

ZACLON LLC

ZACLON ZR FLUX SOLUTION

Zaclon ZR Flux Solution is specially designed for use with ILZRO (International Lead Zinc Research Organization) patented "Galfan" zinc aluminum alloy and coating process. Zaclon ZR is a patented product (registered U.S. patent office). It was designed to remove oxides of iron, zinc and aluminum, and prevent the reappearance while minimizing losses of aluminum from the "Galfan" bath. Conventional galvanizing fluxes form more aluminum chloride depleting aluminum from the "Galfan" bath and generate excess fumes. This is due to the large amount of ammonium chloride in conventional galvanizing fluxes reacting with aluminum in the "Galfan" bath.

PHYSICAL PROPERTIES AND DATA

ZACLON ZR FLUX SOLUTION

Specific Gravity: 1.49 to 1.52

PH Range: 2.5 to 3.0

Color: Colorless to Light Yellow

Appearance: Clear to Slightly Cloudy

Form: Liquid

Solubility in Water: 100%

The normal use of Zaclon ZR and "Galfan" has been in continuous tube, sheet and wire. All flux work to date has been done using ILZRO's patented "electroflux" process or a flash electroplating step after pickling, rinsing and prior to dipping in the Zaclon ZR flux bath.

Suggested operating parameters for Zaclon ZR Flux in a continuous system are:

Concentration - 30 to 40 Baumé

Temperature - 150 F to 190 F

PH Range - 3.0 to 4.0

Drying Temperature After Dipping - 190 F minimum

Pilot plant trials have been conducted on batch dipping of work in Zaclon ZR Flux Solution and "Galfan" alloy bath. Compatibility of steel chemistry and the "Galfan" alloy bath is a major consideration in batch dipping and work is continuing in this area.

The surface preparation of steel for "Galfaning" is the same as conventional galvanizing with the addition of the "electrofluxing" or flash electroplating step.

HEALTH HAZARDS

Zaclon ZR Flux Solution is an acidic material and causes skin and eye burns. The principle hazard is the eye, since even brief contact with a zinc chloride solution in water may produce permanent damage. Death in which severe damage occurred to the esophagus and the pylorus have been known to occur from swallowing zinc chloride.

After drying, however, zinc chloride fumes, zinc oxide fumes, ammonium chloride fumes, hydrogen chloride gas, and ammonium bifluoride fumes may be released at high temperatures. The OSHA eight hour time weighted average (T.W.A.) and ACGIH TLV - TWA for these products are: zinc chloride equals 1 mg/m^3 , zinc oxide equals 5 mg/m^3 ,

ammonium chloride equals 10 mg/m³, ammonium bifluoride fumes as fluoride equals 2.5 mg/m³, and as ammonia 25 ppm.

SAFETY PRECAUTIONS

Do not get Zaclon ZR Solution in eyes, on skin or clothing. Do not take it internally. Avoid inhaling mist, dust and fumes. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

Exposure of the eyes and skin can be minimized by wearing chemical safety goggles and rubber gloves. Additional protective equipment, such as transparent face shield, rubber gauntlets, rubber pants and jacket, and rubber shoes may be desirable where there is a high probability of contact with concentrated solutions of Zaclon ZR.

FIRST AID

In the event of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes, while removing contaminated clothing and shoes. Call a physician. Wash clothing before reuse.

If inhaled, remove to fresh air immediately. If not breathing, give artificial respiration, preferably mouth to mouth. If breathing is difficult, give oxygen. Call a physician.

If swallowed, give large quantities of water or milk. Do not induce vomiting. Call a physician. Never give anything by mouth to an unconscious person.

STORAGE & HANDLING

Most metals are susceptible to corrosion by Zaclon ZR Solution. When temperatures allow, tanks can be made of rubber lined steel polyethylene or polypropylene. Do not use glass or fiberglass tanks, vessels, piping, or valves. Rubber lined or Teflon® lined piping and valves can be used.

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Due to changing governmental regulations, such as those of the Department of Transportation, Department of Labor, U.S. Environmental Protection Agency and the Food and Drug Administration, references herein to governmental regulations may be superseded. You should consult and follow the current governmental regulations, such as Hazardous Classification, Labeling, Food Use Clearances, Worker Exposure Limitations and Waste Disposal Procedures for the up-to-date requirements for the products described in this literature.

CONTACTING ZACLON LLC

For placing orders or requesting additional product information, please contact us as shown below.

ON THE INTERNET: www.zaclon.com

Email Customer Service: krosati@zaclon.com

BY PHONE:

Toll Free In Continental U.S.: (800) 356-7327

From outside United States: (216) 271-1715

BY MAIL:

Zaclon LLC
Customer Service
2981 Independence Road
Cleveland, Ohio 44115