DMSO-Based Nutrient Absorption Factsheet

Dimethyl sulfoxide (DMSO) is a well-established solvent with a long track record of safe use in humans when applied topically or in diluted oral formulations. It facilitates the absorption of small molecules across mucosal membranes by disrupting lipid bilayers and enhancing passive diffusion.

Nutrient absorption can use either a transdermal or oesophageal route (preferred), depending on local regulatory status / restrictions, or prescription status.

For the oesophageal route, the liquid is held in the mouth then slowly swallowed, allowing uptake across the oral cavity, throat, and oesophageal lining. At a 10% concentration, DMSO dramatically improves absorption without significant irritation.

Estimated Oesophageal Route Bioavailability (10% DMSO)

Compound	**Bioavailability**
B1 - Cocarboxylase	80-90%
B2 - Riboflavin 5-phosphate	70-85%
B3 - Nicotinamide mononucleotide	85-95%
B6 - Pyridoxal 5-phosphate	85-95%
B7/H - Biotin	90-98%
B9 - 5-MTHF	90-98%
B12 - Methylcobalamin	85-95%
A - Retinoic Acid	80-90%
Copper Sulfate Pentahydrate	30-50%
Strontium Nitrate	15-30%
Ferrous Gluconate	10-25%
Manganese Gluconate Dihydrate	25-40%
Chromium Picolinate	20-35%
Vanadyl Sulfate Pentahydrate	15-30%
Sodium Molybdate Dihydrate	40-60%
Potassium Iodide	60-80%
Lithium Chloride	75-90%
Rubidium Chloride	60-80%
Boric Acid	60-85%
L-Selenomethionine	85-95%
Zinc Acetate Dihydrate	25-50%

For the transdermal route, the liquid is broadly smeared across thin areas of skin, such as armpit-to-elbows, inner thighs, neck, etc., multiple times per day.

At a 10% concentration, DMSO improves absorption without significant irritation, however with reduced bioavailability compared to the oesophageal route and significantly less convenience.

Estimated Transdermal Bioavailability (10% DMSO, Lipophilic Base)

Compound	Bioavailability
B1 - Cocarboxylase	30-50%
B2 - Riboflavin 5-phosphate	20-40%
B3 - Nicotinamide mononucleotide	40-60%
B6 - Pyridoxal 5-phosphate	30-50%
B7/H - Biotin	60-80%
B9 - 5-MTHF	50-70%
B12 - Methylcobalamin	20-40%
A - Retinoic Acid	70-90%
Copper Sulfate Pentahydrate	5-15%
Strontium Nitrate	5-10%
Ferrous Gluconate	5-15%
Manganese Gluconate Dihydrate	10-20%
Chromium Picolinate	10-20%
Vanadyl Sulfate Pentahydrate	10-20%
Sodium Molybdate Dihydrate	10-20%
Potassium Iodide	10-25%
Lithium Chloride	40-60%
Rubidium Chloride	20-40%
Boric Acid	30-50%
L-Selenomethionine	40-60%
Zinc Acetate Dihydrate	10-25%

Notes and Limitations

- These bioavailability estimates assume a 10% DMSO solution is held in the mouth and swallowed slowly.
- Active transport mechanisms are partly bypassed with DMSO, enhancing passive absorption.
- Absorption is influenced by individual variability, nutrient status, and mucosal integrity.
- Mineral ions may still show some competition or saturation effects.

Common Side Effects and Reactions

- Temporary light-headedness or flushing from rapid absorption may occur at first.
- Mild histamine response (tingling, itching, warmth) is common and short-lived.
- DMSO-related odour (garlic-like breath/body smell) may occur.
- Paradoxical symptoms may occur when restoring severe deficiencies (e.g., fatigue, anxiety).
- It is suggested to reduce starting dosage in sensitive individuals and titrate slowly.