

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

1. Identification of the substance/preparation and of the company/undertaking**1.1 Identification of the substance
or preparation:**

GP 15 A / Resin

1.2 Use of the substance/preparation:

Epoxy constituents

1.3 Company/undertaking identification

Company name: Gößl + Pfaff GmbH
 Street: Münchener Str. 13
 Place: 85123 Karlskron/Brautlach
 Telephone: +49 (0) 8450 / 932-0
 Fax.: +49 (0) 8450 / 932-13
 Contact person: Management: Mr. Gößl, Mr. Pfaff
 E-Mail: info@goessl-pfaff.de
 Internet: www.goessl-pfaff.de
 Responsible Department: Management

1.4 Emergency telephone**Emergency CONTACT (24-Hour-Number): GBK GmbH +49 (0) 6132-84463****2. Hazards identification****2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Skin irritation, Category 2	H315: Causes skin irritation.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Skin isensitisation, Category 1	H317: May cause an allergic skin reaction.
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: Danger

Hazard statements:

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention:

P261	Avoid breathing dust/ fume/ gas/ mist/vapours/ spray.
P264	Wash skin thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/ eye protection/ face protection.

Response:

P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P391	Immediately call a POISON CENTER/doctor. Collect spillage.

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

Hazardous components which must be listed on the label:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol

1,4-bis(2,3-epoxypropoxy)butane

bisphenol A - epoxy resins, number average MW >700 - <1100

2-Propenoic acid, reaction products with dipentaerythritol

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.

3. Composition/information on ingredients

3.2 Mixtures

Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	1675-54-3 216-823-5 603-073-00-2 01-2119456619-26	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317 Aquatic Chronic 2; H411	>= 30 - < 50
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	9003-36-5 500-006-8 01-2119454392-40	Skin Irrit. 2; H315 Skin Sens. 1; H317 Aquatic Chronic 2; H411	>= 10 - < 20
1,4-Bis(2,3-epoxypropoxy)butane	2425-79-8 219-371-7 603-072-00-7 01-2119494060-45	Acute Tox. 4; H302 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Chronic 3; H412	>= 3 - < 10
bisphenol A - epoxy resins, number average MW >700 - <1100	25068-38-6 Polymer	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317	>= 1 - < 10
2-Propenoic acid, reaction products with dipentaerythritol	1384855-91-7 - 01-2119980666-22	Eye Irrit. 2; H319 Skin Sens. 1A; H317 Aquatic Chronic 3; H412	>= 2,5 - < 10

For explanation of abbreviations see section 16.

Both 25068-38-6 and 1675-54-3 can be used to describe the epoxy resin which is produced through the reaction of Bisphenol A and Epichlorhydrin

4. First aid measures

4.1 Description of first aid measures

General advice:

Move out of dangerous area.

Consult a physician.

Show this safety data sheet to the doctor in attendance.

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

Treat symptomatically.

Get medical attention if symptoms occur.

If inhaled:

If inhaled, remove to fresh air.

Get medical attention if symptoms occur.

In case of skin contact:

If skin irritation persists, call a physician.

If on skin, rinse well with water.

If on clothes, remove clothes.

In case of eye contact:

Small amounts splashed into eyes can cause irreversible tissue damage and blindness.

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Continue rinsing eyes during transport to hospital.

Remove contact lenses.

Keep eye wide open while rinsing.

If eye irritation persists, consult a specialist.

If swallowed:

Keep respiratory tract clear.

Do NOT induce vomiting.

Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

None known.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment:

Treat symptomatically.

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media :

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing :

High volume water jet media

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting:

Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products:

Carbon oxides

Halogenated compounds

5.3 Advice for firefighters

Special protective equipment for firefighters:

Wear self-contained breathing apparatus for firefighting if necessary.

Specific extinguishing methods:

No data is available on the product itself.

Further information:

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions:

Use personal protective equipment.

Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

Environmental precautions:

Prevent product from entering drains.

Prevent further leakage or spillage if safe to do so.

If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up:

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal considerations see section 13., See Section 1 for emergency contact information., For personal protection see section 8.

