

## Product Application

TechniEtch Cr n:1 is based upon a mixture of perchloric acid (HClO<sub>4</sub>), and ceric ammonium nitrate (NH<sub>4</sub>)<sub>2</sub>[Ce(NO<sub>3</sub>)<sub>6</sub>]. Ceric ammonium nitrate itself is a very strong oxidizer. The following chemical equation summarizes the mechanism of chromium etching with per-chloric acid and ceric ammonium nitrate:



Chromium nitrate steadily produced during etching forms a dark film on the chromium surface and - due to its aqueous solubility - is dissolved in the etchant.

## Solution Main Features:

- Cr etch rate at room temperature 60-100nm/min
- Al, Ti, W, Ni @ RT from 10nm/min to 200nm/min
- Cu, Ag, V are heavily etched >200nm/min
- Au, Pd, Pt are compatible
- Compatible with positive tone resin
- Can be diluted down to adjust Cr etch rate

## Compatibility:

- Heavy attack on Fe, Mo, Ni
- Slow attack on Ag, Al, Co, Mg, Mn, Sn

Please note that the etch rate may vary significantly depending on purity, crystal structure, thickness and method of deposition of the chrome film.

## Physico-Chemical properties

- State: Liquid at room temperature.
- Color: yellow to orange
- Density: 1,2
- Miscible with water in all proportions.
- Boiling point: >100°C.

## Additional information

- For use in batch and spray tool platforms
- The metal etch rate is mass transfer dependent
  - Dynamic dispense leads to high etch rate
- Water rinse
- Shelf life of 6 months minimum.

## Quality

Technic' solutions are formulated using most adopted purity and quality raw materials to ensure and respond to specific customer's process specifications .e.g. metal level contamination, particle count, packaging...

The full manufacturing process is in accordance with the company quality policy.

## Health, Safety and Environment

To obtain comprehensive information on the safe use and handling of the Technic's solutions, a material safety data sheet is available on request.

**Technic's safety policy is to optimize and promote safer chemical to the industry in accordance to latest European regulation and Customer' chemical banned substance list.**

## Contact

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