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# PICKLE PAL®

TECHNICAL DATA  
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## PICKLE PAL®

### NON-HAZARDOUS INHIBITOR FOR HYDROCHLORIC ACID AND SULFURIC ACID PICKLE BATHS

- PICKLE PAL® produces bright, clean steel parts maximizing subsequent plating quality and greatly extends the life of a pickle bath.
- PICKLE PAL® eliminates smut formation with high carbon or carbo-nitrided steel. PICKLE PAL® improves pickle's ability to remove scale. PICKLE PAL® is low foaming.
- PICKLE PAL® is extremely beneficial when pickling heat treated parts.
- PICKLE PAL® is a cure for pickle-related blistering.
- PICKLE PAL® inhibits hydrogen build-up in parts which can occur during pickling. PICKLE PAL® prevents etching of parts from over-pickling.
- PICKLE PAL® greatly reduces soluble iron build-up in the pickle, significantly minimizing iron contamination of plating baths.
- PICKLE PAL® is compatible with plating baths and waste treatment processes.

## OPERATING PARAMETERS

<u>RANGE</u>	<u>OPTIMUM</u>
PICKLE PAL®: 0.5% to 3% by volume	1% by volume

## SOLUTION MAKEUP

### RECOMMENDATIONS FOR HYDROCHLORIC PICKLE BATHS

	<u>RANGE</u>	<u>OPTIMUM</u>
Concentrated Hydrochloric Acid:	20 - 50%	30%
PICKLE PAL®:	½ - 2%	1%
Immersion Time:	2 - 10 min.	4 min.
Temperature:	60 - 85° f	75° F

## MAINTENANCE ADDITIONS

Each time acid is added to the pickle tank, add the equivalent ratio of PICKLE PAL® as was used for the initial pickle makeup.

### EXAMPLE:

#### PICKLE BATH MAKEUP FOR 200-GALLON HYDROCHLORIC ACID PICKLE TANK

Concentrated Hydrochloric Acid 60 gallons

PICKLE PAL® 2 gallons

#### MAINTENANCE ADDITION

Concentrated Hydrochloric Acid 15 gallons

PICKLE PAL® ½ gallon

## HANDLING & STORAGE

Columbia Chemical recommends referring to the specific product Safety Data Sheets for safety, handling, and storage precautions.

## NON-WARRANTY

The data contained in this bulletin is believed by Columbia Chemical Corp. to be accurate, true, and complete. Since, however, final methods of use of this product are in the hands of the customer and beyond our control, we cannot guarantee that the customer will obtain the results described in this bulletin, nor can we assume responsibility of the use of this product by the customer in any process which may infringe the patents of third parties.