7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling:

Do not breathe vapours/dust.

Avoid exposure - obtain special instructions before use.

Avoid contact with skin and eyes.

For personal protection see section 8.

Smoking, eating and drinking should be prohibited in the application area.

To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.

Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Advice on protection against fire and explosion:

Normal measures for preventive fire protection.

Hygiene measures:

When using do not eat or drink. When using do not smoke.

Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers:

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep in properly labelled containers.

Advice on common storage:

Strong acids

Strong bases

Strong oxidizing agents

Storage class (TRGS 510): 10, Combustible liquids

Recommended storage temperature: 2–40 °C

Further information on storage stability:

No decomposition if stored and applied as directed.

Stable under normal conditions.

7.3 Specific end use(s)

Specific use(s):

No data available

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

8. Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

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

Substance name	End Use	Exposure routes	Potential health effects	Value
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Workers	Dermal	Systemic effects, Short-term exposure	8,33 mg/kg bw/day
	Workers	Inhalation	Systemic effects, Short-term exposure	12,25 mg/m3

	Workers	Dermal	Systemic effects, Long-term exposure	8,33 mg/kg bw/day
	Workers	Inhalation	Systemic effects, Long-term exposure	12,25 mg/m3
	Consumers	Dermal	Systemic effects, Short-term exposure	3,571 mg/kg bw/day
	Consumers	Oral	Systemic effects, Short-term exposure	0,75 mg/kg bw/day
	Consumers	Dermal	Systemic effects, Long-term exposure	3,571 mg/kg bw/day
	Consumers	Oral	Systemic effects, Long-term exposure	0,75 mg/kg bw/day
Formaldehyde, oligomeric reaction	Workers	Dermal	Acute local effects	0,0083 mg/cm2
products with 1-chloro-2,3-epoxypropane and phenol				
	Workers	Dermal	Long-term systemic effects	104,15 mg/kg
	Workers	Inhalation	Long-term systemic effects	29,39 mg/m3
	Consumers	Dermal	Long-term systemic effects	62,5 mg/kg
	Consumers	Inhalation	Long-term systemic effects	8,7 mg/m3
	Consumers	Oral	Long-term systemic effects	6,25 mg/kg

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

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

Substance name	Environmental Compartment	Value
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	Fresh water	0,006 mg/l
Remarks:	Assessment Factors	
	Marine water	0,0006 mg/l
	Assessment Factors	
	Freshwater - intermittent	0,018 mg/l
	Assessment Factors	
	Fresh water sediment	0,996 mg/kg
	Equilibrium method	
	Marine sediment	0,0996 mg/kg
	Equilibrium method	
	Soil	0,196 mg/kg
	Equilibrium method	
	Sewage treatment plant	10 mg/l
	Assessment Factors	
	Secondary Poisoning	11 mg/kg
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Fresh water	0,003 mg/l
	Assessment Factors	
	Marine water	0,0003 mg/l
	Assessment Factors	
	Intermittent use/release	0,0254 mg/l
	Assessment Factors	
	Fresh water sediment	0,294 mg/kg
	Equilibrium method	
	Marine sediment	0,0294 mg/kg
	Equilibrium method	
	Soil	0,237 mg/kg
	Equilibrium method	
	Sewage treatment plant	10 mg/l
	Assessment Factors	
Siloxanes and silicones, di-Me, reaction products with silica	Fresh water sediment	> 100 mg/kg
	Assessment Factors	
	Soil	23 mg/kg
	Assessment Factors	

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

8.2 Exposure controls

Personal protective equipment

Eye protection:

Eye wash bottle with pure water

Tightly fitting safety goggles

Wear face-shield and protective suit for abnormal processing problems.

