

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**MANKIEWICZ**  
Lackierideen der Zukunft



Commercial Product Name: ALEXIT BR10H0-BladeRep Hardener 10  
Quality No.: 4459A90Q20000

Revision Date 11.08.2017

Print Date 11.08.2017

Version 1

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

### 1.1 Product identifier

Trade name : ALEXIT BR10H0-BladeRep Hardener 10 90Q2 schwarz / black

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

Use of the : Industrial serial painting  
Substance/Mixture

### 1.3 Details of the supplier of the safety data sheet

Company : Mankiewicz Gebr. & Co.  
(GmbH & Co. KG)  
Georg-Wilhelm-Straße 189  
21107 Hamburg  
Telephone : +4940751030  
Telefax : +494075103375  
E-mail address : sdb\_info@umco.de

### 1.4 Emergency telephone number

+49 (0) 551 / 19240 (Toxic agent information centre North / NORD)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4 H332: Harmful if inhaled.  
Skin sensitisation, Category 1 H317: May cause an allergic skin reaction.  
Chronic aquatic toxicity, Category 2 H411: Toxic to aquatic life with long lasting effects.

### 2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Warning

Hazard statements : H317 May cause an allergic skin reaction.  
H332 Harmful if inhaled.  
H411 Toxic to aquatic life with long lasting effects.

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Precautionary statements : **Prevention:**  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P273 Avoid release to the environment.  
P280 Wear protective gloves.  
**Response:**  
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P362 + P364 Take off contaminated clothing and wash it before reuse.

Hazardous components which must be listed on the label:

1809331-98-3	aliphatic polyisocyanate
164250-92-4	2-Oxepanone, polymer with 1,6-diisocyanatohexane and 1,6-hexanediol
28182-81-2	Hexamethylene diisocyanate, oligomers
822-06-0	hexamethylene-di-isocyanate

## Additional Labelling:

Contains isocyanates. May produce an allergic reaction.

## 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.  
The information required is contained in this Material Safety Data Sheet.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

Chemical nature : Hardener based on polyisocyanates

#### Hazardous components

Chemical name CAS-No. EC-No. Registration number Remarks	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
aliphatic polyisocyanate 1809331-98-3	Acute Tox. 4; H332 Skin Sens. 1B; H317 Aquatic Chronic 2; H411	>= 40 - <= 100
2-Oxepanone, polymer with 1,6- diisocyanatohexane and 1,6-hexanediol 164250-92-4	Skin Sens. 1; H317	>= 25 - < 40
Hexamethylene diisocyanate,	Acute Tox. 3; H331	>= 5 - < 12,5

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oligomers 28182-81-2 01-2119488177-26	Skin Sens. 1; H317 STOT SE 3; H335	
hexamethylene-di-isocyanate 822-06-0 212-485-8 01-2119457571-37 Note 2	Acute Tox. 3; H331 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317 STOT SE 3; H335 Resp. Sens. 1; H334	>= 0,1 - < 0,25

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- General advice : In all cases of doubt, or when sickness symptoms persist, seek medical attention.  
Never give anything by mouth to an unconscious person.
- If inhaled : Remove to fresh air, keep patient warm and at rest.  
Irregular breathing/no breathing: artificial respiration.  
If unconscious place in recovery position and seek medical advice.
- In case of skin contact : Take off all contaminated clothing immediately.  
Wash skin thoroughly with soap and water or use recognised skin cleanser.  
Do NOT use solvents or thinners !
- In case of eye contact : Remove contact lenses, irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart and seek medical advice.
- If swallowed : Do NOT induce vomiting.  
If accidentally swallowed obtain immediate medical attention.  
Never give anything by mouth to an unconscious person.  
Keep at rest.

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

- Symptoms : No information available.

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

- Treatment : No information available.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media : Alcohol resistant foam, CO<sub>2</sub>, powders, water spray
- Unsuitable extinguishing media : High volume water jet

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## 5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.

## 5.3 Advice for firefighters

Special protective equipment for firefighters : Appropriate breathing apparatus may be required.

Further information : Cool endangered containers with water in case of fire.  
DO NOT ALLOW RUN-OFF FROM FIRE FIGHTING TO ENTER DRAINS OR WATER COURSES!!

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Exclude sources of ignition and ventilate the area.  
Do not inhale vapours.  
Refer to protective measures listed in sections 7 and 8.  
Immediately clean contaminated areas with following substances:  
Water 45 Vol. %  
Ethanol or Isopropyl Alcohol 50 Vol. %  
Ammonia solution (density=0,88) 5 Vol. %  
  
Alternative applicable to that (not flammable):  
Sodium Carbonate 5 Vol. %  
Water 95 Vol. %

### 6.2 Environmental precautions

Environmental precautions : Do not let product enter drains.  
If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations.  
Add the same decontaminant to the remnants and let stand for several days until no further reaction in non-sealed container. Once this stage is reached, close container and dispose according to local regulations.

### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see chapter 13).  
Clean preferably with a detergent; avoid use of solvents.

### 6.4 Reference to other sections

For personal protection see section 8.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

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- Advice on safe handling : Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is used !  
Comply with the health and safety at work laws.  
Smoking, eating and drinking should be prohibited in the application area.
- Advice on protection against fire and explosion : Preparation may charge electrostatically: always use earthing leads when transferring from one container to another.

## 7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers : Keep container tightly closed. Never use pressure to empty: container is not a pressure vessel. No smoking. Prevent unauthorized access. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
- Further information on storage conditions : Always keep in containers of same material as the original one. See also instructions on the label. Avoid heating and direct sunlight. Keep container dry in a cool, well-ventilated place. Precautions should be taken to minimise exposure to atmospheric humidity or water: CO<sub>2</sub> will be formed which in closed containers can result in pressurisation. DO NOT KEEP THE CONTAINERS SEALED !!
- Advice on common storage : Keep away from oxidizing agents and strongly acid or alkaline materials.
- Storage temperature : 5 - 35 °C

## 7.3 Specific end use(s)

- Specific use(s) : This information is not available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

CAS-No.	Source	Value	Ceiling Limit Value	Update
<b>hexamethylene-di-isocyanate</b>				
822-06-0	List of approved workplace exposure limits (WELs) / EH40	0,02 mg/m <sup>3</sup>		December 2011
Further information:	Sen			

### 8.2 Exposure controls

#### Engineering measures

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and below the OEL (= Occupational Exposure Limit), suitable respiratory protection must be worn.

#### Personal protective equipment

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- Eye protection : Wear safety goggles to protect against splashes.
- Hand protection : Adhere to the professional organisation rule "Use of protective gloves". Appropriate chemicals resistant glove tested in compliance with EN 374.
- Remarks : Recommendation for protection against components generally found in the products:
- For short-term contact (i.e. splash protection):  
Appropriate material:  
nitrile rubber, Neoprene  
Material thickness: > 0,4 mm  
Breakthrough time: > 480 min
- Before use, the protective glove should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Preventive hand protection (skin protection cream) recommended. Wash immediately contaminated skin. Design operations thus to avoid permanent use of protective gloves.
- Skin and body protection : Clothing as usual in the chemical industry. Skin should be washed after contact.
- Respiratory protection : By spraying: air-fed respirator.  
By other operations than spraying: in well ventilated areas, air-fed respirators could be replaced by a combination of charcoal filter and particulate filter mask
- Protective measures : Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is used. Do not eat or drink during work - no smoking. Avoid product contact with skin, eyes and clothing. Avoid the inhalation of dust from sanding, particulates and spray mist arising from the application of this preparation.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- Appearance : liquid  
Colour : according product name  
Odour : characteristic  
Boiling point/boiling range : ca. 120 °C
- Flash point : Not applicable
- Vapour pressure : ca. 100 hPa (50 °C)

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Density : ca. 1,1 g/cm<sup>3</sup> (20 °C)

Water solubility : insoluble

Viscosity

Flow time : > 151 s  
Cross section: 4 mm  
Method: DIN 53211

> 101 s  
Cross section: 6 mm  
Method: ISO 2431

## 9.2 Other information

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No decomposition if stored and applied as directed.

### 10.2 Chemical stability

Stable under normal conditions.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

### 10.4 Conditions to avoid

Conditions to avoid : Stable under recommended storage and handling conditions (See section 7).

### 10.5 Incompatible materials

Materials to avoid : Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.  
The product reacts slowly with water resulting in evolution of carbon dioxide. In closed containers, pressure build up could result distortion blowing and in extreme cases bursting of the container.

### 10.6 Hazardous decomposition products

Hazardous decomposition products : In a fire, hazardous decomposition products, such as smoke, carbon monoxide, carbon dioxide, oxides of nitrogen, hydrogen cyanide, monomers of isocyanates, amines and alcohols may be produced.

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

##### Product:

Acute inhalation toxicity : Acute toxicity estimate : 1,95 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method

Assessment: The substance/mixture is not toxic on inhalation as defined by dangerous goods regulations.

##### Components:

###### aliphatic polyisocyanate, 1809331-98-3:

Acute inhalation toxicity : LC50 (Rat): 1,5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

###### Hexamethylene diisocyanate, oligomers, 28182-81-2:

Acute inhalation toxicity : LC50 (Rat): 0,5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Expert judgement

##### Components:

###### Hexamethylene diisocyanate, oligomers, 28182-81-2:

Exposure routes: Skin contact  
Species: Guinea pig  
Assessment: May cause sensitisation by skin contact.  
Method: OECD Test Guideline 406

##### Components:

###### Hexamethylene diisocyanate, oligomers, 28182-81-2:

Assessment: May cause respiratory irritation.

### Further information

#### Product:

Remarks: Exposure of vapour concentration in excess of the stated OEL's may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on kidney, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue muscular weakness, drowsiness and in extrem cases, loss of consciousness., Based on the properties of the isocyanate components and considering toxicological data on similar preparations: This preparation may cause acute irritation and/or sensitization of the respiratory system leading to an asthmatic condition, wheeziness and a tightness of the chest. Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL. Repeated exposure may lead to permanent respiratory disability., The liquid splashed in the eyes may cause irritation and reversible damage.



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## SECTION 12: Ecological information

### 12.1 Toxicity

**Product:**

Ecotoxicology Assessment

Acute aquatic toxicity

: There are no data available on the preparation itself.

### 12.2 Persistence and degradability

**Product:**

Biodegradability

: Remarks: There are no data available on the preparation itself.

### 12.3 Bioaccumulative potential

**Product:**

Bioaccumulation

: Remarks: There are no data available on the preparation itself.

### 12.4 Mobility in soil

**Product:**

Mobility

: Remarks: There are no data available on the preparation itself.

### 12.5 Results of PBT and vPvB assessment

**Product:**

Assessment

: This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

### 12.6 Other adverse effects

**Product:**

Additional ecological information

: There are no data available on the preparation itself., The product should not be allowed to enter drains or water courses.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product

: The listed waste code numbers, according to the European Waste Catalogue, are to be understood as a recommendation. A final decision must be made in agreement with the regional waste disposal company.

Contaminated packaging

: Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse. Packaging that cannot be cleaned should be disposed off in agreement with the regional waste disposal company.

Waste key for the unused product

: 080111 waste paint and varnish containing organic solvents or other dangerous substances



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## SECTION 14: Transport information

### 14.1 UN number

ADR : UN 3082

IMDG : UN 3082

IATA : UN 3082

### 14.2 UN proper shipping name

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(aliphatic polyisocyanate)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(aliphatic polyisocyanate)

IATA : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(aliphatic polyisocyanate)

### 14.3 Transport hazard class(es)

ADR : 9

IMDG : 9

IATA : 9

### 14.4 Packing group

#### ADR

Packing group : III  
Classification Code : M6  
Hazard Identification Number : 90  
Labels : 9  
Tunnel restriction code : (D/E)

#### IMDG

Packing group : III  
Labels : 9  
EmS Code : F-A, S-F

#### IATA

Packing instruction (cargo aircraft) : 964  
Packing instruction (passenger aircraft) : 964  
Packing group : III  
Labels : Miscellaneous

### 14.5 Environmental hazards

#### ADR

Environmentally hazardous : yes

#### IMDG

Marine pollutant : yes(aliphatic polyisocyanate)

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200 700 00  
200 300 00  
200 100 20

BIC  
DEUTDE33XXX  
HYVEDE33XXX  
PBNDDE33XXX

IBAN  
DE58 2007 0000 0600 2273 00  
DE34 2003 0000 0059 2733 00  
DE85 2001 0020 0000 3732 05

Sitz/Registriergericht Hamburg: HRA 42442  
Persönlich haftende Gesellschafterin:  
Grau Gebr. Beteiligungs-GmbH  
Sitz/Registriergericht Hamburg: HRB 17189  
Geschäftsführender Gesellschafter:  
Michael O. Grau

Bureau Veritas  
Certification:  
ISO 9001,  
TS 16949,  
EN 9100



# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**MANKIEWICZ**  
Lackierideen der Zukunft



Commercial Product Name: ALEXIT BR10H0-BladeRep Hardener 10  
Quality No.: 4459A90Q20000

Revision Date 11.08.2017

Print Date 11.08.2017

Version 1

## 14.6 Special precautions for user

Not applicable

## 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

## SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High Concern : Not applicable  
for Authorisation (Article 59).

Directive 2010/75/EU of 24 : Not applicable  
November 2010 on industrial  
emissions (integrated pollution  
prevention and control)

Other regulations : The information given in this material safety data sheet does not  
release the user from its duty of risk assessment and control in the  
work place defined in other health and safety law.  
Adhere to the national sanitary and occupational safety regulations  
when using this product.

### 15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for the mixture.

## SECTION 16: Other information

### Full text of H-Statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H411	Toxic to aquatic life with long lasting effects.
Acute Tox.	Acute toxicity
Aquatic Chronic	Chronic aquatic toxicity
Eye Irrit.	Eye irritation
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

### Further information

Note 2 The concentration of isocyanate stated is the percentage by weight of the free  
monomer calculated with reference to the total weight of the mixture.

### Further information

Other information : This safety datasheet complies with the requirements of regulation  
(EC) No 1907/2006(2015/830).

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Bank Name  
Deutsche Bank  
HypoVereinsbank  
Postbank

Ort  
Hamburg  
Hamburg  
Hamburg

Kto.-Nr.  
600227300  
59273300  
373205

BLZ  
200 700 00  
200 300 00  
200 100 20

BIC  
DEUTDE33HAN  
HYVEDE33HAN  
PBNKDE33HAN

IBAN  
DE58 2007 0000 0600 2273 00  
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## Department issuing safety data sheet

UMCO Umwelt Consult GmbH

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Bank Name	Ort	Kto.-Nr.	BLZ	BIC	IBAN
Deutsche Bank	Hamburg	600227300	200 700 00	DEUTDE33HAN	DE58 2007 0000 0600 2273 00
HypoVereinsbank	Hamburg	59273300	200 300 00	HYVEDE33HAN	DE34 2003 0000 0059 2733 00
Postbank	Hamburg	373205	200 100 20	PSBKDE33HAN	DE85 2001 0020 0000 3732 05

Sitz/Registergericht Hamburg: HRA 42442  
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