



# MetaFlux™ NC-820

## Product Bulletin

### Water Based No-Clean Flux

Metallic Resources' MetaFlux NC-820 is a water-based odorless no-clean soldering flux specially formulated for wave soldering applications where post-soldering cleaning of the PWB can be eliminated. It is halide-free, and does not contain any VOC's. MetaFlux NC-820 successfully replaces rosin-based fluxes, and it does not contain any rosin or resins. It is available in 1-gal. containers, 5-gal. pails, and 55-gal. drums.

### Foam, Spray, Drag Fluxing

MetaFlux NC-820 is specially designed for wave soldering applications where the elimination of post-cleaning is desired. It is very successfully used in foam, spray, or drag soldering processes.

### Non-Reactive Residues

MetaFlux NC-820 has a low solids content and is halide-free, which allows the product to leave only negligible traces of non-reactive residues. The VOC-free formulation requires little or no need to monitor activation levels. It is environmentally friendly and non-flammable. The slow evaporation rate reduces or eliminates the need for thinners and titration kits.

### Application Directions

MetaFlux NC-820 is formulated for foam, spray, and wave fluxing applications as supplied. The low residue flux solids are designed to be removed by the solder during soldering operations. When cleaning is necessary, hot de-ionized water (140°F or 60°C) completely removes remaining residue. When soldering with this product, top side temperatures of 190°F to 240°F must be obtained to prevent spattering and formation of solder balls when the board comes in contact with the solder.

This flux requires a higher preheat temperature to achieve the above recommended topside temperature. The type of preheating element used and the length of the preheat stage will also determine temperature settings. Being water based, MetaFlux NC-820 requires only a minimal air pressure between 0.75 and 2.0 lbs. to develop a foam head. The chimney should be left open and then closed to the desired foam height. Since the product is water based, extremely little evaporation takes place. If thinning is necessary, use distilled water.

It is recommended that process equipment coming into contact with the flux, including the flux tank, should be cleaned with distilled water and/or alcohol before and after exposure to the flux.



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## Physical Properties

Form	Clear liquid
Color	Colorless
Specific Gravity	1.015 @ 68°F (20°C)
Density	8.44 lbs./gal.
Solids Content	2%
Flash Point	None
Boiling Point	212°F (100°C)
Discoloration	None
Chloride/Halide Content	None
Acid Number	18 - 22
SIR Values (Average)	5x10 <sup>11</sup> Ohms
Optimum Soldering Range	390-520°F (200-270°C)

## Safety Precautions

MetaFlux NC-820 is water based, but should be stored in plastic containers away from heat. Use adequate ventilation to remove fumes. Avoid contact with eyes and skin and avoid breathing vapors. This product has a one (1) year shelf life. Refer to the Material Safety Data Sheet (MSDS) for additional information.

## Standards Met

IPC ANSI-J-STD-004, Type ORL0.

NC820-1-697

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