

Trade name: Modralit 3K Basis

Substance number: 1617M

Version: 1 / GB

Date revised: 14.09.2023

Replaces Version: - / GB

Print date: 14.09.2023

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

1.1. Product identifier

Modralit 3K Basis

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/preparation

Model material on the basis of polyurethane

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Dreve Dentamid GmbH

Max-Planck-Straße 31

59423 Unna

Telephone no.

+49 2303 8807-0

Fax no.

+49 2303 8807-29

Information provided
by / telephone

Department Research & Development: Fax: +49 2303 8807-562

E-mail address of
person responsible
for this SDS

sicherheitsdatenblatt@dreve.com

1.4. Emergency telephone number

Henkel Fire Department / 24h-Emergency-Contact-No.: +49 211 797-3350

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Classification (Regulation (EC) No. 1272/2008)

Skin Irrit. 2 H315

Eye Irrit. 2 H319

The product is classified and labelled in accordance with Regulation (EC) No 1272/2008

For explanation of abbreviations see section 16.

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

Hazard pictograms



Signal word

Warning

Hazard statements

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H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary statements

P264.1 Wash hands thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362 Take off contaminated clothing.

2.3. Other hazards

No special hazards have to be mentioned.

The product contains no PBT substances. The product contains no vPvB substances. This product does not contain a substance that has endocrine disrupting properties with respect to human. The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

SECTION 3: Composition/information on ingredients

3.2. Mixtures**Chemical characterization**

Polyether polyol, modified

Hazardous ingredients**Ethylenediamine, propoxylated**

CAS No.	25214-63-5				
Concentration	>= 25	<	50	%	
Classification (Regulation (EC) No. 1272/2008)	Eye Irrit. 2		H319		

Benzene, C10-13-alkyl derivates

CAS No.	67774-74-7				
EINECS no.	267-051-0				
Concentration	>= 10	<	25	%	
Classification (Regulation (EC) No. 1272/2008)	Aquatic Acute 1		H400		

Tris(2-chloro-1-methylethyl)phosphate

CAS No.	13674-84-5				
Concentration	>= 10	<	25	%	
Classification (Regulation (EC) No. 1272/2008)	Aquatic Chronic 3		H412		

ATE	oral	632	mg/kg
ATE	dermal	2.000	mg/kg

Tris(2-ethylhexyl)phosphate

CAS No.	78-42-2				
EINECS no.	201-116-6				
Concentration	>= 10	<	25	%	
Classification (Regulation (EC) No. 1272/2008)	Skin Irrit. 2		H315		

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Eye Irrit. 2

H319

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated clothing immediately and dispose of safely. Adhere to personal protective measures when giving first aid

After inhalation

Remove the casualty into fresh air and keep him calm. In the event of symptoms take medical treatment.

After skin contact

After contact with skin, wash immediately with plenty of water and soap. Consult a doctor if skin irritation persists.

After eye contact

Separate eyelids, wash the eyes thoroughly with water (15 min.). Take medical treatment.

After ingestion

Call in a physician immediately and show him the Safety Data Sheet. Rinse mouth thoroughly with water. Let plenty of water be drunk in small gulps. Do not induce vomiting.

Adhere to personal protective measures when giving first aid

First aider: Pay attention to self-protection!

4.2. Most important symptoms and effects, both acute and delayed

Until now no symptoms known so far.

4.3. Indication of any immediate medical attention and special treatment needed

Hints for the physician / hazards

In the case of swallowing with subsequent vomiting, aspiration of the lungs can occur which can lead to chemical pneumonia or asphyxiation.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Recommended: alcohol resistant foam, CO₂, powders, water spray/mist, Extinguishing measures to suit surroundings

Non suitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

In case of combustion evolution of dangerous gases possible.

5.3. Advice for firefighters

Special protective equipment for fire-fighting

Do not inhale explosion and/or combustion gases. In case of combustion use a suitable breathing apparatus. Wear full protective suit.



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Other information

Collect contaminated fire-fighting water separately, must not be discharged into the drains. Fire residues and contaminated fire-fighting water must be disposed of in accordance with the local regulations. Observe manufacturer's / distributor's instructions.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Keep away sources of ignition. Ensure adequate ventilation. Use breathing apparatus if exposed to vapours/dust/aerosol. Avoid contact with skin, eyes and clothing. Use personal protective clothing. Refer to protective measures listed in Sections 7 and 8.

6.2. Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers). Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil. Retain and dispose of contaminated wash water. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

Pick up rest with suitable absorbent materials. Do not pick up with the help of saw-dust or other combustible substances. Clean contaminated floors and objects thoroughly, observing environmental regulations. Containers in which spilt substance has been collected must be adequately labelled. Dispose of as prescribed.

6.4. Reference to other sections

Refer to protective measures listed in Sections 7 and 8.

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Provide good ventilation of working area (local exhaust ventilation if necessary). Avoid formation of aerosols. Avoid impact, friction and electro-static loading; risk of ignition!. Keep container tightly closed.

Advice on protection against fire and explosion

Keep away from sources of heat and ignition. No smoking. Take action to prevent static discharges. Avoid impact and friction. Use only explosion-proof equipment. Keep away from combustible material. Wear shoes with conductive soles.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep in original packaging, tightly closed. Storage rooms must be properly ventilated. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Hints on storage assembly

Do not store together with foodstuffs. Do not store with strong oxidizing agents.

Further information on storage conditions

Keep under lock and key or accessible only to specialists or people who are authorized. Keep container tightly closed and in a well-ventilated place. Keep in a cool place



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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Other information

Contains no substances with occupational exposure limit values.

