

Syntacid® 8051

Product Description

A proprietary synthesis of a sulfate salt, which has been designed by our R&D lab, formulated with proprietary corrosion inhibitors. This is a non-corrosive modified acid, which is safe to the touch. We have modified it in order for its performance to be vastly superior to its competing products (ie Acetic Acid, Citric Acid etc). This technology reduces your bath neutralization cost by 20 - 30%, without affecting your process. This product can be used straight as is, or it can be formulated into different acids, for other desired performances.

We strongly recommend this product be blended into your current acids being used. In the following sections, you can see the different ways this product can be blended, for different types of applications.

Benefits

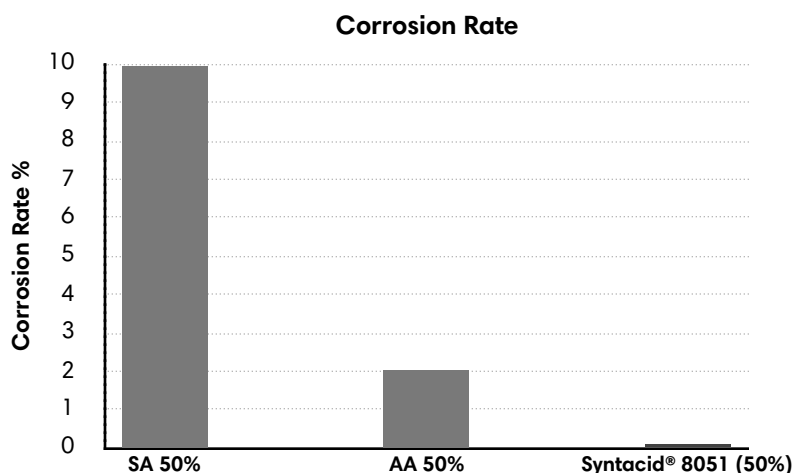
Lowers neutralization costs
 Does not yellow
 Does not affect burst strength
 Does not affect shade change
 Non-Corrosive
 Does not irritate operators skin
 Does not have foul/pungent smell

Technical Data	Specs
Appearance	Yellow to brown liquid
Density (g/cm3)	1.50 ± 0.1
pH @ 1%	1.50 ± 0.1
Solids Content (%)	~80%
Chemistry	Modified blend of a sulfamic acid compound

Product Range	Description/ Intended Use
Syntacid® 8051	Modified Non-Corrosive acid compound
Syntacid® HC	Acetic Acid 99% Substitute
Syntacid® AC	Citric Acid 55% Substitute

Comparative Corrosion Rate

Corrosion rate is the speed at which any material (in this case Stainless Steel 316) deteriorates in presence of external factor x. The **Syntacid® 8051** has been tested against a strong mineral acid (Sulfuric Acid) and a weak organic acid (Acetic Acid). The **316-SS** specimens were submerged in a 50% solution of each of the three acids mentioned before for 2 weeks. Before and after weight of the specimens were measured, and the result was a % delta in weight reduction.



Under scrutiny, the deterioration of the structure of the Stainless Steel 316 specimen is evident, for the sulfuric acid, not so much for the industry standard, which is the Acetic Acid, and almost no change for the corrosion inhibited **Syntacid® 8051**. This is done to ensure piping and dosification systems will not be affected with this new acid.



Sulfuric Acid treated
316-SS for 2 weeks



Acetic Acid treated
316-SS for 2 weeks



8051 treated
316-SS for 2 weeks

Textile Burst Strength

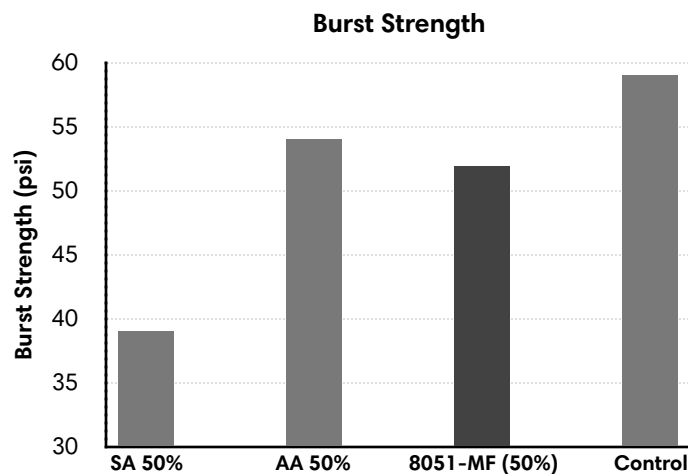
When the fabric is subjected to pressure, the fabric begins to expand in all the possible directions at the same time. When the applied pressure increases gradually, the fabric begins to burst after crossing a pressure limit.

This pressure limit is called bursting strength. Thus we can say that “the pressure required to burst the fabric surface is termed as bursting strength of the fabric”. It is measured in pounds (lbs.) per inch² or (psi).

The bursting strength of the fabric is measured in regards of this product, to test whether or not, our proprietary acid attacks the cellulose of cotton, and reduces the burst strength, like mineral acids traditionally do.

