

Ethanolamines/Glycol Ethers

Tier 3 Procedure

Section Number: 633
Issue Number: 1.3
Original Date: 01-30-92 **Author:** David Franklin
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Title: Mixing Monoethanolamines And Acidic Acid For Glycol Ethers Karl Fisher Additive.
References: Glossary Of Equipment Identification (Text # 114)

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633. Mixing Monoethanolamines (Mea) And Acidic Acid For Glycol Ethers Karl Fisher Additive.

1.0 Objective:

- 1.1 To perform this task in a safe and efficient manner without damage to equipment or injury to personnel.

2.0 Responsibility:

- 2.1 It is the responsibility of the operations supervisor and the lab technician to ensure this procedure is fully complied with.
- 2.2 It is the responsibility of the lab analyst and/or the operation specialist to execute this procedure in a safe and efficient manner.

3.0 Safety Notations:

- 3.1 Monogoggles, and rubber gloves are required to do this job.
- 3.2 This process will cause a heated reaction. It will get very hot. Always mix in a pyrex flask.

4.0 Special Notations:

- 4.1 Mix solution under the hood. For safety and exposure reasons.

5.0 Procedure:

- 5.1 Under the hood, pour 70% of mea into a pyrex flask, put a stir bar into it and gently stir. Do not mix this solution in a delivery bottle.
- 5.2 Very slowly add 30% of acetic acid to the mea with a graduated buret. Allow flow from the buret not to exceed 30 drops per minute. The reaction will cause the material to heat up.
- 5.3 After mixing is completed. Allow mixture to stir gently under the hood for cooling.

5.4 When mixture is thoroughly cooled. Transfer to the delivery bottle.

5.5 Wash all dishes and clean up any spills or other mess created when doing this job.

6.0 Revisions:

Revision No. 1	03-03-93	Yearly Review
Revision No. 2	12-21-94	Yearly Review
Revision No. 3	12-29-95	Yearly Review