

INITIA® 585

Enhanced Polymaleic Acid™

overview

INITIA® 585 is an enhanced polymaleic acid (empa) that improves upon the exceptional performance of traditional polymaleic acid (pma). INITIA® 585 is differentiated from traditional pma in that it is optimized for adsorption onto forming mineral scales such as calcium carbonate. This optimization and improved surface adsorption results in profound distortion of forming crystal habits and provides effective threshold inhibition in demanding applications. INITIA® 585 is designed for control of mineral scales such as calcium carbonate, calcium sulfate, and barium sulfate in a wide variety of water treatment applications.

typical properties

appearance	dark amber liquid
solids content	46-51%
pH (as is)	< 2.5
viscosity at 25°C	< 100cps
density at 20°C	1.18 +/- 0.04 g/ml
solubility in water	complete
residual monomer	<0.1%

INITIA® 585 DELIVERS

exceptional stability in severe applications

best-in-class crystal habit modification

highly effective calcium carbonate inhibition

improved polymerization process

enhanced quality, low residual monomer

SUGGESTED APPLICATIONS

cooling towers

boilers (<400psi)

reverse osmosis

thermal desalination

mining

oilfield and natural gas

pulp and paper



radical polymers®

Radical Polymers 4138 South Creek Road, Chattanooga, TN 37406
+1 423.316.9877 | www.radicalpolymers.com

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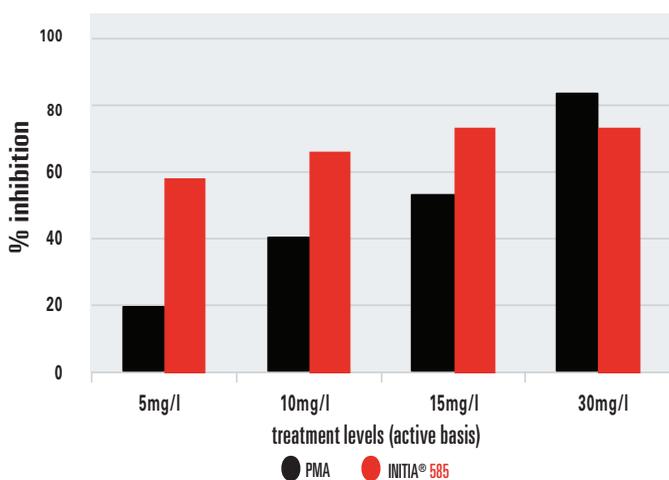
Certified to
NSF/ANSI/CAN 60

Only products bearing the NSF Mark on the product, product packaging, and/or documentation shipped with the products are Certified.

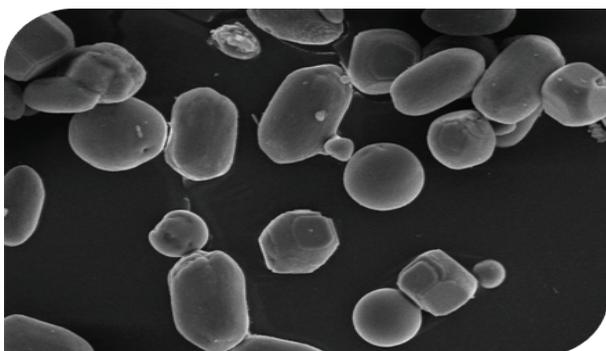
threshold inhibition

A comparison of INITIA® 585 and traditional pma as threshold inhibitors was conducted using a severe calcium laboratory static testing method. In this method, 50 ml of a solution containing 1200mg/l Ca²⁺ was added to a french square bottle and treated with the indicated polymer dosage (as active.) Then 50 ml of a solution containing sodium carbonate (150 mg/l as CO₃²⁻), sodium bicarbonate (450 mg/l as CO₃²⁻), and a borate buffer (98 mg/l B₄O₇²⁻) was added to the calcium/polymer solution. All samples had a measured pH of ~9.0 and were capped and placed in a water bath at 50° C for 18 hours. The Langelier Saturation Index was calculated to be ~ 3.0. In this evaluation, INITIA® 585 and pma were compared across increasing dosages of 5, 10, 15, and 30 mg/l on an active polymer basis. The results are show both materials to be effective with INITIA® 585 outperforming pma at lower treatment levels.

