

Technical Data Sheets

Neutralization and Disposal of Osmium Tetroxide

Introduction

A 2% solution of Osmium Tetroxide can be fully neutralized by twice the volume of oil (corn oil is preferred because of its high percentage of unsaturated bonds).¹ That is to say, for every 10ml of 2% Osmium Solution, 20ml of corn oil is required.

Procedure

Do all work under fume hood.

Pour twice the volume of corn oil into used Osmium Tetroxide Solution.

Wait for the oil to completely turn black.

Test to check that complete neutralization has taken place. (To confirm neutralization; take either a glass cover-slip coated in corn oil or a piece of filter paper soaked in corn oil and suspend it over the solution. Blackening indicates OsO_4 is still present.)²

Dispose in accordance to local regulations. Contact your Disposal Agency or Environmental Health & Safety Office at your Institute to obtain local regulations.

References

Cooper, K. Neutralization of Osmium Tetroxide in case of accidental spillage and for disposal. Bulletin of The Microscopical Society of Canada. 1988. 8: 24-28

Lunn, G.; Sansone, E.B. Osmium Tetroxide. Destruction of Hazardous Chemicals in the Laboratory; Program Resources, Inc. Frederick, MD; p 211 - 213.