

Technical Data Sheet**Lupranat® M 20 R**

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Version: 07

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Chemical nature

Lupranat M 20 R is a solvent-free product based on 4,4'-diphenylmethane diisocyanate (MDI) containing oligomers of high functionality and isomers. It has relatively low reactivity, the average functionality is about 2.7.

Applications

Lupranat M 20 R is used for the production of insulating foams, casting material, binders and adhesives.

Typical properties

Appearance:	brown liquid		
NCO-content	31.5	g/100 g	ASTM D 5155-96 A
Acidity as HCl	150	mg/kg	ASTM D 1638-74
Viscosity at 25 °C*	220	mPa·s	DIN 53 018
Density at 25 °C	1.23	g/cm ³	DIN 51 757
Specific heat			
at 20 °C	1.4	kJ/(kg · K)	
at 80 °C	1.6	kJ/(kg · K)	

* at delivery

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 20 °C and 40 °C. If delivered in drums, extreme cold shocks and storing in direct sunlight should be avoided.

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Lupranat[®] M 20 R**Storage**

Lupranat M 20 R must be protected from moisture. The ideal storage temperature is 20 to 25 °C. Under these conditions and when moisture is excluded, the shelf life of Lupranat M 20 R is at least six months. Drums must be kept airtight. Storage tanks should be blanketed with dry air or with nitrogen.

Longer storage leads to a lasting increase of viscosity depending on the temperature. In extreme cases a precipitate may form which will not be removed by heating.

If the product becomes cold the viscosity will increase. This may lead to problems in processing. Storage for longer periods below 0 °C can lead to partial crystallisation.

Crystallised material must be melted out immediately by short term heating. The product temperature must not exceed 70 °C. Local overheating must be avoided, as Lupranat M 20 R will decompose with the formation of gas at temperatures above 230 °C. 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".

Safet 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 M 20 R 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.

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 M 20 R and release carbon

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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. 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 regulations.

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