calcium carbonate inhibition - severe calcium



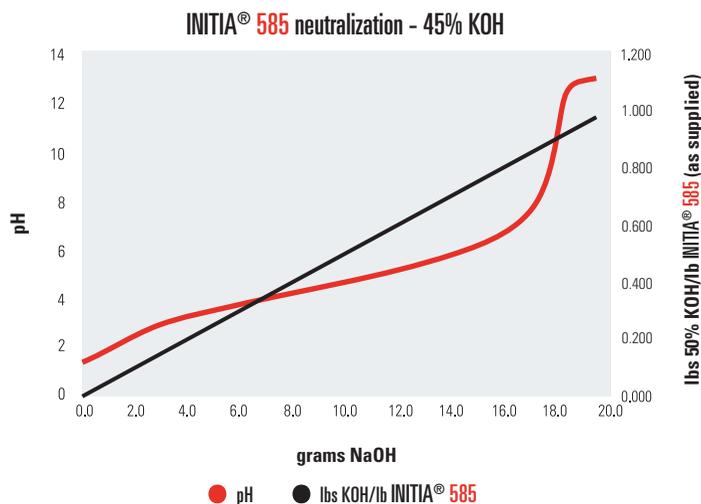
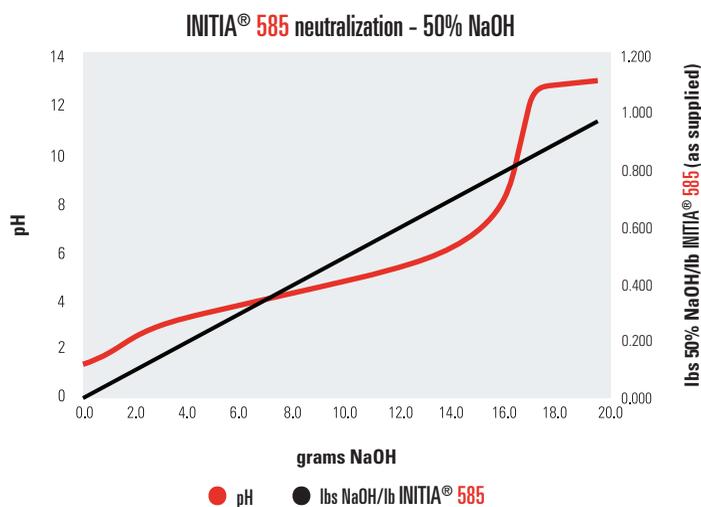
crystal habit modification with INITIA® 585



product neutralization

INITIA® 585 is supplied as a concentrated (~50%) enhanced polymaleic acid at a pH of <2.0. The neutralization INITIA® 585 is exothermic and can produce a rapid increase in heat during formulation.

INITIA® 585 should be diluted to the desired final formulation concentration with deionized water prior to adding a neutralizing agent. Neutralizing agents should be added slowly until the desired pH is achieved. Effective neutralization is possible without observing product precipitation using either NaOH or KOH. The graphs below indicate the approximate amount of NaOH or KOH required to neutralize INITIA® 585 to a given final pH.



safety use and handling

Consult the Safety Data Sheet (SDS) for further information regarding the safe handling and use of INITIA® 585. This product should be stored in a cool/dry place and must be protected from freezing. Avoid storage at high temperatures (>90°F), direct sunlight, and exposure to surface, airborne or other common environmental contaminants such as debris, bacteria, yeast, and mold.

IT IS THE RESPONSIBILITY OF THE BUYER TO INDEPENDENTLY DETERMINE SUITABILITY OF THE SELLER'S PRODUCTS FOR BUYER'S USE. Buyer agrees that Seller will not have control over the design, testing or labeling of any product produced using Seller's Products, and that Buyer is not relying on any representation or statement made by, or on behalf of, Seller with respect to the suitability of any Product for any purpose, or on any advice, recommendation or information obtained from Seller's product literature or web sites, including any design aid or other service made available by Seller. Buyer has tested and investigated the Products enough to form an independent judgment concerning their suitability for the use, conversion or processing intended by Buyer and will not make, and hereby waives, any claim against Seller based on Seller's advice, statements,

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