



Printing date 14.01.2022 Version number 10 Revision: 14.01.2022

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

· 1.1 Product identifier

· Trade name BRAWO RR - Komponente A

1.2 Relevant identified uses of the substance or mixture

No further relevant information available. and uses advised against

· Application of the substance

/ the mixture Epoxy sealing

· 1.3 Details of the supplier of the safety data sheet

· Manufacturer/Supplier: BRAWO SYSTEMS GmbH

> Blechhammerweg 13-17 67659 Kaiserslautern Deutschland/Germany

Tel: +49(0)631-205 61 100

Informing department: Technische Abteilung

msds@brawoliner.de

1.4 Emergency telephone

+49 (0) 61 31 - 19 240 (Giftnotruf Mainz) number:

SECTION 2: Hazards identification

· 2.1 Classification of the substance or mixture

· Classification according to Regulation (EC) No 1272/2008

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

· 2.2 Label elements

Labelling according to

Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation.

· Hazard pictograms



GHS07 GHS09

· Signal word Warning

· Hazard-determining

components of labelling: Propyl -2,2-diphenyl-4,4'dipropyloxirane polymers and homologues

molecular weight < 700

2,2'-[methylenebis(p-phenyleneoxymethylene)]bisoxirane polymers

and homologues, molecular weight < 700

1,6-hexene-diglycidylether

maleic anhydride

oxirane, mono[(C12-14-alkyloxy)methyl] derivs

· Hazard statements H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H411 Toxic to aquatic life with long lasting effects.

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· Precautionary statements	P101	If medical advice is needed, have producentainer or label at hand.
	P102	Keep out of reach of children.
	P103	Read carefully and follow all instructions.
	P261	Avoid breathing dust/fume/gas/mist/vapou
		spray.
	P273	Avoid release to the environment.
	P280	Wear protective gloves / eye protection / fa
		protection.
	P305+P351+P3	338 IF IN EYES: Rinse cautiously with water
		several minutes. Remove contact lenses,
		present and easy to do. Continue rinsing.
	P333+P313	If skin irritation or rash occurs: Get medic advice/attention.
	P501	Dispose of contents/container in accordan with local/regional/national/internation regulations.
· Additional information:	To avoid risks t	to human health and the environment, comply w
	the instructions	for use.
	Contains epoxy	constituents. May produce an allergic reaction.
· 2.3 Other hazards	, ,	· · · · · ·
. Poculte of DRT and vDvR ac	eneemont	

· Results of PBT and vPvB assessment

· PBT: Not applicable. · vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

· 3.2 Chemical characterisation: Mixtures

· Description: Mixture consisting of the following components.

· Dangerous compoi	nents:	
CAS: 1675-54-3	bis[4-(2,3-epoxypropoxy)phenyl]propane	50-70%
EINECS: 216-823-5	Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	
CAS: 9003-36-5 NLP: 500-006-8	2,2'-[methylenebis(p-phenyleneoxymethylene)]bisoxirane polymers and homologues, molecular weight < 700	≥10-<25%
	Aquatic Chronic 2, H411; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	
CAS: 16096-31-4	1,6-hexene-diglycidylether	≥2.5-<10%
EINECS: 240-260-4	Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; Aquatic Chronic 3, H412	
CAS: 100-51-6	Benzyl alcohol	<5%
EINECS: 202-859-9	Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332	
CAS: 68609-97-2	oxirane, mono[(C12-14-alkyloxy)methyl] derivs	≥0.1-<0.5%
EINECS: 271-846-8	Skin Irrit. 2, H315; Skin Sens. 1, H317	
· Additional informat	tion For the wording of the listed hazard phrases refer to s	ection 16.





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SECTION 4: First aid measures

· 4.1 Description of first aid measures

After inhalation Supply fresh air and call for doctor for safety reasons.

In case of unconsciousness bring patient into stable side position

for transport

· After skin contact Instantly wash with water and soap and rinse thoroughly.

