

# WATER SOLUBLE LIQUID FLUX

Multicore Hydro-X/20 water soluble flux is formulated for use on electronic assemblies designed for water cleaning.

- Highly water soluble solder residues eliminates CFC usage
- No penetration of properly cured solder resists
- No solder balls on dry film resists
- Leaves boards very clean with no white residues after washing
- No offensive odour
- Minimal residues on clean boards which easily meet the requirements of MIL-P-28809A

## APPLICATIONS

Multicore Hydro-X/20 Water Soluble Flux is formulated for use on electronic assemblies which have been designed for water cleaning and will therefore meet the demand for those fluxes whose residues need not be removed in CFC type cleaning solvents.

A number of safety features have been built into the formulation of Hydro-X/20, particularly the fact that residues after soldering do not create excessive foam in the washing water and can be considered safe for disposal.

## RECOMMENDED OPERATING CONDITIONS

**The Printed Circuit Board:** Multicore Hydro-X/20 is suitable for use on plain copper or tin-lead coated PCBs. It does not penetrate solder resists which have been properly cured. On dry film resists, such as Vacrel, there is no tendency to produce solder balls.

**Fluxing:** Multicore Hydro-X/20 has been formulated for use in automatic wave and drag soldering machines and is particularly suitable for use with foam units. The fine quality form generated produces a uniform coating of flux on the circuit boards.

**Flux Control:** Control of the flux concentration is achieved by measuring the temperature and the specific gravity of the flux. A nomograph is available to show how these measurements are related to the corrective action needed.

**Preheating:** During preheating, the solvent blend used in Multicore Hydro-X/20 will not cause spattering to occur.  
**Solders:** Multicore Hydro-X/20 can be used with all standard solder alloys.

Multicore Hydro-X water soluble flux cored solder wires and solder creams are also available.

**Cleaning:** It is essential that the residues from soldering with Multicore Hydro-X/20 flux be removed as soon as possible after soldering. Multicore Hydro-X/20 flux residues may be readily cleaned in conventional equipment using water. The flux residues do not cause excessive foam in the washing water and present no special hazard during disposal. Properly processed and cleaned boards soldered using Multicore Hydro-X/20 easily meet the ionic contamination requirements of MIL-P-28809A. It is recommended that samples from production are regularly checked to see that the cleaning process is operating effectively.

## TECHNICAL SPECIFICATION

A full description of the methods of test and detailed test results are available on request.

General Properties	Hydro-X/20
Colour	Green
Solids content	20 ± 1% w/w
Specific gravity at 25°C (77°F)	0.874 ± 0.003
Halide content (as % chloride)	0.98 ± 0.02
Flash point (Abel)	12°C (53°F)
Acid value (mg KOH/g)	30 ± 5
pH	3.0
Freeze-thaw stability	Will not separate at temperatures as low as -20°C
Thinners	PC70i

Other concentrations of Multicore Hydro-X/20 may be available for special applications.

## SPECIAL PROPERTIES

Multicore Hydro-X/20 will solder copper, brass, nickel and mild steel efficiently. It will not spatter during preheating and soldering.

The soldering residues from Hydro-X/20 are readily washed off to leave a surface which easily meets the requirements of MIL-P-28809A ionic contamination test.

## HEALTH AND SAFETY

The following is intended for general guidance only. A more comprehensive Health and Safety Data Sheet is available.

Multicore Hydro-X/20 is safe to use provided that certain precautions are observed:

**Fumes and Vapour Precautions:** Excessive inhalation of the solvent vapour, which may cause headaches, dizziness and nausea, and the flux fumes given off at soldering temperature, which are irritating to the throat and respiratory organs, should be avoided. The TLV of the solvent is 400ppm.

Multicore Hydro-X/20 liquid flux must always be used in well ventilated areas. Suitable fume extraction equipment should be used to extract solvent vapours and flux fumes away from the breathing zones of operators.

**Protection and Hygiene:** Suitable protective clothing should be worn to prevent the material from coming into contact with the skin and eyes. If the materials comes into contact with the skin, the affected area should be washed with soap and warm water. If the materials comes into contact with the eyes, they should be irrigated thoroughly with running water for at least 10 minutes and medical attention sought.

Eating and drinking should not be permitted in the working area and hands should be washed thoroughly with soap and warm water before eating.

**Fire Hazards and Precautions:** Multicore Hydro-X/20 liquid flux contains a highly flammable solvent with a flashpoint of 12°C (53°F). The material must not be used near naked flames or non-flameproof electrical equipment. Smoking must not be permitted in the working area. Carbon dioxide, alcohol resistant foam or dry powder extinguishers should be used if the material catches fire.

**Spillage and Waste Disposal:** Spillage of the material should be absorbed with sand or sawdust. Waste material should be stored in closed containers and disposed of in accordance with local regulations.

#### Note

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Loctite Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Loctite Corporation's products. Loctite Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Loctite Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

The logo for Loctite, featuring the word "LOCTITE" in a bold, red, italicized sans-serif font. A registered trademark symbol (®) is located at the bottom right of the word.