800) 255-3924

WEBSITE: www.crownalloys.com

DATE: March 31, 2011

Section 2 - HAZARDOUS INGREDIENTS

IMPORTANT! This section covers the material from which these products are manufactured. The fumes and gases produced when welding with normal use of these products are covered in Section 5 & 6.

Ingredient		CAS No.	OSHA – TWA PEL	(ACGIH – TWA) ¹ TLV	SARA Sec. 313*	Vapor Pressure mm Hg @ Temp.	Wt. %
Name	Symbol						
Zinc Dust	Zn	7440-66-6	15 mg/m ³	10 mg/m ³	YES	N/A	>65.0
Aromatic Hydrocarbon Solvent		64742-95-6	100 (PPM)	100 (PPM)		2.0 @ 68°F	10.0
Toluene	C ₇ H ₈	108-88-3		50 (PPM)	YES	22.0 @ 68°F	5.0
Aluminum Flake	Al	7429-90-5	15 mg/m ³	10 mg/m ³	YES	N/A	<5.0
n-Butyl Acetate	C ₆ H ₁₂ O ₂	123-86-4	150 (PPM)	150 (PPM)		8.4 @ 68°F	<5.0
1,2,4-Trimethylbenzene	C ₉ H ₁₂	95-63-6	25 (PPM)	25 (PPM)	YES	N/A	<5.0
Sodium Silicoaluminate	AlNaO ₆ Si ₂	1344-00-9	Not Established	Not Established		N/A	<5.0
Mica (containing less than 1% quartz)		12001-26-2	3 mg/m ³	3 mg/m ³		N/A	<5.0
VOC: 22.5%							

Single values shown are maximum.

NIOSH classifies welding fumes as carcinogens.

¹The ACGIH has an established exposure limit for Welding Fumes, Not Otherwise Classified. That Threshold Limit Value is 5 mg/m³.

*Ingredients marked "YES" are subject to the reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313, 40 CFR 372.

CROWN ALLOYS COMPANY

Section 2 - HAZARDOUS INGREDIENTS (continued)

HMIS RATING (Hazardous Materials Information System)

Health (blue) - 2	Flammability (red) - 3	Reactivity (yellow) - 0	Protective Equipment - X (See Section 7)
--------------------------	-------------------------------	--------------------------------	--

Health Hazard: 0 (minimal acute or chronic exposure hazard); 1 (slight acute or chronic exposure hazard); 2 (moderate acute or significant chronic exposure hazard); 3 (severe acute exposure hazard; one time overexposure can result in permanent injury and may be fatal); 4 (extreme acute exposure hazard; onetime overexposure can be fatal).

Flammability Hazard: 0 (minimal hazard); 1 (materials that require substantial pre-heating before burning); 2 (combustible liquid or solids; liquids with a flash point of 38-93°C [100-200°F]); 3 (Class IB and IC flammable liquids with flash points below 38°C [100°F]); 4 (Class IA flammable liquids with flash points below 23°C [73°F] and boiling points below 38°C [100°F]).

Reactivity Hazard: 0 (normally stable); 1 (material that can become unstable at elevated temperatures or which can react slightly with water); 2 (materials that are unstable but do not detonate or which can react violently with water); 3 (materials that can detonate when initiated or which can react explosively with water); 4 (materials that can detonate at normal temperatures or pressures).

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDS's under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used only in conjunction with a fully implemented HMIS® program by workers who have received appropriate HMIS® training. HMIS® is a registered trade and service mark of the NPCA.

Section 3 - PHYSICAL and CHEMICAL CHARACTERISTICS

APPEARANCE AND COLOR:

- Heavy, gray liquid typical paint solvent odor.

SPECIFIC GRAVITY @ 20°C (water = 1): 2.2

SOLUBILITY IN WATER: Negligible

VAPOR DENSITY (AIR = 1): Heavier than air

WATER REACTIVE: None

EVAPORATION RATE

(Butyl Acetate = 1): Slower than ether

BOILING POINT: 228°F

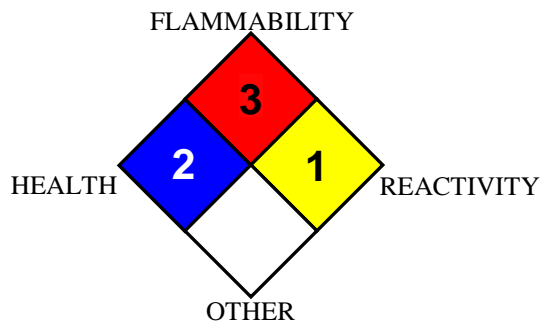
Section 4 - FIRE and EXPLOSION HAZARD DATA

NATIONAL FIRE PROTECTION ASSOCIATION:

Health Hazard: 0 (material that on exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials); 1 (materials that on exposure under fire conditions could cause irritation or minor residual injury); 2 (materials that on intense or continued exposure under fire conditions could cause temporary incapacitation or possible residual injury); 3 (materials that can on short exposure cause serious temporary or residual injury); 4 (materials that under very short exposure causes death or major residual injury).

