



GALVAN INDUSTRIES, INC.

To: Whom It May Concern

Subject: RoHS Statement – Galvan Zinc-Coated Grounding Rod Products

Galvan Industries operates a high-grade zinc kettle with lead levels between 0.1 and 0.2% that is RoHS compliant.

The European legislation titled the “Restriction of Hazardous Substances” (RoHS) is intended to eliminate or severely curtail the use of six hazardous materials in products from automobiles to consumer electronics. These hazardous materials include lead, mercury, cadmium, hexavalent chromium, PBB and PBDE (PBE and PBDE are flame retardants used in some plastics). RoHS is closely linked with the Waste Electrical and Electronic Equipment Directive (WEEE) 2002/96/EC, which is a legislative initiative to solve the problem of huge amounts of toxic e-waste from recycling and recovery of electrical goods. As quoted in the RoHS directive, “The purpose of this Directive is to approximate the laws of the Member States on the restrictions of the use of **hazardous substances in electrical and electronic equipment** and to contribute to the protection of human health and the environmentally sound recovery and disposal of waste electrical and electronic equipment.” RoHS is a directive that was adopted in February 2003 by the European Union, but is NOT a law! Nearly every manufacturer globally may be implementing RoHS compliance and demanding compliant coatings that are substantially free of the materials indicated in this directive.

The RoHS directive and UK RoHS regulations became effective on July 1, 2006. The subject substances were not banned as of the July 2006 deadline. The main objective is to reduce the concentrations to levels that will make handling safer for the health of those in the recycling industry. This means that the limits do not apply to the weight of the finished product, or even to a component, but to any single substance that could (theoretically) be separated mechanically – for example, the sheath on a cable or the tinning on a component. The pertinent maximum concentration values (MCV) that have been adopted are:

- 0.1% by homogeneous material weight for lead, mercury, hexavalent chromium, PBB and PBDE
- 0.01% by homogeneous material weight for cadmium

Most hot-dip galvanized steel products are exempt from the RoHS directive due to the nature of the products that are produced by the industry and their intended use. For example, beams for bridges, grating for walkways, poles for lighting and guardrails for

roads would be exempt. There are some initiatives by European galvanizers to define exemptions for some other hot-dip galvanized steel parts such as cable trays and electrical cabinets. Other uses of galvanized steel such as elevators and heating and cooling systems are also under consideration for exemption by the European Commission. Batch hot-dip galvanized steel or general galvanized steel is rarely used in the type of electronics that are being targeted by the RoHS directive.

A hot-dip galvanized coatings contain only trace amounts of cadmium, hexavalent chromium (if quenched in a chromate solution), but the coating could contain up to 0.5% lead (if prime western zinc is used). This high lead level does not comply with the RoHS directive. A galvanizing kettle containing 0.1% - 0.2% lead will be RoHS compliant, while any other kettle exceeding this lead content will more likely not be RoHS compliant. High grade and special high-grade baths should contain less than 0.1% lead, allowing zinc coatings from these baths to comply with RoHS.

In summary, the galvanized coating of high grade or special high zinc is likely RoHS compliant, but it is more likely to be exempt from the RoHS directive by the nature of their intended use. Galvanized ground rod electrodes are likely to fall into this category.

Please call if you have any questions or if Galvan may be of any further assistance.

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