For the **ASTM D3786-06** test, we dyed 40 grams of fabric, divided it in 4 equal parts, before neutralization, and neutralized it in 4 different ways, and then tested the burst strength for each individual sample.

Fabric Specimen	Grams/L	ASTM D3786-06
F1 (Sulfuric Acid 50%)	1.00	39 psi
F2 (Acetic Acid 50%)	1.00	54 psi
F3 (Syntacid® 8051 50%)	1.00	52 psi
F4 Boil-out (Control)	1.00	59 psi



Syntacid® HC | Acetic Acid 99% Substitute

Product Information

The **Syntacid® HC** is a proprietary reaction of a sulfate salt, used in various industries, however, coupled with our innovative R&D Lab and approach, we have been able to tailor them to substitute the traditional organic acids used in the textile industry. The **HC** is a direct substitute to **Acetic Acid 99%**.

The **Syntacid® HC** can be used as a direct substitute for the textile process that requires Glacial Acetic Acid 99%.

Traditionally, acetic acid is used to regulate pH baths of dark colors in cotton, not to be used in white due to Acetic Acid's flashing point, that could cause yellowing in white fabrics. The **Syntacid® HC** can be used in colors and whites, on a **1:1** substitution. Its is not offensive to smell, or touch.

Technical Data	Specs
Appearance	Light Yellow to brown liquid
Density (g/cm3)	1.10 ± 0.1
pH @ 1%	1.2
Active Content (%)	~80%
Chemistry	Acid blend

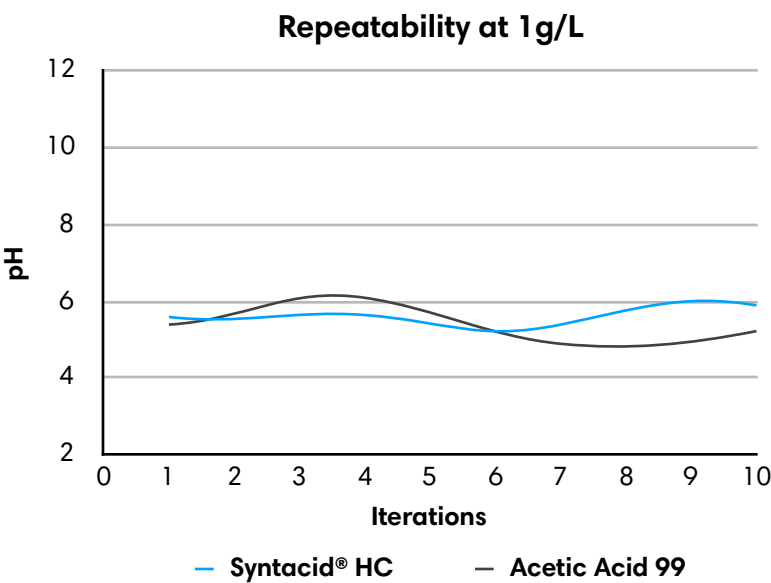
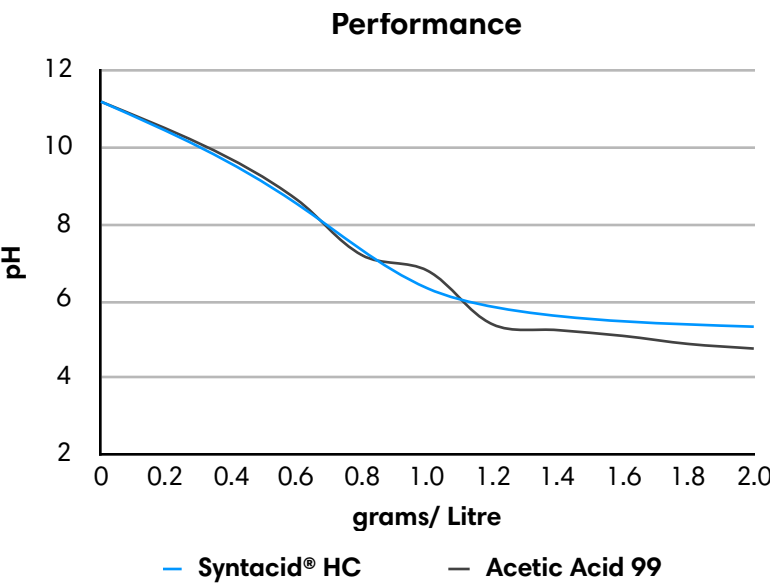
Product Application

This product must be applied at the end of the process, in the neutralization stage. This product will assure, that the fabric maintains its pH throughout the process, guaranteeing the minimal shade-change during warehousing of the fabric. The nature of this acid, will not only neutralize the surface of the fibre, it will also penetrate the core, and neutralize it.

Suggested Formulation

We have thoroughly proven that this following formulation works against Glacial Acetic Acid 99%. Results may slightly differ depending on the mineral content of the water. Slight adjustments may be done along the way.

