

En Chem, Inc.

Quality Assurance Document

SET No: 1

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3-SVO-27
REV. NO. 1
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Standard Operating Procedure

TITLE: Sulfur Cleanup
DEPARTMENT: Semivolatile Organic Extractions
APPLICATION: Elemental sulfur is encountered in many sediment samples, soil samples, and industrial wastes. Elemental sulfur is removed from the extract via the addition of mercury prior to analysis.

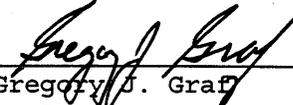
This procedure is used when the screening information indicates interferences present in the sample extract.

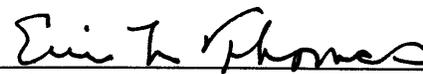
REFERENCES: Test Methods for Evaluating Solid Wastes
SW846 method 3660A (3rd Ed., Rev. 1, July 1992)

PROCEDURE SUMMARY:

The sample extract undergoes cleanup by the addition of mercury. The mixture is shaken and the extract is removed from the cleanup reagent.

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 9-26-96
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QUALITY CONTROL:

When this cleanup procedure is used, all samples, blanks, and matrix spike extracts undergo this process.

INTERFERENCES:

Method interferences may be caused by contaminants (primarily phthalate esters) in solvents, reagents, glassware and other sample processing hardware that lead to discrete artifacts and/or elevated baselines. All of these materials must be routinely demonstrated to be free from interferences under the conditions of the analysis by running laboratory reagent blanks. Contact with common plastics or rubber products must be avoided.

APPARATUS AND MATERIALS:

Vials: 12 ml capacity, with Teflon-lined crimp cap.

Pipets: disposable 2 ml, short stem

REAGENTS:

Mercury: ACS grade

EXTRACT CLEANUP PROCEDURE:

NOTE: Mercury is a highly toxic metal.

- 1 Place an aliquot of the sample extract in a 12 ml vial.
- 2 Add 1-3 drops of mercury per ml of extract, shake vigorously or vortex for 15-30 seconds.
- 3 If a black precipitate forms, sulfur is present. Wait for the precipitate to settle or centrifuge the sample. Transfer the extract into a clean 12 ml vial using a disposable pipette and repeat the mercury addition, shaking and settling until precipitation is no longer formed.
- 4 Withdraw the sample extract with a disposable transfer pipette and place the extract in a prelabelled 2 ml autosampler vial.
- 5 Discard the mercury in a waste mercury specific container.