Instantly rinse with water.

• After eye contact Seek medical treatment.

Rinse opened eye for several minutes under running water. If

symptoms persist, consult doctor.

• After swallowing Rinse out mouth and then drink plenty of water.

Seek medical treatment.

 4.2 Most important symptoms and effects, both acute and

delayed No further relevant information available.

· 4.3 Indication of any

immediate medical attention

and special treatment needed No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

· Suitable extinguishing agents Use fire fighting measures that suit the environment.

5.2 Special hazards arising from the substance or

mixture No further relevant information available.

· 5.3 Advice for firefighters

• **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and

emergency procedures Not required.

6.2 Environmental

precautions: Inform respective authorities in case product reaches water or

sewage system.

· 6.3 Methods and material for

containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders,

universal binders, sawdust).

Ensure adequate ventilation.

· 6.4 Reference to other

sections See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

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SECTION 7: Handling and storage

· 7.1 Precautions for safe

handling Store in cool, dry place in tightly closed containers.

Open and handle container with care.

· Information about protection

against explosions and fires: No special measures required.

· 7.2 Conditions for safe storage, including any incompatibilities

Storage

· Requirements to be met by

storerooms and containers: No special requirements.

· Information about storage in

one common storage facility: Not required.

· Further information about

storage conditions: Keep container tightly sealed.

· 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

· Additional information about

design of technical systems: No further data; see item 7.

· Components with critical

values that require

monitoring at the workplace: The product does not contain any relevant quantities of materials

with critical values that have to be monitored at the workplace.

· DNELs				
	1-4 1,6-h	exene-diglycidylether		
Dermal		DNEL 2.8 mg/kg bw/day (ArL)		
Inhalativ	e DNEL	4.9 mg/m³ (ArL)		
100-51-0	100-51-6 Benzyl alcohol			
Oral	Oral DNEL 4 mg/kg bw/Tag (ArL)			
		20 mg/kg bw/Tag (Ark)		
Dermal	DNEL	8 mg/kg bw/day (ArL)		
		40 mg/kg bw/day (Ark)		
Inhalativ	e DNEL	22 mg/m³ (ArL)		
		110 mg/m³ (Ark)		
68609-9	7-2 oxira	ne, mono[(C12-14-alkyloxy)methyl] derivs		
Oral	Oral DNEL 1 mg/kg bw/Tag (ArL)			
Dermal	Dermal DNEL 1.7 mg/kg bw/day (ArL)			
Inhalativ	Inhalative DNEL 0.98 mg/m³ (ArL)			
·PNECs	•			
16096-3	1-4 1,6-h	exene-diglycidylether		
PNEC (PNEC 0.0115 mg/l (Fresh water)			
0	0.00115 mg/l (Mew)			
PNEC (C 0.223 mg/kg dwt (Bod)			

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	0.0283 mg/kg dwt (Sediment)
	0.283 mg/kg dwt (Fresh water sediment)
100-5	1-6 Benzyl alcohol
PNEC	0.527 mg/l (Marine water sediment)
	0.1 mg/l (Mew)
	1 mg/l (Fresh water sediment)
PNEC	0.456 mg/kg dwt (Bod)
	5.27 mg/kg dwt (Fresh water sediment)
68609	-97-2 oxirane, mono[(C12-14-alkyloxy)methyl] derivs
PNEC	0.00072 mg/l (Mew)
	0.0072 mg/l (Suw)
PNEC	80.12 mg/kg dwt (Bod)
	6.677 mg/kg dwt (Sediment)
	66.77 mg/kg dwt (Fresh water sediment)

Additional information:

The lists that were valid during the compilation were used as basis.

- · 8.2 Exposure controls
- Personal protective equipment
- General protective and

hygienic measures Keep away from foodstuffs, beverages and food.

Instantly remove any soiled and impregnated garments. Wash hands during breaks and at the end of the work.