Flammability Hazard: Refer to definitions for "HMIS RATING (Hazardous Materials Information System)"

Reactivity Hazard: Refer to definitions for "HMIS RATING (Hazardous Materials Information System)"



FLAMMABLE LIMITS (in air by volume, %): Lower (LEL): 0.9 Upper (UEL): 6.4

AUTO IGNITION TEMPERATURE: N/A

FLASH POINT: 50°F **METHOD USED:** Setaflash

EXTINGUISHER MEDIA: Foam, Alcohol Foam, Carbon Dioxide and Dry Chemical

Brazing flame, welding arc and sparks can ignite combustibles and flammables. Refer to American National Standard Z49.1 "Safety in Welding and Cutting" and "Safe Practices" Code: SP, published by the American Welding Society for fire prevention during the use of welding, brazing and allied procedures.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Closed containers may explode when exposed to extreme heat. Application to hot surfaces requires special precautions. Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool containers to prevent pressure build-up.

SPECIAL FIRE-FIGHTING PROCEDURES: During emergency conditions, overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention. Keep containers tightly closed. Isolate from heat, sparks, and open flame.

CROWN ALLOYS

COMPANY

Section 5 - STABILITY AND REACTIVITY DATA

STABILITY: Stable **HAZARDOUS POLYMERIZATION:** Will not occur.

CONDITIONS TO AVOID: High Temperatures.

HAZARDOUS DECOMPOSITION PRODUCTS: May produce hazardous fumes when heated to decomposition as in welding.

MATERIALS WITH WHICH THIS PRODUCT IS INCOMPATIBLE: Oxidizing materials.

Hazardous Decomposition Products

Welding/brazing/soldering fumes and gases can not be classified simply. The composition and quantity of both are dependent upon the type of flux, the metal being soldered/brazed/welded and the rods used. Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include; Coatings on the metal being soldered/brazed/welded (such as paint, plating, or galvanizing), the number of welders, the volume of the work area, the quality and the amount of ventilation, the position of the welder's head with respect to the gas plume, the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities), the process and procedures, as well as the soldering/brazing/welding consumables.

When this zinc galvanizing compound is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section 2. Decomposition products of normal operation include those originating from the volatilization, reaction, or oxidation of the materials shown in Section 2, plus those from the base metal, coatings, etc., as noted above. Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from an arc, in addition to the shielding gases like argon and helium, whenever they are employed.

One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample inside the welder's helmet if worn or in the worker's breathing zone. See ANSI/AWS F1.1 "Method for Sampling Airborne Particles Generated by Welding and Allied Processes" and "Characterization of Arc Welding Fume" available from the American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126.

Section 6 - HEALTH HAZARD DATA

- **EYES:** Contact with the **Crown-Galv** will cause severe irritation, redness, tearing and blurred vision. It may be a sensitizer in some individuals.
- **SKIN:** Contact with the **Crown-Galv** may cause possible mild irritation due to defatting of skin. It also may cause dermatitis. May be a sensitizer in some individuals. Liquid can be absorbed through the skin resulting in symptoms similar to the inhalation effects.
- **INGESTION:** Ingesting the **Crown-Galv** may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly even death.
- **INHALATION:** Anesthetic, excessive inhalation can cause irritation of the respiratory tract, or acute nervous system depression characterized by headache, dizziness, staggering gait, confusion, unconsciousness, coma and even asphyxiation.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Exposure to petroleum solvents may aggravate preexisting dermatitis.

HEALTH HAZARDS (ACUTE and CHRONIC): Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

CARCINOGENICITY: NTP? No IARC Monographs? No OSHA Regulated? No

Section 7 - PRECAUTIONS FOR SAFE HANDLING & USE/APPLICABLE

CONTROL MEASURES

VENTILATION AND ENGINEERING CONTROLS: Maintain exposures below the acceptable exposure levels (see Section 2). Use industrial hygiene air monitoring to ensure that your use of this product does not create exposures that exceed the recommended exposure limits. Always use exhaust ventilation in user operations such as high temperature cutting, grinding, welding, brazing and soldering. Train the welder to keep their head out of the fume plume. Maintain air flow away from the user to remove all fumes and dusts, so that the PEL is never exceeded. Adhere to Environmental regulations for exhausts. Confined spaces require adequate ventilation and/or air supplied respirators. Read and understand the manufacturer's instructions and the precautionary label on the product. See American National Standard Z49.1, *Safety in Welding, Cutting, and Allied Processes*, published by the American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126 and OSHA Publication 2206 (29CFR1910), US Government Printing Office, Washington, D.C. 20402 for more details on many of the following. If baking, vent fumes.

