

# Kraftmann ◀ K-200

## ► Description

Kraftmann K-200 is an MDI-based (diisocyanato- diphenylmethane) material containing some higher functionality isocyanates. K-200 is widely used in the production of rigid PU foam insulation. It is also used in isocyanurate foams, paints, adhesives, structural foams, cellular integral skin foams, automotive bumpers and interior parts, high-resilience foams and synthetic wood, etc. Due to its unique composition K-200 can provide better flowability. It is, therefore, particularly suitable for applications which require good flowability.

## ▷ Typical Properties

Appearance	Dark brown liquid
Functionality	2.6 – 2.7
Specific gravity at 25°C	1.22~1.25
Viscosity at 25°C	150-250 mPa.S
NCO, Wt	30.2~32.0%
Acidity (HCL)	≤0.02%
Hydrolyzable Chlorine	≤0.2%

## ▷ Package

210 L (55 gal.) steel drums 250 kg (550 lb.)/drum

## ▷ Storage

K-200 is a reactive chemical which should be stored in tightly closed containers at 20 to 30°C (65 to 85°F). Reaction with atmospheric moisture produces insoluble ureas, increases the viscosity and generates CO<sub>2</sub> gas which may result in dangerous pressure build-up in closed containers. To exclude moisture, dry nitrogen or dry air blanketing (padding) is recommended for opened containers and bulk storage facilities. Extended storage at temperatures above 50o C (122o F) is not recommended since this will cause the formation of insoluble solids (MDI dimer) and viscosity increase.

Storage at temperatures below 5oC (40o F) may result in crystallization. This material must be protected from frost.

## ▷ Melting Instructions

In the event drums of polymeric or modified MDI arrive in a crystallized or frozen state, they should be melted as soon as possible via the following procedure:

- Blanket all opened drums with dry nitrogen (- 40o C / - 40o F dew point) prior to closing.
- Ensure all opened (and unopened) drum bungs are securely tightened and sealed to prevent moisture entry.  
**Caution:** Moisture will react with MDI and generate CO<sub>2</sub> gas that may rupture the drums.
- Place the drum on a drum roller located inside a forced-air oven or atmospheric steam cabinet

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- Heat for 4 to 5 hours with continuous rolling and even heating. (Monitor the drum roller)
- to ensure drums are not damaged or punctured.)  
Take the drum from the oven.
- If steam is used, remove all residual moisture either by wiping or evaporation prior to opening the drum.

Experience indicates that completely frozen drums at 0°C (32°F) will reach approximately 70°C (158°F), and melt completely. These conditions are mild enough that excessive MDI dimer solids formation is prevented.

*Static melting via hot water immersion, hot-air ovens, or electric heating bands, is not recommended.*

## ▷ Shelf Life

Under recommended storage conditions, the shelf life of K-200 is one year. Product stored past the expiration date may still be suitable for use as long as key physical and chemical properties are still within specification.

## ▷ Health and Safety

K-200 is an isocyanate 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 temperature K-200 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, K-200 poses little hazard for brief exposures under normal conditions, e.g. in cases of small spills. K-200 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 (104°F), 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 removed promptly and washed well with soap and water. Splashes into the eyes should be removed promptly by irrigation with clean, lukewarm water.

K-200 reacts very easily with moisture (water). This leads to the formation of carbon dioxide gas. If water splashes into the containers, they should not be tightly sealed. It is important to leave vent holes to prevent containers from Storage containers must be absolutely dry and sealed to protect the contents from moisture and rupturing.

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## ▷ Fire and Explosion Hazard

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The MDI series is classified as IIIB combustible liquid by NFPA. It is combustible when there is oxygen and high temperature. Toxic fumes will form when MDI 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

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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 floors may be cleaned with ammonia solution 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.