ChemTools PCB Wash

Technical Information

Aqueous Defluxing Solution

Description

ChemTools PCB Wash is a blend of biodegradable solvents, saponifiers and detergents in water, formulated to remove flux residues and greases. PCB Wash is ozone friendly and has low activity towards metals.
PCB Wash has the following benefits:

- Does not contain CFCs.
- Ozone friendly.
- Biodegradable.
- Non-Flammable.
- Lower toxicity than chlorinated solvents.
- Most cost effective than CFC or HCFC solvents.
- Works at ambient temperature.
- Compatible with a wide range of metals and plastics.
- Will clean PCBAs to MIL-P-28809A.
- Absorbs high levels of fluxes and soils.
- Low foaming version available.
- Available in a range of sizes for use in ultrasonic cleaning tanks and manual cleaning. Packaged ready to use, as dilution is not necessary.

PCB Wash will remove all types of electronic grade fluxes (RMA, no-clean and water washable) from PCBAs quickly and efficiently without the need for heating. It may also be used to remove solder paste from stencils and misprinted PCBs as well as flux residue from wave soldering jigs.

Physical Properties:

Composition:	Water based
Colour:	Clear, light blue
Specific Gravity:	1.05
Flash Point:	None
pH	12

Application Methods:

Batch Cleaning Systems

PCB Wash may be used in multi-tank cleaning systems with ultrasonics or spray-under-immersion as a replacement for chlorinated/fluorinated solvents.

CHEMTOOLS®

Chemtools P/L
Unit 4, 3 Pullman Place
Emu Plains, NSW 2750

Phone: 02 4735 3126
Fax: 02 4735 3746

info@chemtools.com.au

www.chemtools.com.au

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The recommended cleaning sequence is:

1) Wash (ultrasonic, or spay-under-immersion)
Here fluxes and greases are dissolved, together with any ionic residues and held in solution. Due to the very low surface tension of PCB Wash, it is able to penetrate underneath surface mount devices in a short time with the aid of some agitation. Ultrasonic agitation is preferred as mechanical agitation will cause foaming.
Elevated temperatures (of up to 40°C) may be used, but PCB Wash is designed to work at normal room temperatures (20° to 30°C).

2) Tap water rinse
These rinses off any PCB Wash and again, agitation should be employed to ensure complete removal from under low SM devices. A slightly higher temperature will improve this rinse.
The EPA or local water authority should be consulted to ensure that the amount of contaminated rinse water sent to the drain is within their guidelines, and this will be determined by the amount of carry-over from the wash tank (drainage time) and the quantity of PCBAs processed.

3) Deionised water rinse
A deionised water rinse is recommended though not always required if the tap water does not contain high levels of dissolved minerals. If the tap water is 'hard' then streaks or spots may be seen upon drying.

4) Dry
Drying time will depend upon air flow and temperature, together with the efficiency of the drying unit itself.

In-Line Cleaning Systems

The low foaming version of PCB Wash may be used in high pressure or industrial dishwasher type cleaners.

1) Wash
The amount of PCB Wash (low foam) to use in the wash cycle will depend upon the nature and amount of the soil to be removed. Generally sufficient should be added to produce a concentration of 5 to 15%. Wash temperatures of between 30° to 60°C should be used. As washing machines vary in design, some testing will be required to determine the optimum settings with the boards to be cleaned.
Prior to rinsing the wash water is pumped to waste. The EPA or local water authority should be consulted to ensure that the amount of contaminated rinse water sent to the drain is within their guidelines.

2) Rinse
This usually involves tap and/or deionised water which could be recirculated. Again rinsing at an elevated temperature will improve the efficiency.

3) Dry
Drying can be performed with convection heating or with heated air blowers.

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Manual Cleaning

Apply by spraying onto the area to be cleaned. Leave for 2 to 3 minutes. If the residues are stubborn brushing may be required. Use undiluted in ultrasonic tanks. Use tap water to rinse the area thoroughly and then rinse off with either deionised water or **ChemTools** isopropyl alcohol.
Test before use on reactive or sensitive metals and plastics e.g. aluminium, ABS, polycarbonate.

Storage:

Store in a cool, dry place in original containers, at a room temperature between 5°C to 30°C. Please do not return any used material to its original container.

PRECAUTIONS: This product and the auxiliary materials normally combined with it are capable of producing adverse health effects ranging from minor skin irritation to serious systemic effects. None of these materials should be used, stored, or transported until the handling precautions and recommendations as stated in the Material Safety Data Sheets (MSDS) for this and all other products being used are understood by all persons who will work with the material.
Warranty: All products purchased from or supplied by ChemTools are subject to terms and conditions set out in the contract. ChemTools warrants only that its product will meet those specifications designated as such herein or in other publications. All other information supplied by ChemTools is consider accurate but are furnished upon the express condition the customer shall make its own assessment to determine the product's suitability for a particular purpose. ChemTools makes no other warranty, either express or implied, including those regarding such other information, the data upon which the same is based, or the results to be obtained from the use thereof; that any product shall be merchantable or fit for any particular purpose; or that the use of such other information or product will not infringe any patent.

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