

# MetaFlux™ WS-700

## Product Bulletin

### Water Based Water Soluble Flux

Metallic Resources' MetaFlux WS-700 is a VOC-free, water soluble, water-based organic foam soldering flux specially formulated for wave soldering applications. The amino acid halide activator starts cleaning metals at room temperature and achieves peak efficiency and activity at 500°F (260°C); it thus promotes excellent solderability. It is available in 1-gal. containers, 5-gal. pails, and 55-gal. drums.

### Designed for Foam Fluxing

MetaFlux WS-700 is specially designed for wave soldering applications where foam fluxing is desired. It is ideal for soldering difficult printed circuit boards where demanding conditions exist. It may also be applied by spray application.

### Versatile and Economical

MetaFlux WS-700 solder flux can be used over a wide variety of electronics applications, thus creating versatility and economy. Since it is water based, it is extremely safe to use. The high activity makes it ideal for high production rates for greater cost-effectiveness. Residues are chemically neutral, non-corrosive, non-conductive, and non-hygroscopic.

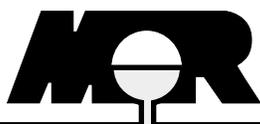
### Application Directions

MetaFlux WS-700 is formulated for foam fluxing wave soldering applications.

An excess amount of flux will hinder rather than improve the application. The specific gravity should be checked at least once a day. The specific gravity may increase with prolonged use. Precipitation of flux solids may occur if the specific gravity exceeds 1.050 g/cc, and stone clogging may then occur. However, since the product is water based, extremely little evaporation takes place. The circuit boards should be preheated to reduce/eliminate spattering and solder ball formation when the board makes contact with the hot solder. Employ as high a preheat temperature as possible without causing damage to the board and components. Hot air preheating will facilitate drying. Residue should be washed with hot distilled or de-ionized water (140°F or 60°C minimum).

### Physical Properties

|                         |                                 |
|-------------------------|---------------------------------|
| Form                    | Clear liquid                    |
| Color                   | Blue                            |
| Specific Gravity        | 1.040 ± .005 g/cc @ 68°F (20°C) |
| Density                 | 8.32 lb./gal.                   |
| Solids Content          | 13.0%                           |
| Flash Point             | None                            |
| pH                      | 1.4 ± 0.30                      |
| Chloride Content        | 12.5-17.5 g/l                   |
| Acid Equivalent         | 0.60-1.0 g/l (hydrogen)         |
| Spread Factor           | 80 (minimum)                    |
| Surface Tension         | 35 dynes/cm (max.)              |
| Boiling Point           | 173°F (78.3°C)                  |
| Freezing Effects        | None                            |
| Optimum Soldering Range | 375-500°F (200-260°C)           |
| Residues                | Water Soluble                   |



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## Safety Precautions

MetaFlux WS-700 requires no special safety measures because it is water based. Adequate ventilation is recommended to eliminate fumes generated by the flux, the solder, and the circuit boards. Avoid contact with skin and eyes. The product should be stored in plastic containers away from heat in temperatures between 60°F to 80°F. This product has a one (1) year shelf life from date of manufacture. Refer to the Material Safety Data Sheet (MSDS) for additional information.

## Standards Met

U.S. Army Satellite Communications Agency Spec No. SM-A571678. Federal Spec. QQ-S-571E, Type AC, non-rosin flux, organic chloride. IPC J-STD-004, Type ORM1. Federal Spec. O-F-506C, Type 1, Form B.

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Recommendations made by this company and its representatives are based upon test data, experiments, and experience believed to be reliable. No guarantee of accuracy is made, however. All products are sold upon the condition that the buyer will make his own tests and assume the responsibility for the suitability of the product under his application and service conditions. Statements made herein will vary according to the nature of the surfaces to which the product is applied, application technique, and service condition. We in no event assume liability beyond the purchase price of our products involved and make as a condition of sale that we will refund the purchase price or replace materials proven to be defective and reported in a timely fashion, but no later than six (6) months after shipment. No representative of the manufacturer and/or seller has the authority to alter or extend these conditions.