RESPIRATORY PROTECTION: Use respirable fume respirator or air supplied respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below PEL's (see Section 2). Use only NIOSH approved respirators in accordance with 29 CFR 1910.134 – Respiratory Protection. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under OSHA's Respiratory Protection Standard (1910.134-1998).

CROWN ALLOYS

COMPANY

Section 7 - PRECAUTIONS FOR SAFE HANDLING & USE/APPLICABLE CONTROL MEASURES (continued)

FOR MAXIMUM SAFETY:

BE CERTIFIED FOR AND WEAR A RESPIRATOR AT ALL TIMES WHEN WELDING OR BRAZING!

EYE PROTECTION: Ensure eyewash/safety shower stations are available near areas where these products are used. Wear safety glasses, goggles or face-shield with filter lens of appropriate shade number (per ANSI Z49.1-1988, "Safety in Welding and Cutting"). Goggles must be chemically tight safety goggles. Do NOT wear contact lenses.

PROTECTIVE CLOTHING: Protective gloves are recommended that are chemical and acid impervious. Since welding/brazing/soldering involves high temperatures, be sure the gloves are designed for high temperature applications to prevent burns.

WORK PRACTICES AND HYGIENE PRACTICES: As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash hands after handling this product. Do not eat or drink while handling this product. Do not smoke or apply cosmetics in areas where exposures exist.

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Remove all sources of ignition (flame, hot surfaces, and electrical, static or frictional sparks). Avoid breathing vapors. Ventilate area. Contain the spill and remove with inert absorbent and non-sparking tools.

WASTE DISPOSAL METHOD: Discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with federal, state and local regulations. Incinerate in approved facility. Do NOT incinerate closed containers.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Do NOT store above 120°F. Store large quantities only in buildings designed to comply with OSHA 1910.106. Keep closures tight and container upright to prevent leakage. Do NOT store or use near heat, sparks or flame. Do NOT wash out container and use for other purposes. Large drums of **Crown-Galv** should be grounded when pouring. KEEP OUT OF REACH OF CHILDREN! Professionally wash contaminated clothing before re-use.

OTHER PRECAUTIONS: Do NOT get in eyes. Avoid skin contact. Can cause allergic respiratory reaction. Can cause allergic skin reaction. Prevent prolonged or repeated breathing of vapors or spray mist. Avoid breathing of sanding dust. Close container after each use. Do NOT transfer this product to unlabeled containers. Do NOT handle until the manufacturer's safety precautions have been read and understood.

Section 8 - FIRST AID MEASURES

- **EYE EXPOSURE:** Flush eyes with plenty of water for at least 15 minutes to remove all residue. Consult a physician.
- **SKIN EXPOSURE:** Wash thoroughly with soap and water. If irritation should occur, contact a physician.
- **INHALATION EXPOSURE:** Remove to fresh air. Resuscitate if necessary. Call a physician; advise of chemical composition (Section 2) and potential health hazards (Section 6).
- **INGESTION EXPOSURE:** Drink one or two glasses of water to dilute. Do NOT induce vomiting. Call a physician. Advise of chemical composition (Section 2) and potential health effects (Section 6).
- **RECOMMENDATIONS TO PHYSICIANS:** Treat symptoms and eliminate overexposure.

Section 9 – OPTIONAL INFORMATION

DEPARTMENT OF TRANSPORTATION: (Domestic Ground)

DOT Hazard Classification: Consumer Commodity ORMD 48580 sub 3

Section 10 – DEFINITIONS OF TERMS

CAS No. - Chemical Abstracts Service Number **PEL** - Permissible Exposure Level **TLV** - Threshold Limit Value
TWA - Time Weighted Average **STEL** - Short Term Exposure Limit **IARC** – International Agency for Research on Cancer
NIOSH – National Institute of Occupational Safety and Health **OSHA** – U.S. Occupational Safety and Health Administration
SARA – Superfund Amendments and Reauthorization Act **ACGIH** – American Conference of Governmental Industrial Hygienists
NTP – National Toxicology Program

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES: The information in this document is believed to be correct as of the date issued. However, this information is provided without any representation or warranty, expressed or implied, regarding accuracy or correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons we do not assume responsibility and expressly disclaim liability of loss, damage, or expense arising from it or any way connected with the handling, storage, use, or disposal of this product. Data may be changed from time to time. Be sure to consult the latest edition of the MSDS.