



Technical Data Sheet

ICC-E/O, P/O Copolymer Products

Trade Name: Copolymer 4084

Chemical Name: Block Copolymer EO-PO

Grade: Chemical

Block Copolymer EO-PO

Copolymer 4084 is a nonionic emulsifier for emulsion polymerization. This pale-yellow wax is composed of block copolymer of propylene oxide and ethylene oxide. Copolymer 4084 is used in emulsion polymerization of monomers like pure acrylic, styrene-acrylic acid esters and vinyl acetate, polyvinyl acetate, acrylate and styrene/acrylate dispersions to stabilize the rheological behavior of the polymer dispersions and to improve the electrolyte and shear stability. It can be used in combination with other nonionic, anionic and cationic surfactants. It is compatible with vinyl and acrylic resins. It reduces the amount of coagulum formed during the polymerization and improves the final latex property.

The use of Copolymer 4084 offers the following advantages:

Product properties:

- Low VOC
- Free of alkylphenol ethoxylates (APEO).
- Hazard label free.
- FDA approved.

Performance in emulsion polymerization:

- maintains low viscosity of polymer emulsion at different shear rates.
- Enhanced electrolyte stability.

APPLICATION

Copolymer 4084 is a nonionic emulsifier recommended for:

- Copolymer 4084 is a nonionic emulsifier for emulsion polymerization.
- It is used in emulsion polymerization of polyvinyl acetate, acrylate and styrene/acrylate dispersions to stabilize the rheological behavior of the polymer dispersions and to improve the electrolyte and shear stability.
- Styrene/acrylate dispersions.
- Acrylate dispersions.
- Vinyl acetate dispersions.

TEST	STANDARD TEST METHOD	RESULT
Appearance at 20°C	—	Pale yellow wax
Active content	—	100%
Melting point	ASTM D-1209	48 °C
pH (5% in water)	ASTM D-1172	6-8
Cloud point, °C (1g in 100 ml 10% NaCl solution)	ASTM D-2024	69±3
Density at 80°C, g/ml	ASTM D-1298	1.04±0.02
HLB, calculated	Calculated	13
Viscosity at 80°C, cP	ASTM D-445	2300

STORAGE AND HANDLING

Copolymer 4084 is dispatched in polyethylene or corrugated steel, galvanized or carbon steel drums. **Copolymer 4084** 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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