

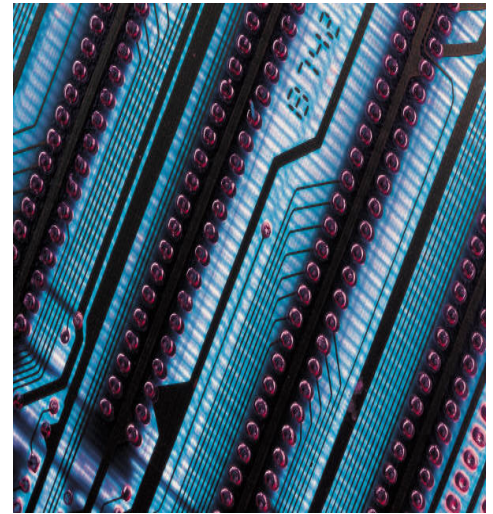
# Product Bulletin

## AQUANOX® A4512 Low VOC Aqueous Electronics Cleaner

### FEATURES & BENEFITS

- Mild pH (≈/ - 10)
- No Sump-Side Adds
- Low Foam
- Multi-Metal Safe
- Low VOC
- No HAP's
- Brilliant solder Bumps
- Non-Flammable
- Low Use Cost
- Long Bath Life
- RoHS Compliant

AQUANOX® A4512 is a mild aqueous amine blend specially designed for optimum effectiveness on pastes, fluxes, and assembly residues while being relatively people-safe and environmentally friendly. Easy to use, A4512 is diluted further with water as desired, or it may be applied as received without damage to delicate substrates if extra cleaning efficiency is needed for more challenging cleaning situations. AQUANOX® A4512 needs no sump-side adds and leaves solder joints brilliant.



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### Typical Physical and Chemical Properties:

<b>Appearance</b>	Clear straw liquid	<b>pH 100%</b>	9.8-11.0
<b>Odor</b>	Mild amine	<b>pH 10%</b>	9.2-10.4
<b>Specific Gravity</b>	1.046	<b>VOC, 8.0%</b>	24 g/L
<b>Weight/gallon</b>	8.73 #	<b>VP of VOC Comp.</b>	0.06 mmHg at 20 °C
<b>Flash Point, °F/°C</b>	None to boiling	<b>Refractive Index</b>	30-46° Brix at 100%
<b>Boiling Point, °F/°C</b>	212/100	<b>Water Solubility</b>	Miscible

### Suggested Process Parameters:

<u>Process Type</u>	<u>Concentration Range</u>	<u>Temperature Range</u>	<u>Rinse/Dry</u>
Spray; In-line	5-15%	120-160 °F	DI/Air
Spray; Batch	5-15%	120-160 °F	DI/Air
Immersion, Agitation	5-100%	amb.-160 °F	DI/Air
Immersion, Soak	5-100%	amb.-160 °F	DI/Air
Immersion, Ultrasonics	100%	amb.-160 °F	DI/Air
Manual Wipe	5-100%	ambient	Optional

The above conditions are meant to be starting ranges. Process parameters may be increased or decreased as needed depending on the specific parts and soils involved. Your Kyzen Sales Representative can assist you in optimizing your process parameters.

# AQUANOX A4512

Low VOC Aqueous Electronics Cleaner

## Compatibility:

AQUANOX A4512 is multi-metal safe for use on yellow metals, aluminum, ferrous and composites in addition to most precious metals. It is safe to use with PVDF, Kalrez®, Teflon and ceramic elastomers and filters, while it is best used in polypropylene or stainless equipment.

## Hints for Successful Use:

- Effective at all-temperatures, performance is optimum at 130-145 °F.
- AQUANOX A4512 should be used as received (100%) when used with ultrasonics.
- For a mirror finish on your solder bumps, rinse with deionized (DI) or reverse osmosis (RO) water.
- Dry parts with hot or circulating air.
- Concentration, temperature and time should be optimized for the parts and equipment involved.
- Lead-free and high temp. re-flow soils may require higher concentrations for optimum effectiveness.

## Rinsing and Drying:

- Use deionized (DI) or reverse osmosis (RO) water to minimize dendritic growth
- Keep rinses fresh, monitoring by conductivity or resistivity. Recycle.
- Inspect nozzles and equipment regularly. Repair and maintain as needed.

## Bath Life:

Bath life studies show high loading capacity. This equates to long tank life, low maintenance costs and reduced waste generation and chemical consumption.

## Maintenance Methods:

AQUANOX A4512 concentration should be monitored and maintained on a routine and regular basis depending on tank use. Your Kyzen Representative can assist you with this. Best results are obtained with a Dropper Titration Test Kit available from Kyzen.

Refractive Index is an alternative less reliable method for tank monitoring.

## Environmental, Health and Safety:

AQUANOX A4512 is a biodegradable aqueous solution with 24 g/L VOC at 8%. It contains no CFC's or HAP's, It is non-flammable and non-corrosive. Refer to the Material Safety Data Sheet for more information.

## Storage and Handling:

All ingredients in this product are TSCA listed. It is a non-flammable, non-corrosive liquid containing 2-aminoethanol.

Packaged in polyethylene containers five gallons and greater, AQUANOX A4512, with the seal unbroken, has a suggested shelf-life of 5 years.

## Availability:

AQUANOX A4512 is available commercially in one (1) gallon, five (5) gallon and 55 gallon containers.

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