



Product Information

Dimethyl sulfoxide

Product Name: Dimethyl sulfoxide

Product Code: D0231

Grade: ACS

Product Description

Molecular Formula: C₂H₆OS

Molecular Weight: 78.13

CAS Number: 67-68-5

Melting Point: 18.45 °C

Boiling Point: 189 °C

Density: 1.1 g/ml

Dielectric Constant: 45

Viscosity: 1.1 centipoises (27 °C)

Synonyms: DMSO, methyl sulfoxide, dimethyl sulphoxide

Dimethyl sulfoxide (DMSO) is a highly polar organic reagent that has exceptional solvent properties for organic and inorganic chemicals. Among its uses in organic synthesis is the oxidation of thiols and disulfides to sulfonic acids. Other reactions in which DMSO participates include the hydrolysis of epoxides, the thioalkylation of phenols, and the oxidation of primary alcohols, primary halides, and esters of primary alcohols to aldehydes.

The compatibility of DMSO with various materials is listed below:

- Compatible: LDPE, HDPE, polypropylene, PPCO (polypropylene copolymer), polymethylpentene, nylon, teflon FEP
- Moderately compatible: polystyrene, ECTFE/ETFE
- Incompatible: polysulfone, flexible and rigid PVC tubing, polycarbonate

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is miscible in water (1 ml DMSO + 1 ml H₂O), yielding a clear, colorless solution. DMSO is a very hygroscopic liquid and should be protected from exposure to moisture. DMSO is also soluble in ethanol, acetone, ether, benzene, and chloroform.

Storage/Stability

Store at Room Temperature.

DMSO supercools easily and remelts slowly at room temperature. The product may arrive as a solid instead of a liquid. The solidified product can be reliquified by warming to room



temperature without detriment to the product. DMSO is stable up to 100 °C in alkaline, acidic and neutral conditions. At temperatures approaching its boiling point, DMSO is stable in neutral or alkaline conditions.

To prepare a sterile filtered DMSO solution, it is recommended to use a teflon or nylon membrane. Cellulose acetate membranes are not recommended.