



## Technical Data Sheet

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

**Trade Name:** Copolymer PF10

**Chemical Name:** Block Copolymer PF10

**Grade:** Chemical

### Low Foaming Surfactants

#### Block Copolymer EO-PO

I.C.C manufactures a wide range of low foaming surfactants designed to provide the appropriate functionality for all of our customers application needs. We help you to get your foam under control.

Alkyl based EO-PO block copolymers typically have lower surface tensions, CMC and greater dispersing power compared to the corresponding simple alkyl ethoxylates.

The propylene oxide block acts as a branched residue within the copolymers leading to performance advantages like better solubilization and emulsification properties.

Copolymer PF10 is a low foaming, nonionic surfactant for the chemical industry. This clear, colorless liquid is composed of a block copolymer of propylene oxide and ethylene oxide. Copolymer PF10 has good wetting and dispersing action coupled with low foaming tendency.

### APPLICATION

Copolymer PF10 has good wetting and dispersing action coupled with low foaming tendency. Within the Copolymer PF series, the products with a lower degree of ethoxylation have a better foam-suppressing effect than the products with a higher degree of ethoxylation. Copolymer PF10 is used as a low-foaming surfactant and defoamer in detergents and cleaning agents. Typical applications include rinsing aids, detergents for dishwashers and bottle -rinsing machines and industrial cleaning formulations. To clarify aqueous solutions of the product, the addition of solubilizers such as ethanol or isopropanol is required. Copolymer PF10 is also used as a low-foaming emulsifier in emulsion polymerization and as a dispersing agent for pigment pastes and preparations. Other applications include reactions in the chemical industry.

- Styrene/acrylate dispersions.
- Acrylate dispersion.
- Vinyl acetate dispersion.
- Low foaming, nonionic surfactant and defoamer for use in detergents and cleaning agent.
- Emulsifier, wetting and dispersing agent.
- Low-foaming, nonionic surfactant for the chemical industry.

TEST	STANDARD TEST METHOD	RESULT
Appearance at 50°C	—	liquid
Active content	—	100
Color at 50 °C, APHA	ASTM D-1209	Max. 20
Average molecular weight, g/mol	Calculated	1900
pH (2.5% aqueous)	ASTM D-1172	5-7
Cloud point, °C (5 gr in 45 ml BDG 25%)	ASTM D-2024	30-35
Density at 25°C, g/ml	ASTM D-1298	1.02±0.02
Hydroxyl value, mg KOH/g	ASTM D-4252	52-58
HLB, calculated	Calculated	2
Viscosity at 25°C, cP	ASTM D-445	250-300

### STORAGE AND HANDLING

Copolymer PF10 is dispatched in polyethylene or corrugated steel, galvanized or carbon steel drums. Copolymer PF10 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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