8.2. Exposure controls

General protective and hygiene measures

Do not smoke during work time. Hold emergency shower available. Hold eye wash fountain available. Do not inhale gases/vapours/aerosols. Avoid contact with skin and eyes. Take off immediately all contaminated clothing. Do not eat or drink during work time. Storage of foodstuffs in work rooms is forbidden. Wash hands before breaks and after work. Clean skin thoroughly after work; apply skin cream.

Respiratory protection

Do not inhale vapours; Use suitable respiratory protective device in case of insufficient ventilation

Hand protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.

The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

Hand protection must comply with EN 374.

Appropriate Material nitrile

Eye protection

Safety glasses

Body protection

Clothing as usual in the chemical industry.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid
Colour	cloudy
Odour	characteristic
Melting point	
Remarks	not determined
Freezing point	
Remarks	not determined
Boiling point or initial boiling point and boiling range	
Remarks	not determined
Flammability	
evaluation	not determined
Upper and lower explosive limits	
Remarks	not determined
Flash point	
Value	> 120 °C

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Method DIN 51758

Ignition temperature

Value > 500 °C

Decomposition temperature

Remarks not determined

pH value

Remarks not determined

Viscosity

Remarks not determined

Solubility(ies)

Remarks not determined

Partition coefficient n-octanol/water (log value)

Remarks not determined

Vapour pressure

Value 0,1 hPa

Temperature 20 °C

Density and/or relative densityValue 1 g/cm³

Temperature 20 °C

Relative vapour density

Remarks not determined

9.2. Other information**Odour threshold**

Remarks not determined

Evaporation rate (ether = 1) :

Remarks not determined

Solubility in water

Remarks virtually insoluble

Explosive properties

evaluation not determined

Oxidising properties

Remarks not determined

Solvent content

Value 0 %

Other information

None known

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reactions when stored and handled according to prescribed instructions.

10.2. Chemical stability

Protect from heat and direct sunlight

10.3. Possibility of hazardous reactions

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Keep away from oxidising agents, strongly alkaline and strongly acid materials, amines, alcohols and water.

10.4. Conditions to avoid

Protect from heat and direct sunlight

10.5. Incompatible materials

None known

10.6. Hazardous decomposition products

Irritant gases/vapours

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**Acute oral toxicity**

ATE	6.320	mg/kg
Method	calculated value (Regulation (EC) No. 1272/2008)	

Acute oral toxicity (Components)**Ethylenediamine, propoxylated**

Species	rat		
LD50	>	2000	mg/kg
Method	OECD 401		

Benzene, C10-13-alkyl derivates

Species	rat		
LD50	>	5000	mg/kg

Tris(2-chloro-1-methylethyl)phosphate

Species	rat		
LD50	632	to	4200 mg/kg

Tris(2-ethylhexyl)phosphate

Species	rat		
LD50	9260		mg/kg

Acute dermal toxicity

ATE	>	10.000	mg/kg
Method	calculated value (Regulation (EC) No. 1272/2008)		

Acute dermal toxicity (Components)**Ethylenediamine, propoxylated**

Species	rat		
LD50	>	2000	mg/kg

Benzene, C10-13-alkyl derivates

Species	rat		
LD50	>	2000	mg/kg
Method	OECD 402		

Tris(2-chloro-1-methylethyl)phosphate

Species	rabbit		
LD50	2000		mg/kg

Acute inhalational toxicity

Remarks Based on available data, the classification criteria are not met.

Acute inhalative toxicity (Components)**Tris(2-chloro-1-methylethyl)phosphate**



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Species	rat		
LC50		4,6	mg/l
Duration of exposure		4	h

Tris(2-ethylhexyl)phosphate

Species	rat		
LC50		447	mg/m ³
Duration of exposure		4	h

Skin corrosion/irritation

evaluation	irritant
Remarks	The classification criteria are met.

Skin corrosion/irritation (Components)**Ethylenediamine, propoxylated**

Species	rabbit
evaluation	slight irritant effect - does not require labelling
Method	OECD 404

Serious eye damage/irritation

evaluation	irritant
Remarks	The classification criteria are met.

Serious eye damage/irritation (Components)**Ethylenediamine, propoxylated**

Species	rabbit
evaluation	irritant
Method	OECD 405

Sensitization

Remarks	Based on available data, the classification criteria are not met.
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Subacute, subchronic, chronic toxicity

Remarks	not determined
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Mutagenicity

Remarks	Based on available data, the classification criteria are not met.
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Reproductive toxicity

Remarks	Based on available data, the classification criteria are not met.
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Carcinogenicity

Remarks	Based on available data, the classification criteria are not met.
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Specific Target Organ Toxicity (STOT)**Single exposure**

Remarks	Based on available data, the classification criteria are not met.
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Repeated exposure

Remarks	Based on available data, the classification criteria are not met.
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Aspiration hazard

Remarks	Based on available data, the classification criteria are not met.
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11.2 Information on other hazards**Endocrine disrupting properties with respect to humans**

The product does not contain a substance that has endocrine disrupting properties with respect to humans.

Experience in practice

Inhalation may lead to irritation of the respiratory tract.

Other information

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No toxicological data are available.

