

METHYLENE BISPHENYL ISOCYANATE

0298

March 1999

CAS No: 101-68-8

RTECS No: NQ9350000

EC No: 615-005-00-9

Diphenylmethane-4,4'-diisocyanate

bis(1,4-Isocyanatophenyl)methane

MDI

4,4'-Methylenediphenyldiisocyanate

$C_{15}H_{10}N_2O_2$ / $OCNC_6H_4CH_2C_6H_4NCO$

Molecular mass: 250.3

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames.	Powder, carbon dioxide.
EXPLOSION			

EXPOSURE		AVOID ALL CONTACT!	IN ALL CASES CONSULT A DOCTOR!
Inhalation	Headache. Nausea. Shortness of breath. Sore throat.	Local exhaust or breathing protection.	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
Skin	Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention.
Eyes	Pain.	Safety goggles or face shield.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion		Do not eat, drink, or smoke during work.	Rinse mouth. Do NOT induce vomiting. Refer for medical attention.

SPILLAGE DISPOSAL	PACKAGING & LABELLING
Evacuate danger area! Consult an expert! Chemical protection suit including self-contained breathing apparatus. Sweep spilled substance into sealable containers. Carefully collect remainder, then remove to safe place.	<p>EU classification</p> <p>Xn Symbol</p> <p>R: 20-36/37/38-42/43</p> <p>S: (1/2-)23-3</p> <p>Note: C6/37-45</p> <p>Unbreakable packaging; put breakable packaging into closed unbreakable container. Do not transport with food and feedstuffs.</p>

EMERGENCY RESPONSE	SAFE STORAGE
	Separated from food and feedstuffs, incompatible materials. See Chemical Dangers. Cool. Dry. Keep in the dark.

IPCS

International Programme on Chemical Safety



Prepared in the context of cooperation between the International Programme on Chemical Safety and the European Commission ©
IPCS 2006

SEE IMPORTANT INFORMATION ON THE BACK.

IMPORTANT DATA

Physical State; Appearance

WHITE TO PALE YELLOW CRYSTALS OR FLAKES.

Chemical dangers

The substance may polymerize under the influence of temperatures above 204/C. On combustion, forms toxic and corrosive fumes including nitrogen oxides and hydrogen cyanide (see ICSC 0492). Reacts readily with water to form insoluble polyureas. Reacts violently with acids, alcohols, amines, bases and oxidants causing fire and explosion hazard.

Occupational exposure limits

TLV: 0.005 ppm as TWA; (skin); (ACGIH 2004).
MAK: (Inhalable fraction) 0.05 mg/m³; Peak limitation category: I(1); sensitization of respiratory tract and skin (Sah); Carcinogen category: 3B; Pregnancy risk group: D; (DFG 2006).

Routes of exposure

The substance can be absorbed into the body by inhalation.

Inhalation risk

Evaporation at 20/C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed.

Effects of short-term exposure

Tear drawing. The substance irritates the eyes, the skin and the respiratory tract. The substance may cause effects on the lungs, resulting in impaired functions.

Effects of long-term or repeated exposure

Repeated or prolonged contact may cause skin sensitization. Repeated or prolonged inhalation exposure may cause asthma (see Notes).

PHYSICAL PROPERTIES

Boiling point at 100 kPa: 314/C
Melting point: 37/C
Relative density (water = 1): 1.2
Solubility in water: reaction

Vapour pressure, Pa at 20/C: negligible
Relative vapour density (air = 1): 8.6
Flash point: 196/C c.c.
Auto-ignition temperature: 240/C

ENVIRONMENTAL DATA

NOTES

The symptoms of asthma often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential.

Anyone who has shown symptoms of asthma due to this substance should avoid all further contact with this substance.

MDI may sensitize workers so that they react to other isocyanates (asthma).

Do NOT take working clothes home.

Caradate 30, Desmodur 44, Hylene M 150, Isonate, Nacconate 300, NCI-C50668, Rubinate 44 are trade names.

Card has been partially updated in July 2007: see Occupational Exposure Limits.

ADDITIONAL INFORMATION

LEGAL NOTICE

Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible for the use which might be made of this information