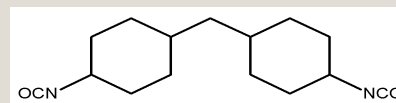


## Product information

# VESTANAT<sup>®</sup> H<sub>12</sub>MDI

## DICYCLOHEXYLMETHANE-4,4'-DIISOCYANATE METHYLENE-BIS-(4-ISOCYANATOCYCLOHEXANE)



### GENERAL DESCRIPTION

VESTANAT H<sub>12</sub>MDI is a cycloaliphatic diisocyanate. VESTANAT H<sub>12</sub>MDI is a low viscosity liquid with a characteristic odour.

### SPECIFICATION

| Property    | Value       | Unit     | Test method        |
|-------------|-------------|----------|--------------------|
| NCO content | 31.8 – 32.0 | % by wt. | EN ISO 11 909      |
| Purity      | ≥ 99.5      | % by wt. | gas chromatography |

### TYPICAL DATA

| Property                                      | Value                          | Unit              | Test method        |
|---|--------------------------------|-------------------|--------------------|
| Total chlorine                                | ≤ 10                           | ppm               | -                  |
| Hydrolyzable chlorine                         | ≤ 10                           | ppm               | -                  |
| Density at 23 °C                              | approx. 1.07                   | g/cm <sup>3</sup> | DIN EN ISO 2811    |
| Viscosity at 23 °C                            | approx. 35                     | mPa·s             | DIN EN ISO 3219    |
| Colour (APHA)                                 | ≤ 30                           | -                 | DIN EN ISO 6271    |
| Refractive index n <sub>D</sub> <sup>25</sup> | approx. 1.496                  | -                 | DIN 51 423, Part 2 |
| Vapour pressure at 25 °C                      | approx. 2.1 · 10 <sup>-5</sup> | hPa               | -                  |
| Flash point (closed cup)                      | approx. 200                    | °C                | DIN EN ISO 2719    |
| Crystallisation                               | approx. 25                     | °C                | -                  |

## PROPERTIES AND APPLICATIONS

Due to its cycloaliphatic structure VESTANAT H<sub>12</sub>MDI is a suitable raw material for the manufacture of polyurethanes exhibiting excellent light stability, weatherability and mechanical properties.

VESTANAT H<sub>12</sub>MDI is especially suitable for the production of elastomers, polyurethane dispersions and radiation curable urethane acrylates. In addition to the excellent mechanical properties VESTANAT H<sub>12</sub>MDI imparts outstanding hydrolysis resistance and chemical resistance.

## REACTIVITY AND CATALYSIS

Aliphatic and cycloaliphatic diisocyanates like VESTANAT H<sub>12</sub>MDI are less reactive than aromatic diisocyanates. To accelerate the urethane reaction tin catalysts (e.g. DBTDL or DBTDAc) are recommended.

Catalysts may not be needed if the reaction with polyols is carried out at higher temperatures.

## STORAGE AND PACKAGING

VESTANAT H<sub>12</sub>MDI is sensitive against moisture. In unopened containers it can be stored for at least one year without loss of quality in accordance with the above specification.

VESTANAT H<sub>12</sub>MDI may partially crystallise and settle on the bottom at temperatures below 25 °C. In this case VESTANAT H<sub>12</sub>MDI needs to be heated to 40 – 50 °C and homogenised prior to processing.

VESTANAT H<sub>12</sub>MDI is supplied in non-returnable 30 kg cans and non-returnable 200 kg drums.

## SAFETY AND HANDLING

The product is used as raw material for the industrial manufacture of resins and hardeners for coating materials, adhesives, sealants and elastomers. The handling of such materials containing reactive polyisocyanates and residual monomeric diisocyanates requires appropriate protective measures. Therefore these products may be used only in industrial or professional applications. They are not suitable for use in homemaker (DIY) applications.

For further information on the safe handling of VESTANAT H<sub>12</sub>MDI please refer to our Material Safety Data Sheet and to the technical information "VESTANAT H<sub>12</sub>MDI - Properties and Handling" (no. 43.01.063e).

Marl, June 10, 2018; This data sheet replaces all former issues.

VESTANAT<sup>®</sup> is a registered trademark of Evonik Industrie AG or one of its subsidiaries.

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