



METALEX

Multipurpose Soak/Electrocleaner

Product Code: 110311

DESCRIPTION

Metalex W Special is a mildly alkaline general purpose cleaner with a high percentage of wetting agent. It is especially compounded to counteract the negative effects of hard water. It is a free rinsing cleaner and tolerates long transfer times.

EFFECTIVE SOAK OR CATHODIC CLEANER FOR STEEL

Metalex W Special is used as a soak cleaner for steel to remove oils and certain types of buffing compounds. It is usually followed by a reverse current (work anodic) electrocleaner. When Metalex W Special is used as an electrocleaner, it is generally used with direct current (work cathodic). MacDermid Anodex compounds are recommended for reverse current cleaning of steel

GOOD COMPATIBILITY

Metalex W Special is compatible with all MacDermid alkaline cleaners and can be incorporated into the most effective cycle. Drag-in of Metalex W Special into Anodex will not affect the action of that electrocleaner or the following rinse.

BARREL OR TUMBLE CLEANER

For all basis metals other than aluminum, Metalex W Special may be used as a tumble cleaner prior to barrel plating or for other metal finishing.

It will effectively remove light oils. However, if heavy oil contamination is to be removed, the recommended material is Metex T-103 (Product Code No. 110113).

BRASS, SOAK OR ELECTROCLEANER

Metalex W Special finds wide application in cleaning brass. It may be used as a soak, direct or reverse current cleaner. With reverse current, time should not exceed 10 seconds.

FOR COLOR BUFFED OR BRIGHT NICKEL PRIOR TO CHROME PLATING

In this application, Metalex W Special may be used as a soak or direct current cleaner. In addition to the cleaning action, it will activate bright nickel plate or buffed nickel before chrome plating. The resulting plate will be bright and stain-free.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT





FEATURES & BENEFITS

Features	Benefits
General purpose cleaner	Reduced inventory - One material for many jobs
Specially formulated for hard water	Hard water will not affect its cleaning ability nor life
High wetting agent content	Results in better cleaning
Easily rinsed	Subsequent solutions not contaminated

OPERATING PARAMETERS

Parameter	Optimum
Concentration: Range Target	5 – 12 oz/gal (37.5 – 90 gm/L) 8 – 10 oz/gal (60 – 75 gm/L)
Temperature	150 – 200°F (65 – 94°C)
Time Soak or direct current Reverse current on brass	1 – 3 minutes 10 – 20 seconds
Current density	20 – 40 amps/ft ² 2.2 – 4.4 amps/dm ²
Voltage	4 – 6

MAKE UP PROCEDURE

When preparing a fresh solution of Metalex W Special which will be operated at the low temperature range, it is advisable to follow this procedure:

Slowly add the full amount of cleaner to a tank filled 3/4 full of warm water. Heat this solution to 65°C (150°F). After a few minutes, add the remainder of the water and adjust to the desired temperature. This procedure will insure complete solubility.





EQUIPMENT

Equipment: Steel tank and heating coil*

*A tank design incorporating a dam overflow weir, grease trap and recirculating pump is highly recommend.

SUGGESTED CYCLES

Steel - Oil & Buffing Compound Removal

1. Metalex W Special, soak or direct.
2. Water rinse.
3. Anodex.
4. Water rinse.
5. Metex Acid Salt M-639.
6. Water rinse.
7. Electroplate.

Brass With Oil & Buffing Compound

1. Metalex W Special, soak.
2. Metalex W Special, 3-5 seconds reverse current, 4-5 volts.
3. Water rinse.
4. Metex Acid Salt M-639.
5. Water rinse.
6. Electroplate.

Stainless Steel - Chrome Plating Cycle

1. Soak clean, Metalex W Special, 60 gm/L (8 oz/gal), 72-87°C (160-190°F).
2. Spray rinse.
3. Anodic clean at 0.5-5.5 amps/sq dm (5-50 amps/sq ft), Anodex NP-2, 45-60 gm/L (6-8 oz/gal), 45 seconds, 3-6 volts, 76°C (170°F).
4. Spray rinse.
5. Acid dip, Metex Acid Salt M-639, 120 gm/L (1 lb/gal), room temperature.
6. Rinse.
7. Rinse.
8. Electroplate





Barrel Plating

Tumble clean - all basis metals - Metalex W Special, 60 gm/L (8 oz/gal), prior to barrel plating

1. Metalex W Special.
2. Water rinse.
3. Metex Acid Salt M-639.
4. Water rinse.
5. Barrel plate.

SOLUTION ANALYSIS

1. MacDermid Test Kit Factor

Metalex W Special = 1.00

Test kits are available, at no charge, upon request to MacDermid, Inc. The accuracy of the test kit procedure is within about 10%. If an analytical procedure is desired for greater accuracy, use the following.

2. By Titration

- a) Pipette a 10 mL sample into a 250 Erlenmeyer flask and dilute with 50 mL H₂O.
- b) Add 3-5 drops of phenolphthalein indicator solution.
- c) Titrate with 0.5 Normal hydrochloric acid until pink color disappears.

Calculations:

ml 0.5N HCl x 0.68 = oz/gal Metalex W Special
(ml 0.5N HCl x 5.10 = gm/L Metalex W Special)

ANALYTICAL PROCEDURES

1. Determine if the polarity is correct. Cleaning problems can be caused by the use of incorrect polarity.
2. Burning of work in electrocleaners may be due to one or more of the following factors:
 - a. Low temperature or concentration.
 - b. High voltage.
 - c. High current density.
 - d. Improper cleaning compound for base metal.

Check the cleaning current density. A low current density may be due to polarized electrodes. The electrodes should be removed and cleaned periodically.





SAFETY & WARNING

MacDermid Enthone recommends that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use.

Safety Data Sheets are available from MacDermid Enthone.

WASTE TREATMENT

Prior to using any recommendations or suggestions by MacDermid Enthone for waste treatment, the user is required to know the appropriate local/state/federal regulations for on-site or off-site treatment which may require permits. If there is any conflict regarding our recommendations, local/state/federal regulations take precedent.

ORDER INFORMATION

Product	Code
Metalex W Special	110311

CONTACT INFORMATION

To confirm this is the most recent issue, please contact MacDermid Enthone
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Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE. Emergency directory assistance Chemtrec 1 - 800 - 424 - 9300.

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