

Tetramethylammonium Hydroxide (TMAH or TMAOH)

- Physical Properties

- Colorless to yellow-colored liquid
- Odorless if pure, or ammonia odor if impure with trimethylamine
- Strong base
- Usually sold as a weight solution in water (25%) or MeOH (20%)

- Toxicity

- Highly toxic by skin absorption, inhalation, or ingestion
- Corrosive (severe burns)
- Weak inhibitor of acetylcholinesterase
- Symptoms: blurred or double vision; pinpoint pupils; changes in heart rate and blood pressure; abdominal cramping; nausea and vomiting; diarrhea; excessive salivation, sweating, or bronchial secretions; urinary incontinence; muscle twitching; tremors or convulsions
- Extreme cases can lead to death
 - Skin exposure to >1% TMAOH over a few percent of the body must be treated as life-threatening
 - Concentration of TMAOH and percent body body surface area are the most important factors associated with poisoning, while time to decontamination does not appear important
- Cannot be made nonpoisonous

- Handling

- Follow all standard procedures for dangerous chemicals, including reviewing safety and proper handling, notifying safety officers, wearing PPE, and never working alone
 - Stansolv or Tri-Ionic glove models sold by MAPA are best

- First Aid

- Remove contaminated clothing, and immediately flush exposed area with cold, running water for 15 minutes
- Get medical attention immediately