SECTION 12: Ecological information

12.1. Toxicity

General information

not determined

Fish toxicity (Components)

Ethylenediamine, propoxylated

Species	golden orfe (<i>Leuciscus idus</i>)	
LC50	4600	mg/l
Duration of exposure	96	h
Method	DIN 38412 / Part 15	

Ethylenediamine, propoxylated

Species	zebra fish (<i>Brachydanio rerio</i>)	
LC50	4870	mg/l
Duration of exposure	96	h
Method	DIN 38412 / Part 15	

Ethylenediamine, propoxylated

Species	golden orfe (<i>Leuciscus idus</i>)	
LC50	2700	mg/l
Duration of exposure	48	h

Benzene, C10-13-alkyl derivates

Species	zebra fish (<i>Brachydanio rerio</i>)	
NOEC	> 10	µg/l
Duration of exposure	14	d
Method	OECD 204	

Benzene, C10-13-alkyl derivates

Species	zebra fish (<i>Brachydanio rerio</i>)	
NOEC	57,78	µg/l
Duration of exposure	21	d
Method	OECD 203	

Tris(2-chloro-1-methylethyl)phosphate

Species	zebra fish (<i>Brachydanio rerio</i>)	
LC50	56	mg/l
Duration of exposure	48	h

Daphnia toxicity (Components)

Ethylenediamine, propoxylated

Species	Daphnia magna	
EC0	> 100	mg/l
Duration of exposure	48	h

Ethylenediamine, propoxylated

NOEC	>= 10	mg/l
Duration of exposure	21	d
Method	OECD 211	

Benzene, C10-13-alkyl derivates

Species	Daphnia magna	
EC50	> 0,041	mg/l
Duration of exposure	48	h
Method	Regulation (EC) No. 440/2008, Annex, C.2	

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Benzene, C10-13-alkyl derivates

Species	Daphnia magna		
NOEC	10		mg/l
Duration of exposure	21	d	
Method	OECD 211		

Tris(2-chloro-1-methylethyl)phosphate

Species	Daphnia magna		
LC50	40		mg/l
Duration of exposure	21	d	
Method	OECD 202		

Algae toxicity (Components)**Ethylenediamine, propoxylated**

Species	Scenedesmus subspicatus		
EC50	150,67		mg/l
Duration of exposure	72	h	

Benzene, C10-13-alkyl derivates

Species	Scenedesmus subspicatus		
EC50	> 100		µg/l
Duration of exposure	72	h	
Method	OECD 201		

Tris(2-chloro-1-methylethyl)phosphate

Species	Pseudokirchneriella subcapitata		
NOEC	13		mg/l
Duration of exposure	72	h	

Bacteria toxicity (Components)**Ethylenediamine, propoxylated**

Species	activated sludge		
EC50	> 10000		mg/l

Tris(2-chloro-1-methylethyl)phosphate

Species	activated sludge		
EC50	784		mg/l

12.2. Persistence and degradability**General information**

not determined

Biodegradability (Components)**Tris(2-chloro-1-methylethyl)phosphate**

evaluation Readily biodegradable (according to OECD criteria)

12.3. Bioaccumulative potential**General information**

not determined

Partition coefficient n-octanol/water (log value)

Remarks not determined

Bioconcentration factor (BCF) (Components)**Tris(2-chloro-1-methylethyl)phosphate**

BCF 0,8 to 2,8

12.4. Mobility in soil**General information**

not determined



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12.5. Results of PBT and vPvB assessment

General information

not determined

Results of PBT and vPvB assessment

The product contains no PBT substances
The product contains no vPvB substances.

12.6 Endocrine disrupting properties

Endocrine disrupting properties with respect to the environment

The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

General information

not determined

General information / ecology

Do not allow to enter soil, waterways or waste water canal. Avoid release into the atmosphere.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations for the product

Must not be disposed together with household garbage.
Dispose of waste according to applicable legislation.

Disposal recommendations for packaging

Packaging that cannot be cleaned should be disposed off as product waste.

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
14.1. UN number or ID number	The product does not constitute a hazardous substance in land transport.	The product does not constitute a hazardous substance in sea transport.	The product does not constitute a hazardous substance in air transport.
14.2. UN proper shipping name	-	-	-
14.3. Transport hazard class(es)		-	-
Label			
14.4. Packing group		-	-

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SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Other information

All components are contained in the TSCA inventory or exempted.

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification (Regulation (EC) No. 1272/2008)

Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method

Hazard statements listed in Chapter 2/3

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

CLP categories listed in Chapter 2/3

Aquatic Acute 1	Hazardous to the aquatic environment, acute, Category 1
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic, Category 3
Eye Irrit. 2	Eye irritation, Category 2
Skin Irrit. 2	Skin irritation, Category 2

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.



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

1.1. Product identifier

Modralit 3K Filler

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/preparation

Filler

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Dreve Dentamid GmbH

Max-Planck-Straße 31

59423 Unna

Telephone no.

+49 2303 8807-0

Fax no.

+49 2303 8807-29

Information provided
by / telephone

Department Research & Development: Fax: +49 2303 8807-562

E-mail address of
person responsible
for this SDS

sicherheitsdatenblatt@dreve.com

1.4. Emergency telephone number

Henkel Fire Department / 24h-Emergency-Contact-No.: +49 211 797-3350

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Voluntary product information following the Safety Data Sheet format

This product is not classified hazardous in accordance with Regulation (EC) No 1272/2008.

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

The product does not require a hazard warning label in accordance with Regulation (EC) No 1272/2008.

2.3. Other hazards

No special hazards have to be mentioned.

The Substance does not meet PBT-criteria. This substance does not meet the vPvB-criteria. This substance does not have endocrine disrupting properties with respect to humans. This substance does not have endocrine disrupting properties with respect to non-target organisms.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

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Soda-lime-glass

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In case of persistent symptoms consult doctor.

After inhalation

Ensure supply of fresh air. In the event of symptoms take medical treatment.

After skin contact

In case of contact with skin wash off with warm water. Consult a doctor if skin irritation persists.

After eye contact

Separate eyelids, wash the eyes thoroughly with water (15 min.). In case of irritation consult an oculist.

After ingestion

Rinse out mouth and give plenty of water to drink.

Adhere to personal protective measures when giving first aid

First aider: Pay attention to self-protection!

4.2. Most important symptoms and effects, both acute and delayed

Until now no symptoms known so far.

