We create chemistry

Technical Data Sheet

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Lupranat® MIP

Chemical nature

Lupranat MIP is a mixture of 2,4'- and 4,4'-diphenylmethane diisocyanate (MDI). Lupranat MIP has a lower content of 2,2'- diphenylmethane diisocyanate than Lupranat MI.

Applications

Together with other isocyanates, Lupranat MIP is used for the manufacture of flexible foams, adhesives, and coatings.

Typical properties

Appearance: colourless to yellow, clear liquid

Molar mass	250	g/mol	
Purity	99.5	g/100 g	titrimetric
NCO-content	33.5	g/100 g	ASTM D 5155-96 A
4,4'-isomer	49.5	g/100 g	GC
2,2'-isomer	≤ 0.2	g/100 g	GC
Acidity as HCl	3	mg/kg	titrimetric
Hydrolysable chlorine	5	mg/kg	titrimetric
Viscosity at 25 °C	12	mPa·s	DIN 53 018
Density at 25 °C	1.19	g/cm³	DIN 51 757

Lupranat® MIP

Delivery

The delivery is by road tankers, in containers containing 1000 l and in non-returnable drums. If delivered in road tankers, temperature during transport should be maintained between 25 °C and 35 °C. If delivered in drums, temperature should not fall below the crystallization point. Exposure to intensive sunlight should be avoided.

Storage

Lupranat MIP is sensitive to moisture and may become yellow, particularly on exposure to light and air. The product slowly forms dimeric diphenylmethane diisocyanate, which is seen as a precipitate and which might influence the properties of the final products if used for special applications. This dimer cannot be removed by heating.

The ideal storage temperature is 30 to 35 °C. Under theses conditions and if moisture is excluded, Lupranat MIP can be stored for at least 3 months. The containers must be kept airtight, storage tanks must be blanketed with dry nitrogen. Prolonged storage at high temperatures can lead to discolouration, an increased dimer content and the product may become turbid.

Storage at temperatures below +19 °C can lead to partial crystallization of 4,4'-MDI. Crystallised product must be melted out immediately by short term heating. The product temperature must not exceed 50 °C. Local overheating must be avoided, because the product will be destroyed at temperatures above 230 °C with consequent gas formation. Rolling of the drums in a hot air oven is the recommended method of dissolving the crystals. After melting out, the contents of the drum must be thoroughly mixed.
More detailed information on transport and storage of isocyanates is given in the ISOPA-Guidelines
“For Safe Loading / Unloading Transportation Storage of TDI and MDI in Bulk” and
“For the Safe Transportation, Unloading & Storage of Packaged TDI & MDI”.

Safety advice and environmental protection

Labelling, transportation, storage, processing, waste treatment and disposal must comply with national regulations. Occupational exposure limits are to be observed.

Lupranat MIP is classified as harmful if inhaled. It causes skin irritation and serious eye irritation. It may cause respiratory irritation. It may cause sensitisation by inhalation and skin contact. It is suspected of causing cancer. It may cause damage to organs though prolonged or repeated inhalation exposure.

Lupranat® MIP

Before processing the product, we recommend reading the safety data sheet. For further information consult our Technical Information leaflet "Safety and Precautionary Measures for the Processing of Polyurethane Systems".

In order to avoid accidents, the residual product in the drums must be handled with care. Any water or moisture which is allowed to enter the drum will react with Lupranat MIP and release carbon dioxide. Unless action is taken to prevent moisture entry or gas entrapment, the drums will become pressurized and could rupture.

If it is intended to use BASF materials for the manufacture of toys or consumer goods (e. g. products which will come into contact with foodstuffs or with the skin) or medical products, national and international regulations have to be observed.

In the case that migration tests or tests of trace monomers are recommended in the special legislations by the manufacturer of consumer goods, the obligation to fulfill these requirements and to conduct tests for the supplied products is still in the hand of the customer. BASF cannot take over this responsibility for the use of its products from our customers.

Where no regulations exist, consumer goods or medical products must at least comply with European legislation. We recommend contacting our Sales and our Ecology and Product Safety departments.

Disposal of drums

Residues of MDI remaining in drums must be neutralized. Information on disposal is given in our Technical Information “Safety and Precautionary Measures for the Processing of Polyurethane Systems”. Please contact our local agencies for further information on national disposal regulation