1. Identification of the substance/preparation and the company

DEXCOAT 800 Component B (HERDER 803)

Application:
Hardner for floor coating.

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2. Composition/information on ingredients

Polyisocyanate based on diphenylmethane diisocyanate
diphenylmethane-diisocyanate, isomers and homologues
weight %: > 99,5
CAS No.: 9016-87-9 Index No.: --
EEC No.: --
Classification: Xn R20; Xi R36/37/38; R42/43
Specific threshold concentration
Xn ; R 42 = from 0,1 %
Xn ; R 42/43 = from 1 %
Xn ; R 36/37/38-42/43 = from 5 %
Xn ; R 20-36/37/38-42/43 = from 25 %
Classification/labeling analogous to Index No.: 615-005-00-9

3. Hazards identification

Harmful by inhalation. Irritating to eyes, respiratory system and skin. May cause sensitization by inhalation and skin contact.

4. First-aid measures

General: Soiled, soaked clothing and shoes must be immediately removed, decontaminated and disposed of.

If aerosol or vapour is inhaled in high concentrations: Take the person into the fresh air and keep him warm, let him rest; if there is difficulty in breathing, medical advice is required.

After skin contact: In the event of contact with the skin, preferably wash with a cleanser based on polyethylene glycol or with plenty of warm water and soap. Consult a doctor in the event of a skin reaction.

After eye contact: Hold the eyes open and rinse with preferably lukewarm water for a sufficiently long period of time (at least 10 minutes). Contact an ophthalmologist.

After swallowing:
DO NOT induce the patient to vomit, medical advice is required.

Information for the physician:
The product irritates the respiratory tract and may trigger sensitisation of the skin and respiratory tract. Treatment of acute irritation or bronchial constriction is primarily symptomatic. Extended

medical care may be necessary, depending on the extent of the exposure and the symptoms.

5. Fire-fighting measures

Extinguishing media: CO2, foam, dry powder;
in cases of larger fires, water spray should be used.
For reasons of security unsuitable extinguishing media: water jet

In case of fire, formation of carbon monoxide, nitrogen oxide, isocyanate vapour, and traces of hydrogen cyanide is possible. Firemen have to wear self-contained breathing apparatus. Do not let enter contaminated extinguishing water into the soil, groundwater or surface waters.

Fire in vicinity poses risk of pressure build-up and rupture. Containers at risk from fire should be cooled with water and, if possible, removed from the danger area.

6. Accidental release measures

Put on protective equipment (see chapter 8). Ensure adequate ventilation/exhaust ventilation. Keep unauthorized persons away. Do not empty into drains. Remove mechanically; cover remainders with wet, absorbent material (e.g. sawdust, chemical binder based on calcium silicate hydrate, sand). After approx. one hour transfer to waste container and do not seal (evolution of CO2!). Keep damp in a safe ventilated area for several days. For further disposal measures see chapter 13.

7. Handling and storage

Handling: Ensure adequate ventilation or exhaust ventilation in the working area. Exhaust ventilation necessary if product is sprayed. The personal protective measures described in Chapter 8 must be observed. The threshold limit values noted in Chapter 8 must be monitored. Avoid contact with skin and eyes.

In all areas where isocyanate aerosols and/ or vapour concentrations are produced in elevated concentrations, exhaust ventilation must be provided in such a way that the occupational exposure limit (OEL) is not exceeded. The air should be drawn away from the personnel handling the product.

Storage: Keep container tightly closed and dry. Further information on the storage conditions which must be observed to preserve quality can be found in our product informations sheet.

VCI storage class: 10
(VCI = German Association of the Chemical Industry)

8. Exposure controls/Personal protection

Protection of workers -
Threshold value in air defined by TRGS 900 (MAK value):
diphenylmethane-4,4'-diisocyanate (sum of vapours and aerosols)
CAS No.: 101-68-8 0,005 ml/m³ (ppm) corresp. to 0,05 mg/m³
(eight hours average value)
maximum limit of excess factor 1

Remark: DFG, 29, 36
Attention is drawn to the relevant BAT value (TRGS 903).

Exposition assessment value (EBW) per TGRS 430:
Polyisocyanate content (MDI oligomers and/or prepolymers): 62 %
Use an exposition assessment value of 0,05 mg/m³.

