

WANNATE[®] MDI-50, 60, 70, 80

Application

WANNATE[®] MDI-50, 60, 70 or 80 is a mixture of 2,4' and 4,4' diphenylmethane diisocyanates, or called 2,4' rich isocyanate. It is a clear, colorless to pale yellow liquid at ambient temperatures.

Due to the different reactivity between 2,4' and 4,4' MDI, WANNATE[®] MDI 50 series product provides better flowability for the production of injection molding. WANNATE[®] MDI 50 series product can be widely used in the production of various PU elastomers, adhesives, paint and automotive parts. It also can be used as a substitute for TDI in the production of flexible PU foam, which will reduce productive cost and environmental pollution and improve handling conditions.

Typical Physical and Chemical Properties

Test Item(s)	Specification(s)					
	MDI-50	MDI-50F	MDI-50s	MDI-60	MDI-70	MDI-80
Appearance	—	—	Colorless or pink liquid	—	—	—
MDI Purity, % \geq	99.6	99.6	99.6	99.6	99.0	99.0
Colour, APHA \leq	30	30	30	20	40	100
Cyclohexane Insolubles, % \leq	0.3	0.20	0.30	0.30	0.30	—
2,4'-isomer, % (A/A)	50.0-54.0	50.0-54.0	50.0-54.0	63.0-68.0	68.0-75.0	78.0-85.0
Hydrolysable Chlorine, % \leq	0.005	0.005	0.005	0.005	—	—

Package(s)

210L iron drums, 235kg/drum

Storage

Container: Freshly manufactured WANNATE[®] MDI 50 series product is a clear liquid at room temperature. It tends to turn yellow upon exposure to air and light. As WANNATE[®] MDI 50 series product is a reactive chemical, reaction with atmospheric moisture occurs easily and leads to the formation of insoluble urea and CO₂ gas which can lead to pressure build-up in closed containers and increases in the viscosity of the product. Containers must therefore be absolutely dry and carefully sealed after congested with dry nitrogen.

Temperature: Extended storage will result in insoluble dimer. It is best to store at 25°C-35°C.

Recommended Melting Conditions

Crystallization will occur if WANNATE[®] MDI 50 series product is stored below 17°C. To

minimize the formation dimer, it is recommended to melt solid WANNATE[®]MDI_50 series product quickly and evenly, such as using a forced air oven equipped with rollers. Do not exceed 50°C. Make sure the heating is even and there is no leakage during heating. To avoid localized heating, electrical heating is not recommended. Note that the product will decompose and give off gas above 230°C. Water heating or steam heating is not recommended either since water will react with MDI if there is any leakage. Only when the container is intact could water be used to melt the product. The container should be wiped dry when done.

Shelf Life

Under recommended storage conditions, WANNATE[®] MDI 50 series product has a shelf life of 3 months.

Health and Safety

WANNATE[®] MDI 50 series product is an isocyanate-based blend which should be considered potentially hazardous. Care must be taken when handling it to prevent contact with the skin and eyes. Suitable protective equipment such as gloves, goggles and protective clothing should be worn.

At room temperatures WANNATE[®] MDI 50 series product is a liquid with low vapor pressure. Its level of toxicity by inhalation and skin absorption is low. It may cause mild eye and skin irritation, and may pose problems of skin sensitization. Due to its very low volatility, WANNATE[®] MDI_50 series product poses little hazard for brief exposures under normal conditions, e.g. in cases of small spills. WANNATE[®] MDI_50 series product has a Ceiling Threshold Limit Value, TLV(C) of 0.02ppm (0.2mg/m³).

It is important to note that a vapor hazard will arise if the material is heated to temperatures above 40°C (e.g. when melted), or if it is reacted in an unventilated space. Another hazard is the formation of air-borne droplets during spraying operations. Under such conditions, it is essential to wear a gas mask or respirator since repeated inhalation of the vapor at levels above the TLV may cause respiratory tract sensitization.

Splashes on the skin should be promptly removed and washed well with soap and water. Splashes into eyes should be removed promptly by irrigation with clean, lukewarm water.

WANNATE[®] MDI 50 series product reacts very easily with moisture (water). This leads to the formation of carbon dioxide gas. Storage containers must be absolutely dry and sealed to protect the contents from moisture and water. If water splashes into the containers, they should not be tightly sealed. It is important to leave vent holes to prevent containers from rupturing.

Fire and Explosion Hazard

WANNATE[®] MDI 50 series product is classified as an IIIB combustible liquid by NFPA. It is combustible when there is oxygen and high temperature. Toxic fumes will form when

WANNATE[®] MDI 50 series product is burning. Fire fighters must wear full protective gear. Carbon dioxide, foam, or dry powder type fire extinguishers may be used. To avoid possible rupture, water-contaminated containers should not be sealed.

Spillage Handling

In case of a spill, immediately isolate the area, remove potential fire sources and make sure the area has adequate ventilation. Spillage handling should be conducted by trained personnel. Small spills can be covered with sand and treated with 5% ammonia off site. Collection and recycling are recommended if a large amount is spilled. Contaminated floor may be cleaned with ammonia or detergent.

Waste product should be handled according to local environmental law.

For more information, please refer to our MSDS or contact our customer service center.

For further information please contact us:

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The information provided here is for reference only. The specification will be provided in the quality certificate or in the contract. It is the user's responsibility to test the material and its suitability for a process. We have no control over what another party does with the material and we cannot take any responsibility for another party's action. Nor will we be responsible for any indirect damages while using our products. The user is welcome to contact our customer and technical service center with questions on our products.