

Product
Name

STEPOSOL[®] C-25, C-42, C-48 and C-65 Methyl Esters

Chemical
Description

The STEPOSOL Methyl Esters are methyl esters of fatty acids derived from vegetable oils. STEPOSOL C-25 Methyl Ester is a methyl caprylate/caprate methyl ester blend. STEPOSOL C-42 Methyl Ester is a methyl laurate/myristate methyl ester blend. STEPOSOL C-48 is a methyl laurate ester, derived from coconut oil and STEPOSOL C-65 is a methyl palmitate/oleate methyl ester blend.

Applications

STEPOSOL C-25, C-42, C-48 and C-65 are naturally-derived, biodegradable solvents that can be used in a variety of household, industrial and institutional applications. The STEPOSOL methyl esters can be used as solvent replacements or co-solvents for a variety of applications.

CAS
Registry Nos.

STEPOSOL C-25
68937-83-7

STEPOSOL C-42
111-82-0 and
124-10-7

Composition

C ₆ (Methyl Caproate), %	2	---
C ₈ (Methyl Caprylate), %	60	---
C ₁₀ (Methyl Caprate), %	37	---
C ₁₂ (Methyl Laurate), %	---	72
C ₁₄ (Methyl Myristate), %	---	26
Other Methyl Esters, %	1	2

CAS
Registry Nos

STEPOSOL C-48
61788-59-8

STEPOSOL C-65
67762-38-3

Composition

C ₁₂ (Methyl Laurate), %	57	0.5
C ₁₄ (Methyl Myristate), %	22	2.5
C ₁₆ (Methyl Palmitate), %	9	45
C ₁₈ (Methyl Oleate-Stearate), %	12	52

Typical
Properties

	STEPOSOL C-25	STEPOSOL C-42
Appearance at 25°C	Clear Liquid	Clear Liquid
Viscosity at 25°C, cps	2	7
Density at 25°C, g/ml (lbs/U.S. gal)	0.87 (7.3)	0.87 (7.3)
Color, Gardner	1 max.	1 max.
Color, APHA	11	9
Cloud Point, °C (°F)	-35.4 (-31.7)	-3.8 (25.2)
Pour Point, °C (°F)	-37.0 (-34.6)	-4.0 (24.8)
Freeze Point, °C (°F)	-37.0 (-34.6)	-9.4 (15.0)
Melting Point, °C (°F)	-37 (-34.6)	-5.0 (23.0)
Boiling Point, °C (°F)	200 (392)	274 (524)
Flash Point, PMCC, °C (°F)	78 (173)	>94 (>201)
Refractive Index at 20 °C	1.420	1.430
Surface Tension (as is), dynes/cm	27.7	29.4
Kauri-Butanol Value	112	75
VOC, CARB 310, %	88.5	13.3
Solubility		
Water	Insoluble	Insoluble
Methanol	Soluble	Soluble
Kerosene	Soluble	Soluble
Xylene	Soluble	Soluble

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Typical Properties

	<u>STEPOSOL C-48</u>	<u>STEPOSOL C-65</u>
Appearance at 25°C.....	Clear Liquid	Clear Liquid
Viscosity at 25°C, cps	11	7
Density at 25°C, g/ml (lbs/U.S. gal).....	0.86 (7.2)	0.86 (7.2)
Color, Gardner	1 max.	2 max.
Color, APHA.....	32	28
Cloud Point, °C (°F)	-1.7 (28.9)	15.6 (60.1)
Pour Point, °C (°F)	-2.4 (27.7)	14.3 (57.7)
Freeze Point, °C (°F).....	-2.4 (27.7)	10.0 (50.0)
Melting Point, °C (°F)	-2.4 (27.7)	14.0 (57.2)
Boiling Point, °C (°F)	276 (529)	305 (581)
Flash Point, PMCC, °C (°F)	>94 (>201)	>94 (>201)
Refractive Index at 20 °C	1.437	1.445
Surface Tension (as is), dynes/cm	29.6	30.8
Kauri-Butanol Value	68	73
VOC, CARB 310, %	25.2	0.5
Solubility		
Water	Insoluble	Insoluble
Methanol.....	Soluble	Soluble
Kerosene	Soluble	Soluble
Xylene	Soluble	Soluble

Biodegradability

STEPOSOL C-25, C-42, C-48 and C-65 methyl esters are readily biodegradable. Additional information is available upon request.

Toxicity

STEPOSOL C-25, C-42, C-48 and C-65 are practically non-toxic orally (LD₅₀>5g/kg) and causes slight skin and eye irritation.

Storage & Handling

Normal safety precautions (i.e. gloves and safety goggles) should be employed when handling STEPOSOL Methyl Esters. Use products away from sparks and open flame in a well-ventilated area. Contact with the eyes and prolonged contact with the skin should be avoided. Wash thoroughly after handling materials. Product temperatures over 130°F (54°C) are not recommended.

Clearances

All components of STEPOSOL C-25, C-42, C-48 and C-65 are listed in the following countries; the registration numbers for the active ingredients are included in parentheses: United States (TSCA), Europe (EINECS), Japan (ENCS), Canada (DSL), Korea (ECL), Australia (AICS), Philippines (PICCS), China (IECSC).

Additional Safety Information

A Material Safety Data Sheet is available upon request.

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Stepan

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Corporate Headquarters
Northfield, Illinois 60093, U.S.A.
847-446-7500 847-501-2100 fax
Website: www.stepan.com

For Technical Service Call: Northfield, IL USA **800-745-7837**
Longford Mills, Canada **705-326-7329** • Mexico City, Mexico **+52-555-533-1697**
Voreppe, France **+33-476-505-100** • Bogota, Colombia **+57-1-6362808**
Stalybridge, United Kingdom **+44-141-338-9083**
Manila, Philippines **+632-891-1708**