Do not inhale gases / fumes / aerosols. Avoid contact with the eyes and skin.

· Protection of hands: Protective gloves.

Selection of the glove material on consideration of the penetration

times, rates of diffusion and the degradation

After use of gloves apply skin-cleaning agents and skin cosmetics.

• Material of gloves Nitrile rubber, NBR

Recommended thickness of the material: \geq 0.4 mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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· Penetration time of glove

material

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

• Eye protection: Safety glasses

Tightly sealed safety glasses.

Body protection: Protective work clothing.

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9.1 Information on basic physical a General Information	na chemical properties
Appearance:	
Form:	Fluid
Colour:	Green
Smell:	Characteristic
pH-value:	Not applicable.
Change in condition	
Melting point/freezing point:	Not determined
Initial boiling point and boiling rai	nge: 200 °C
Flash point:	>93 °C
lgnition temperature:	184 °C
Self-inflammability:	Product is not selfigniting.
Explosive properties:	Product is not explosive.
Steam pressure at 20 °C:	0.1 hPa
Density at 20 °C	1.10 g/cm³
Solubility in / Miscibility with	
Water:	Not miscible or difficult to mix
9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

• 10.1 Reactivity No further relevant information available.

· 10.2 Chemical stability

Thermal decomposition /

conditions to be avoided: No decomposition if used according to specifications.

· 10.3 Possibility of hazardous

reactions No dangerous reactions known

10.4 Conditions to avoid
 10.5 Incompatible materials:
 No further relevant information available.

· 10.6 Hazardous

decomposition products: No dangerous decomposition products known

SECTION 11: Toxicological information

· 11.1 Information on toxicological effects

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

LD/LC50 values that are relevant for classification: 1675-54-3 bis[4-(2,3-epoxypropoxy)phenyl]propane

Dermal LD50 23000 mg/kg (rabbit)

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2222 22 5		(Contd. of page
9003-36-5	2,2'-[methylenebis(homologues, molecula	p-phenyleneoxymethylene)]bisoxirane polymers and ar weight < 700
Oral	LD50	>2000 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rabbit)
16096-31-	4 1,6-hexene-diglycidy	lether
Oral	LD50	>8500 mg/kg (rat)
Dermal	LD50	>4900 mg/kg (rat)
100-51-6 Benzyl alcohol		
Oral	LD50	1230 mg/kg (rat)
	NOAEL 2nd year study	200 mg/kg (mouse)
		200 mg/kg (rat)
Dermal	LD50	2000 mg/kg (rabbit)
Inhalative	LC50/4 h	>4178 mg/l (rat)
68609-97-2 oxirane, mono[(C12-14-alkyloxy)methyl] derivs		
Oral	LD50	17100 mg/kg (rat)
D	witant offerst.	

· Primary irritant effect:

Skin corrosion/irritation
 Serious eye damage/irritation
 Causes skin irritation.
 Causes serious eye irritation.

· Respiratory or skin

sensitisation May cause an allergic skin reaction.

· Additional toxicological information:

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

Germ cell mutagenicity
 Carcinogenicity
 Reproductive toxicity
 STOT-single exposure
 STOT-repeated exposure
 Aspiration hazard
 Based on available data, the classification criteria are not met.
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SECTION 12: Ecological information

· 12.1 Toxicity

1675-54-3 l	bis[4-(2,3-epoxypropoxy)phenyl]propane
IC50	>42.6 mg/l (Bak)
LC50/96h	2 mg/l (Oncorhynchus mykiss)
EC50/48h	1.8 mg/l (Daphnia magna)
ErC50/72h	11 mg/l (Selenastrum capricornutum)
9003-36-5	2,2'-[methylenebis(p-phenyleneoxymethylene)]bisoxirane polymers and
	homologues, molecular weight < 700
ı	homologues, molecular weight < 700
LC50/96h EC50/96h	homologues, molecular weight < 700 >100 mg/l (Daphnia magna)
LC50/96h EC50/96h	homologues, molecular weight < 700 >100 mg/l (Daphnia magna) >100 mg/l (Leucidus idus)





