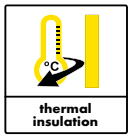
Polyfoam - MDI

Diphenylmethane Diisocyanate

CHARACTERISTICS

► Diphenylmethane – 4,4'- diisocyanate



DESCRIPTION

Polyfoam - MDI is a liquid, dark brown mixture of diphenylmethane – 4,4'- diisocyanate with isomers and homologues of higher functionality. It is used in conjunction with polyol to produce rigid polyurethane foams.

FIELDS OF APPLICATION

– it is used in conjunction with polyol to produce rigid polyurethane foams.

STORAGE & HANDLING

Recommended storage temperature: + 10 to + 30°C. Storage stability (ex works): 6 months if stored in moisture – tight drums.

APPLICATION INSTRUCTIONS

MDI may undergo partial crystallization at temperatures below 0°C. The product can, however, be brought back into the liquid state by heating the entire contents of the drum for a short time to a maximum of 70°C, although this may lead to an increase in the solids content. Drums – including empty ones – should always be kept tightly sealed. The product should never be allowed to come into contact with water, which reacts with MDI to form polyureas and carbon dioxide. Contact with water in any form (damp drums, solvents containing water, moist air) must be prevented not only during storage, but also when removing material from drums and during processing. Failure to do so may lead to a dangerous build – up of pressure in tanks and drums due to the generation of carbon dioxide. In addition, polyureas forming in MDI can cause solids to separate out, leading to blockages in the filters, pumps and pipelines of the processing equipment and resulting in production problems. MDI is a mixture of diphenylmethane-4,4'-diisocyanate isomers with a specific content of homologues of higher functionality. At 20°C MDI has a vapour pressure of less than 10^{-5} mbar. Due to the

production method used, isocyanates based on MDI always contain phenyl isocyanate (max. 50 ppm), but this has practically no effect on the toxicological properties of MDI.

MDI is classified as a dangerous substance and requires a hazard-warning label. It must be handled with care. An occupational exposure limit has been set which defines the maximum permissible workplace concentration, in the form of gas, vapour or airborne particulate, of a specific chemical or chemicals contained in MDI. Details of the current occupational exposure limit, which is subject to constant review, are given in the Safety Data Sheet accompanying the product.

The degree of risk depends mainly on the quantities of isocyanate vapours and aerosols released when MDI is processed. No problems arise when MDI is poured at 20 to 25°C, provided this is done in a well-ventilated area. It is however essential to provide adequate exhaust ventilation at each workplace, with the air being drawn away from the personnel handling the product. Exhaust equipment should be periodically checked.

Ventilation is particularly important if MDI or reaction mixtures containing MDI are sprayed, heated or processed at temperatures above 25°C, since there is then a risk that the occupational exposure limit may be exceeded.

Vapours and aerosols of MDI (the latter being formed during spray application or when cleaning mixing heads with an air blast) cause irritation to the eyes and the mucous membranes of the nose, throat and lungs, and may lead to hypersensitivity reactions. Inhalation should therefore be avoided.

Safely goggles, impermeable protective gloves and overalls fastened at neck and wrist should always be worn when handling MDI. Splashes of MDI in the eyes should be removed immediately by careful flushing with copious amounts of water. Medical attention should then be obtained. Splashes on the skin should be wiped off immediately, after which the contaminated areas should be thoroughly washed with soap and water. A barrier cream should than be applied. Contaminated clothing should be removed immediately to prevent further skin contact. MDI should be kept away from food, drink and tobacco.

TECHNICAL SPECIFICATION

PROPERTIES	VALUES
Appearance	Dark brown liquid
Specific gravity at 25[°C]	1.22-1.25
Viscosity at 25[°C]	150-250 mPa.S
NCO% Wt	30.2-32.0
Acid content(HCL)	≤0.05%
Hydrolysable chlorine	≤0.2%

Apart from the information given here it is also important to observe the relevant guidelines and regulations of various organisations and trade associations as well as the respective standards. The aforementioned characteristics are based on practical experience and applied testing. Warranted properties and possible uses which go beyond those warranted in this information sheet require our written confirmation. All data given was obtained at an ambient and material temperature of +23°C and 50 % relative air humidity at laboratory conditions unless specified otherwise. Please note that under other climatic conditions hardening can be accelerated or delayed.
The information contained herein, particularly recommendations for the handling and use of our products, is based on our professional experience. As materials and conditions may vary with each intended application, and thus are beyond our sphere of influence, we strongly recommend that in each case sufficient tests are conducted to check the suitability of our products for their intended use. Legal liability cannot be accepted on the basis of the contents of this data sheet or any verbal advice given, unless there is a case of wilful misconduct or gross negligence on our part. This technical data sheet supersedes all previous editions relevant to this product.

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