Hand protection

Material: butyl-rubber

Break through time: > 8 h

Material: Solvent-resistant gloves (butyl-rubber)

Material: Nitrile rubber

Break through time: 10–480 min

Material: Neoprene gloves

Remarks:

The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection:

Impervious clothing

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection:

Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines

Filter type:

Combined particulates and organic vapour type (A-P)

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance:	paste
Colour:	beige
Odour:	slight
Odour threshold:	Not data is available on the product itself.
pH:	ca. 6–7 (25 °C) Concentration: 500 g/l
Freezing point:	Not data is available on the product itself.
Melting point:	Not data is available on the product itself.
Boiling point:	>200 °C
Flash point:	>150 °C Method: Pensky-Martens closed cup
Evaporation rate:	Not data is available on the product itself.
Flammability (solid, gas):	Not data is available on the product itself.
Burning rate:	Not data is available on the product itself.
Upper/ explosion limit/ Upper flammability limit:	Not data is available on the product itself.
Lower/ explosion limit/ Lower flammability limit:	Not data is available on the product itself.
Vapour pressure:	< 0.002 hPa [20 °C]
Relative vapour density:	Not data is available on the product itself.
Relative density:	Not data is available on the product itself.
Density:	1,4 g/cm ³ (25 °C)

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

Solubility(ies)

Water solubility:	practically insoluble (20 °C)
Solubility in other solvents:	Not data is available on the product itself.
Partition coefficient n- octanol/water:	Not data is available on the product itself.
Auto-ignition temperature:	Not data is available on the product itself.
Decomposition temperature:	>200 °C
Viscosity	
Viscosity, dynamic:	thixotropic
Explosive properties:	Not data is available on the product itself.
Oxidising properties:	Not data is available on the product itself.

9.2 Other information No data available

10. Stability and reactivity

10.1 Reactivity:

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability:

Stable under normal conditions.

10.3 Possibility of hazardous reactions:

Hazardous reactions:

No hazards to be specially mentioned.

10.4 Conditions to avoid:

Conditions to avoid: None known.

10.5 Incompatible materials:

Materials to avoid: None known.

10.6 Hazardous decomposition products:

Carbon oxides

Burning produces noxious and toxic fumes.

Hazardous decomposition: carbon dioxide products, carbon monoxide, Halogenated compounds

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity - Product:

Acute toxicity estimate: >2 000 mg/kg

Method: Calculation method

Acute inhalation toxicity - Product:

Acute toxicity estimate: >5 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: Calculation method

Acute dermal toxicity - Product:

Acute toxicity estimate: >2 000 mg/kg

Method: Calculation method

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

Acute toxicity (other routes of administration):

No data available

Skin corrosion/irritation**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Species: Rabbit

Assessment: Mild skin irritant

Method: OECD Test Guideline 404

Result: Irritating to skin.

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol:

Species: Rabbit

Method: OECD Test Guideline 404

Result: Irritating to skin.

1,4-bis(2,3-epoxypropoxy)butane: Species: Rabbit

Method: OECD Test Guideline 404

Result: Skin irritation

bisphenol A - epoxy resins, number average MW >700 - <1100:

Method: OECD Test Guideline 404

Result: Skin irritation

2-Propenoic acid, reaction products with dipentaerythritol:

Species: Rabbit

Method: OECD Test Guideline 404

Result: No skin irritation

Serious eye damage/eye irritation**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Species: Rabbit

Assessment: Mild eye irritant

Method: OECD Test Guideline 405

Result: Irritating to eyes.

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol:

Species: Rabbit

Method: OECD Test Guideline 405

Result: No eye irritation

1,4-bis(2,3-epoxypropoxy)butane:

Species: Rabbit

Method: OECD Test Guideline 405

Result: Risk of serious damage to eyes.

bisphenol A - epoxy resins, number average MW >700 - <1100:

Species: Rabbit

Method: OECD Test Guideline 405

Result: Eye irritation

2-Propenoic acid, reaction products with dipentaerythritol:

Species: Rabbit

Method: OECD Test Guideline 405

Result: Eye irritation

Respiratory or skin sensitisation**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Exposure routes: Skin

Species: Mouse

Assessment: May cause sensitisation by skin contact.

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

Method: OECD Test Guideline 429

Result: Causes sensitisation.

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol:

Exposure routes: Skin

Species: Mouse

Method: OECD Test Guideline 429

Result: May cause sensitisation by skin contact.