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100-51-6 Benzyl alcohol

IC50/72h 700 mg/l (algae)

LC50/96h 460 mg/l (Pimephales promelas)

10 mg/l (Lepomis macrochirus)

68609-97-2 oxirane, mono[(C12-14-alkyloxy)methyl] derivs

EbC50/72h 843 mg/l (Pseudokirchneriella subcapitata)

LC50/96h >5000 mg/l (Oncorhynchus mykiss)

1800 mg/l (Lepomis macrochirus)

EC50 >100 mg/l (BEL)

NOEC 500 mg/l (Pseudokirchneriella subcapitata)

· 12.2 Persistence and

degradability No further relevant information available.

· 12.3 Bioaccumulative

potential
No further relevant information available.
12.4 Mobility in soil
No further relevant information available.

Ecotoxical effects:

· Remark: Toxic for fish

Additional ecological information:

• General notes: Toxic for aquatic organisms

Also poisonous for fish and plankton in water bodies.

Do not allow product to reach ground water, water bodies or

sewage system.

Danger to drinking water if even small quantities leak into soil.

12.5 Results of PBT and vPvB assessment
 PBT: Not applicable.
 vPvB: Not applicable.

• 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

• Recommendation Must not be disposed of together with household garbage. Do not

allow product to reach sewage system.

· Uncleaned packagings:

• Recommendation: Dispose of packaging according to regulations on the disposal of

packagings.

Empty contaminated packagings thoroughly. They can be recycled

after thorough and proper cleaning.

SECTION 14: Transport information

· 14.1 UN-Number

· ADR, IMDG, IATA UN3082

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14.2 UN proper shipping name ADR, IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (epoxide derivates)
IMDG	ENVIRONMENTALLY HAZARDOU SUBSTANCE, LIQUID, N.O.S. (epoxide derivates, MARINE POLLUTANT
14.3 Transport hazard class(es)	
ADR	
Class	9 (M6) Miscellaneous dangerous substances an articles.
Label	9
IMDG, IATA	
Class	 Miscellaneous dangerous substances an articles.
Label	9
14.4 Packing group ADR, IMDG, IATA	III
14.5 Environmental hazards:	Product contains environmentally hazardou substances: epoxide derivates
Marine pollutant:	Yes Symbol (fish and tree)
Special marking (ADR): Special marking (IATA):	Symbol (fish and tree) Symbol (fish and tree)
14.6 Special precautions for user	Warning: Miscellaneous dangerous substance and articles.
Kemler Number:	90
EMS Number:	F-A,S-F
Stowage Category	A
14.7 Transport in bulk according to Ann of Marpol and the IBC Code	nex II Not applicable.
Transport/Additional information:	
ADR	
Limited quantities (LQ)	5L
Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 100 ml
Transport category	3
	(-)
Tunnel restriction code	
Tunnel restriction code IMDG	





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· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXIDE DERIVATES), 9, III

SECTION 15: Regulatory information

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

· Directive 2012/18/EU

Qualifying quantity (tonnes) for the application of lower-

tier requirements 200 t

Qualifying quantity (tonnes) for the application of upper-

tier requirements

500 t

15.2 Chemical safety

assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

· Relevant phrases H302 Harmful if swallowed.

H312 Harmful in contact with skin. H315 Causes skin irritation.

H317 May cause an allergic skin reaction. H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H411 Toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.

· Department issuing data

specification sheet: Environment protection department.

· Abbreviations and acronyms: RID: Règlement international concernant le transport des marchandises

dangereuses par chemin de fer (Regulations Concerning the International

Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

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

Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent PBT: Persistent. Bioaccumulative and Toxic

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vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2

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

Skin Sens. 1: Skin sensitisation - Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic

hazard – Category 2 Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic

hazard – Category 3

* * Data compared to the previous version altered.

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