

Styrex* 3309

Styrene Polymerization Inhibitor

Styrex* 3309 is designed to:

- Retard free radical polymerization
- Replace the use of Dinitro's (DNBP, DNPC, DNOC...)
- Decrease polymer make
- Decrease tar viscosity
- Increase production capacity
- Decrease EH&S concerns

Description and Use

Styrex 3309 is a free radical polymerization retarder formulated in ethylbenzene solvent. It is injected into crude styrene (or dehydrogenated monomer) to minimize polymerization in the styrene purification process.

Styrex 3309 can be used by itself or in conjunction with free radical true inhibitor(s). Its use with a true inhibitor is referred to as "Styrex Combo". Its use with Styrex 310 and a Stable Free Radical inhibitor is referred to as the patented "Styrex Trio" and yields a high level of synergy. The dosage of Styrex 3309 is dependent upon process temperatures ranging from 70°C to 140°C (~ 150°F to 284°F). Styrex 3309 offers the additional advantage of having lower toxicity than commonly used dinitrophenolic retarders.

Application

Styrex 3309 is extremely effective at retarding polystyrene formation in styrene distillation trains. Additional benefits can be realized:

- Reduction of EH&S hazards
- Reduction of decontamination time prior to turn-around
- Reduction in nitrogen content of tar residue

Treatment and Feeding Requirements

Proper treatment levels for Styrex 3309 depend on many factors such as temperature, residence time and the use of tar recycle. Assessment of these factors will aid the GE representative in recommending treatment rates and control procedures specific to each application.

Styrex 3309 is typically fed neat using a chemical proportioning pump. Heat tracing may be required in extremely cold climates. The freeze point is -34°C (-30°F).

Storage and Handling

Styrex 3309 must be stored in corrosion resistant containers. Do not store this product in carbon steel without appropriate consultation.

Evaluation

For best unit performance, the GE program must be conscientiously monitored by periodic recording of system control parameters such as polymer formation, chest pressures, and temperatures.

Safety Precautions

A Safety Data Sheet containing detailed information about this product is available on request.



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