1,4-bis(2,3-epoxypropoxy)butane:

Exposure routes: Skin

Species: Guinea pig

Method: OECD Test Guideline 406

Result: May cause sensitisation by skin contact.

bisphenol A - epoxy resins, number average MW >700 - <1100:

Exposure routes: Skin

Species: Guinea pig

Method: OECD Test Guideline 406

Result: May cause sensitisation by skin contact.

2-Propenoic acid, reaction products with dipentaerythritol:

Test Type: Local lymph node assay (LLNA)

Exposure routes: Skin

Species: Mouse

Method: OECD Test Guideline 429

Result: The product is a skin sensitiser, sub-category 1A.

Assessment: No data available

Germ cell mutagenicity**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Genotoxicity in vitro:

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: positive

Concentration: 0 - 5000 ug/plate

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: positive

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol:

Genotoxicity in vitro:

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: positive

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: positive

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: positive

1,4-bis(2,3-epoxypropoxy)butane:

Genotoxicity in vitro:

Concentration: 10 - 5000 ug/plate

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: positive

Remarks: Not classified due to data which are conclusive although insufficient for classification.

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

Concentration: 1–100 µg/L

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: positive

Remarks: Not classified due to data which are conclusive although insufficient for classification.

bisphenol A - epoxy resins, number average MW >700–<1100:

Genotoxicity in vitro:

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: Positive results were obtained in some in vitro tests.

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

2-Propenoic acid, reaction products with dipentaerythritol:

Genotoxicity in vitro:

Test Type: Ames test

Test system: Salmonella tryphimurium and E. coli Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Genotoxicity in vivo:

Cell type: Germ

Application Route: Oral

Method: OECD Test Guideline 478

Result: negative

Cell type: Somatic

Application Route: Oral

Dose: 0–5000 mg/kg

Method: OPPTS 870.5395

Result: negative

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol:

Genotoxicity in vivo:

Cell type: Somatic

Application Route: Oral

Exposure time: 48 h

Dose: 2000 mg/kg

Method: OECD Test Guideline 474

Result: negative

Cell type: Somatic

Application Route: Oral

Dose: 2000 mg/kg

Method: OECD Test Guideline 486

Result: negative

1,4-bis(2,3-epoxypropoxy)butane:

Genotoxicity in vivo

Test Type: In vivo micronucleus test

Test species: Mouse

Cell type: Somatic

Application Route: Oral

Exposure time: 4 d

Dose: 187.5–750 mg/kg

Method: OECD Test Guideline 474

Result: negative

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

Test Type: unscheduled DNA synthesis assay

Test species: Rat

Cell type: Liver cells

Application Route: Oral

Method: OECD Test Guideline 486

Result: negative

bisphenol A - epoxy resins, number average MW >700 - <1100:

Genotoxicity in vivo:

Cell type: Germ

Application Route: Oral

Method: OECD Test Guideline 478

Result: negative

Cell type: Somatic

Application Route: Oral

Dose: 0-5000 mg/kg

Method: OPPTS 870.5395

Result: negative

2-Propenoic acid, reaction products with dipentaerythritol:

Genotoxicity in vivo:

Test Type: Micronucleus test

Test species: Mouse (male and female)

Method: OECD Test Guideline 474

Result: negative

Components:

1,4-bis(2,3-epoxypropoxy)butane

Germ cell mutagenicity- Assessment:

Weight of evidence does not support classification as a germ cell mutagen.

Germ cell mutagenicity- Assessment:

No data available

Carcinogenicity**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Species: Rat, male and female

Application Route: Oral

Exposure time: 24 month(s)

Dose: 15 mg/kg

Frequency of Treatment: 7 days/week

Method: OECD Test Guideline 453

Result: negative

Species: Mouse, male

Application Route: Dermal

Exposure time: 24 month(s)

Dose: 0.1 mg/kg

Frequency of Treatment: 3 days/week

Method: OECD Test Guideline 453

Result: negative

Species: Rat, female

Application Route: Dermal

Exposure time: 24 month(s)