4.3. Indication of any immediate medical attention and special treatment needed

Hints for the physician / hazards

In the case of swallowing with subsequent vomiting, aspiration of the lungs can occur which can lead to chemical pneumonia or asphyxiation.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Recommended: alcohol resistant foam, CO₂, powders, water spray/mist, Extinguishing measures to suit surroundings

5.3. Advice for firefighters

Special protective equipment for fire-fighting

In case of combustion use a suitable breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid dust formation.

6.2. Environmental precautions

Do not allow to enter drains or waterways.

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6.3. Methods and material for containment and cleaning up

Pick up mechanically. Clean contaminated floors and objects thoroughly, observing environmental regulations.

6.4. Reference to other sections

Refer to protective measures listed in Sections 7 and 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Observe the usual precautions for handling chemicals.

Advice on protection against fire and explosion

No special measures required.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Store product in closed containers.

Hints on storage assembly

Do not store together with foodstuffs.

Further information on storage conditions

Keep container tightly closed and dry.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Other information

Contains no substances with occupational exposure limit values.

8.2. Exposure controls

General protective and hygiene measures

Observe the usual precautions for handling chemicals.

Respiratory protection

Not necessary.

Hand protection

Not necessary.

Eye protection

Not necessary.

Body protection

Clothing as usual in the chemical industry.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

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Physical state	Granules		
Colour	ivory colours		
Odour	odourless		
Melting point			
Value	630		°C
Freezing point			
Remarks	not determined		
Boiling point or initial boiling point and boiling range			
Remarks	not determined		
Flammability			
evaluation	not determined		
Upper and lower explosive limits			
Remarks	not determined		
Flash point			
Remarks	Not applicable		
Ignition temperature			
Remarks	not determined		
Decomposition temperature			
Remarks	not determined		
pH value			
Remarks	not determined		
Viscosity			
Remarks	not determined		
Solubility(ies)			
Remarks	not determined		
Partition coefficient n-octanol/water (log value)			
Remarks	not determined		
Vapour pressure			
Remarks	not determined		
Density and/or relative density			
Value	2,5		g/cm ³
Temperature	20	°C	
Relative vapour density			
Remarks	not determined		
9.2. Other information			
Odour threshold			
Remarks	not determined		
Evaporation rate (ether = 1) :			
Remarks	not determined		
Solubility in water			
Remarks	not determined		
Explosive properties			
evaluation	not determined		
Oxidising properties			
Remarks	not determined		



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Bulk density

Value	1,6		kg/m ³
Temperature	20	°C	

Solids content

Value	100	%
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Other information

None known

SECTION 10: Stability and reactivity**10.1. Reactivity**

No hazardous reactions when stored and handled according to prescribed instructions.

10.2. Chemical stability

No hazardous reactions known.

10.3. Possibility of hazardous reactions

No hazardous reactions known.

10.4. Conditions to avoid

No hazardous reactions known.

10.5. Incompatible materials

None known

SECTION 11: Toxicological information**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute oral toxicity**

Remarks Based on available data, the classification criteria are not met.

Acute dermal toxicity

Remarks Based on available data, the classification criteria are not met.

Acute inhalational toxicity

Remarks Based on available data, the classification criteria are not met.

Skin corrosion/irritation

Remarks Based on available data, the classification criteria are not met.

Serious eye damage/irritation

Remarks Based on available data, the classification criteria are not met.

Sensitization

Remarks Based on available data, the classification criteria are not met.

Subacute, subchronic, chronic toxicity

Remarks not determined

Mutagenicity

Remarks Based on available data, the classification criteria are not met.

Reproductive toxicity

Remarks Based on available data, the classification criteria are not met.

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Carcinogenicity

Remarks Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity (STOT)**Single exposure**

Remarks Based on available data, the classification criteria are not met.

Repeated exposure

Remarks Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2 Information on other hazards**Endocrine disrupting properties with respect to humans**

This substance does not have endocrine disrupting properties with respect to humans.

Other information

No toxicological data are available.

SECTION 12: Ecological information**12.1. Toxicity****General information**

not determined

12.2. Persistence and degradability**General information**

not determined

12.3. Bioaccumulative potential**General information**

not determined

Partition coefficient n-octanol/water (log value)

Remarks not determined

12.4. Mobility in soil**General information**

not determined

12.5. Results of PBT and vPvB assessment**General information**

not determined

Results of PBT and vPvB assessment

The Substance does not meet PBT-criteria.

This substance does not meet the vPvB-criteria.

12.6 Endocrine disrupting properties**Endocrine disrupting properties with respect to the environment**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects



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General information

not determined

General information / ecology

Do not discharge product unmonitored into the environment.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations for the product**

Must not be disposed together with household garbage.

Allocation of a waste code number, according to the European Waste Catalogue (EWC), should be carried out in agreement with the regional waste disposal company.

Disposal recommendations for packaging

Packaging that cannot be cleaned should be disposed off in agreement with the regional waste disposal company.

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
14.1. UN number or ID number	The product does not constitute a hazardous substance in land transport.	The product does not constitute a hazardous substance in sea transport.	The product does not constitute a hazardous substance in air transport.
14.2. UN proper shipping name	-	-	-
14.3. Transport hazard class(es)		-	-
Label			
14.4. Packing group		-	-

SECTION 15: Regulatory information**15.2. Chemical safety assessment**

For this substance a chemical safety assessment is not required.

SECTION 16: Other information**Supplemental information**

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
 This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.



