

CHROME ETCH 18

CHROME ETCH 18 is designed for use in microlithographic applications where high reproducibility and tight dimensional control is required. The ready-to-use solution, which is based on acidic ceric salts, is stable and compatible with positive and negative resist systems.

The principle application is mask manufacture in microelectronic industry for etching bright and anti-reflective chrome thin-films on mask blanks. Other applications are in thin-film technology (thin film circuitry, optical gratings, microelectronic devices, etc), for etching chromium, chrome-nickel alloys, molybdenum and tungsten films.

OPERATION:

The ready-to-use Chrome Etch 18 can be used in immersion and spray modes with appropriate equipment. A typical etch rate on chrome at 22°C is approximately 1500 angstroms/minute but this rate will vary significantly depending on purity, crystal structure, thickness and method of deposition of the chrome film. For optimum reproducibility, the bath temperature should be maintained within 1 K.

Immersion times should be sufficient to just remove the chrome film with an additional 5 seconds allowed to eliminate any possible residues. The use of a spray rinse prior to a vigorous immersion rinse is recommended to prevent any precipitation of ceric salts.

The Chrome Etch 18 bath should be replaced when the etching time exceeds the initial etch time by 50%.

PHYSICAL & CHEMICAL PROPERTIES:

Specific Gravity at 20/20°C :	Approx. 1.140
Colour :	Orange
Turbidity :	Clear
Ceric Content :	Approx. 40 g/l
Total Acid Normality :	Approx. 1.90 N

HANDLING PRECAUTIONS:

WARNING! Acidic, oxidising, corrosive solution. Harmful if swallowed or if in contact with skin and eyes. Avoid contact with reducing agents and organic materials. Wear chemical goggles and protective clothing. Exercise due care in handling.

EQUIPMENT:

Use equipment constructed of polyethylene, polypropylene or equivalent material.

DISPOSAL:

Chrome Etch 18 is an acidic solution and should be neutralised with an appropriate alkali prior to disposal.

STORAGE:

Store in sealed original containers in dry area at 10-30°C. Do not store in direct sunlight.