



## Technical Data Sheet

## ICC-E/O, P/O Copolymer Products

**Trade Name:** Copolymer PL3

**Chemical Name:** Block Copolymer EO-PO

**Grade:** Chemical

### Block Copolymer EO-PO

Copolymer PL3 is a difunctional block copolymer surfactant terminating in primary hydroxyl groups. A nonionic surfactant that is 100% active and relatively nontoxic.

Copolymer PL3 nonionic surfactant is block copolymer of propylene oxide and ethylene oxide.

Copolymer PL3 is wetting agent, emulsifier, demulsifier, viscosity control agent, dispersant, antistatic agent, lubricant - agricultural, cosmetics, metal cleaning, paper, textile, paints, chemical intermediate.

The use of Copolymer PL3 offers the following advantages:

### Product properties:

- Low VOC (Volatile organic compounds)
- Free of alkylphenol ethoxylates (APEO)
- Readily biodegradable
- Hazard label free
- Easy to handle

### Performance in emulsion polymerization:

- Maintains low viscosity of polymer emulsion at different shear rates
- Enhanced electrolyte stability
- Improved shelf life (high freeze thaw stability)
- Similar polymerization results to APEOs

### Application:

Copolymer PL3 is a nonionic emulsifier recommended for:

- Low foaming, nonionic surfactant
- Wetting and dispersing agent
- Emulsifier and Demulsifier
- Viscosity control agent
- Dispersant, antistatic agent, lubricant – agricultural
- Cosmetics, metal cleaning, paper, textile, paints
- Chemical Intermediate

TEST	STANDARD TEST METHOD	RESULT
Appearance at 20°C	—	Slightly Milky
Active content	—	100%
Color at 25°C, APHA	ASTM D-1209	Max. 25
pH (5% in water)	ASTM D-1172	5-7
Cloud point, °C (1gr in water)	ASTM D-2024	34-36
Density at 25°C, g/ml	ASTM D-1298	1.04±0.02
HLB, calculated	Calculated	8-11
Viscosity at 25°C, cP	ASTM D-445	450-490

### Storage and handling

Copolymer PL3 is dispatched in polyethylene or corrugated steel, galvanized or carbon steel drums. Copolymer PL3 is stable for 2 years when stored in the original sealed containers in a cool and dry place.

### Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

### Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

### Potential Health Effects

**Inhalation:** May be harmful if inhaled. May cause respiratory tract irritation.

**Skin:** May be harmful if absorbed through skin. May cause skin irritation.

**Eyes:** May cause eye irritation.

**Ingestion:** May be harmful if swallowed.

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