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

1.1. Product identifier

Modralit 3K Hardener

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/preparation

Hardener

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Dreve Dentamid GmbH

Max-Planck-Straße 31

59423 Unna

Telephone no. +49 2303 8807-0

Fax no. +49 2303 8807-29

Information provided by / telephone Department Research & Development: Fax: +49 2303 8807-562

E-mail address of person responsible sicherheitsdatenblatt@dreve.com

for this SDS

1.4. Emergency telephone number

Henkel Fire Department / 24h-Emergency-Contact-No.: +49 211 797-3350

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Classification (Regulation (EC) No. 1272/2008)

Acute Tox. 4 H332

Skin Irrit. 2 H315

Eye Irrit. 2 H319

Resp. Sens. 1 H334

Skin Sens. 1 H317

Carc. 2 H351

STOT SE 3 H335

STOT RE 2 H373

The product is classified and labelled in accordance with Regulation (EC) No 1272/2008

For explanation of abbreviations see section 16.

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

Hazard pictograms

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**Signal word**

Danger

Hazard statements

H332	Harmful if inhaled.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/ attention.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor.

Hazardous component(s) to be indicated on label (Regulation (EC) No. 1272/2008)

contains	Methylendiisocyanat; 4,4'-Methylenediphenyl diisocyanate; 2,2'-Methylene diphenyldiisocyanate; o-(p-Isocyanatobenzyl)phenylisocyanate
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2.3. Other hazards

No special hazards have to be mentioned.

The product contains no PBT substances. The product contains no vPvB substances. This product does not contain a substance that has endocrine disrupting properties with respect to human. The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

SECTION 3: Composition/information on ingredients

3.2. Mixtures**Hazardous ingredients****Methylendiisocyanat**

CAS No.	9016-87-9		
Concentration	>=	54	%
Classification (Regulation (EC) No. 1272/2008)			
	Acute Tox. 4		H332
	Skin Irrit. 2		H315
	Eye Irrit. 2		H319
	Resp. Sens. 1		H334
	Skin Sens. 1		H317
	Carc. 2		H351
	STOT SE 3		H335



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STOT RE 2 H373

Concentration limits (Regulation (EC) No. 1272/2008)

	Eye Irrit. 2	H319	>= 5 %
	Resp. Sens. 1	H334	>= 0,1 %
	Skin Irrit. 2	H315	>= 5 %
	STOT SE 3	H335	>= 5 %
cATpE	inhalative, Dust/Mist	1,5	mg/l
cATpE	inhalative, Vapors	11	mg/l

4,4'-Methylenediphenyl diisocyanate

CAS No. 101-68-8
 EINECS no. 202-966-0
 Registration no. 01-2119457014-47
 Concentration >= 20 < 25 %
 Classification (Regulation (EC) No. 1272/2008)

Acute Tox. 4	H332
Skin Irrit. 2	H315
Eye Irrit. 2	H319
Resp. Sens. 1	H334
Skin Sens. 1	H317
Carc. 2	H351
STOT SE 3	H335
STOT RE 2	H373

Concentration limits (Regulation (EC) No. 1272/2008)

Eye Irrit. 2	H319	>= 5 %
Resp. Sens. 1	H334	>= 0,1 %
Skin Irrit. 2	H315	>= 5 %
STOT SE 3	H335	>= 5 %

Additional remarks:

CLP Regulation (EC) No 1272/2008, Annex VI, Note 2, C

o-(p-Isocyanatobenzyl)phenylisocyanate

CAS No. 5873-54-1
 EINECS no. 227-534-9
 Registration no. 01-2119480143-45
 Concentration >= 5 < 10 %
 Classification (Regulation (EC) No. 1272/2008)

Acute Tox. 4	H332
Skin Irrit. 2	H315
Eye Irrit. 2	H319
Resp. Sens. 1	H334
Skin Sens. 1	H317
Carc. 2	H351
STOT SE 3	H335
STOT RE 2	H373

Concentration limits (Regulation (EC) No. 1272/2008)

Eye Irrit. 2	H319	>= 5 %
Resp. Sens. 1	H334	>= 0,1 %
Skin Irrit. 2	H315	>= 5 %
STOT SE 3	H335	>= 5 %

Additional remarks:

CLP Regulation (EC) No 1272/2008, Annex VI, Note 2, C

2,2'-Methylene diphenyldiisocyanate

CAS No. 2536-05-2
 EINECS no. 219-799-4

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Registration no.	01-2119927323-43		
Concentration	>=	1	< 5 %
Classification (Regulation (EC) No. 1272/2008)			
	Acute Tox. 4		H332
	Skin Irrit. 2		H315
	Eye Irrit. 2		H319
	Resp. Sens. 1		H334
	Skin Sens. 1		H317
	Carc. 2		H351
	STOT SE 3		H335
	STOT RE 2		H373

Concentration limits (Regulation (EC) No. 1272/2008)

	Eye Irrit. 2	H319	>= 5 %
	Resp. Sens. 1	H334	>= 0,1 %
	Skin Irrit. 2	H315	>= 5 %
	STOT SE 3	H335	>= 5 %

Additional remarks:

CLP

Regulation (EC) No 1272/2008, Annex VI, Note 2, C

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove contaminated clothing immediately and dispose of safely. Adhere to personal protective measures when giving first aid

After inhalation

Remove the casualty into fresh air and keep him calm. In the event of symptoms take medical treatment.

After skin contact

After contact with skin, wash immediately with plenty of water and soap. Consult a doctor if skin irritation persists.

After eye contact

Separate eyelids, wash the eyes thoroughly with water (15 min.). Take medical treatment.

After ingestion

Call in a physician immediately and show him the Safety Data Sheet. Rinse mouth thoroughly with water. Let plenty of water be drunk in small gulps. Do not induce vomiting.

Adhere to personal protective measures when giving first aid

First aider: Pay attention to self-protection!

4.2. Most important symptoms and effects, both acute and delayed

Until now no symptoms known so far.

