Broken bottle incident
Tetra-methyl Ammonium Hydroxide

• Strong base with similar strength to NaOH
• Methyl groups provide organic character
• Highly water soluble, density of 1.0
• Essentially non-volatile
  – Boils to solid state
  – Generation of trimethylamine (strong odorant)
  – Inhalation may occur with exposure to aerosol or mist
• High acute systemic toxicity based on oral and dermal LD50s in animals
• Corrosive to skin, eyes and respiratory tract.
• pH of 25% soln > 13
Common developers

2.5% Tetra-methyl ammonium hydroxide:

- MF CD-26 Developer,
- MF 319 Developer,
- 300 MIF Developer,
- 726 MIF Developer.
Conclusions from human case studies in industry

• TMAH concentration is the most important factor associated with serious poisoning/intoxication

• Percent body surface area also appears important

• Time to decontamination does not appear as important
  – Absorption through the skin is very rapid

• Lack of 2nd and 3rd degree burns in the mouth and nasal passages indicates lesser exposure via inhalation
PPE strongly recommended for work with TMAH

• Use the following PPE any time you use TMAH:
  – Safety glasses
  – Face shield
  – Inner glove can be a nitrile glove
  – Outer glove should be a MAPA Trionic E-194 (20 mil) or similar

• Chemical Resistant full body apron
Stickers available

Danger-TMAH
Contains > 2% Tetra-methyl-ammonium hydroxide
Potentially fatal following skin or inhalation exposure
Gas cylinder clean-out success!