

## Polyethylene Glycol Esters (PEG Esters) of Fatty Acids

Shepard SA offers fatty acid esters based on various Polyethylene Glycols such as PEG 200, PEG 400, and PEG 600. These esters are produced using fatty acids of vegetable origin.

### PEGs and Fatty Acids Used:

- **PEGs:**
  - PEG-200
  - PEG-400
  - PEG-600
  - PEG-4000 / PEG-6000
- **Fatty Acids:**
  - Oleic Acid (Palm Origin)
  - Oleic Acid (Indian Origin)
  - Coconut Fatty Acid
  - Stearic Acid

### Types of Esters Produced:

1. PEG-200 / 400 / 600 Mono Oleate
2. PEG-200 / 400 / 600 Di Oleate
3. PEG-200 / 400 / 600 Mono Laurate
4. PEG-200 / 400 / 600 Di Laurate
5. PEG-4000 / 6000 Stearic

### Specifications of Popular PEG Esters:

Product	PEG-400 DO	PEG-600 DO	PEG-400 DL
Appearance	Yellow to Amber Liquid	Yellow to Amber Liquid	Yellow to Amber Liquid
Acid Value	Max 10	Max 10	Max 10
SAP Value	113–122	92–102	127–137
Water Solubility	Dispersible	Dispersible	Dispersible
Cloud Point (1% aq)	<70°C	80°C	29°C
HLB	8.3	10.6	9.7

### Applications:

- PEG esters, particularly oleates, are widely used in **defoaming applications**, including in **lubricants** and **fermentation** processes.
- Employed as **emulsifiers and lubricants** in **bath oils**, **bath lotions**, and **after-bath products**.
- Function as **emollients** in **creams and lotions**, and **opacifiers** in **hair care products**.
- Used in **mineral oil-based metalworking lubricant formulations**.
- Serve as **primary and auxiliary emulsifiers** in **textile and leather** industries.