4.3. Indication of any immediate medical attention and special treatment needed

Hints for the physician / hazards

In the case of swallowing with subsequent vomiting, aspiration of the lungs can occur which can lead to chemical pneumonia or asphyxiation.

SECTION 5: Firefighting measures



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5.1. Extinguishing media

Suitable extinguishing media

Recommended: alcohol resistant foam, CO₂, powders, water spray/mist, Extinguishing measures to suit surroundings

Non suitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

In the event of fire the following can be released: Carbon monoxide (CO); Nitrogen oxides (NO_x); Isocyanates

5.3. Advice for firefighters

Special protective equipment for fire-fighting

Do not inhale explosion and/or combustion gases. In case of combustion use a suitable breathing apparatus. Wear full protective suit.

Other information

Collect contaminated fire-fighting water separately, must not be discharged into the drains. Fire residues and contaminated fire-fighting water must be disposed of in accordance with the local regulations. Observe manufacturer's / distributor's instructions.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Keep away sources of ignition. Ensure adequate ventilation. Use breathing apparatus if exposed to vapours/dust/aerosol. Avoid contact with skin, eyes and clothing. Use personal protective clothing. Refer to protective measures listed in Sections 7 and 8.

6.2. Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers). Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil. Retain and dispose of contaminated wash water. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up

Pick up rest with suitable absorbent materials. Do not pick up with the help of saw-dust or other combustible substances. Clean contaminated floors and objects thoroughly, observing environmental regulations. Containers in which spilt substance has been collected must be adequately labelled. Dispose of as prescribed.

6.4. Reference to other sections

Refer to protective measures listed in Sections 7 and 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Provide good ventilation of working area (local exhaust ventilation if necessary). Avoid formation of aerosols. Avoid impact, friction and electro-static loading; risk of ignition!. Keep container tightly closed.

Advice on protection against fire and explosion

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Keep away from sources of heat and ignition. No smoking. Take action to prevent static discharges. Avoid impact and friction. Use only explosion-proof equipment. Keep away from combustible material. Wear shoes with conductive soles.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep in original packaging, tightly closed. Storage rooms must be properly ventilated. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Hints on storage assembly

Do not store together with foodstuffs. Do not store with strong oxidizing agents.

Further information on storage conditions

Keep under lock and key or accessible only to specialists or people who are authorized. Keep container tightly closed and in a well-ventilated place. Keep in a cool place

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limit values

Methylendiisocyanat

Type AGW

E

Value 0,05 mg/m³

Maximum limit value: (I); Skin resorption / sensibilisation: H; Pregnancy group: Y; Status: 5/2010

Biological limit values

4,4'-Methylenediphenyl diisocyanate

List BGW (TRGS 903)

Value 0,01 mg/g creatinine

Parameter 4,4'-diaminodiphenylmethane

Testing material Urine (U)

Test date End of exposure or end of shift (b)

Other information

Contains no substances with occupational exposure limit values.

8.2. Exposure controls

General protective and hygiene measures

Do not smoke during work time. Hold emergency shower available. Hold eye wash fountain available. Do not inhale gases/vapours/aerosols. Avoid contact with skin and eyes. Take off immediately all contaminated clothing. Do not eat or drink during work time. Storage of foodstuffs in work rooms is forbidden. Wash hands before breaks and after work. Clean skin thoroughly after work; apply skin cream.

Respiratory protection

Do not inhale vapours; Use suitable respiratory protective device in case of insufficient ventilation

Hand protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.

The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.

Gloves should be replaced regularly and if there is any sign of damage to the glove material.

Hand protection must comply with EN 374.

Appropriate Material nitrile

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Eye protection

Safety glasses

Body protection

Clothing as usual in the chemical industry.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid	
Colour	dark brown	
Odour	putrid	
Melting point		
Value	41	°C
Freezing point		
Remarks	not determined	
Boiling point or initial boiling point and boiling range		
Value	> 350	°C
Flammability		
evaluation	not determined	
Upper and lower explosive limits		
Lower explosion limit	0,4	%(V)
Remarks	not determined	
Flash point		
Value	229	°C
Method	DIN 51758	
Ignition temperature		
Value	400	°C
Decomposition temperature		
Remarks	not determined	
pH value		
Remarks	not determined	
Viscosity		
Remarks	not determined	
Solubility(ies)		
Remarks	not determined	
Partition coefficient n-octanol/water (log value)		
Remarks	not determined	
Vapour pressure		
Remarks	not determined	
Density and/or relative density		
Value	1,22	g/cm ³
Temperature	20	°C
Method	DIN 53217	
Relative vapour density		
Remarks	not determined	



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9.2. Other information**Odour threshold**

Remarks not determined

Evaporation rate (ether = 1) :

Remarks not determined

Solubility in water

Remarks virtually insoluble

Explosive properties

evaluation no

Oxidising properties

Remarks not determined

Solvent content

Value 0,0 %

Other information

None known

SECTION 10: Stability and reactivity**10.1. Reactivity**

No hazardous reactions when stored and handled according to prescribed instructions.

10.2. Chemical stability

No hazardous reactions known.

10.3. Possibility of hazardous reactions

Keep away from oxidising agents, strongly alkaline and strongly acid materials, amines, alcohols and water. Protect from heat and direct sunlight

10.4. Conditions to avoid

Protect from heat and direct sunlight

10.5. Incompatible materials

None known

10.6. Hazardous decomposition products

Carbon monoxide, nitrous oxides (NOx), Possible in traces, Hydrocyanic acid

SECTION 11: Toxicological information**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute oral toxicity**

Remarks Based on available data, the classification criteria are not met.

