

Technical Information



Basonat[®] HW 2100 CN

water-emulsifiable polyfunctional isocyanate used to crosslink water-based OH-functional binders (e.g., primary and secondary dispersions)

key benefits

- work horse for water-based 2K polyurethane applications
- hardener for high quality waterborne polyurethane systems
- easy emulsification into water
- compatible with primary and secondary dispersions
- non-yellowing, excellent light fastness
- excellent clarity and high gloss
- good chemical resistance

chemical nature

emulsifier-modified polyisocyanate based on isocyanurated hexamethylene diisocyanate (HDI)

Properties

physical form

Liquid (solvent free)

typical properties (not supply specification)

appearance	clear viscous liquid
NCO content	17,4%
solids by weight	100%
viscosity at 23 °C (shear rate D @ 100 s ⁻¹)	2800 mPa.s
Platinum-Cobalt color number (Hazen)	≤ 60

Application

Basonat® HW 2100 CN is used as a hardener for polymer dispersions containing reactive OH groups. In combination with water-based OH functional binders (e.g. primary or secondary dispersions), it allows to formulate eco-friendly and durable high performance 2K PU industrial coatings. It can also be used to enhance the performance profile of aqueous coating systems.

processing

Basonat® HW 2100 CN can be stirred directly into the dispersion. An ideal stoichiometric reaction of OH and NCO groups cannot be expected. In primary dispersions, Basonat® HW 2100 CN ideally crosslinks at a stoichiometric proportion of 100 % of OH groups of the dispersion on the NCO content of the polyisocyanate. A stoichiometric proportion of 150 parts of polyisocyanate on 100 parts of polyol (index 150) is usually adjusted in secondary dispersions.

For easier incorporation the polyisocyanate can be pre-thinned with up to 30 % of the solvent that is also used as film-forming agent for the polymer dispersion (e.g., dipropylenglycol dimethylether, methoxypropyl acetate, butylglycol acetate or butyldiglycol acetate). Only PU grade solvents should be used (absence of water and reactive groups such as hydroxyl or amino groups).

Film-forming agents (solvents), additives and thickeners should be free from compounds containing active hydrogen groups.

Tertiary amines (dimethylethanol amine, triethyl amine, triethanol amine) can be used to adjust the pH.

The pH strongly influences the pot life of the formulation: the higher the pH, the shorter the pot life. At a pH of 7 and above, the reaction of the polyisocyanate preferably with water and amine should be expected.

Storage

according to our experience, Basonat® HW 2100 CN can be stored for 6 months from the date of delivery if kept in tightly sealed original containers, protected from humidity/moisture and heat. The recommended storage temperature is between 0° C and 30°C. Reaction with moisture will generate carbon dioxide which can lead to dangerous increase in pressure, while storage at high temperature will increase color and viscosity. After re-filling from original containers, a shorter shelf life should be expected. Containers should be flushed with nitrogen before resealing.

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Safety

Basonat® HW2100 CN is a reactive polyfunctional isocyanate containing traces of hexamethylene-1,6-diisocyanate and isophorone diisocyanate, requiring adequate protection measures. Thus it may only be used in industrial or professional applications and is not suitable for do-it-yourself applications.

When handling this product, please comply with the advice and information given in the safety data sheet and observe protective and workplace hygiene measures adequate for handling chemicals.

Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights, etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. The agreed contractual quality of the product results exclusively from the statements made in the product specification. It is the responsibility of the recipient of our product to ensure that any proprietary rights and existing laws and legislation are observed.

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