PREPALENE X
LIQUID CONDITIONING RINSE

Issued 1/30/2017

INTRODUCTION

PREPALENE® X is a patented, easy to handle liquid conditioning rinse that prepares iron, steel, aluminum, zinc, and zinc-alloy surfaces for subsequent phosphate coating applications. These surfaces may be treated individually or in mixed metal production by either spray or immersion processing.

The conditioning rinse promotes the formation of a dense, uniform, refined phosphate coating which is preferred for paint-based coatings and promoting superior adhesion and durability in corrosive environments. PREPALENE® X provides a greater tolerance for hard water conditions and results in superior and more complete phosphating of otherwise difficult to coat aluminum substrates and in recessed areas.

OPERATING SUMMARY

Chemical:	Bath Preparation per 100 Gallons:
PREPALENE® X	2.5 pounds 0.26 gallons)
PREPALENE® ADDITIVE 6	0.5 pounds (0.038 gallons)
PREPALENE® ADDITIVE 2	as needed to achieve pH 8.5 - 11.0
Operation and Control:	
Total Zinc	2.4 – 4.8 points
pH	8.5 to 11.0
Temperature	< 120° Fahrenheit
Time	> 10 seconds

THE PROCESS

The complete process for metal surface conditioning using PREPALENE® X normally consists of the following steps:

A. Cleaning
B. Water rinsing
C. PREPALENE® conditioner
D. BONDERITE® phosphating

E. Cold water rinse
F. BONDERITE® seal rinse
G. Deionized water rinse

MATERIALS

PREPALENE® X (conditioning agent)
PREPALENE® ADDITIVE 2
PREPALENE® ADDITIVE 6

EQUIPMENT

All equipment for use with the conditioning bath may be constructed of mild steel. In spray applications, maintenance will be simplified if the nozzles are fabricated from stainless steel.

Auxiliary equipment engineered specifically for this process includes: chemical transfer pumps, chemical metering pumps, reliable level controls and solenoid valve assemblies.

Information regarding Henkel automatic process controls and auxiliary equipment for this process is available through our sales representatives.

SURFACE PREPARATION

Cleaning:
All metal to be treated with the conversion coating solution must be free from grease, oil and other foreign matter before the treatment. A complete line of cleaners is available and your Henkel representative will recommend the proper Parco Cleaner for each installation.

Water Rinsing:
After cleaning, the metal must be thoroughly rinsed with water. The rinse should be warm, however the temperature should not exceed 120° Fahrenheit to avoid affecting the conditioning chemical. The rinse should be overflowed continuously at a rate that will keep it clean and free from scum and contamination.

TREATING WITH THE PREPALENE® X CONDITIONING SOLUTION

Buildup:
Fill the tank with water to 75 – 80% of its volume. Add PREPALENE® ADDITIVE 6 (0.5 pounds per 100 gallons). If possible, pre-mix PREPALENE® X (2.5 pounds per 100 gallons) with an equal amount of water in a side container before adding it to the operating tank. If pre-mixing is not possible, pump PREPALENE® X slowly to the most turbulent area of the tank. Continuous bath agitation is preferable. Bring the tank up to full volume with water. If necessary, adjust the pH up to 8.5 – 10.0 with PREPALENE® ADDITIVE 2. Use Testing and Control procedures to check bath parameters.

PREPALENE® X can be built up using high quality tap water. Your Henkel representative will assist you in evaluating the quality of your local tap water. If high quality tap water is unavailable deionized or reverse osmosis water can be used.

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Operation:
The cleaned and rinsed metal is treated with the PREPALENE® X conditioning bath immediately before the conversion coating treatment stage with no further rinsing until after the conversion coating step. Either spray or immersion application may be used. Continuous bath agitation is preferable.

pH:	8.5-11.0
Time:	10 seconds minimum.
Temperature:	<120° Fahrenheit.

TESTING AND CONTROL

If large additions of PREPALENE® X are necessary, pre-mix with an equal amount of water before adding to the bath. Add all chemicals to the most turbulent area of the bath.

Total Zinc:
Pipet a 10 mL sample into a 150 mL beaker. Add 2 drops of Auxiliary Test Solution 32 to dissolve all solid. Add 10 mL of Buffer Solution 420, then 3 drops of Indicator 40. Titrate with Titrating Solution 86 until the red/purple color changes completely to yellow. The mL of TS 86 used is the Total Zinc value in points.

Total Zinc range: 2.4 – 4.8 points.

To increase value 1.0 point: add 0.7 pounds of PREPALENE® X per 100 gallons of bath volume and 0.14 pounds of PREPALENE® ADDITIVE 6 per 100 gallons of bath volume. PREPALENE® ADDITIVE 6 should be added to the bath every time PREPALENE® X is added unless directed by your Henkel representative.

Concentration (lb per 100 gal)	Titration (points or ml)
1.7	2.4
2.5	3.6
3.3	4.8

pH

pH range: 8.5 – 11

To increase pH: Slowly add small increments of PREPALENE® ADDITIVE 2 to increase pH of an existing bath into the recommended range.

AFTER TREATMENT

The surface is now ready for application of the conversion coating solution. No further surface preparation is needed.

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STORAGE REQUIREMENTS

PREPALENE® X is a liquid product and should be stored at a temperature between 40° and 100° Fahrenheit. Extreme storage conditions should be avoided. Protect from freezing. Freezing temperatures irreversibly destroy this product.

WASTE DISPOSAL INFORMATION

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

Disposal information for the chemical in the form as supplied, is given on the Material Safety Data Sheet.

The conditioning solution is slightly alkaline and contains phosphate and zinc based on the chemicals as supplied. Waste treatment and neutralization may be required prior to discharge to the sewer. (Refer to Waste Treatment Information Bulletin No. WT1002, available on request).

The used conditioning bath solution can contain ingredients other than those present in the chemical as supplied and analysis of the solution may be required prior to disposal.

PRECAUTIONARY INFORMATION

When handling the chemical in the form as supplied, the precautionary, first aid and handling recommendations on the Material Safety Data Sheet for the product should be read, understood and followed.

The conditioning pretreatment bath is slightly alkaline and can cause mild irritation of the skin and eyes. Do not get in eyes, on skin or on clothing. In case of contact, follow the recommendations on the Material Safety Data Sheet for PREPALENE® X.

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Testing Reagents and Apparatus
(Order only those items which are not already on hand).

Code Number	Quantity	Item
VWR # 14216-230	1	Acid Dropping Bottle
592423	1.0 L.....	Auxiliary Test Solution 32
89000-202**.....	3*	Beaker, 150 mL
592477……	1	Buret Assembly, 25 mL Automatic
721889	2.0 L	Indicator 40 (xylenol orange, temperature sensitive, STORE at ≤ 25°C)
592475 …….....	1	Indicator Dropping Bottle
89003-350**.....	2*	Pipet, 10 mL Volumetric
53497-009**.....	1	Pipet Filler
VWR# 53600-108	1	Pitcher, Graduated, Plastic
592443	4.0 L	Titrating Solution 86
706702	4.0 L.....	Buffer Solution 420

* Includes one more than actually required, to allow for possible breakage.
** VWR Part # - vwr.com or 800-932-5000

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