Syntacid® HC	%	Instructions
Syntacid® 8051	40.00%	Charge
Acetic Acid 99%	40.00%	Add slowly
HEDP 60%	1.50%	Add slowly
Dem. Water	18.50%	Exothermic, keep below 60°C



Syntacid® AC | Citric Acid 55% Substitute

Product Information

The **Syntacid® AC** is a proprietary reaction of a sulfate salt, used in various industries, however, coupled with our innovative R&D Lab and approach, we have been able to tailor them to substitute the traditional organic acids used in the textile industry. The **AC** is a direct substitute to **Citric Acid 55%**.

The **Syntacid® AC** can be used as a direct substitute for the textile process that requires Citric Acid 55%.

Traditionally, citric acid is used to regulate pH baths of light and white colors in cotton. Normally the cost of using citric vs acetic is prohibitive. The **Syntacid® AC** can be used in colors and whites, on a **1:1** substitution. Its is not offensive to smell, tough or use.

Technical Data	Specs
Appearance	Light yellow liquid
Density (g/cm3)	1.10 ± 0.1
pH @ 1%	1.8
Active Content (%)	~45%
Chemistry	Acid blend

Product Application

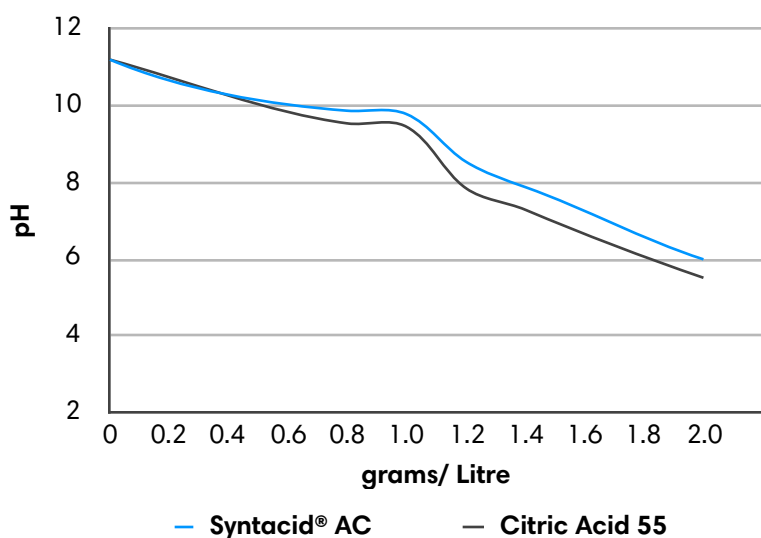
This product must be applied at the end of the process, in the neutralization stage. This product will assure, that the fabric maintains its pH throughout the process, guaranteeing the minimal shade-change during warehousing of the fabric. The nature of this acid, will not only neutralize the surface of the fibre, it will also penetrate the core, and neutralize it.

Suggested Formulation

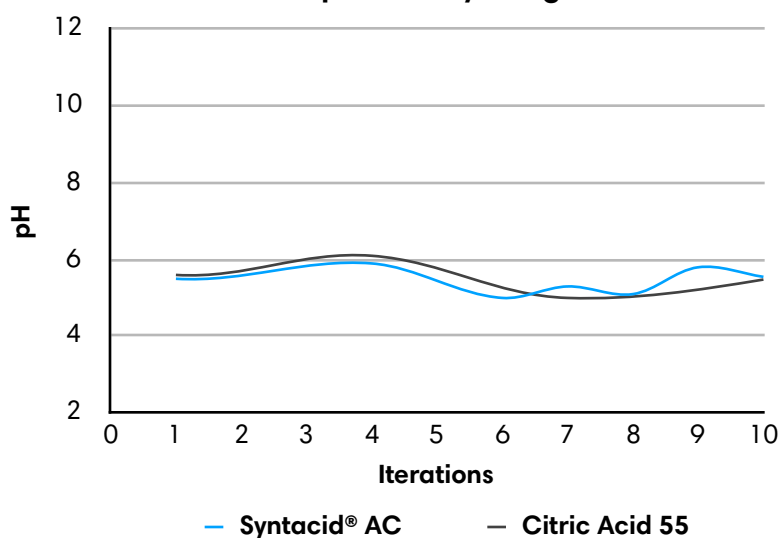
We have thoroughly proven that this following formulation works against Citric Acid 55%. Results may slightly differ depending on the mineral content of the water etc. Slight adjustments may be done along the way.

Syntacid® AC	%	Instructions
Syntacid® 8051	25.00%	Charge
Citric Acid	20.00%	Add slowly
HEDP 60%	1.00%	Add slowly
Dem. Water	54.00%	Add slowly

Performance



Repeatability at 2g/L



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The above recommendations are based on extensive results done in the most professional manner. The user must try this product industrially first, to verify if the product is viable for further use. The technical information and application advice given in this **Novachem** publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. These results however verified and certified by a third party, do not hold us liable in terms of performance deviations. These tests have been conducted in controlled environments. The user is responsible for checking the suitability of products for their intended use.

For further information and to request samples, please visit **novachemgroup.com** where a qualified technician will assist you.