

## Itaconix® CHT™ 122

### Improved shine for non-phosphate automatic dishwashing detergents

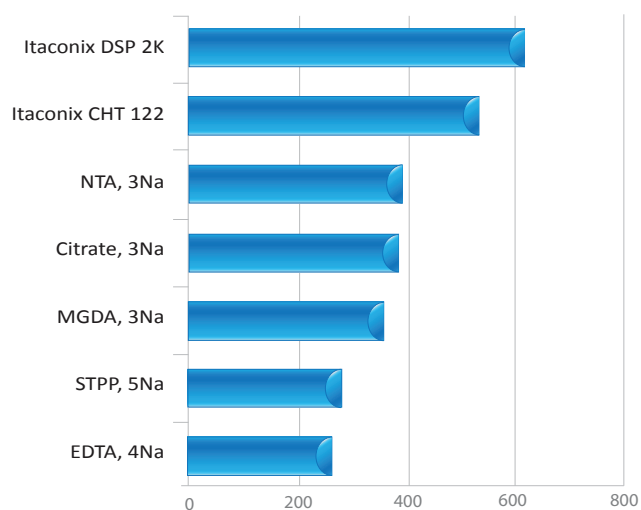
Itaconix® CHT™ 122 delivers breakthrough multi-functional mineral chelation and scale inhibition to lead the new generation of non-phosphate performance in home, institutional and industrial dishwashing detergents. Stable across wide pH and temperature ranges, Itaconix® CHT™ 122 is co-polymer of itaconic acid that is environmentally safe and >80% bio-based.

Applications	Advantages	Physical & Chemical Properties
<ul style="list-style-type: none"> <li>Automatic dishwashing detergents</li> <li>Industrial cleaners</li> </ul>	<ul style="list-style-type: none"> <li>Superior calcium and magnesium chelation and scale inhibition</li> <li>Excellent moisture stability</li> <li>Less metal and glass corrosion</li> <li>Good tableting performance</li> <li>Enables compact formulations</li> <li>Stable from pH 2 to pH 14</li> </ul>	CAS# 1052620-22-0
		pH at 10% active 5.2
		Odor none
		Avg. molecular weight (Mn) 4300 g/mole
		% Active 85
		Chemical class Poly(itaconic acid-co-AMPS, sodium salt)
		Appearance off-white granules
Density 700 mg/l		

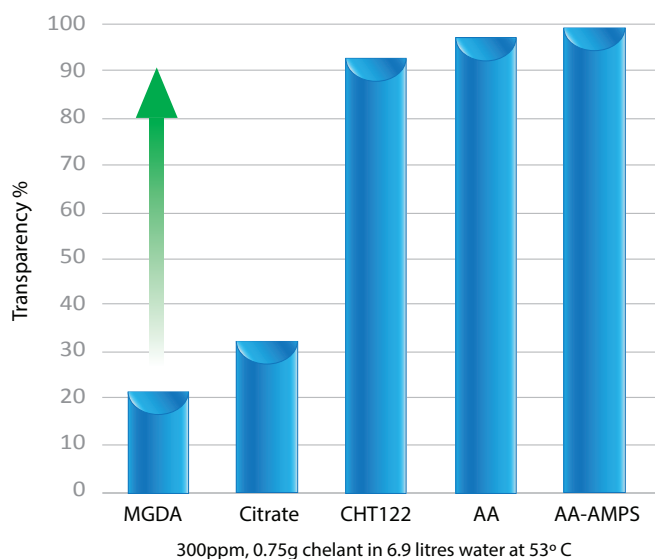
## Superior Calcium Binding and Scale Inhibition

Itaconix® CHT™ 122 combines uncompromising chelation and scale inhibition performance in one raw material. It has superior binding capacity per gram than any other leading chelate, while almost matching the scale inhibition capabilities of leading acrylates. This breakthrough in multi-functionality enables entirely new ranges of non-phosphate detergent formulations.

