



BE SURE. BUILD SURE.

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Safety data sheet according to Regulation (EC) No 1907/2006, Article 31

Printing date 01.03.2024

Version number 24

Revision: 01.03.2024

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name** MC-DUR 2500 - Komponente B
- **Relevant identified uses of the substance or mixture and uses advised against** *No further relevant information available.*
- **Application of the substance / the mixture** *Polyurethane lacquer
Hardening agent/ Curing agent*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:** *MC-Bauchemie Müller GmbH & Co. KG
Am Kruppwald 1-8
D-46238 Bottrop
Tel.: +49(0)2041-101-0
Fax.: +49(0)2041-101-400
E-Mail: info@mc-bauchemie.de*
*MC-Bauchemie AG
Hagackerstr. 10
CH-8953 Dietikon
Tel.: +44-7400510
Fax : +44-7400533*
- **Informing department:** *msds@mc-bauchemie.de*

2 Hazards identification

- **Classification of the substance or mixture**

<i>Acute Tox. 5</i>	<i>H333 May be harmful if inhaled.</i>
<i>Skin Irrit. 2</i>	<i>H315 Causes skin irritation.</i>
<i>Serious eye damage/irritation – Category 2A</i>	<i>H319 Causes serious eye irritation.</i>
<i>Resp. Sens. 1</i>	<i>H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.</i>
<i>Skin Sens. 1</i>	<i>H317 May cause an allergic skin reaction.</i>
<i>Carc. 2</i>	<i>H351 Suspected of causing cancer.</i>
<i>STOT SE 3</i>	<i>H335 May cause respiratory irritation.</i>
<i>STOT RE 2</i>	<i>H373 May cause damage to organs through prolonged or repeated exposure.</i>

- **Label elements**
- **GHS label elements**
- **Hazard pictograms**

The product is classified and labelled according to the Globally Harmonised System (GHS).



GHS07 GHS08

- **Signal word** *Danger*

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- **Hazard-determining components of labelling:** diphenylmethanediisocyanate, isomeres and homologues
diphenylmethane-4,4'-di-isocyanate
Diphenylmethane-2,4'-diisocyanate
- **Hazard statements** May be harmful if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing cancer.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.
- **Precautionary statements** Do not breathe dust/fume/gas/mist/vapours/spray.
Wear protective gloves/protective clothing/eye protection/face protection.
[In case of inadequate ventilation] wear respiratory protection.
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
Store in a well-ventilated place. Keep container tightly closed.
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterisation: Mixtures**
- **Description:** Active substance with propellant.
Mixture consisting of the following components.

· **Dangerous components:**

CAS: 9016-87-9	diphenylmethanediisocyanate, isomeres and homologues Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	60-80%
CAS: 101-68-8	diphenylmethane-4,4'-di-isocyanate Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	10-30%
CAS: 5873-54-1	Diphenylmethane-2,4'-diisocyanate Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	≥5-<10%

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4 First aid measures

Description of first aid measures

- **General information** Remove, decontaminate and dispose of soiled, soaked clothing and shoes immediately.
- **After inhalation** Remove person to fresh air, keep warm, allow to rest; if breathing is difficult, seek medical attention.
- **After skin contact** In case of contact with skin, preferably wash with polyethylene glycol-based cleaner or clean with plenty of warm water and soap. Consult a doctor in case of skin reactions.
- **After eye contact** Rinse the eyes with open eyelids for a sufficiently long time (at least 10 minutes) with water that is as lukewarm as possible. Consult an ophthalmologist.
- **After swallowing** Do NOT induce vomiting. Rinse mouth with water. Medical attention required.
- **Information for doctor**
- **Most important symptoms and effects, both acute and delayed** Information for the doctor: The product irritates the respiratory tract and is a potential trigger for skin and respiratory sensitisation. Treatment of acute irritation or bronchial constriction is primarily symptomatic. Depending on the extent of exposure and the symptoms, prolonged medical treatment may be necessary.
- **Indication of any immediate medical attention and special treatment needed** No information available.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents** CO₂, extinguishing powder or water jet. Fight larger fires with water jet.
- **Special hazards arising from the substance or mixture** Can be released in case of fire
Carbon monoxide (CO)
Nitrogen oxides (NO_x)
Hydrogen cyanide (HCN)
(Traces)
- **Advice for firefighters**
- **Protective equipment:** Put on breathing apparatus.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Prevent material from reaching sewage system, holes and cellars.

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- **Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections** See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

7 Handling and storage

- **Handling**
- **Precautions for safe handling** Ensure sufficient air exchange and/or extraction in the work areas.
Air extraction is required for spray application.
For solid products: Avoid dust formation and dust deposits.
Air limit values mentioned in section 8 must be monitored.
At workplaces where isocyanate aerosols and/or vapours can occur in higher concentrations, targeted air extraction must be used to prevent the occupational hygiene limit value from being exceeded. The air must be moved away from people.
For products containing solvents: Explosion protection required.
The personal protective measures described in section 8 must be observed. The protective measures required when handling isocyanates must be observed. Avoid contact with skin and eyes and inhalation of vapours.
Keep away from food and beverages. Wash hands before breaks and at the end of work and apply skin protection ointment. Store work clothes separately. Remove soiled, soaked clothing immediately.
- **Conditions for safe storage, including any incompatibilities** Keep container dry and tightly closed. Further information on the storage conditions that must be observed for quality assurance reasons can be found in our technical data sheet.
- **Storage**
- **Requirements to be met by storerooms and containers:** Store only in the original container.
- **Further information about storage conditions:** None.
- **Storage class** 10
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.