The product may contain traces of phenylisocyanate.
Protection of workers -
Threshold value in air defined by TRGS 900 (MAK value):
Phenylisocyanate 0,01 ml/m³ (ppm) corresp. to 0,05 mg/m³
CAS No.: 103-71-9 (eight hours average value)
maximum limit of excess factor 1
Remarks: ARW, 36

Respiratory protection: Respiratory protection required in insufficiently ventilated working areas and during spraying. An air-fed mask, or for short periods of work, a combination of charcoal filter and particulate filter is recommended.

In case of hypersensitivity of the respiratory tract (e.g. asthmatics and those who suffer from chronic bronchitis) it is inadvisable to work with the product.

Hand protection:
Suitable materials for safety gloves; DIN EN 374-3:
Polychloroprene - CR: thickness >=0,5mm; breakthrough time >=480min.
Nitrile rubber - NBR: thickness >=0,35mm; breakthrough time >=480min.
Butyl rubber - IIR: thickness >=0,5mm; breakthrough time >=480min.
Fluorinated rubber - FKM: thickness >=0,4mm; breakthrough time >=480min.
Recommendation: contaminated gloves should be disposed of.

Eye protection: goggles/face protection

Body protection: Wear suitable protective clothing.

Protection and hygienic measures: Keep away from foodstuffs, drinks and tobacco. Wash hands before breaks and at end of work. Keep working clothes separate. Take off immediately all contaminated clothing.

9. Physical and chemical properties

		tested in accordance with
Form:	liquid	
Colour:	brown	
Odour:	earthy, musty	
Pour point:	-30 °C	DIN ISO 3016
Initial boiling point:	> 300 °C at 1013 hPa	
Density:	1,23 g/cm³ at 20 °C	DIN 51757
Vapour pressure:	11 hPa at 20 °C	EG A 4
	20 hPa at 50 °C	EG A 4
diphenyl-methane-diisocyanate	< 0,00001 mbar at 20 °C	
Viscosity:	100 mPa·s at 20 °C	DIN 53019
Solubility in water:	insoluble, reacts	
pH value:	not applicable	
Flash point:	229 °C	DIN EN 22719
Ignition temperature:	> 500 °C	DIN 51794
Explosive limits:	Limits not determined.	

Remarks:
The indicated values do not necessarily correspond to the product specification. Please refer to the technical information sheet for specification data.

10. Stability and reactivity

Thermal decomposition: Polymerises at about 200 °C with evolution of CO2.
Hazardous decomposition products: No hazardous decomposition products when stored and handled correctly.

Hazardous reactions:
Exothermic reaction with amines and alcohols; reacts with water forming CO2, in closed containers risk of bursting owing to increase of pressure.

11. Toxicological information

Data on diphenylmethane-diisocyanate, isomers and homologues
Acute toxicity:
LD50 oral, rat (female): >15000 mg/kg
LC50 inhalation, rat: 370 mg as aerosol/m³, 4,0 h of exposure.
Concentration of the saturated vapour of Diphenylmethane-4,4'-di-isocyanate (MDI) at 25 °C: 0,09 mg/m³

(to be continued)

11. **Toxicological information** (continuation)

Effect on the eyes: irritant
Effect on the skin: irritant
Effect on the respiratory tract: irritant

Long-term inhalation study of tech. diphenylmethane diisocyanate (PMDI) carried out using mechanically produced, inhalable PMDI aerosols.
Aerodynamic diameter: 95 % below 5 µm
Concentrations: 0,2 ; 1,0 and 6,0 mg/m³
Animal groups: 120 rats in each (60 female, 60 male) Results after clinical and histopathological examination of the animals:
0,2 mg aerosols/m³: No irritation of the respiratory tract or lungs - "no effect level" (NOEL).
1,0 mg aerosols/m³: Slight irritation of and inflammatory changes to the nose, respiratory tract and lungs. No lung tumours.
6,0 mg aerosols/m³: More severe irritation of and chronic inflammatory changes to the nose, respiratory tract and lungs. Accumulation of a yellow substance in the lungs. 8 benign (statistically increased) and 1 malignant (statistically insignificant) lung tumours were found.
The overall increased incidence of lung tumours only in the group wich received the highest concentration is closely attributed to the chronic irritation of and the inflammatory changes to the respiratory organs and to the accumulation of the yellow substance in the lungs of the animals.

