

Ammonium Hydroxide

Process:

Ammonium Hydroxide for metal etches, surface modifications and cleaning solutions.

Materials:

Ammonium Hydroxide (29%), sometimes diluted with water.

Incompatible Materials:

No Oxidizers (such as Hydrogen Peroxide) without specific training. Be cautious of splattering due to heating if etching metals or combustibles.

Hazards:

Destructive on contact with human tissues. Though typically apparent immediately, burns may take minutes to become apparent. Harmful Ammonia fumes will erupt from bottle and baths even at room temperature. If your nose tingles from inhaled ammonia, you will no longer be able to smell the fumes and should leave the area. Ammonium Hydroxide vapors are slightly flammable, but can only typically ignite in heated enclosed containers.

Exposure Actions: Do what's below, and then notify CNM2 staff within a few hours. For advice, call CNM2 staff.

Eyes: Hold eyes open in running eyewash station for 15 minutes and call 911 as soon as possible.

Skin: Remove splashed clothing, wash for 15 minutes and seek medical aid if irritation persists.

Personal Protective Equipment:

Goggles, face shield, heavy chemical gloves (blue disposable Nitridex)¹, and heavy chemical apron.

Acceptable Locations For Use:

Wet process stations 2, 8, 9, 11, acid & base fume hood². If hotter than a simmer, only acid & base fume hood.

Additional Process Notes:

If dilution is needed measure water, add Ammonium Hydroxide, then stir³. Heat only after mixing is complete if greater than ambient temperature is desired⁴. Beware of fumes when heating. Ammonium Hydroxide is transparent so be sure to rinse your work station after use². Ammonium Hydroxide is occasionally used around acids such as in the RCA process, where it becomes important to note that most Ammonium Hydroxide residues only last a few hours in cleanroom conditions.

Disposal:

Allow to cool, then decant or aspirate to neutralizer. Heavy metal bearing solutions should instead be disposed of in the "Ordinary Alkalis" bottle⁵.