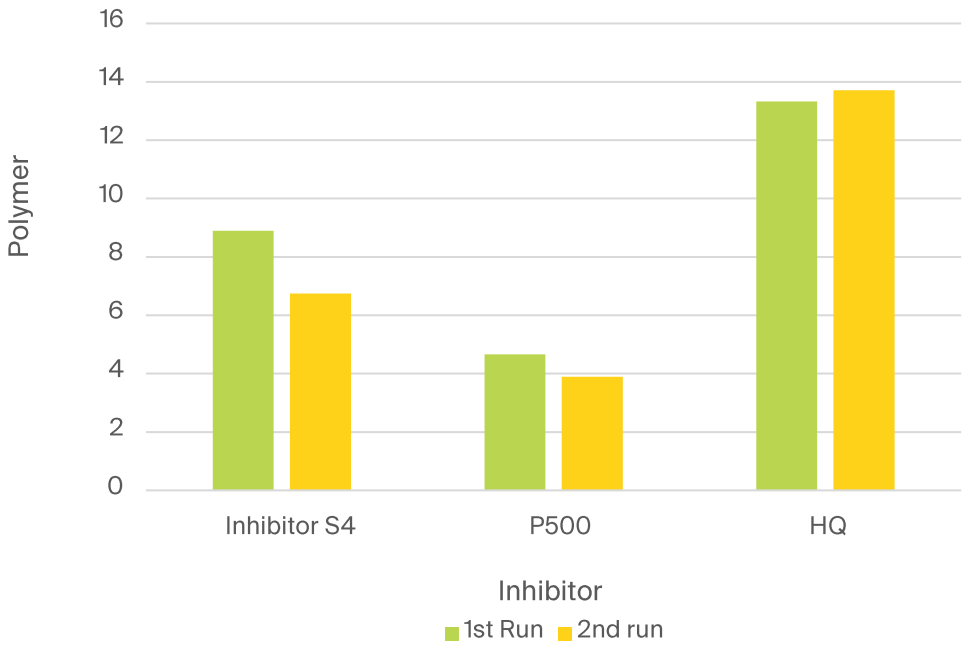
Nufarm Polymerization Inhibitors for Methyl Methacrylate

Methyl methacrylate (MMA) has been made principally using the Acetone Cyanohydrin (ACH) route developed in the 1930s. More recently Lucite have introduced the Alpha Process and started the first operational plants using this technology.

Nufarm has provided inhibitors for plants operating using both technologies and our Technical Service Team can offer advice on product selection depending on the part of the plant to be treated.

Inhibitors

One of the main fouling locations in the ACH route occurs in the reactor section. The data below compares the efficacy of two Nufarm inhibitors under typical **high acidity** conditions encountered in this section



Data shows that both Inhibitor S4 and AHM P500 (a more acid stable inhibitor) exhibit high efficacy in reducing MMA polymerization compared to the conventionally used hydroquinone. Inhibitor P500 has higher partitioning into the organic phase when used in the esterification reaction and therefore gives a higher effective concentration of inhibitor in the monomer phase.

Dispersants

These are used in some parts of the MMA process including the acid water stripper, a case study is shown here from a 100 KTPA unit;

	Acid water stripper V2040 A/B, running time days	Asphaltene production, CuM	Dosage kg/hr
Nufarm	50	11	15
Former supplier	15	38	20

The Nufarm dispersant provided a huge benefit in run-length compared to the previous product