

# Limit of Iron

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**Summary Purpose:** Verify iron content does not exceed the specified limit. **Principle:** The monograph describes reduction and complexation steps that produce a colored species which is compared to a blank or limit standard; absence of color beyond the blank indicates compliance.

## Step-by-Step Instructions

1. Add citric acid and thioglycolic acid to the sample solution.
2. Make the solution alkaline with stronger ammonia water.
3. Wait 5 minutes and compare the pink color to a standard iron solution.

## Acceptance Criteria

- Any pink color in the test solution is not more intense than the standard (NMT 2 ppm).

## Tips

- Use freshly prepared reducing reagent and run a positive control at the limit to confirm sensitivity.
- If turbidity or particulate matter is present, filter as directed by the monograph before color development.

## Cautions

- Thioglycolic acid and some reducing agents are odorous and can be hazardous; handle in a fume hood with PPE.
- Dispose of iron-containing wastes according to local regulations.

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