Dose: 1 mg/kg

Frequency of Treatment: 5 days/week

Method: OECD Test Guideline 453

Result: negative

bisphenol A - epoxy resins, number average MW >700-<1100:

Species: Rat, male and female

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

Application Route: Oral
 Exposure time: 24 month(s)
 Dose: 15 mg/kg
 Frequency of Treatment: 7 daily
 Method: OECD Test Guideline 453
 Result: negative

2-Propenoic acid, reaction products with dipentaerythritol:

Species: Rat, male and female
 Application Route: inhalation (vapour)
 Dose: 0, 12.8, 32 or 80 ppm
 12,8 ppm
 Method: OECD Test Guideline 451

Carcinogenicity - Assessment: No data available

Reproductive toxicity**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Effects on fertility:

Test Type: Two-generation study

Species: Rat, male and female

Application Route: Oral

Dose: >750 milligram per kilogram

General Toxicity - Parent: No-observed-effect level: 540 mg/kg body weight

General Toxicity F1: No-observed-effect level: 540 mg/kg body weight

Symptoms: No adverse effects

Method: OECD Test Guideline 416

Result: No effects on fertility and early embryonic development were detected.

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol:

Species: Rat, male and female

Application Route: Oral

Method: OECD Test Guideline 416

Result: No effects on fertility and early embryonic development were detected.

bisphenol A - epoxy resins, number average MW >700—<1100:

Species: Rat, male and female

Application Route: Oral

General Toxicity - Parent: No-observed-effect level: 750 mg/kg body weight

General Toxicity F1: No-observed-effect level: 750 mg/kg body weight

Method: OECD Test Guideline 416

Result: No effects on fertility and early embryonic development were detected.

Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Effects on foetal development:

Species: Rabbit, female

Application Route: Dermal

General Toxicity Maternal: No observed adverse effect level: 30 mg/kg body weight

Method: Other guidelines

Result: No teratogenic effects

Species: Rabbit, female

Application Route: Oral

General Toxicity Maternal: No observed adverse effect level: 60 mg/kg body weight

Method: OECD Test Guideline 414

Result: No teratogenic effects

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

Species: Rat, female

Application Route: Oral

General Toxicity Maternal: No observed adverse effect level: 180 mg/kg body weight

Method: OECD Test Guideline 414

Result: No teratogenic effects

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol:

Species: Rabbit, female

Application Route: Dermal

General Toxicity Maternal: No observed adverse effect level: 30 mg/kg body weight

Result: No teratogenic effects

bisphenol A - epoxy resins, number average MW >700—<1100:

Species: Rabbit, female

Application Route: Dermal

General Toxicity Maternal: No observed adverse effect level: 30 mg/kg body weight

Method: Other guidelines

Result: No teratogenic effects

Species: Rabbit, female

Application Route: Oral

General Toxicity Maternal: No observed adverse effect level: 60 mg/kg body weight

Method: OECD Test Guideline 414

Result: No teratogenic effects

Species: Rat, female

Application Route: Oral

General Toxicity Maternal: No observed adverse effect level: 180 mg/kg body weight

Method: OECD Test Guideline 414

Result: No teratogenic effects

Reproductive toxicity-Assessment: No data available

STOT - single exposure

No data available

STOT - repeated exposure

No data available

Repeated dose toxicity**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Species: Rat, male and female

NOAEL: 50 mg/kg

Application Route: Ingestion

Exposure time: 14 Weeks Number of exposures: 7 d

Method: Subchronic toxicity

Species: Rat, male and female

NOEL: 10 mg/kg

Application Route: Skin contact

Exposure time: 13 Weeks Number of exposures: 5 d

Method: Subchronic toxicity

Species: Mouse, male

NOAEL: 100 mg/kg

Application Route: Skin contact

Exposure time: 13 Weeks Number of exposures: 3 d

Method: Subchronic toxicity

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol:

Species: Rat, male and female

NOAEL: 250 mg/kg

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

Application Route: Ingestion
 Exposure time: 13 Weeks Number of exposures: 7 d
 Method: Subchronic toxicity

