

STEPOSOL[®] MET-10U

Surfactant Solution to Solvent Replacement[™]

STEPOSOL[®] MET-10U MATERIAL COMPATIBILITY

The following tables summarize an extensive material compatibility study of STEPOSOL MET-10U. This document can be used as a guideline to understand and choose materials of equipment construction for manufacturing blends and finished products, finished product packaging, and product application use. It is recommended that materials' compatibility be confirmed by the user, evaluating STEPOSOL MET-10U or composition thereof with the desired materials at actual processing and/or cleaning conditions.

Metals Compatibility Rating
A - No visible corrosion
B - Up to 5% of area corroded
C - Up to 10% of area corroded
D - Up to 25% of area corroded and/or pitting
NT - Not tested

METALS	% STEPOSOL MET-10U			
	100	25 ^a	6 ^b	0.5 ^c
Al 2024 Non Clad ¹	A	D	D	A
2024 Al Clad ¹	A	C	A	A
7075 Non Clad ¹	A	D	D	A
7075 Al Clad ¹	A	D	D	D*
304 Stainless Steel ²	A	NT	NT	NT
316 Stainless Steel ²	A	NT	NT	NT
1020 Carbon Steel ²	B	NT	NT	NT

1. ASTM F1110-09, Standard Test Method for Sandwich Corrosion Test

2. ASTM G-31, Standard Practice for Laboratory Immersion Corrosion Testing of Metals

* No corrosion but very minor pitting

STEPOSOL[®] MET-10U MATERIAL COMPATIBILITY (continued)

Gaskets and Seals Compatibility Rating
A - No weight gain vs original
B - 1-10% (minor) weight gain vs original
C - 10-20% (moderate) weight gain vs original
D - 20-100% (large) weight gain vs original

GASKET and SEALS ³	% STEPOSOL MET-10U			Control Water
	100	20 ^d	5 ^e	
Mechanical Grade PTFE (Polytetrafluoroethylene)	A	A	A	A
Peroxide Cure EPDM (Ethylene Propylene Diene Monomer)	A	B	B	B
Expanded PTFE (Polytetrafluoroethylene)	B	B	B	A
Fiberglass Inserted Silicone Rubber	B	B	B	A
Silicone Rubber	B	B	B	B
Nitrile Rubber, Including Food Grade	D	B	C	B
Neoprene - FDA/Food Grade	D	B	C	B
Neoprene - Cloth Inserted	D	B	C	B
Neoprene	D	B	D	B
Red Rubber	D	B	C	B
EPDM Rubber (Ethylene Propylene Diene Monomer), Including White	D	B	C	B
Butyl	D	B	C	B
Natural Gum Rubber	D	B	C	B
Neoprene - Nylon Inserted	D	C	D	C
Cloth Inserted Rubber	D	C	C	B
Silicone Sponge	D	C	C	B
AFC-Hi Temp, Gasket Sheetting (Aramid Fiber Nitrile Binder, compressed)	C	C	C	B
AFC-HI-Temp Fiber/Nitrile Binder (Aramid Fiber Nitrile Binder, compressed), Including Blue	D	C	C	B
Hypalon	D	C	D	C
Urethane	D	C	D	B
Fluoroelastomer (Viton [®])	D	D	D	B
Carbon Fiber Gasket	C	D	C	B
Vegetable Fiber	C	D	D	D
Flexible Graphite	D	D	D	C
Closed Cell Sponge	D	D	D	D
Cork and Neoprene	D	D	D	D
Cork and Rubber	D	D	D	D
Cork, Plain	D	D	D	D
Cork and Nitrile	D	D	D	D

3. Stepan Method: Immersed 14 days at 50°C.

STEPOSOL[®] MET-10U MATERIAL COMPATIBILITY (continued)

Plastics Compatibility Rating
A - Zero to 1% change in weight/appearance/shape
B - Up to 5% distortion in weight/appearance/shape
C - Up to 10% distortion in weight/appearance/shape
D - Severe distortion

PLASTICS ⁴	% STEPOSOL MET-10U			
	100	25 ^a	6 ^b	0.5 ^c
Soft PVC (Polyvinyl Chloride)	D	D	D	D
Rigid PVC (Polyvinyl Chloride)	D	D	D	B
HDPE (High Density Polyethylene)	B	A	A	A
Polypropylene	B	B	A	A
Nylon	A	B	C	C
PET Resin (Polyethylene Terephthalate)	B	B	A	A

4. ASTM D543-95, Standard Practice for Evaluating the Resistance of Plastics to Chemical Reagents

Test Formulations

Ingredient, % by wt.	a	b	c	d	e
Deionized Water		75.0	98.1	33.0	84.5
STEPOSOL MET-10U	25.0	6.0	0.5	20.0	5.0
BIO-SOFT [®] D-40	32.0	5.0	1.0		
BIO-SOFT N1-7	12.0	2.0	0.4		
BIO-SOFT EC-690				22.0	5.5
STEPANATE [®] SXS	31.0	12.0		25.0	5.0

For additional information, please contact:

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