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

1.1 Product identifier

Trade name : ALEXIT-BladeRep LEP 10 RAL 7035 lichtgrau / light grey

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

Use of the Substance/Mixture : Industrial serial painting

1.3 Details of the supplier of the safety data sheet

Mankiewicz Gebr. & Co. (GmbH & Co. KG)
Georg-Wilhelm-Strasse 189
21107 Hamburg
Germany

Only for UK:
Supplied by Mankiewicz UK LLP
26 Ashville Way, Whetstone,
Leicester LE8 6NU
United Kingdom

Telephone +49 (0) 40 75103 0
E-mail address of person responsible for the SDS sdb_info@umco.de

1.4 Emergency telephone number

Emergency telephone number : +44 1865 407333 (NCEC)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Long-term (chronic) aquatic hazard, Category 3	H412: Harmful 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.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P261	Avoid breathing mist or vapours.
P273	Avoid release to the environment.
P280	Wear protective gloves.

Response:

P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Disposal:

P501	Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label:

tetraethyl N,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate
Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate
reaction mass of a-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-omega-hydroxypoly(oxyethylene) and a-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-omega-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyloxypoly(oxyethylene)
3-aminopropyltriethoxysilane

Additional Labelling

EUH211	Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

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.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Mixture of synthetic resins and pigments

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
tetraethyl N,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate	136210-30-5 429-270-1 607-521-00-8 01-0000017556-64	Skin Sens. 1; H317 Aquatic Chronic 3; H412	>= 20 - < 25
Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	1065336-91-5 01-2119491304-40	Skin Sens. 1A; H317 Repr. 2; H361f Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 1 - < 2.5
propylidynetrimethanol	77-99-6 201-074-9 01-2119486799-10	Repr. 2; H361fd	>= 1 - < 3
reaction mass of a-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-omega-hydroxypoly(oxyethylene) and a-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-omega-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxy-phe-nyl)propionyloxypoly(oxyethylene)	Not Assigned 400-830-7 607-176-00-3 01-0000015075-76	Skin Sens. 1; H317 Aquatic Chronic 2; H411	>= 0.5 - < 1
3-aminopropyltriethoxysilane	919-30-2 213-048-4 612-108-00-0 01-2119480479-24	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1; H317	>= 0.25 - < 0.5
Substances with a workplace exposure limit :			
titanium dioxide	13463-67-7 236-675-5 01-2119489379-17		>= 5 - < 12.5

These contain:

:			
diethyl fumarate	623-91-6 210-819-7	Acute Tox. 4; H302 Skin Irrit. 2; H315 Skin Sens. 1; H317 STOT SE 3; H335 (Respiratory system)	> 1 - <= 5

For explanation of abbreviations see section 16.

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

Risks : May cause an allergic skin reaction.

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Not combustible under normal conditions.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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 : Appropriate breathing apparatus may be required.

for firefighters

Further information	:	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	:	Take the precautions customary when handling chemicals. Refer to protective measures listed in sections 7 and 8.

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.

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

Advice on safe handling	:	Avoid contact with the skin and the eyes. 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 whentransferring from one container to another.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep container tightly closed. Never use pressure to empty: container isnot a pressure vessel. No smoking. Prevent unauthorized access.
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.

Advice on common storage : Keep away from oxidizing agents and strongly acid or alkaline materials.

Recommended 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

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
titanium dioxide	13463-67-7	TWA (inhalable dust)	10 mg/m3	GB EH40
		TWA (Respirable dust)	4 mg/m3	GB EH40

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

Substance name	End Use	Exposure routes	Potential health effects	Value
tetraethyl N,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate	Workers	Inhalation	Long-term systemic effects	28 mg/m3
	Workers	Dermal	Long-term systemic effects	4 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	4.8 mg/m3
	Consumers	Dermal	Long-term systemic effects	1.4 mg/kg bw/day
	Consumers	Dermal	Long-term systemic effects	1.4 mg/kg bw/day
Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Workers	Inhalation	Long-term systemic effects	1.27 mg/m3
	Workers	Dermal	Long-term systemic effects	1.8 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0.31 mg/m3
	Consumers	Dermal	Long-term systemic	0.9 mg/kg

			effects	bw/day
	Consumers	Oral	Long-term systemic effects	0.18 mg/kg bw/day
propylidynetrimetha-nol	Workers	Inhalation	Long-term systemic effects	3.3 mg/m3
	Workers	Dermal	Long-term systemic effects	0.94 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0.58 mg/m3
	Consumers	Dermal	Long-term systemic effects	0.34 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	0.34 mg/kg bw/day
reaction mass of a-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxy-phenyl)propionyl-omega-hydroxy-poly(oxyethylene) and a-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxy-phenyl)propionyl-omega-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxy-phe-nyl)propionyloxypoly(oxyethylene)	Workers	Inhalation	Long-term systemic effects	0.398 mg/m3
	Workers	Dermal	Long-term systemic effects	0.25 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0.099 mg/m3
	Consumers	Dermal	Long-term systemic effects	0.025 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	0.025 mg/kg bw/day
3-aminopropyltriethox-ysilane	Workers	Inhalation	Long-term systemic effects	59 mg/m3
	Workers	Dermal	Long-term systemic effects	8.3 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	17.4 mg/m3
	Consumers	Dermal	Long-term systemic effects	5 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006

Substance name	Environmental Compartment	Value
tetraethyl N,N'-(methylenedicyclohexane-4,1-diyl)bis-dl-aspartate	Fresh water	0 mg/l
	Fresh water sediment	0.21 mg/kg dry weight (d.w.)
	Marine sediment	0.02 mg/kg dry weight (d.w.)
	Soil	0.1 mg/kg dry weight (d.w.)
	Sewage treatment plant	31.1 mg/l
	Marine water	0 mg/l
Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Fresh water	0.002 mg/l
	Marine water	0 mg/l
	Sewage treatment plant	1 mg/l
	Fresh water sediment	1.05 mg/kg dry weight (d.w.)
	Marine sediment	0.11 mg/kg dry weight (d.w.)
	Soil	0.21 mg/kg dry weight (d.w.)
reaction mass of a-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-omega-hydroxypoly(oxyethylene) and a-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-omega-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxy-phe-nyl)propionyloxypoly(oxyethylene)	Fresh water	0.023 mg/l
	Marine water	0 mg/l
	Sewage treatment plant	100 mg/l
	Fresh water sediment	7.26 mg/kg dry weight (d.w.)
	Marine water	0.726 mg/kg dry weight (d.w.)
	Soil	14.52 mg/kg dry weight (d.w.)
3-aminopropyltriethoxysilane	Fresh water	0.33 mg/l
	Marine water	0.033 mg/l
	Sewage treatment plant	13 mg/l
	Fresh water sediment	1.2 mg/kg dry weight (d.w.)
	Marine sediment	0.12 mg/kg dry weight (d.w.)

	Soil	0.05 mg/kg dry weight (d.w.)

8.2 Exposure controls

Engineering measures

Provide adequate ventilation. This should be achieved by the use of local exhaust ventilation and good general extraction.

Personal protective equipment

Eye/face protection : Wear safety goggles to protect against splashes.

Hand protection

Remarks : Adhere to the professional organisation rule “Use of protective gloves”. Appropriate chemicals resistant glove tested in compliance with EN 374.
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 : None, but avoid breathing vapours if possible.

Protective measures : 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

Physical state	:	liquid (20 - 25 °C, 1,013 hPa)
Colour	:	according product name
Odour	:	characteristic
Melting point/ range	:	No data available
Boiling point/boiling range	:	ca. 120 °C
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Flash point	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
pH	:	substance/mixture is non-soluble (in water)

Viscosity
Viscosity, kinematic : > 21 mm^2/s

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

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

Solubility(ies)
Water solubility : insoluble

Vapour pressure : ca. 100 hPa (50 °C)

Density	:	ca. 1.5 g/cm3 (20 °C)
Relative vapour density	:	No data available

9.2 Other information

Flammability (liquids)	:	No data available
Miscibility with water	:	immiscible
Solvent separation	:	< 3 %(V)

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.

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: Toxicological information

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

Acute toxicity

Not classified due to lack of data.

Components:

3-aminopropyltriethoxysilane:

Acute oral toxicity : LD50 (Rat): 1,490 mg/kg

Acute dermal toxicity : LD50 (Rabbit): 4,290 mg/kg

Skin corrosion/irritation

Not classified due to lack of data.

Serious eye damage/eye irritation

Not classified due to lack of data.

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified due to lack of data.

Germ cell mutagenicity

Not classified due to lack of data.

Carcinogenicity

Not classified due to lack of data.

Reproductive toxicity

Not classified due to lack of data.

STOT - single exposure

Not classified due to lack of data.

STOT - repeated exposure

Not classified due to lack of data.

Aspiration toxicity

Not classified due to lack of data.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Further information

Product:

Remarks : The liquid splashed in the eyes may cause irritation and re-

versible damage.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Ecotoxicology Assessment

Acute aquatic toxicity : There are no data available on the preparation itself.

Components:

Reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate:

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.97 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 20 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): 1.68 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: The product has low solubility in the test medium. An aqueous dispersion was tested.
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 1 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211 Remarks: The product has low solubility in the test medium. An aqueous dispersion was tested.

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.

: 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 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 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 : Dispose of in accordance with local regulations.

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.

SECTION 14: Transport information

14.1 UN number or ID number

ADR	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
IATA	:	Not regulated as a dangerous good

14.2 UN proper shipping name

ADR	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
IATA	:	Not regulated as a dangerous good

14.3 Transport hazard class(es)

ADR	:	Not regulated as a dangerous good
IMDG	:	Not regulated as a dangerous good
IATA	:	Not regulated as a dangerous good

14.4 Packing group

ADR	:	Not regulated as a dangerous good
Remarks	:	If transported within the user's premises: To be transported always in closed, upright and safe containers. Make sure that persons handling these containers are aware of the rules of conduct in case of incident or spillage.
IMDG	:	Not regulated as a dangerous good
IATA (Cargo)	:	Not regulated as a dangerous good
IATA (Passenger)	:	Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Remarks	:	If transported within the user's premises: To be transported always in closed, upright and safe containers. Make sure that persons handling these containers are aware of the rules of conduct in case of incident or spillage. Not classified as dangerous in the meaning of transport regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Conditions of restriction for the following entries should be considered: Number on list 3 Banned and/or restricted
UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation	:	Not applicable
UK REACH List of substances subject to authorisation (Annex XIV)	:	Not applicable

Volatile organic compounds :

Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)
Volatile organic compounds (VOC) content: < 0.01 %, < 0.2 g/l

Other regulations:

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

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

H302	:	Harmful if swallowed.
H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H335	:	May cause respiratory irritation.
H361f	:	Suspected of damaging fertility.
H361fd	:	Suspected of damaging fertility. Suspected of damaging the unborn child.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H411	:	Toxic to aquatic life with long lasting effects.

H412	:	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Dam.	:	Serious eye damage
Repr.	:	Reproductive toxicity
Skin Corr.	:	Skin corrosion
Skin Sens.	:	Skin sensitisation
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Other information	:	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.

This safety datasheet complies with the requirements of regulation (EC) No 1907/2006(2020/878).

Classification of the mixture:		**Classification procedure:**
Skin Sens. 1	H317	Calculation method
Aquatic Chronic 3	H412	Calculation method

Department issuing safety data sheet

UMCO GmbH
Georg-Wilhelm-Str.187, D-21107 Hamburg
Telefon: +49(0)40/555 546 300 Fax: +49(0)40/555 546 357
e-mail:umco@umco.de

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

GB / EN

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

1.1 Product identifier

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

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

Use of the Substance/Mixture : Industrial serial painting

1.3 Details of the supplier of the safety data sheet

Mankiewicz Gebr. & Co. (GmbH & Co. KG)
Georg-Wilhelm-Strasse 189
21107 Hamburg
Germany

Only for UK:
Supplied by Mankiewicz UK LLP
26 Ashville Way, Whetstone,
Leicester LE8 6NU
United Kingdom

Telephone +49 (0) 40 75103 0

E-mail address of person responsible for the SDS: sdb_info@umco.de

1.4 Emergency telephone number

Emergency telephone number : +44 1865 407333 (NCEC)

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.
Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.
Long-term (chronic) aquatic hazard, 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.
H335	May cause respiratory irritation.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P261	Avoid breathing mist or vapours.
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.
P391	Collect spillage.

Hazardous components which must be listed on the label:

2-Oxepanone, polymer with 1,6-diisocyanatohexane and 1,6-hexanediol
Hexanedioic acid, polymer with 1,4-butanediol, 1,6-diisocyanatohexane, 2,2-dimethyl-1,3-propanediol and 1,6-hexanediol
Hexamethylene diisocyanate, oligomers
Hexanedioic acid, polymer with 1,4-butanediol, 1,6-diisocyanatohexane, 2,2-dimethyl-1,3-propanediol, 1,6-hexanediol and 2-oxepanone

Additional Labelling

"As from 24 August 2023 adequate training is required before industrial or professional use."

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.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Hardener based on polyisocyanates

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
2-Oxepanone, polymer with 1,6-diisocyanatohexane and 1,6-hexanediol	164250-92-4	Acute Tox. 4; H332 Skin Sens. 1B; H317 STOT SE 3; H335 (Respiratory system) Aquatic Chronic 2; H411	>= 40 - <= 100
Hexanedioic acid, polymer with 1,4-butanediol, 1,6-diisocyanatohexane, 2,2-dimethyl-1,3-propanediol and 1,6-hexanediol	29891-05-2	Acute Tox. 4; H332 Skin Sens. 1B; H317 STOT SE 3; H335 (Respiratory system) Aquatic Chronic 2; H411	>= 12.5 - < 20
Hexamethylene diisocyanate, oligomers	28182-81-2 500-060-2 01-2119488177-26	Acute Tox. 3; H331 Skin Sens. 1; H317 STOT SE 3; H335 (Respiratory system)	>= 5 - < 12.5
Hexanedioic acid, polymer with	1809331-98-3	Acute Tox. 4; H332	>= 0.5 - < 1

1,4-butanediol, 1,6-diisocyanatohexane, 2,2-dimethyl-1,3-propanediol, 1,6-hexanediol and 2-oxepanone		Skin Sens. 1B; H317 STOT SE 3; H335 (Respiratory system) Aquatic Chronic 2; H411	

These contain:

hexamethylene-di-isocyanate	822-06-0 212-485-8 615-011-00-1 01-2119457571-37	Acute Tox. 4; H302 Acute Tox. 1; H330 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 STOT SE 3; H335 (Respiratory system) --- specific concentration limit Resp. Sens. 1; H334 >= 0.5 % Skin Sens. 1; H317 >= 0.5 %	> 0.1 - <= 0.25

For explanation of abbreviations see section 16.

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

Risks : May cause an allergic skin reaction.
Harmful if inhaled.
May cause respiratory irritation.

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Alcohol resistant foam, CO2, powders

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : 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

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 whentransferring 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 isnot 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 humidityor water: CO2 will be formed which in closed containers can result in pressurisation.

Advice on common storage : Keep away from oxidizing agents and strongly acid or alkaline materials.

Recommended 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

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Hexamethylene diisocyanate, oligomers	28182-81-2	TWA	0.02 mg/m3 (NCO)	GB EH40
	Further information: Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific airway hyper-responsiveness via an immunological irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to the substance, sometimes even in tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers who are exposed to a sensitiser will become hyper-responsive and it is impossible to identify in advance those who are likely to become hyper-responsive. Substances that can cause occupational asthma should be distinguished from substances which may trigger the symptoms of asthma in people with pre-existing airway hyper-responsiveness, but which do not include the disease themselves. The latter substances are not classified as asthmagens or respiratory sensitisers. Further information can be found in the HSE publication Asthmagen? Critical assessments of the evidence for agents implicated in occupational asthma., Wherever it is reasonably practicable, exposure to substances that can cause occupational asthma should be prevented. Where this is not possible, the primary aim is to apply adequate standards of control to prevent workers from becoming hyper-responsive. For substances that can cause occupational asthma, COSHH requires that exposure be reduced to as low as is reasonably practicable. Activities giving rise to short-term peak concentrations should receive particular attention when risk management is being considered. Health surveillance is appropriate for all employees exposed or liable to be exposed to a substance which may cause occupational asthma and there should be appropriate consultation with an occupational health professional over the degree of risk and level of surveillance., Capable of causing occupational asthma., The 'Sen' notation in the list of WELs has been assigned only to those substances which may cause occupational asthma in the categories shown in Table 1. It should be remembered that other substances not in these tables may cause occupational asthma. HSE's asthma web pages (www.hse.gov.uk/asthma) provide further information.				
		STEL	0.07 mg/m3 (NCO)	GB EH40
	Further information: Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific airway hyper-responsiveness via an immunological irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to			

	the substance, sometimes even in tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers who are exposed to a sensitiser will become hyper-responsive and it is impossible to identify in advance those who are likely to become hyper-responsive. Substances that can cause occupational asthma should be distinguished from substances which may trigger the symptoms of asthma in people with pre-existing airway hyper-responsiveness, but which do not include the disease themselves. The latter substances are not classified as asthmagens or respiratory sensitisers. Further information can be found in the HSE publication Asthmagen? Critical assessments of the evidence for agents implicated in occupational asthma., Wherever it is reasonably practicable, exposure to substances that can cause occupational asthma should be prevented. Where this is not possible, the primary aim is to apply adequate standards of control to prevent workers from becoming hyper-responsive. For substances that can cause occupational asthma, COSHH requires that exposure be reduced to as low as is reasonably practicable. Activities giving rise to short-term peak concentrations should receive particular attention when risk management is being considered. Health surveillance is appropriate for all employees exposed or liable to be exposed to a substance which may cause occupational asthma and there should be appropriate consultation with an occupational health professional over the degree of risk and level of surveillance., Capable of causing occupational asthma., The 'Sen' notation in the list of WELs has been assigned only to those substances which may cause occupational asthma in the categories shown in Table 1. It should be remembered that other substances not in these tables may cause occupational asthma. HSE's asthma web pages (www.hse.gov.uk/asthma) provide further information.			
hexamethylene-diisocyanate	822-06-0	TWA	0.02 mg/m3 (NCO)	GB EH40
	Further information: Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific airway hyper-responsiveness via an immunological irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to the substance, sometimes even in tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers who are exposed to a sensitiser will become hyper-responsive and it is impossible to identify in advance those who are likely to become hyper-responsive. Substances that can cause occupational asthma should be distinguished from substances which may trigger the symptoms of asthma in people with pre-existing airway hyper-responsiveness, but which do not include the disease themselves. The latter substances are not classified as asthmagens or respiratory sensitisers. Further information can be found in the HSE publication Asthmagen? Critical assessments of the evidence for agents implicated in occupational asthma., Wherever it is reasonably practicable, exposure to substances that can cause occupational asthma should be prevented. Where this is not possible, the primary aim is to apply adequate standards of control to prevent workers from becoming hyper-responsive. For substances that can cause occupational asthma, COSHH requires that exposure be reduced to as low as is reasonably practicable. Activities giving rise to short-term peak concentrations should receive particular attention when risk management is being considered. Health surveillance is appropriate for all employees exposed or liable to be exposed to a substance which may cause			

	occupational asthma and there should be appropriate consultation with an occupational health professional over the degree of risk and level of surveillance., Capable of causing occupational asthma., The 'Sen' notation in the list of WELs has been assigned only to those substances which may cause occupational asthma in the categories shown in Table 1. It should be remembered that other substances not in these tables may cause occupational asthma. HSE's asthma web pages (www.hse.gov.uk/asthma) provide further information.			
		STEL	0.07 mg/m3 (NCO)	GB EH40
	Further information: Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific airway hyper-responsiveness via an immunological irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to the substance, sometimes even in tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers who are exposed to a sensitiser will become hyper-responsive and it is impossible to identify in advance those who are likely to become hyper-responsive. Substances that can cause occupational asthma should be distinguished from substances which may trigger the symptoms of asthma in people with pre-existing airway hyper-responsiveness, but which do not include the disease themselves. The latter substances are not classified as asthmagens or respiratory sensitisers. Further information can be found in the HSE publication Asthmagen? Critical assessments of the evidence for agents implicated in occupational asthma., Wherever it is reasonably practicable, exposure to substances that can cause occupational asthma should be prevented. Where this is not possible, the primary aim is to apply adequate standards of control to prevent workers from becoming hyper-responsive. For substances that can cause occupational asthma, COSHH requires that exposure be reduced to as low as is reasonably practicable. Activities giving rise to short-term peak concentrations should receive particular attention when risk management is being considered. Health surveillance is appropriate for all employees exposed or liable to be exposed to a substance which may cause occupational asthma and there should be appropriate consultation with an occupational health professional over the degree of risk and level of surveillance., Capable of causing occupational asthma., The 'Sen' notation in the list of WELs has been assigned only to those substances which may cause occupational asthma in the categories shown in Table 1. It should be remembered that other substances not in these tables may cause occupational asthma. HSE's asthma web pages (www.hse.gov.uk/asthma) provide further information.			

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
Hexamethylene diisocyanate, oligomers	28182-81-2	isocyanate-derived diamine (Isocyanates): 1 µmol/mol creatinine (Urine)	At the end of the period of exposure	GB EH40 BAT

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

Substance name	End Use	Exposure routes	Potential health effects	Value
Hexamethylene diisocyanate, oligomers	Workers	Inhalation	Long-term local effects	0.35 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006

Substance name	Environmental Compartment	Value
Hexamethylene diisocyanate, oligomers	Fresh water	0.05 mg/l
	Sewage treatment plant	55.6 mg/l
	Marine water	0.005 mg/l
	Fresh water sediment	94.5 mg/kg dry weight (d.w.)
	Marine sediment	9.45 mg/kg dry weight (d.w.)
	Soil	18.9 mg/kg dry weight (d.w.)

8.2 Exposure controls

Engineering measures

Provide adequate ventilation. Where reasonably practicable this shoud 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

Eye/face protection : Wear safety goggles to protect against splashes.

Hand protection

Remarks : Adhere to the professional organisation rule “Use of protective gloves”. Appropriate chemicals resistant glove tested in compliance with EN 374.
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 andparticulate filter mask Use half-mask model with cartridge or air-fed.
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

Physical state	:	liquid (20 - 25 °C, 1,013 hPa)
Colour	:	according product name
Odour	:	characteristic
Melting point/ range	:	No data available
Boiling point/boiling range	:	ca. 120 °C
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Flash point	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available

pH	:	substance/mixture reacts with water
Viscosity		
Viscosity, kinematic	:	> 21 mm^2/s
Flow time	:	> 151 s Cross section: 4 mm Method: DIN 53211 > 101 s Cross section: 6 mm Method: ISO 2431
Solubility(ies)		
Water solubility	:	insoluble
Vapour pressure	:	ca. 100 hPa (50 °C)
Density	:	ca. 1.1 g/cm3 (20 °C)
Relative vapour density	:	No data available

9.2 Other information

Flammability (liquids)	:	No data available
Miscibility with water	:	immiscible
Solvent separation	:	< 3 %(V)

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

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

SECTION 11: Toxicological information

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

Acute toxicity

Harmful if inhaled.