1,4-bis(2,3-epoxypropoxy)butane:
 Species: Rat, male and female
 NOAEL: 200 mg/kg
 Application Route: Ingestion
 Exposure time: 28 d Number of exposures: 7 d
 Method: Subacute toxicity

bisphenol A - epoxy resins, number average MW >700—<1100:
 Species: Rat, male and female
 NOAEL: 50 mg/kg
 Application Route: Ingestion
 Exposure time: 14 Weeks Number of exposures: 7 d
 Method: Subchronic toxicity

Species: Rat, male and female
 NOEL: 10 mg/kg
 Application Route: Skin contact
 Exposure time: 13 Weeks Number of exposures: 5 d
 Method: Subchronic toxicity

Repeated dose toxicity-Assessment: No data available

Aspiration toxicity

No data available

Experience with human exposure

General Information: No data available
 Inhalation: No data available
 Skin contact: No data available
 Eye contact: No data available
 Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information

Ingestion: No data available

12. Ecological information

12.1 Toxicity

Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Toxicity to fish:

LC50 (Oncorhynchus mykiss (rainbow trout)): 1,5 mg/l

Exposure time: 96 h

Test Type: static test

Test substance: Fresh water

Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 2,7 mg/l

Exposure time: 48 h

Test Type: static test

Test substance: Fresh water

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

Toxicity to algae:EC50 (*Selenastrum capricornutum* (green algae)): 9,4 mg/l

Exposure time: 72 h

Test Type: static test

Test substance: Fresh water

Method: EPA-660/3-75-009

Toxicity to microorganisms:

IC50 (activated sludge): > 100 mg/l

Exposure time: 3 h

Test Type: static test

Test substance: Fresh water

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):

NOEC: 0,3 mg/l

Exposure time: 21 d

Species: *Daphnia magna* (Water flea)

Test Type: semi-static test

Test substance: Fresh water

Method: OECD Test Guideline 211

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol:**Toxicity to fish:**

LC50 (Fish): 2,54 mg/l

Exposure time: 96 h

Method: Calculation method

Toxicity to daphnia and other aquatic invertebrates:EC50 (*Daphnia magna* (Water flea)): 2,55 mg/l

Exposure time: 48 h

Method: Calculation method

Toxicity to algae:EC50 (*Selenastrum capricornutum* (green algae)): 1,8 mg/l

Exposure time: 72 h

Test Type: static test

Test substance: Fresh water

Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity): 1

Toxicity to microorganisms:

IC50 (activated sludge): > 100 mg/l

Exposure time: 3 h

Test Type: static test

Test substance: Fresh water

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):

NOEC: 0,3 mg/l

Exposure time: 21 d

Species: *Daphnia magna* (Water flea)

Test Type: semi-static test

Test substance: Fresh water

Method: OECD Test Guideline 211

Remarks: Information given is based on data obtained from similar substances.

1,4-bis(2,3-epoxypropoxy)butane:**Toxicity to fish:**LC50 (*Brachydanio rerio* (zebrafish)): 24 mg/l

Exposure time: 96 h

Test Type: static test

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

Test substance: Fresh water
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates:
EC50 (Daphnia magna (Water flea)): 75 mg/l
Exposure time: 24 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Toxicity to algae:
EL50 : > 160 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 201

Toxicity to microorganisms:
IC50 (activated sludge): > 100 mg/l
Exposure time: 3 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 209

bisphenol A - epoxy resins, number average MW >700—<1100:
Toxicity to fish:
LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 203
GLP: no

Toxicity to daphnia and other aquatic invertebrates:
EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202
GLP: yes
Toxicity to algae:
EgC50 (Selenastrum capricornutum (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: no

2-Propenoic acid, reaction products with dipentaerythritol:
Toxicity to fish:
LL50 (Cyprinus carpio (Carp)): 13 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates:
EC50 (Daphnia magna (Water flea)): 18 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

Toxicity to algae:
 EL50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
 Exposure time: 72 h
 Test Type: static test
 Method: OECD Test Guideline 201
 GLP: yes

12.2 Persistence and degradability**Components**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Biodegradability:

Inoculum: Sewage (STP effluent)

Concentration: 20 mg/l

Result: Not readily biodegradable.