Acute oral toxicity (Components)**Methylendiisocyanat**Species rat
LD50 49000 mg/kg**4,4'-Methylenediphenyl diisocyanate**

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LD50 > 2000 mg/kg
Remarks Test conducted with a similar formulation.

o-(p-Isocyanatobenzyl)phenylisocyanate

LD50 > 2000 mg/kg
Remarks Test conducted with a similar formulation.

2,2'-Methylene diphenyldiisocyanate

LD50 > 2000 mg/kg
Remarks Test conducted with a similar formulation.

Acute dermal toxicity

Remarks Based on available data, the classification criteria are not met.

Acute dermal toxicity (Components)**Methylendiisocyanat**

Species rabbit
LD50 > 9400 mg/kg

o-(p-Isocyanatobenzyl)phenylisocyanate

> 9400 mg/kg
Remarks Test conducted with a similar formulation.

2,2'-Methylene diphenyldiisocyanate

LD50 > 9400 mg/kg
Remarks Test conducted with a similar formulation.

Acute inhalational toxicity

ATE 15,7143 mg/l
Administration/Form Vapors
Method calculated value (Regulation (EC) No. 1272/2008)
ATE 2,1429 mg/l
Administration/Form Dust/Mist
Method calculated value (Regulation (EC) No. 1272/2008)
Remarks The classification criteria are met.

Acute inhalative toxicity (Components)**4,4'-Methylenediphenyl diisocyanate**

Species rat
LC50 368 mg/m³
Duration of exposure 4 h
Administration/Form Dust/Mist
Method OECD 403

2,2'-Methylene diphenyldiisocyanate

Species rat (female)
LC50 685,75 mg/m³
Duration of exposure 4 h
Administration/Form Dust/Mist
Method OECD 403

2,2'-Methylene diphenyldiisocyanate

Species rat (male)
LC50 527,2 mg/m³
Duration of exposure 4 h
Administration/Form Dust/Mist
Method OECD 403

o-(p-Isocyanatobenzyl)phenylisocyanate

Species rat (male)
LC50 387 mg/m³
Duration of exposure 4 h
Administration/Form Dust/Mist

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Method OECD 403

o-(p-Isocyanatobenzyl)phenylisocyanate

Species rat (female)

LC50 645 mg/m³

Duration of exposure 4 h

Administration/Form Dust/Mist

Methylendiisocyanat

Species rat

LC50 0,48 mg/l

Duration of exposure 4 h

Skin corrosion/irritation

evaluation irritant

Remarks The classification criteria are met.

Skin corrosion/irritation (Components)**4,4'-Methylenediphenyl diisocyanate**

Species rabbit

evaluation irritant

Method OECD 404

o-(p-Isocyanatobenzyl)phenylisocyanate

evaluation irritant

Remarks Test conducted with a similar formulation.

Methylendiisocyanat

evaluation irritant

Serious eye damage/irritation

evaluation irritant

Remarks The classification criteria are met.

Serious eye damage/irritation (Components)**4,4'-Methylenediphenyl diisocyanate**

Species rabbit

evaluation irritant

Method OECD 405

o-(p-Isocyanatobenzyl)phenylisocyanate

evaluation slightly irritant

Remarks Test conducted with a similar formulation.

Methylendiisocyanat

evaluation irritant

Sensitization

evaluation May cause sensitization by inhalation.

Remarks The classification criteria are met.

Sensitization (Components)**4,4'-Methylenediphenyl diisocyanate**

Route of exposure dermal

Species guinea pig

evaluation sensitizing

Method OECD 406

4,4'-Methylenediphenyl diisocyanate

Route of exposure inhalative

Species guinea pig

evaluation sensitizing

2,2'-Methylene diphenyldiisocyanate

Route of exposure dermal

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Species mouse
 evaluation sensitizing
 Method OECD 429

2,2'-Methylene diphenyldiisocyanate

Route of exposure inhalative
 evaluation sensitizing
 Remarks Test conducted with a similar formulation.

o-(p-Isocyanatobenzyl)phenylisocyanate

Route of exposure dermal
 evaluation sensitizing
 Remarks Test conducted with a similar formulation.

o-(p-Isocyanatobenzyl)phenylisocyanate

Route of exposure inhalative
 evaluation sensitizing
 Remarks Test conducted with a similar formulation.

Methylendiisocyanat

Route of exposure dermal
 evaluation sensitizing

Methylendiisocyanat

Route of exposure inhalative
 evaluation sensitizing

Subacute, subchronic, chronic toxicity

Remarks not determined

Mutagenicity

Remarks Based on available data, the classification criteria are not met.

Reproductive toxicity

Remarks Based on available data, the classification criteria are not met.

Carcinogenicity

evaluation Suspected of causing cancer.
 Remarks The classification criteria are met.

Carcinogenicity (Components)**4,4'-Methylenediphenyl diisocyanate**

Route of exposure inhalative
 Species rat
 Dose 1 mg/m³
 evaluation Suspected of causing cancer.

2,2'-Methylene diphenyldiisocyanate

Route of exposure inhalative
 Dose 1 mg/m³
 evaluation Suspected of causing cancer.

o-(p-Isocyanatobenzyl)phenylisocyanate

Route of exposure inhalative
 Dose 1 mg/m³
 evaluation Suspected of causing cancer.

Methylendiisocyanat

evaluation Suspected of causing cancer.

Specific Target Organ Toxicity (STOT)**Single exposure**

Remarks The classification criteria are met.
 evaluation May cause respiratory irritation.

