Industrial Coatings

Technical Data Sheet

Basonat® HB 175 MP/X

BASF
The Chemical Company

Product Description

Basonat® HB 175 MP/X is an aliphatic polyisocyanate for lightfast and weather-resistant two-pack polyurethane coatings. It is an approximately 75% solids solution in a 1:1 blend of 1-methoxy-2-propyl acetate and xylene.

Key Features & Benefits

- Excellent weather and chemical resistance
- Excellent physical properties
- Non yellowing

Chemical Composition

Polyisocyanate based on biuret-modified hexamethylene diisocyanate (HDI)

Properties

Typical Characteristics

Appearance	liquid
Non-volatile	74 – 76%
Viscosity at 23°C	130 – 300 cps
Shear rate D	1,000 s^{-1}
Hazen color number	≤ 30
Density at 20°C	1.07 g/cm^3, 8.93 lbs/gal
NCO content	16 – 17%
NCO equivalent weight (as supplied)	~ 255

Crosslinking

Used to crosslink most hydroxy-containing resins such as Joncryl® acrylics and hydroxy functional polyesters.

Diluent tolerance

Can be diluted with esters, ketones, glycolether acetates or with aromatic hydrocarbons. Only urethane-grade solvents should be used to lessen the possibility of reacting with water.

If diluted to a polyisocyanate fraction of less than 40%, turbidity, flocculation, and/or sedimentation may occur during storage. Storage trials should always be conducted.

These typical values should not be interpreted as specifications.

The NCO equivalent weight indicates the amount of Basonat® polyisocyanate as supplied containing 1 Mol of active NCO.

Applications

Basonat® HB 175 MP/X is used to formulate lightfast and weather-resistant coatings. Aliphatic polyisocyanates are sometimes even used in primers for difficult substrates such as aluminum or plastics.

Basonat® HB 175 MP/X is recommended for applications such as:

- Interior/exterior general industrial metal coating applications
- Interior/exterior plastic component coating applications
- Interior/exterior wood coatings for floor, furniture, or millwork applications
- Interior/exterior Automotive OEM or refinish applications

Processing

The theoretical equivalent amount of polyisocyanate required for crosslinking is computed using the formula below:

$$\frac{0.075 \times [\text{OH number}] \times [\%\ \text{non-volatile fraction of OH component}]}{[\%\ \text{NCO}]}$$

Example

Basonat® HB 175 MP/X and Joncryl® 922

Joncryl® 922

OH number	140 mg KOH/g polyol on solids
Non-volatile fraction, Nv	80%
NCO content (Basonat® HB 175MP/X)	16.5%

$$\frac{0.075 \times 140 \times 80}{16.5} = 50.9$$

Basonat® HB 175 MP/X dosage rate for 100g Joncryl® 922 as supplied = 50.9g.

Solvents, pigments, or extenders, etc. used should be free from compounds containing active hydrogen groups such as water, alcohols, or amines.

A water content of less than 500 ppm in solvents and binders in two-component polyurethane coatings is acceptable.

Safety

General

The usual safety precautions when handling chemicals must be observed. These include the measures described in Federal, State, and Local health and safety regulations, thorough ventilation of the workplace, good skin care, and wearing of protective goggles.

Material Safety Data Sheet

All safety information is provided in the Material Safety Data Sheet for Basonat® HB 175 MP/X.

Important

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U.S. & Canada
BASF Corporation
1609 Biddle Avenue
Wyandotte, Michigan 48192
Phone: (800) 231-7868
Fax: (800) 392-7429
Email: polyorders@basf.com
Email: edtech_info@basf.com
www.basf.com

Mexico
BASF Mexicana, S.A. de C.V.
Av. Insurgentes Sur # 975
Col. Ciudad de los Deportes
C.P. 03710
Mexico, D.F.
Phone: (52-55) 53-25-27-87
(52-55) 53-25-26-87
Fax: (52-55) 56-11-48-97