

# OS243 Solder Stripper

## DESCRIPTION

OS243 Solder Stripper is a single step, nonperoxide, nonfluoride, nonchelated stripper designed to quickly and completely remove electroplated tin and tin/lead from copper surfaces. It is also effective on fused deposits. OS243 is virtually free from exotherm and does not attack exposed laminate on printed circuit boards. OS243 contains no chelating agents, such as ammonium ions, so spent baths can be easily waste treated by simple hydroxide precipitation methods.

OS243 is particularly well suited to automated spray stripping of tin and tin/lead deposits. It can be run in a feed-and-bleed operation using a controller set to maintain the determined specific gravity. Equipment containing titanium, stainless steel or plastics is suitable for use with OS243.

OS243 holds in excess of 20 ounces per gallon of dissolved tin or tin/lead without the formation of sludge.

OS243 contains an antioxidant to retard oxidation of copper. Parts stripped in OS243 are bright and resistant to oxidation during indoor storage.

## OPERATING PARAMETERS

<b>Concentration</b>	Undiluted
<b>Temperature</b>	Ambient (75°F to 95°F)
<b>Time</b>	30 seconds to 5 minutes as required to remove solder

## PHYSICAL PROPERTIES AND OPERATING PROCEDURES

### Spray Stripping

Adequate ventilation must be in place prior to spray stripping with OS243. Make sure sump is clean and empty, and then fill with undiluted OS243. Operate equipment in accordance with manufacturer's instructions. Maintain OS243 solution in desired temperature range. 75° to 90° F is recommended for most applications. Control conveyor speed so that the tin or tin/lead deposit is essentially removed by the time the parts are about half way through the spray chamber. This allows the remaining spray zone to flush away the metal deposits from areas where the plating is unusually thick. Spray rinse and dry immediately to prevent water spotting.

### Dip Tank Stripping

Adequate ventilation must be in place prior to dip stripping with OS243. Fill tank to desired level with undiluted OS243 Solder Stripper. Maintain solution temperature in the desired range. 75° to 90° F is recommended for most applications. Immerse parts to be stripped into the bath for 30 seconds to 2 minutes or as required to completely remove the solder deposit. Gentle agitation of parts or solution will speed stripping action. As soon as stripping is complete, remove parts from the bath and briefly allow



excess stripper to drain back into the tank. Rinse immediately in fresh overflowing water or spray rinse with fresh water. Dry parts at once, to prevent water spotting.

## CONTROL PROCEDURES

### ANALYSIS OF CONCENTRATION

1. Pipet 1 mL of the OS243 bath into a 150 ml beaker.
2. Add 50-75mL distilled or deionized water.
3. Add 2-3 drops of Phenol Red indicator
4. Titrate with 1.0N sodium hydroxide to a red endpoint
5. Calculations: mLs 1.0 N NaOH x 18.5 = % OS243

The analysis will determine OS243 concentration based on total acidity. The results of a fresh bath should be between 95% and 105%. If the total acidity drops to below 80% as the bath is used, check for possible sources of water such as drag-in of wet boards from the etcher, leaks in cooling coils, or backup of rinse water across panels.

If the total acidity rises above 130% as the bath is used, check for sources of evaporation such as excessive temperature or excessive ventilation. Water can be added to lower the concentration using the following calculation:

$[1 - (\text{desired concentration}/\text{analyzed concentration})] \times \text{bath volume (in gallons)} = \text{gallons of water to be added.}$

OS243 is often run on a feed-and-bleed basis using a specific gravity controller. The recommended set point varies depending on several parameters. Your OSTECH representative will work with you to determine the optimum specific gravity for your application. A procedure to estimate the concentration of dissolved metals in OS243 baths using specific gravity is available on request.

OS243 contains fume suppressants to retard generation of the noxious brown-red fumes that often accompanies dissolution of metals with nitric acid based products. Sometimes, especially when stripping in open dip tanks, more fumes may be generated than the fume suppressants can accommodate. If the characteristic brown-red nitric fumes occur, increase ventilation rate so that the concentration of fumes is kept below the maximum acceptable level specified by OSHA and ACGIH.

## SAFETY AND STORAGE

Tanks and other equipment made of PVC, polypropylene, and polyethylene are satisfactory. Titanium and stainless steel may be used in contact with OS243. Teflon or quartz heaters are recommended for use with OS243.



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## Product Data Sheet

OS243 contains strong acids that are corrosive to skin and eyes. Protective clothing such as impervious gloves, apron, boots, and chemical safety goggles should be worn when handling this product. In case of accidental skin contact, flush with water. In case of eye contact, flush with water for 15 minutes and seek medical attention immediately. OS243 is harmful if swallowed. Avoid breathing vapors or mists.

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