



Bac2 Ltd
Millbrook Technology Campus
Second Avenue, Southampton
SO15 0DJ
United Kingdom
+44(0)23 8031 2784
E-mail: enquiries@bac2.co.uk
Website: www.bac2.co.uk

Product Data Sheet

CSR 20 and CSR100

Liquid Latent Catalysts

And

CSR500s

Solid Latent Catalyst



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Product Data Sheet

CSR 20 and CSR100

Liquid Latent Catalysts

CSR20 and **CSR100** are blendable latent catalysts for use with acid polymerisable pre-polymers including phenolic and furan-formaldehyde resins. The latent catalyst technology is based on thermally decomposable hydroxylamine chemistry. The catalysts contain strong acids including nitric acid. **CSR20** is a reactive form for use with highly condensed, low free formaldehyde resins. **CSR100** is a slower reactivity grade for use with lower condensed resins. The catalysts are offered as a twin pack to allow blending of the liquids to suit the resin reactivity. **CSR** catalysts are rapidly activated at temperatures above 120°C. Slower activation at temperatures above 50°C is possible. **CSR** catalysts are water soluble.

CSR Latent Catalysts should be treated as strong acids when first mixing with acid curable resins

Properties	CSR20	CSR100
Form	liquid	liquid
Colour	clear	clear
Acid concentration	3.65 moles l ⁻¹	2.60 moles l ⁻¹
Specific gravity	1.189 g cm ⁻³	1.175 g cm ⁻³
Solvent	water	water
Solubility	Soluble in water, alcohols and glycols. Insoluble in esters.Reactive with ketones	

Product Data Sheet

CSR 20 and CSR100

Liquid Latent Catalysts

Applications: Compression moulding, glass composites, carbon and graphite composites, foams, inks, adhesives, coatings, pre-pregs, binders.

Blending: **CSR20** and **CSR100** can be blended together in any proportion. If the pot life of the resin system with **CSR20** is not long enough use a blend containing an increased ratio of **CSR100**. When the desired pot life and reactivity are reached then Bac2 can supply a customised blend or the blend option can be used to provide adjustments to reactivity and pot life dependent on ambient temperature variations.

Addition rates: Typically 1.0% to 5% based on resin weight. If resin pH is high (>8) then higher percentages may be required.

Mixing: Can be mixed into resin or added to resin during pre-mix production. Consult with Bac2.

Shelf life: 12 months at ambient temperature in sealed container. If crystals form then warm to 30°C until dissolved.

Handling and Storage: Avoid inhalation of vapour or mist.

Product should be stored between 20 and 25°C in plastic containers.

See supplied MSDS

Product Data Sheet

CSR500s

Solid Latent Catalyst

CSR500s is a crystalline latent catalyst for use with acid polymerisable pre-polymers such as phenolic and furan resins. The latent catalyst technology is based on thermally decomposable hydroxylamine chemistry. The catalyst contains strong acids including sulphuric acid.

CSR500s is not buffered so will react as **CSR20**. As **CSR500s** is a solid the concentration of active catalyst is about x 3 more than **CSR20**. It is important to achieve a good mix if adding the solid to a dry mix. **CSR500s** is soluble in water to about 30% concentration. It is partially soluble in glycols.

CSR catalysts are rapidly activated at temperatures above 120°C. Slower activation at temperatures above 50°C is possible. **CSR** catalysts are water soluble.

CSR Latent Catalysts should be treated as strong acids when first mixing with acid curable resins

Properties	CSR500s
Form	Solid
Colour	white
Acid concentration	12.1 moles kg ⁻¹
Specific gravity	1.8 g cm ⁻³
Solvent	N/a
Solubility	Partially soluble in water, alcohols and glycols

Product Data Sheet

CSR500s

Solid Latent Catalyst

Applications: Compression moulding, glass composites, carbon and graphite composites, foams, inks, adhesives, coatings, pre-pregs, binders.

Dry blending: CSR500s can be mixed or milled into dry resin mixes.

Blending: CSR500s can be dissolved in water to around 30% concentration by weight. CSR500s is not buffered. If required, a buffered form can be obtained from Bac2 and can be blended with the solution of CSR500s

Addition rates: Typically 0.5% to 4% based on dry resin. Do not add solid form to liquid resins as solubility is poor.
For liquid resins add between 1.0 to 10% of a 30% solution.
If resin pH is high then higher percentages may be required.

Shelf life: 24 months at ambient temperature in sealed container.

Handling: Avoid inhalation and contact with skin.

Storage: Product should be stored between 15 and 25°C in plastic containers.
See supplied MSDS

Bac2's latent catalysts are based on recently filed WIPO Patent Application WO/2010/094979 Further technical information may be obtained from Bac2 Ltd.

Notice to Users: To the best of our knowledge, the information contained herein is accurate. Final determination of suitability of the material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution.