



Dimethyl Sulfoxide (DMSO)

Cell Culture Tested Hybridoma Tested Sterile Filtered

Product Code: TC433

Product Description:

Molecular Weight: 78.13Molecular Formula: C_2H_6OS CAS No: 67-68-5Synonym: DMSO, Methyl sulfoxide

Dimethyl sulfoxide (DMSO) is one of the strongest organic solvents that exhibits complete miscibility in water and most organic polar liquids. It is produced by oxidation of dimethyl sulfide with oxygen or nitrogen dioxide. It has both hydrophobic and hydrophilic properties depending on temperature.

It plays an important role in sample management and drug designing operations because of its ability to dissolve different kinds of compounds. It is a common ligand in organic chemistry and used as a mild oxidant in organic synthesis. DMSO is also used in Polymerase chain reaction to reduce the formation of secondary structures of DNA template and primers.

DMSO is widely used in cell culture as a cryoprotective agent for cryopreservation of animal cells and tissues, human embryos, blood cells. It prevents formation of ice crystals during freezing process and prevents cell damage. It is generally used at 10% concentration (v/v) in cell freezing medium. However, it has been used successfully at a concentration as low as 5% (v/v) for many cell lines. Use of lower concentration of DMSO has the benefit of quicker post-thaw removal of this toxic reagent from cells upon dilution with growth medium.

Apart from its utility in cryopreservation, DMSO has also been used for induction of cell differentiation.

DMSO can be dangerous because of its solvent power. Hence, the materials (containers, filters, syringes, tips, pipettes etc.) that come in contact with DMSO should be DMSO compatible. Consumables and accessories made up of polypropylene, polymethylpentene, nylon, teflon, FEP, LDPE, HDPE, PPCO (polypropylene copolymer) are completely DMSO-compatible whereas those of polystyrene, ECTFE/ETFE are moderately DMSO compatible. Polysulfone, PVC tubings and polycarbonate materials are incompatible with DMSO hence should not be brought in contact with DMSO.

For filter sterilization of DMSO, teflon or nylon membrane filters are recommended. Cellulose acetate membranes should not be used.

TC433 is filter sterilized hybridoma tested DMSO. It has been tested for cryopreservation of hybridoma cell lines.

Directions for Use:

Precautions:

DMSO can penetrate many synthetic and natural membranes including skin and rubber gloves. Consequently any potentially harmful substances in regular use (e.g. carcinogens) may also be carried into the circulation through skin and even through rubber gloves. DMSO should always be handles with precautions, particularly in presence of toxic substances.

Quality Control: Appearance Clear colourless liquid

pH at 25°C 7.20 - 7.80

Cell Culture Test

Passes

Sterility

No bacterial or fungal growth is observed after 14 days of incubation, as per USP specification

Performance test

Performance test is done by freezing cells and doing a viability assessment after thawing and comparing with a control medium

Storage and Shelf Life:

Store at room temperature away from bright light. Shelf life is 48 months. Use before expiry date given on the product label.

Disclaimer:

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