Superior Calcium Binding Capacity

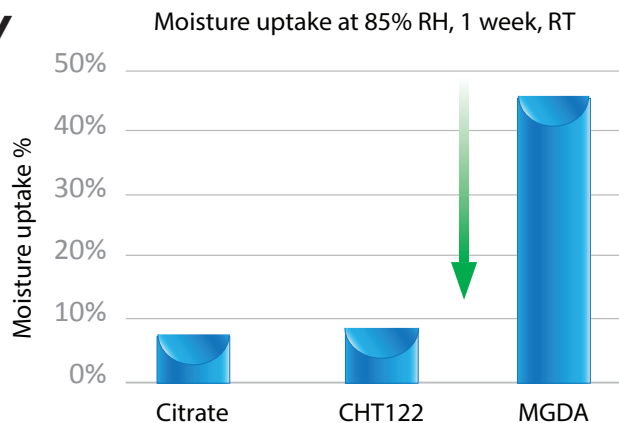


Excellent Scale Inhibition



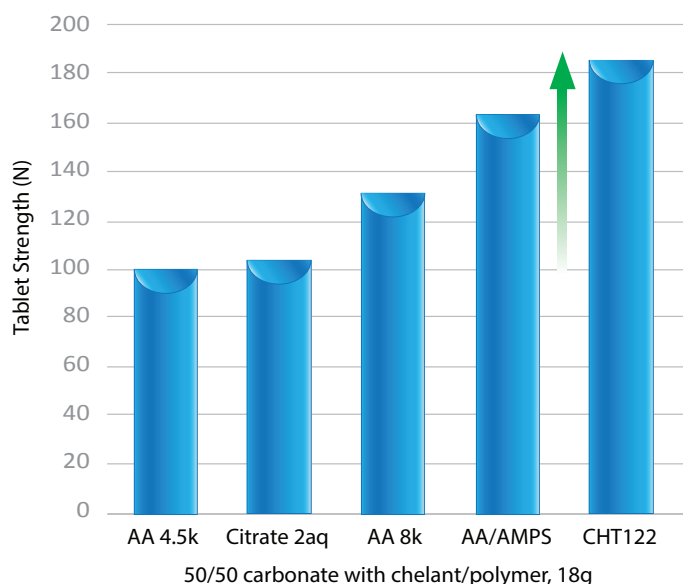
### Major Advantages from Low Hydroscopicity

Itaconix® CHT™ 122 has low moisture uptake for ease-of-use in production and improved product shelf-life performance.



### Excellent Tableting

Itaconix® CHT™ 122 improves tablet strength, eliminating the need for processing aids that add no value to cleaning and shine.



### Model Consumer Autodish Detergent

ADW Dose (18g)	US Formula	EU Formula
Sodium sulfate	35	6
Sodium carbonate	30	35
Sodium percarbonate	12	15
Sodium citrate	6	15
Itaconix CHT 122	6	10
Rinse system	4	6
AA polymer	2	5
TAED	2	2.5
Silicate	1.5	1.5
Protease	1	3
Amylase	0.5	1
<b>Total %</b>	<b>100</b>	<b>100</b>

### Samples available on request

Please e-mail request to: [samples@itaconix.com](mailto:samples@itaconix.com)

### To request information on ordering quantities and pricing

Please call: +1 (603) 775-4400 or e-mail: [sales@itaconix.com](mailto:sales@itaconix.com)

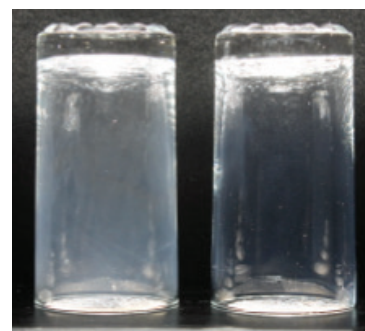


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Clearer glasses than the leading US brand  
(ASTM 3556 protocol)



Leading brand

CHT™ 122 based formula