according to Regulation (EC) No. 1907/2006



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

1.1 Product identifier

Trade name : ARALDITE® AW 116

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

Use of the : Epoxy constituents

Substance/Mixture

Recommended restrictions

on use

: For industrial use only.

1.3 Details of the supplier of the safety data sheet

Company : Huntsman Advanced Materials (Europe)BVBA

Address : Everslaan 45

3078 Everberg

Belgium

Telephone : +41 61 299 20 41 Telefax : +41 61 299 20 40

E-mail address of person responsible for the SDS

: Global Product EHS AdMat@huntsman.com

1.4 Emergency telephone number

Emergency telephone number : Berlin: 0049 30 19 24 0 & 0049 30 30 68 6 7 11

Bonn: 0049 228 19 27 0 & 0049 228 28 7 3 32 11

Erfurt: 0049 361 73 07 30 Freiburg: 0049 761 16 24 0

Göttingen: 0049 51 19 24 0 & 0049 551 38 31 80

Homburg: 0049 6841 19 24 0

Mainz: 0049 6131 19 24 0 & 0049 6131 23 24 66

München: 0049 89 19 24 0 Nürnberg: 0049 911 39 8 2 45 1 EUROPE: +32 35 75 1234

France ORFILA: +33(0)145425959

ASIA: +65 6336-6011 China: +86 20 39377888 +86 532 83889090 India: +91 22 42 87 5333

Australia: 1800 786 152 New Zealand: 0800 767 437 USA: +1/800/424.9300

SECTION 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.

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Eye irritation, Category 2 H319: Causes serious eye irritation.

Skin sensitisation, Category 1 H317: May cause an allergic skin reaction.

Germ cell mutagenicity, Category 2 H341: Suspected of causing genetic defects.

Reproductive toxicity, Category 2 H361: Suspected of damaging fertility or the

unborn child.

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 : H315 Causes skin irritation.

H317 May cause an allergic skin reaction.
 H319 Causes serious eye irritation.
 H341 Suspected of causing genetic defects.
 H361 Suspected of damaging fertility or the

unborn child.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**

P201 Obtain special instructions before use.
P261 Avoid breathing mist or vapours.
P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/

eye protection/ face protection.

Response:

P391 Collect spillage.

Hazardous components which must be listed on the label:

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

2,3-epoxypropyl o-tolyl ether

Phenol, isopropylated, phosphate (3:1)

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.



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SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concent ration (% w/w)
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxir ane	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
2,3-Epoxypropyl o-tolyl ether	2210-79-9 218-645-3 603-056-00-X 01-2119966907-18	Skin Irrit. 2; H315 Skin Sens. 1; H317 Muta. 2; H341 Aquatic Chronic 2; H411	>= 10 - < 20
Phenol, isopropylated, phosphate (3:1)	68937-41-7 273-066-3 01-2119535109-41	Repr. 2; H361 STOT RE 2; H373 Aquatic Chronic 2; H411	>= 3 - < 10
Triphenyl phosphate	115-86-6 204-112-2 01-2119457432-41	Aquatic Acute 1; H400 Aquatic Chronic 2; H411	>= 0,25 - < 1

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

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area.

Show this safety data sheet to the doctor in attendance.

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 : Immediately flush eye(s) with plenty of water.

Remove contact lenses.

Keep eye wide open while rinsing.

If eye irritation persists, consult a specialist.

If swallowed : Induce vomiting immediately and call a physician.

Keep respiratory tract clear.

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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.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local

circumstances and the surrounding environment.

Unsuitable extinguishing

media

High volume water jet

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.

SECTION 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.

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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.

SECTION 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.

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. Observe label

precautions. Keep in properly labelled containers.

Advice on common storage : For incompatible materials please refer to Section 10 of this

SDS.

Storage class (TRGS 510) : 10, Combustible liquids

Further information on

storage stability

: Stable under normal conditions.

7.3 Specific end use(s)

Specific use(s) : No data available

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Polypropylene	9003-07-0	AGW (Inhalable fraction)	10 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			
Further information	General dust value. For this substance no specific occupational exposure limit value is established, since the AGS does not yet have information regarding unspecific action on the respiratory organs in excess of the normal values., Commission for dangerous substances, Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
		AGW (Alveolate fraction)	1,25 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			
Further information	General dust value. For this substance no specific occupational exposure limit value is established, since the AGS does not yet have information regarding unspecific action on the respiratory organs in excess of the normal values., Commission for dangerous substances, Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
Phenol, isopropylated, phosphate (3:1)	68937-41-7	AGW (Inhalable fraction)	1 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			

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- phenyleneoxymethylen e)]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