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· **Control parameters**

· **Components with critical values that require monitoring at the workplace:**

CAS: 9016-87-9 diphenylmethanediisocyanate, isomeres and homologues

WEL (Great Britain)	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
---------------------	---

CAS: 101-68-8 diphenylmethane-4,4'-di-isocyanate

PEL (USA)	Ceiling limit: 0.2 mg/m ³ , 0.02 ppm
REL (USA)	Long-term value: 0.05 mg/m ³ , 0.005 ppm Ceiling limit: 0.2* mg/m ³ , 0.02* ppm *10-min
TLV (USA)	Long-term value: 0.005 ppm
WEL (Great Britain)	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO

CAS: 5873-54-1 Diphenylmethane-2,4'-diisocyanate

WEL (Great Britain)	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
---------------------	---

· **DNELs**

CAS: 9016-87-9 diphenylmethanediisocyanate, isomeres and homologues

Inhalative	DNEL	0.05 mg/m ³ (ArL)
------------	------	------------------------------

CAS: 101-68-8 diphenylmethane-4,4'-di-isocyanate

Dermal	DNEL	50 mg/kg bw/day (Ark)
Inhalative	DNEL	0.05 mg/m ³ (ArL)

CAS: 5873-54-1 Diphenylmethane-2,4'-diisocyanate

Inhalative	DNEL	0.05 mg/m ³ (ArL)
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· **PNECs**

CAS: 9016-87-9 diphenylmethanediisocyanate, isomeres and homologues

PNEC	1 mg/l (Sewage Treatment Plant) 0.1 mg/l (Mew) 1 mg/l (Freshwater)
PNEC	1 mg/kg dwt (Bod)

CAS: 101-68-8 diphenylmethane-4,4'-di-isocyanate

PNEC	1 mg/l (Sewage Treatment Plant) 0.1 mg/l (Mew) 1 mg/l (Freshwater)
PNEC	1 mg/kg dwt (Bod)

CAS: 5873-54-1 Diphenylmethane-2,4'-diisocyanate

PNEC	1 mg/l (Sewage Treatment Plant)
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PNEC	0.1 mg/l (Mew)
	1 mg/l (Freshwater)
	1 mg/kg dwt (Bod)

· Ingredients with biological limit values:

CAS: 101-68-8 diphenylmethane-4,4'-di-isocyanate

BMGV (Great Britain)	1 µmol creatinine/mol
	Medium: urine
	Sampling time: At the end of the period od exposure
	Parameter: isocyanate-derived diamine

CAS: 5873-54-1 Diphenylmethane-2,4'-diisocyanate

BMGV (Great Britain)	1 µmol creatinine/mol
	Medium: urine
	Sampling time: At the end of the period od exposure
	Parameter: isocyanate-derived diamine

· Additional information: The lists that were valid during the compilation were used as basis.

· Exposure controls

· Personal protective equipment

· General protective and hygienic measures

Keep away from food, drink and animal feed.
Remove soiled, soaked clothing immediately.
Wash hands before breaks and at the end of work.
Avoid contact with eyes and skin.

· Breathing equipment:

Respiratory protection required at insufficiently ventilated workplaces and when working with splashes. Fresh air masks or combination filters A2-P2 (EN529) are recommended for short-term work.

If applicable, further recommendations for respiratory protection can be found in the appendix.

In case of hypersensitivity of the respiratory tract (asthma, chronic bronchitis), handling of the product is not recommended.

· Protection of hands:

Suitable materials for protective gloves; EN 374:

Butyl rubber, nitrile rubber, chloroprene rubber (neoprene).

Note: suitable materials that provide sufficient protection for industrial cleaning with aprotic polar solvents (according to IUPAC definition): butyl rubber.

In case of prolonged or frequently repeated contact, a glove with a protection class of 5 or higher is recommended (breakthrough time greater than 240 minutes according to EN374). For short-term contact, a glove with a protection class of 3 or higher is recommended (breakthrough time greater than 60 minutes according to EN374).

The thickness of the material is not the only criterion for the level of protection of a glove against a chemical substance. The protective effect also depends to a large extent on the type of glove material. Depending on the type and material, the thickness must be more than 0.35 mm to ensure adequate protection in the event of prolonged and frequent contact. Exceptions to this rule are multi-

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layer gloves, which guarantee sufficient protection even with a thickness of less than 0.35 mm during prolonged wear. Other glove materials with a thickness of less than 0.35 mm only provide sufficient protection for short periods of wear.