Biodegradation: 5 %

Exposure time: 28 d

Method: OECD Test Guideline 301F

Stability in water:

Degradation half life (DT50): 4,83 d (25 °C)

pH: 4

Method: OECD Test Guideline 111

Remarks: Fresh water

Degradation half life (DT50): 7,1 d (25 °C)

pH: 9

Method: OECD Test Guideline 111

Remarks: Fresh water

Degradation half life (DT50): 3,58 d (25 °C)

pH: 7

Method: OECD Test Guideline 111

Remarks: Fresh water

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol:

Biodegradability:

Inoculum: activated sludge

Concentration: 3 mg/l

Result: Not biodegradable

Biodegradation: ca. 0 %

Exposure time: 28 d

Method: Directive 67/548/EEC Annex V, C.4.E.

1,4-bis(2,3-epoxypropoxy)butane:

Biodegradability:

Inoculum: activated sludge

Concentration: 20 mg/l

Result: Not readily biodegradable.

Biodegradation: 43 %

Exposure time: 28 d

Method: OECD Test Guideline 301F

bisphenol A - epoxy resins, number average MW >700 - <1100:

Biodegradability:

Test Type: aerobic

Inoculum: Sewage (STP effluent)

Concentration: 20 mg/l

Result: Not biodegradable

Biodegradation: 5 %

Exposure time: 28 d

Method: OECD Test Guideline 301F

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

Stability in water:

Degradation half life (DT50): 4,83 d (25 °C)

pH: 4

Method: OECD Test Guideline 111

Remarks: Fresh water

Degradation half life (DT50): 7,1 d (25 °C)

pH: 9

Method: OECD Test Guideline 111

Remarks: Fresh water

Degradation half life (DT50): 3,58 d (25 °C)

pH: 7

Method: OECD Test Guideline 111

Remarks: Fresh water

2-Propenoic acid, reaction products with dipentaerythritol:**Biodegradability:**

Test Type: aerobic

Inoculum: activated sludge

Concentration: 18 mg/l

Result: Not biodegradable

Biodegradation: 0 %

Exposure time: 28 d

Method: OECD Test Guideline 301B

12.3 Bioaccumulative potential**Components:**

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Bioaccumulation:

Bioconcentration factor (BCF): 31

Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water:

log Pow: 3,242 (25 °C)

pH: 7,1

Method: OECD Test Guideline 117

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol:

Bioaccumulation:

Species: Fish

Bioconcentration factor (BCF): 150

Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water:

log Pow: 2,7 - 3,6

Method: OECD Test Guideline 117

1,4-bis(2,3-epoxypropoxy)butane:

Partition coefficient: n-octanol/water:

log Pow: -0,269 (25 °C)

pH: 6,7

Method: OECD Test Guideline 117

bisphenol A - epoxy resins, number average MW >700—<1100:

Bioaccumulation:

Species: Fish

Bioconcentration factor (BCF): 31

Remarks: Does not bioaccumulate.

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

12.4 Mobility in soil

Components:

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane:

Distribution among environmental compartments:

Koc: 445

Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol:

Distribution among environmental compartments:

Koc: 4460

Method: OECD Test Guideline 121

1,4-bis(2,3-epoxypropoxy)butane:

Distribution among environmental compartments:

Koc: 12,59

Method: OECD Test Guideline 121

bisphenol A - epoxy resins, number average MW >700—<1100:

Distribution among environmental compartments:

Koc: 445

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

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic life with long lasting effects.

13. Disposal considerations

13.1 Waste treatment methods

Product:

The product should not be allowed to enter drains, water courses or the soil.

Do not contaminate ponds, waterways or ditches with chemical or used container.

Send to a licensed waste management company.

Dispose of as hazardous waste in compliance with local and national regulations.

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

Contaminated packaging:

Empty remaining contents.

Dispose of as unused product.

Do not re-use empty containers.

14. Transport information

IATA

14.1 UN number:

UN 3082

14.2 UN proper shipping name:

Environmentally hazardous substance, liquid, n.o.s.

