

# BOND GUARD DM-3 Spray Process

## *DETERGENT & IRON PHOSPHATE*

DM-3 a cost effective metal cleaner and Iron Phosphatizing compound for coating steel and non-ferrous metals of aluminum and zinc.

DM-3 provides excellent detergency for removal of difficult oils, lubes, smut, and other materials. Effectively enhances bonding and corrosion resistance of various paints and coatings. Provides a blue iridescent coatings.

Meets various quality specifications of automotive, government and military requirements. TTC-490 Type II A low foam product for use in multiple stage processes of 3-5 stages.

## Features & Benefits

- Concentrated liquid for use in spray processes.
- Crystalline Iron Phosphate Coatings Up to 80 mg/ft<sup>2</sup>.
- Non chlorate system.
- Low Use Cost, Concentrated liquid.
- Low Foam Processing down to 100F
- Ideal for Automated feed systems
- Low Sludging
- For use in 3 or 5 stage processes

## Physical Data

pH	3.4
Product Type	Liquid
Spec. Gravity	1.09
Lbs./gal.	9.09
Foam (0=Low; 9=High)	2
Shelf Life	10 years
Freeze Information	Not damaged by freezing

## Product Bulletin

Product Name: Bond Guard DM-3 Spray Process  
 Product Code: 2201916  
 Revision Date: May 7, 2025

### Typical Processing

1. DM-3, 2.5% BY VOLUME, 120- 140 f., 90 Sec., pH @ 4.2.- 5.0
2. Rinse
3. Rinse, (with sealer conditioner optional) NCS-320 @ .2%
4. Air blow off., ( Dry ovens should not exceed 250 f. for iron phosphates)

#### WASH & PREP PROCESS:

1. DM #3, 2.0-4% BY VOLUME, 120-150 f., 60-120- Sec., pH @ 4.2.- 5.0
2. Optional: a) Dry, b) Rinse & Dry, , etc.

### Packaging

Container Type	Poly
Net Units	500
Tare Wt.	25
Gross Wt.	525
DOT_Name	Not regulated by DOT Not subject to IATA Regulations for Air
DOT Hazard	Not regulated
Tariff ID	

### Use Parameters

Concentration Range	2-5% by volume
Temperature Range	120-160 deg. F.
Time Range	75-180 seconds
Agitation	Spray

### Waste Disposal

NEUTRALIZE, REMOVE OIL, MUD. CONTACT P.O.T.W. RE:  
 PHOSPHATE.

### Holding Tank Materials of Construction

ACID RESISTANT, STAINLESS OR POLY



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## Other Information

It is important that the OSHA DATA, "Material Safety Data Sheet" be carefully read and reviewed with the users of this product. OSHA data is required to be posted in the work area by law.

## Testing, Operating & Trouble Shooting Data

### BOND GUARD DM-3 Spray Process

#### DETERGENT & IRON PHOSPHATE

##### Titration Procedure:

- 1) Take A 10 MI Sample Of Solution To Be Tested., (ph Must Be Within Operating Range Of 4.5-5.2)
- 2) Add 3-5 Drops Of Phenol Indicator
- 3) Titrate With 0.1n Caustic Until The Color Changes To Pink,
- 4) The Number Of Mls Required = % By Volume (factor = 1.0)

##### Dropper Test Procedure:

- 1) Take A 10 MI Sample Of Solution To Be Tested., (ph Must Be Within Operating Range Of 4.5-5.2)
- 2) Add 3-5 Drops Of Indicator #1 (phenolphthalein Indicator)
- 3) Add Drop By Drop (counting The Drops) Of 1.0n Caustic Until The Color Changes To Pink,
- 4) The Number Of Drops Required Divided By 3 = % By Volume

##### Ph Range:

Normal Operating Ph: 4.5-5.2

**To Raise Ph:** Add Small Amounts Of Ph Adjuster #14,

**To Lower:** Add Bond Guard Dm-3 Or #80 Acid If Concentration Is Too High.



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## Our People. Your Problem Solvers.

For more information on this process,  
please call us at 203.756.5521 or email: [techservice@hubbardhall.com](mailto:techservice@hubbardhall.com)

Hubbard-Hall holds certifications for **ISO 9001:2015**, Responsible Distribution, as accredited by the **ACD** (Alliance for Chemical Distributors) and as a **Women-Owned Small Business**, as well as maintaining an association with **Omni-Chem**<sup>136</sup>.