For solvent-free products:

Example:

Polychloroprene - CR: thickness $\geq 0.5\text{mm}$; breakthrough time $\geq 480\text{min}$.

Nitrile rubber - NBR: thickness $\geq 0.35\text{mm}$; breakthrough time $\geq 480\text{min}$.

Butyl rubber - IIR: thickness $\geq 0.5\text{mm}$; breakthrough time $\geq 480\text{min}$.

Fluoro rubber - FKM: thickness $\geq 0.4\text{mm}$; breakthrough time $\geq 480\text{min}$.

Recommendation: Dispose of contaminated gloves.

· **Material of gloves**

Polychloroprene - CR

Nitrile rubber - NBR

Butyl rubber - IIR

Fluoro rubber - FKM

· **Penetration time of glove material**

Polychloroprene - CR: thickness $\geq 0.5\text{mm}$; breakthrough time $\geq 480\text{min}$.

Nitrile rubber - NBR: thickness $\geq 0.35\text{mm}$; breakthrough time $\geq 480\text{min}$.

Butyl rubber - IIR: thickness $\geq 0.5\text{mm}$; breakthrough time $\geq 480\text{min}$.

Fluoro rubber - FKM: Thickness $\geq 0.4\text{mm}$; Breakthrough time $\geq 480\text{min}$.

· **Eye protection:**

Safety goggles with side protection in accordance with EN 166.

· **Body protection:**

Use chemical-resistant protective clothing.

In case of hypersensitivity of the skin, handling the product is not recommended.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:

Liquid

Colour:

Dark brown

· **Smell:**

Characteristic

· **pH-value:**

Not applicable.

Not determined.

· **Change in condition**

Melting point/freezing point:

Not determined

Initial boiling point and boiling range: 190 °C

· **Flash point:**

228 °C

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· Auto-ignition temperature:	400 °C
· Explosive properties:	Product is not explosive.
· Steam pressure at 25 °C:	0 hPa
· Density at 20 °C	1.24 g/cm ³
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix
· Viscosity: dynamic at 20 °C: kinematic:	145 mPas Not determined.
· Other information	

No further relevant information available.

10 Stability and reactivity

· Reactivity	No further relevant information available.
· Chemical stability	
· Thermal decomposition / conditions to be avoided:	No decomposition if used according to specifications.
· Possibility of hazardous reactions	Reacts with amines
· Conditions to avoid	No further relevant information available.
· Incompatible materials:	No further relevant information available.
· Hazardous decomposition products:	No dangerous decomposition products known

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**

· **LD/LC50 values that are relevant for classification:**

Oral	LD50	>10000 mg/kg (Rat)
Dermal	LD50	>5000 mg/kg (Kan)
Inhalative	LC50/4 h	~450 mg/l (Rat)

CAS: 9016-87-9 diphenylmethanediisocyanate, isomeres and homologues

Oral	LD50	>10000 mg/kg (Rat)
Dermal	LD50	>5000 mg/kg (Rab)
Inhalative	LC50/4 h	~450 mg/l (Rat)

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CAS: 101-68-8 diphenylmethane-4,4'-di-isocyanate

Oral LD50 >10000 mg/kg (rat)

Dermal LD50 >9400 mg/kg (rabbit)

· Primary irritant effect:

· **Skin corrosion/irritation** Irritant for skin and mucous membranes.

· **Serious eye damage/irritation** Irritant effect.

· **Respiratory or skin sensitisation**

Sensitization possible by inhalation.

Sensitization possible by skin contact.

· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:

Harmful

Irritant

· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**

Carc. 2

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**

CAS: 101-68-8 diphenylmethane-4,4'-di-isocyanate

EC50/24h >1000 mg/l (Daphnia magna)

LC50/96h >1000 mg/l (Brachydanio rerio)

NOEC >1000 mg/l (Eisenia foetida)

>10 mg/l (Daphnia magna)

· **Persistence and degradability** No further relevant information available.

· **Behaviour in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:** Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

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13 Disposal considerations

- **Waste treatment methods**
- **Recommendation** *Must not be disposed of together with household garbage. Do not allow product to reach sewage system.*
- **Uncleaned packagings:**
- **Recommendation:** *Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.*

14 Transport information

- | | |
|---|-----------------|
| · UN-Number | Void |
| · ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name | Void |
| · ADR, ADN, IMDG, IATA | Void |
| · Transport hazard class(es) | Void |
| · ADR, ADN, IMDG, IATA | Void |
| · Class | Void |
| · Packing group | Void |
| · ADR, IMDG, IATA | Void |
| · Environmental hazards: | |
| · Marine pollutant: | No |
| · Special precautions for user | Not applicable. |
| · Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |
| · UN "Model Regulation": | Void |

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** *None of the ingredients is listed.*
- **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

16 Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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· **Department issuing data
specification sheet:**

Environment protection department.

· **Contact:**

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 5: Acute toxicity – Category 5

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Serious eye damage/irritation – Category 2A: Serious eye damage/eye irritation – Category 2A

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 2: Carcinogenicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

· *** Data compared to the
previous version altered.**

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