Special properties/effects:
Over-exposure, especially when spraying coatings containing isocyanate without the necessary precautions, entails the risk of concentration-dependent irritating effects on eyes, nose throat, and respiratory tract.
Delayed appearance of the complaints and development of hyper-sensitivity (difficult breathing, coughing, asthma) are possible. Hypersensitive persons may suffer from these effects even at low isocyanate concentrations including concentrations below the German control limit (MAK-value). In case of longer contact with skin, tanning and irritating effects are possible.

12. **Ecological information**

Do not allow to escape into waters, wastewater or soil.

The product reacts with water at the interface forming CO2 and a solid insoluble product with high melting point (polyurea). This reaction is accelerated by surfactants (e.g. detergents) or by watersoluble solvents.

Data on diphenylmethane-diisocyanate, isomers and homologues

Biodegradability: 0 %, i.e. not degradable.
Degradation rate in 28 days.
(Method: respirometer test)

Acute fish toxicity: LC0 = >1000 mg/l
Test species: Brachydanio rerio (Zebra barbel) Duration of test: 96 h

(to be continued)

12. **Ecological information** (Continuation)

Acute bacteria toxicity: EC50 = >100 mg/l
Tested on activated sludge microorganism. Duration of test: 3 h

Acute toxicity for daphnia: EC50 = >1000 mg/l
Test species: Daphnia magna Duration of test: 24 h

13. **Disposal considerations**

Dispose in accordance with applicable international, national and local laws, ordinances and statutes.

For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

After final product withdrawal, all residues must be removed from containers (drip-free, powder-free or paste-free). Once the product residues adhering to the walls of the containers have been rendered harmless, the product and hazard labels must be invalidated. Containers must be recycled in compliance with national legislation and and environmental regulations.

14. **Transport information**

GGVSE: -- UN: NODG PG: --
RID/ADR: -- UN: NODG PG: --

ADNR: -- UN: NODG PG: --
GGVSee/IMDG Code: -- UN: NODG PG: -- MPO: --
ICAO-TI/IATA-DGR: -- UN: NRES PG: --
Declaration for land shipment: --
Declaration for sea shipment: --
Declaration for shipment by air: --
Other information:
Not dangerous cargo. Irritating to skin and eyes. Avoid temperatures below +10 °C. Avoid heat above +50 °C. Keep dry. Keep away from foodstuffs, acids and alkalis.

15. **Regulatory information**
Labelling in accordance with the EEC directives:
Symbol: **Xn**, hazard description: harmful
Contains: diphenylmethane-diisocyanate, isomers and homologues
R 20: Harmful by inhalation.
R 36/37/38: Irritating to eyes, respiratory system and skin.
R 42/43: May cause sensitization by inhalation and skin contact.
S 23: Do not breathe vapour/spray.
S 36/37: Wear suitable protective clothing and gloves.
S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

TRGS 905-classification:
Tech. ("polymer") MDI (pMDI) CAS No.: 9016-87-9 (in the form of respirable aerosols, measured as the alveolar aerosol content)
cancerogenic, category 3

(to be continued)

15. **Regulatory information** (Continuation)
Any existing national regulations on the handling of isocyanates must be observed.
Swiss law of poison: class of poison 3; BAG-T-No. 21671.

16. **Other information**
All components of this product are listed in the European Inventory of Existing Commercial Chemical Substances (EINECS) under the provisions laid down in the corresponding EEC-Directive.

Text of all R phrases referred to in sections 2 and 3:
R 20: Harmful by inhalation.
R 36/37/38: Irritating to eyes, respiratory system and skin.
R 42: May cause sensitization by inhalation.
R 42/43: May cause sensitization by inhalation and skin contact.

The presented Safety Data Sheet has been altered.
The reason for the alteration is as follows:
revised text (see chapter 4, 5, 6, 7, 8, 12, 13, 14 and 15)

This safety data sheet replaces all previous information.
Revised and valid from: see date of issue

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The above details do not imply any guarantee concerning composition, properties or performance.