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Repeated exposure

Remarks The classification criteria are met.
 evaluation May cause damage to organs through prolonged or repeated exposure

Specific Target Organ Toxicity (STOT) (Components)**4,4'-Methylenediphenyl diisocyanate****Repeated exposure**

evaluation May cause damage to organs through prolonged or repeated exposure
 Route of exposure inhalative

Species rat
 LOAEL 0,23 mg/m³

4,4'-Methylenediphenyl diisocyanate**Single exposure**

evaluation May cause respiratory irritation.
 Species rat

2,2'-Methylene diphenyldiisocyanate**Single exposure**

evaluation May cause respiratory irritation.
 Organs: Lungs

NOAEC 1 mg/m³

2,2'-Methylene diphenyldiisocyanate**Repeated exposure**

evaluation May cause damage to organs through prolonged or repeated exposure
 Route of exposure inhalative

Organs: Respiratory tract
 NOAEC 0,2 mg/m³

o-(p-Isocyanatobenzyl)phenylisocyanate**Single exposure**

evaluation May cause respiratory irritation.
 Route of exposure inhalative

Organs: Respiratory tract
 NOAEC 1 mg/m³

o-(p-Isocyanatobenzyl)phenylisocyanate**Repeated exposure**

evaluation May cause damage to organs through prolonged or repeated exposure
 Route of exposure inhalative

Organs: Lungs
 NOAEC 0,2 mg/m³

Remarks Test conducted with a similar formulation.

Methylenediisocyanat**Single exposure**

evaluation May cause respiratory irritation.

Methylenediisocyanat**Repeated exposure**

evaluation May cause damage to organs through prolonged or repeated exposure

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2 Information on other hazards**Endocrine disrupting properties with respect to humans**

Trade name: Modralit 3K Hardener

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The product does not contain a substance that has endocrine disrupting properties with respect to humans.

Experience in practice

Inhalation may lead to irritation of the respiratory tract.

Other information

No toxicological data are available.

SECTION 12: Ecological information

12.1. Toxicity**General information**

not determined

Fish toxicity (Components)**4,4'-Methylenediphenyl diisocyanate**

Species	zebra fish (<i>Brachydanio rerio</i>)			
LL50	>	100		mg/l
Duration of exposure		96	h	
Method	OECD 203			

Daphnia toxicity (Components)**4,4'-Methylenediphenyl diisocyanate**

Species	Daphnia magna			
EL0		4,3		mg/l
Duration of exposure		48	h	
Method	OECD 202			

4,4'-Methylenediphenyl diisocyanate

Species	Daphnia magna			
NOEC	>=	10		mg/l
Duration of exposure		21	d	

o-(p-Isocyanatobenzyl)phenylisocyanate

Species	Daphnia magna			
EL0		1,9		mg/l
Duration of exposure		48	h	
Method	OECD 202			

o-(p-Isocyanatobenzyl)phenylisocyanate

NOEC	>=	10		mg/l
Duration of exposure		21	d	

Algae toxicity (Components)**4,4'-Methylenediphenyl diisocyanate**

Species	Desmodesmus subspicatus			
EL50	>	100		mg/l
Duration of exposure		72	h	
Method	OECD 201			

Bacteria toxicity (Components)**4,4'-Methylenediphenyl diisocyanate**

Species	activated sludge			
EC50	>	50		mg/l
Duration of exposure		3	h	
Method	OECD 209			



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12.2. Persistence and degradability

General information

not determined

Ready degradability (Components)

4,4'-Methylenediphenyl diisocyanate

Value	20	%
Duration of test	28	d

o-(p-Isocyanatobenzyl)phenylisocyanate

Remarks Test conducted with a similar formulation.

2,2'-Methylene diphenyldiisocyanate

12.3. Bioaccumulative potential

General information

not determined

Partition coefficient n-octanol/water (log value)

Remarks not determined

Octanol/water partition coefficient (log Pow) (Components)

4,4'-Methylenediphenyl diisocyanate

log Pow	4,51	
Temperature	22	°C

o-(p-Isocyanatobenzyl)phenylisocyanate

log Pow	4,52	
Temperature	22	°C

2,2'-Methylene diphenyldiisocyanate

log Pow	4,52	
Temperature	22	°C

12.4. Mobility in soil

General information

not determined

12.5. Results of PBT and vPvB assessment

General information

not determined

Results of PBT and vPvB assessment

The product contains no PBT substances
The product contains no vPvB substances.

12.6 Endocrine disrupting properties

Endocrine disrupting properties with respect to the environment

The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

General information

not determined

General information / ecology

Do not allow to enter soil, waterways or waste water canal. Avoid release into the atmosphere.



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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations for the product

Must not be disposed together with household garbage.
Dispose of waste according to applicable legislation.

Disposal recommendations for packaging

Packaging that cannot be cleaned should be disposed off as product waste.

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
14.1. UN number or ID number	The product does not constitute a hazardous substance in land transport.	The product does not constitute a hazardous substance in sea transport.	The product does not constitute a hazardous substance in air transport.
14.2. UN proper shipping name	-	-	-
14.3. Transport hazard class(es)		-	-
Label			
14.4. Packing group		-	-

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Other information

All components are contained in the TSCA inventory or exempted.

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification (Regulation (EC) No. 1272/2008)

Acute Tox. 4	H332	Calculation method
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method



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Resp. Sens. 1	H334	Calculation method
Skin Sens. 1	H317	Calculation method
Carc. 2	H351	Calculation method
STOT SE 3	H335	Calculation method
STOT RE 2	H373	Calculation method

Hazard statements listed in Chapter 2/3

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.

CLP categories listed in Chapter 2/3

Acute Tox. 4	Acute toxicity, Category 4
Carc. 2	Carcinogenicity, Category 2
Eye Irrit. 2	Eye irritation, Category 2
Resp. Sens. 1	Respiratory sensitization, Category 1
Skin Irrit. 2	Skin irritation, Category 2
Skin Sens. 1	Skin sensitization, Category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.