

Product Information

CM – Monomers Division

TECHNICAL DATA SHEET

Document name: TDS_Lupranat MIP_10239494
Revision: 11 issued: July 3, 2025

Product: **Lupranat® MIP**
PBG-No.: 10239494
Chemical Name: methylene diphenyl diisocyanate

Chemical nature Lupranat MIP is a mixture of 2,4'- and 4,4'-diphenylmethane diisocyanate (MDI). It 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

2,2'-isomer	≤ 0.2	g/100 g
4,4'-isomer	49.5	g/100 g
Acidity as HCl	3	mg/kg
Density at 25 °C	1.19	g/cm ³
Hydrolysable chlorine	5	mg/kg
Molar mass	250	g/mol
NCO content	33.5	g/100 g
Purity	99.5	g/100g
Viscosity at 25 °C	12	mPa·s

Delivery The delivery is by road tankers, in containers containing 1000 l and in non-returnable drums. If delivered in road tankers, the 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 25 to 35 °C. Under these 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 discoloration, an increased dimer content and the product may become turbid.

Product Information

CM – Monomers Division

Storage at temperatures below +16 °C can lead to partial crystallization of 4,4'-MDI. Crystallized products 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 sensitization 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.

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 this BASF material for the manufacture of materials and articles intended to get in contact with food or drinking water or for medical devices, toys or consumer goods (e.g., products which will come into contact with the skin), respective national and international regulations have to be observed.

Please note that for each of the aforementioned sensitive applications, there might be recommended or mandatory migration tests or tests of residual monomers or impurities in the specific legislations for such materials and articles. The obligation to fulfill these requirements and to conduct tests for the final material and article containing the supplied BASF materials is the responsibility of the customer or producer of the final materials and articles. Thus, BASF is not able to take over any responsibility in this respect, neither for such testing nor the actual use of the respective BASF materials in such applications.

Where no regulation exists, we recommend contacting our Sales and our Product Stewardship department.

Product Information

CM – Monomers Division

Disposal of drums Residues of MDI remaining in drums must be decomposed. Please contact our local agencies for further information on national disposal regulations.

Note The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.