Product:

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

Acute toxicity estimate: 1.31 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Components:

Hexanedioic acid, polymer with 1,4-butanediol, 1,6-diisocyanatohexane, 2,2-dimethyl-1,3-propanediol and 1,6-hexanediol:

Acute inhalation toxicity : LC50 (Rat): 1.5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Hexanedioic acid, polymer with 1,4-butanediol, 1,6-diisocyanatohexane, 2,2-dimethyl-1,3-propanediol, 1,6-hexanediol and 2-oxepanone:

Acute inhalation toxicity : LC50 (Rat): 1.5 mg/l
Exposure time: 4 h

Test atmosphere: dust/mist

Skin corrosion/irritation

Not classified due to lack of data.

Serious eye damage/eye irritation

Not classified due to lack of data.

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified due to lack of data.

Components:

Hexamethylene diisocyanate, oligomers:

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

Germ cell mutagenicity

Not classified due to lack of data.

Carcinogenicity

Not classified due to lack of data.

Reproductive toxicity

Not classified due to lack of data.

STOT - single exposure

May cause respiratory irritation.

Components:

Hexamethylene diisocyanate, oligomers:

Assessment	:	May cause respiratory irritation.

STOT - repeated exposure

Not classified due to lack of data.

Aspiration toxicity

Not classified due to lack of data.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components consid-

ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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 thightness 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.

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.

: 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 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 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 : Dispose of in accordance with local regulations.

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.

SECTION 14: Transport information

14.1 UN number or ID number

ADR	:	UN 3082
IMDG	:	UN 3082
IATA	:	UN 3082

14.2 UN proper shipping name

ADR	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-Oxepanone, polymer with 1,6-diisocyanatohexane and 1,6-hexanediol, aliphatic polyisocyanate)
IMDG	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-Oxepanone, polymer with 1,6-diisocyanatohexane and 1,6-hexanediol, aliphatic polyisocyanate)
IATA	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-Oxepanone, polymer with 1,6-diisocyanatohexane and 1,6-hexanediol, aliphatic polyisocyanate)

14.3 Transport hazard class(es)

		Class	Subsidiary risks
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	:	(-)

IMDG

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

IATA (Cargo)

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

IATA (Passenger)

Packing instruction (passenger aircraft)	:	964
Packing instruction (LQ)	:	Y964
Packing group	:	III
Labels	:	Miscellaneous Dangerous Goods

14.5 Environmental hazards

ADR
Environmentally hazardous : yes

IMDG
Marine pollutant : yes

IATA (Passenger)
Environmentally hazardous : yes

IATA (Cargo)
Environmentally hazardous : yes

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Conditions of restriction for the following entries should be considered: Number on list 3 Banned and/or restricted
UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation	:	Not applicable
UK REACH List of substances subject to authorisation (Annex XIV)	:	Not applicable
Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) Not applicable

Other regulations:

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

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

H302	:	Harmful if swallowed.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H319	:	Causes serious eye irritation.
H330	:	Fatal if inhaled.
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.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Skin Sens.	:	Skin sensitisation
STOT SE	:	Specific target organ toxicity - single exposure
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
GB EH40 BAT	:	UK. Biological monitoring guidance values
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	:	Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China;

IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Other information : 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.

This safety datasheet complies with the requirements of regulation (EC) No 1907/2006(2020/878).

Classification of the mixture:		**Classification procedure:**
Acute Tox. 4	H332	Calculation method
Skin Sens. 1	H317	Calculation method
STOT SE 3	H335	Calculation method
Aquatic Chronic 2	H411	Calculation method

Department issuing safety data sheet

UMCO GmbH
Georg-Wilhelm-Str.187, D-21107 Hamburg
Telefon: +49(0)40/555 546 300 Fax: +49(0)40/555 546 357
e-mail:umco@umco.de

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