Product Bulletin
Product Name: Phos Oil #240
Product Code: 2052101
Revision Date: January 31, 2024

80-B INHIBITED ACID

INHIBITED ACID FOR RUST & SCALE REMOVAL

#80- B is an Inhibited phosphoric Acid used for rust, oxide and scale cleaning metals. Effectively dissolves & Removes rust, oxides and scale including laser scales from ferrous metals.
Can be used on aluminum and other types of surfaces also.

Can be used as an acid cleaner, soak and circulation for removal of rust, scale and oxides from all types of surfaces.

Biodegradable. Highly Concentrated. Low odors and fumes.

Features & Benefits

- Product is formulated with an effective inhibitor to prevent attack on clean base metals and to extend acid bath life.
- Non-fuming. low or No odors.
- Milder, less aggressive on surfaces.hours in salt spray.
- Free rinsing.

Physical Data

pH	1
Product Type	Liquid
Spec. Gravity	1.585
Lbs./gal.	13.22
Foam (0=Low; 9=High)	0
Shelf Life	10 years
Freeze Information	Not damaged by freezing

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Typical Processing

Time: : Several Minutes Up To 45-60 Minutes.
Temperature: 100- 170 Deg. F. Typical
Concentration For Moderate To Heavy Scale & Rust: 10-15%
Control concentration at predetermined level.
Dissolved iron will build up on the bath and requite decanting partial amounts of the bath or entirely preparing a fresh bath
testing the bath for iron is necessary. % iron should be less the 10 points.
For steel surfaces being derusted or other metals which may have a tendency of staining or flash rusting, rinse surfaces well and apply CORSEAL 917 INHIBITOR OR POLY FILM 2010.

Packaging

Container Type	POLY
Net Units	727.045
Tare Wt.	25
Gross Wt.	752.045
DOT_Name	UN 1805, Phosphoric Acid Solution,8, PG III
DOT Hazard	Corrosive
Tariff ID	

Use Parameters

Concentration Range	.25-25% by volume
Temperature Range	COLD UP TO 212 f.
Time Range	As necessary
Agitation	As necessary

Waste Disposal

Neutralize

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Holding Tank Materials of Construction

ACID RESISTANT, STAINLESS OR POLY

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

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Total Phosphoric Acid Test:
1) 10 Ml Sample
2) Total Acid Using (phenolphtalien Indicator)
3) Titrate Using .1 Normal (1/10) Normal Sodium Hydroxide To Pink Color
4) Number Of Mils Used Times A Factor Of .04 = % By Volume
(note: If Using 1.0 Normal Sodium Hydroxide The Factor = .40) (chckd 3/1/05)

Free Acid Test:
1) 10 Ml Sample (add 25 Mls Of Fresh Water To Assist In Viewing The Color Change)
2) Free Acid Using (bromphenol Blue (optionally Bromcresol Purple) Indicator)
3) Titrate Using .1 Normal (1/10) Normal Sodium Hydroxide To Blue Color (absence Of Light Color)
4) Number Of Mils Used Times A Factor Of .08 = % By Volume
(note: If Using 1.0 Normal Sodium Hydroxide The Factor = .80) (chckd 3/1/05)

Iron Content Test: (for Pickling Baths)
1) Transfer 10 Mils To Test Bottle.
(2) Add 20 Drops Of 50% Sulfuric Acid.
(3) Now Add Drop By Drop Test Sol. #189 (pot. Perman .189 N) Until Pink Color Stays

(4) Number Of Mls Used = Points Of Iron.
Clean Or Decant Bath To Lower Iron Level. Usually Iron Is Controlled Below 5-7 Points.
Total Acid Level Should Be Raised As Iron Points Go Up. 3 X Iron Pts + 30 = Total Acid Target (relative To Iron Level)

Iron Content Test: (drops Method)
1) Transfer 1 Mils To Test Bottle.
(2) Add 20 Drops Of 50% Sulfuric Acid.
(3) Now Add Drop By Drop Test Sol. #189 (pot. Perman .189 N) Until Pink Color Stays
(4) Number Of Drops Used Multiplied By A Factor Of 0.175 = Points Of Iron.
Clean Or Decant Bath To Lower Iron Level. Usually Iron Is Controlled Below 5-7 Points.
Total Acid Level Should Be Raised As Iron Points Go Up. 3 X Iron Pts + 30 = Total Acid Target (relative To Iron Level)

Notes:
The Use Of Phosphoric Acid For "production" Pickling Baths Is Very Difficult And Costly To Achieve.
The Negative Affects Of The Iron "ferrous" Phosphate By-product Is Extremely Negative To Performance. Surface Finish Of Acid Cleaned Steel
Can Present Challenges Relative To Red Oxide Blush Or Stain , Storage Rust And Oxidation. "ta" Total Acid Levels, "fa" Free Acid Levels,
Ta : Fa Ratios Maintained, And Ferrous Iron Minimized And In Ratio With Free Acid Determined For Temperature Of Each Process Bath.
Temperatures Can Be Very Critical When Operated Under 160 F. Typical Pickle Parameters Would Be : % Acid = 20 -40%, With Iron Levels
At 1 - 2% Maximum At 160 F +. (ref: Metals Finishing Magazine Nov. /1977 Page #13 Re: R. Hudson & C. Warning , C/o U.s. Steel Corp.)

Our People. Your Problem Solvers.

For more information on this process,
please call us at 203.756.5521 or email: 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**[136].