



**Type of Bulletin:** Technical Process Bulletin  
**Product Title:** GALVAPREP® 5  
**Product View:** GALVAPREP® 5  
**Description:** Conversion Coating Process  
**Status:**

complete

# Technical Process Bulletin

Technical Process Bulletin No. 234451  
This Revision: 08/03/1990

**GALVAPREP® 5**  
Conversion Coating Process

## 1. Introduction:

GALVAPREP 5 is a concentrated non-flammable phosphoric acid based coating chemical that is designed to produce a zinc phosphate coating on galvanized surfaces. The coating formed becomes a part of the metal surface. The zinc phosphate coating offers the best affordable substrate for both paint adhesion and corrosion resistance.

Metalprep® 79, a cleaning and conditioning chemical, is used to clean and prepare the galvanized metal surface for the application of GALVAPREP 5. For details on the application of Metalprep 79 refer to Technical Process Bulletin No. 1119.

## 2. Operating Summary:

### Brush Application:

Apply GALVAPREP 5, diluted one part with one part water, to a chemically cleaned surface.

### Operation and Control:

Time: 2 to 5 minutes

Temperature: Ambient to 120° Fahrenheit

## 3. The Process:

The process to prepare metal for painting normally consists of the following steps:

- A. Apply Metalprep 79
- B. Thoroughly rinse with water
- C. Treat with diluted GALVAPREP 5 solution
- D. Allow the chemical to react

- E. Thoroughly rinse with water
- F. Dry

#### 4. Materials:

Metalprep 79  
GALVAPREP 5

#### 5. Equipment:

Acid resisting (rubber, stainless steel or plastic) buckets, troughs or other suitable container should be used to hold the diluted Metalprep 79 and GALVAPREP 5. Ordinary steel pails may be used, but only for a short time. Galvanized containers should not be used. If production conditions warrant, troughs may be installed to collect the GALVAPREP 5 coating chemical run-off for reuse.

Long-handled, window type brushes, clean cloths or synthetic sponges may be used to brush on the Metalprep solution.

#### 6. Treat with diluted GALVAPREP 5:

##### Buildup:

The GALVAPREP 5 is diluted with equal volumes of water to form the coating solution.

##### Operation:

Selecting the size area to be treated at one time will depend on the method of application, condition of the metal surface, temperature and part configuration. GALVAPREP 5 solution should not be allowed to dry on the metal surface and it is beneficial to rewet the surface with fresh GALVAPREP 5 solution several times to ensure complete coating reaction. A typical treatment time is where the GALVAPREP 5 solution is in contact with the metal surface between two and five minutes.

GALVAPREP 5 solution is normally applied at temperatures between room and 120° Fahrenheit. If drying does occur, rewet the surface with GALVAPREP 5 solution, prior to water rinsing.

Note: Operators should be equipped with rubber gloves, aprons and goggles to avoid contact with GALVAPREP 5 solution. Adequate ventilation should be provided.

Blistering and corrosion problems under paint are often the result of poor rinsing. Chemical salts trapped under a paint film will eventually result in blistering or corrosion problems.

Often, sheet galvanized is chemically treated or passivated. This corrosion resisting treatment does inhibit chemicals from reacting or paint from adhering to the galvanized surface. When this condition is encountered, a suggestion is to apply the GALVAPREP 5 solution with a scotch-brite pad. The abrasive pad will abrade through the passivation treatment and allow the GALVAPREP 5 solution to react with the galvanized metal.

Blushing or yellowing on steel can be seen when using Metalprep 79 solution or GALVAPREP 5 solution. This chemical coating is not injurious to quality, provided it is not rust or pitting.

Powdering of a zinc phosphate coating can result from poor cleaning, drying, over reacting or many other reasons. Powder can affect paint adhesion. Gently wipe and remove the powder without abrading the chemical coating with a dry, clean rag after the work has dried. Caution should be taken not to redeposit oils, lint or other soils back on the metal surface.

Paint soon after the work is dry in order to prevent soils or oxidation from recontaminating the prepared metal surface.

As an aid to drying, heating the treated part, blowing off with forced clean dry filtered air or gently wiping with a dry, clean rag will lessen the time required.

#### 7. Storage Requirements:

GALVAPREP 5 will freeze at 32° Fahrenheit. Freezing is not detrimental to the product. It is recommended that the product be kept from freezing. However, should the product freeze, simply thaw it in a warm place and stir it prior to use.

#### 8. Waste Disposal Information:

Applicable regulations concerning disposal and discharge of chemicals should be consulted and followed.

Disposal information for the chemical products used in this process is given on the Material Safety Data Sheet for each product.

The processing bath is acidic and contains phosphate and heavy metals. Waste treatment and neutralization may be required prior to discharge to sewer.

The processing bath and sludge can contain ingredients other than those present in the chemical as supplied and analysis of the solution and/or sludge may be required before waste treatment and disposal.

#### 9. Precautionary Information:

Before handling the chemical products used in the process, the first aid and handling recommendations on the Materials Safety Data Sheet for the product should be read, understood and followed.

Henkel Technologies  
32100 Stephenson Highway  
Madison Heights, MI 48071  
Telephone: 248-583-9300  
Fax: 248-583-2976

"The information presented herein is our interpretation of certain test results and field experience to date. This information is not to be taken as warranty or representation for which we assume legal responsibility, nor as permission or recommendation to practice any patented invention without a license. It is offered solely for your consideration, investigation and verification." © Henkel Corporation.

Henkel Technologies  
32100 Stephenson Highway  
Madison Heights, MI 48071  
Telephone: 248-583-9300  
Fax: 248-583-2976

"The information presented herein is our interpretation of certain test results and field experience to date. This information is not to be taken as warranty or representation for which we assume legal responsibility, nor as permission or recommendation to practice any patented invention without a license. It is offered solely for your consideration, investigation and verification." © Henkel Corporation.

Revision date: 11/03/1998 Print date: 09/18/2006

-----  
Verborgene Felder: 10 Parker Amchem

Form Revised 04 June 2001