(BISPHENOL A EPOXY RESIN, BISPHENOL F EPOXY RESIN)

14.3 Transport hazard class(es):

9

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

14.4 Packing group:	III
Labels:	Miscellaneous
Packing instruction (cargo aircraft):	964
Packing instruction (passenger aircraft):	964
IMDG	
14.1 UN number:	UN 3082
14.2 UN proper shipping name:	Environmentally hazardous substance, liquid, n.o.s. (BISPHENOL A EPOXY RESIN, BISPHENOL F EPOXY RESIN)
14.3 Transport hazard class(es):	9
14.4 Packing group:	III
Labels:	9
<u>EmS Code</u>	F-A, S-F
14.5 Environmental hazards	
Marine pollutant	yes
ADR	
14.1 UN number:	UN 3082
14.2 UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (BISPHENOL A EPOXY RESIN, BISPHENOL F EPOXY RESIN)
14.3 Transport hazard class(es):	9
14.4 Packing group:	III
Labels:	9
14.5 Environmental hazards	
Environmentally hazardous:	yes
RID	
14.1 UN number:	UN 3082
14.2 UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S (BISPHENOL A EPOXY RESIN, BISPHENOL F EPOXY RESIN)
14.3 Transport hazard class(es):	9
14.4 Packing group:	III
Labels:	9
14.5 Environmental hazards	
Environmentally hazardous:	yes
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	
Not applicable for product as supplied.	

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 for Authorisation (Article 59):**

This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

REACH - List of substances subject to authorisation (Annex XIV):

Not applicable

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

REACH - List of substances subject to authorisation - Future sunset date:

Not applicable

Water contaminating class (Germany): WGK 2 obviously hazardous to water

TA Luft List (Germany)

Total dust:

Not applicable

Inorganic substances in powdered form:

Not applicable

Inorganic substances in vapour or gaseous form:

Not applicable

Organic Substances:

Not applicable

Carcinogenic substances:

Not applicable

Mutagenic:

Not applicable

Toxic to reproduction:

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.

The components of this product are reported in the following inventories:

DSL:	This product contains one or several components listed in the Canadian NDSL.
AICS:	On the inventory, or in compliance with the inventory.
NZIoC:	On the inventory, or in compliance with the inventory.
ENCS:	On the inventory, or in compliance with the inventory.
KECI:	On the inventory, or in compliance with the inventory.
PICCS:	On the inventory, or in compliance with the inventory.
IECSC:	On the inventory, or in compliance with the inventory.
TCSI:	On the inventory, or in compliance with the inventory.
TSCA:	On the inventory, or in compliance with the inventory.

Inventories

AICS (Australia), DSL (Canada), Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (United States of America (USA))

15.2 Chemical safety assessment**16. Other information****Full text of other abbreviations**

Acute Tox.:	Acute toxicity
Aquatic Chronic:	Long-term (chronic) aquatic
Eye Dam.: Eye Irrit.:	Serious eye damage
Skin Irrit. : Skin Sens.:	Eye irritation
Acute toxicity	Skin sensitisation

Further information**Classification of the mixture:**

Skin Irrit. 2	H315
Eye Dam. 1	H318
Skin Sens. 1	H317
Aquatic Chronic 2	H411

Classification procedure:

Calculation method
Calculation method
Calculation method
Calculation method

Safety Data Sheet

According to Regulation EC No. 1907/2006

GP 15 A / Resin

Date of issue/Date of revision: 12.09.2018

en / GB - Version 2.0

The information of this MSDS is based on the present state of our knowledge and meets the requirements of EU and national laws. The user's working conditions however, are beyond our knowledge and control. The product is not to be used for purposes other than those specified under Section 1 without a written permission. It remains the responsibility of the user to ensure that the necessary steps are taken to meet the laws and regulations. Handling of the product may only be done by people above 18 years of age, who are satisfactorily informed of how to do the work, the hazardous properties and necessary safety precautions. The information given in this MSDS is to describe the product only in terms of health and safety requirements and should not, therefore, be construed as guaranteeing specific properties.