

Castor Oil with 12 moles of Ethylene Oxide

INCI Name: PEG-12 Castor Oil

Description

Lansurf CO12 is a high-performance nonionic surfactant derived through the controlled ethoxylation of castor oil with 12 moles of ethylene oxide. This modification enhances the hydrophilic-lipophilic balance of natural castor oil, resulting in a versatile, water-soluble surfactant exhibiting a unique combination of emulsifying, wetting, detergency, and lubricating characteristics. The product is supplied as a clear yellow, viscous liquid free from foreign matter, ensuring high purity and consistent functional performance in both aqueous and oily formulations.

Lansurf CO12 is particularly valued for its low toxicity profile and its acceptability for food-contact applications, making it suitable for sensitive end-use areas such as processing aids, lubricants, and specialty emulsions. Its balanced HLB value of 7.0 allows it to function effectively as an emulsifier for a wide spectrum of hydrophobic oils, waxes, and hydrocarbon systems.

Key Features

- Excellent emulsifier for a wide range of oils and formulations.
- High lubricity, ideal for metal-forming and mold-release applications.
- Low toxicity with food-contact approval, suitable for sensitive uses

Specification

Appearance at 25°C:	Clear yellow viscous liquid free from foreign matter
Cloud point °C (5g in 45g (25% BDG solution)):	48.0 - 56.0
pH (1% aqueous):	5.0 - 7.0
Water content %:	1 max

Typical Properties

Composition:	Castor oil ethoxylate
CAS number:	61791-12-6
Solids content %:	100
Moles of EO:	12
Odour:	Characteristic
HLB value:	7.0
Viscosity at 25°C (cP):	787
Specific gravity at 25°C:	1.01
Solubility in water:	Soluble
Pour point °C:	-10
Flash point open cup °C:	>100
Ionic Character:	Nonionic

Typical properties are based on our own measurements and do not constitute part of the sales specification.

Applications

Textile Auxiliaries

- Used in textile processing for wetting, lubrication, and emulsification functions.

Agrochemical Formulations

- Acts as a co-emulsifier (with anionics) in emulsifiable concentrates, improving emulsion stability and enhancing wetting/spreading on plant surfaces.

Metal-Forming & Mold-Release Applications

- Provides high lubricity, making it suitable for metal-working fluids and as a plastic mold release agent.

General Oil Emulsification

- Used as a general emulsifier for oils, including mineral and vegetable oils, in a wide range of industrial formulations.

Areas Requiring Strong Emulsification

- Suitable for systems where stable O/W emulsions are needed—coatings, processing aids, lubricant additives, and chemical blends.

Packaging and Storage

Lansurf CO12 can be supplied in bulk road tankers, IBC's and 200kg or 25kg nett drums.

Stainless steel, polyethylene or glass lined equipment is necessary for the storage of Lansurf CO12 in order to prevent corrosion and subsequent contamination. This material can separate on standing and at low temperatures. May require agitation and warming prior to use.

Regulatory Information

Please refer to Safety Data Sheet.

All information, recommendations, and suggestions provided in this literature are based on data and tests believed to be reliable. However, it is the user's responsibility to determine the suitability of the products described for their specific applications. For non-English datasheets, translations have been generated using automated translation software; Lankem accepts no liability for any errors that may arise as a result of this process. Typical properties are based on our own measurements and do not form part of the sales specification.