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	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
2,3-epoxypropyl o-tolyl ether	Workers	Inhalation	Long-term systemic effects	0,46 mg/m3
	Workers	Inhalation	Acute systemic effects	40 mg/m3
	Workers	Inhalation	Long-term local effects	0,46 mg/m3
	Workers	Inhalation	Acute local effects	40 mg/m3
	Workers	Dermal	Long-term systemic effects	0,139 mg/kg
	Consumers	Oral	Long-term systemic effects	0,14 mg/kg
Phenol, isopropylated, phosphate (3:1)	Workers	Dermal	Systemic effects	
	Workers	Inhalation	Systemic effects	20,1 mg/m3
	Workers	Dermal	Local effects	
	Workers	Dermal	Systemic effects	
	Workers	Inhalation	Systemic effects	0,29 mg/m3
	Consumers	Dermal	Systemic effects	
	Consumers	Inhalation	Systemic effects	5 mg/m3
	Consumers	Oral	Systemic effects	
	Consumers	Dermal	Local effects	
	Consumers	Dermal	Systemic effects	
	Consumers	Inhalation	Systemic effects	0,07 mg/m3
	Consumers	Oral	Systemic effects	

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

Substance name		Environmental Compartment	Value
2,2'-[(1-methylethyliden phenyleneoxymethylene ne		Fresh water	0,006 mg/l
Remarks:	Assessment Factors		
		Marine water	0,0006 mg/l
	Assessme	nt Factors	

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	Freshwater - intermittent	0,018 mg/l		
Assess	sment Factors			
•	Fresh water sediment	0,996 mg/kg		
Equilib	rium method			
•	Marine sediment	0,0996 mg/kg		
Equilib	rium method			
·	Soil	0,196 mg/kg		
Equilib	rium method			
	Sewage treatment plant	10 mg/l		
Assess	sment Factors			
	Secondary Poisoning	11 mg/kg		
2,3-epoxypropyl o-tolyl ether	Fresh water	2,8 μg/l		
Assess	sment Factors	<u>'</u>		
<u> </u>	Marine water	0,28 μg/l		
Assess	sment Factors	<u> </u>		
	Freshwater - intermittent	28 μg/l		
Assess	sment Factors	<u> </u>		
	Sewage treatment plant	10 mg/l		
Assess	sment Factors	1		
<u> </u>	Fresh water sediment	0,039 mg/kg		
Assess	sment Factors	1		
	Marine sediment	0,0039 mg/kg		
	Soil	0,012 mg/kg		
Assess	Assessment Factors			
Phenol, isopropylated, phospha (3:1)	te Fresh water	0,0015 mg/l		
	Marine water	0,00015 mg/l		
	Freshwater - intermittent	0,015 mg/l		
	Sewage treatment plant	100 mg/l		
	Fresh water sediment	112 mg/kg		
	Marine sediment	11,2 mg/kg		
	Soil	0,1 mg/kg		
	Secondary Poisoning	0,83 mg/kg		

8.2 Exposure controls

Personal protective equipment

Eye protection : Eye wash bottle with pure water

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Tightly fitting safety goggles

Wear face-shield and protective suit for abnormal processing

problems.

Hand protection

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 : In the case of vapour formation use a respirator with an

approved filter.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : paste

Colour : beige

Odour : aromatic

Odour Threshold : No data is available on the product itself.

pH : ca. 7 - 8 (20 °C)

Method: estimated

neutral

Freezing point : No data is available on the product itself.

Melting point : No data is available on the product itself.

Boiling point : > 200 °C

Method: Information given is based on data obtained from

similar substances.

Flash point : > 200 °C

Method: Pensky-Martens closed cup

Evaporation rate : No data is available on the product itself.

Flammability (solid, gas) : No data is available on the product itself.

Burning rate : No data is available on the product itself.

Upper explosion limit / Upper

flammability limit

: No data is available on the product itself.

Lower explosion limit / Lower

flammability limit

: No data is available on the product itself.

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Vapour pressure : < 0,01 hPa (20 °C)

Method: Information given is based on data obtained from

similar substances.

Relative vapour density : No data is available on the product itself.

Relative density : 1,1 (20 °C)

Density : 1,1 g/cm3 (20 °C)

Method: DIN 51757

Solubility(ies)

Water solubility : insoluble (20 °C)

Method: Information given is based on data obtained from

similar substances.

Solubility in other solvents : No data is available on the product itself.

Partition coefficient: n-

octanol/water

: No data is available on the product itself.

Auto-ignition temperature : > 400 °C

Method: DIN Method, other

Decomposition temperature : No data is available on the product itself.

Viscosity

Viscosity, dynamic : 15 000 - 35 000 mPa.s (25 °C)

Method: Other guidelines

Explosive properties : No data is available on the product itself.

Oxidizing properties : No data is available on the product itself.

9.2 Other information

No data available

SECTION 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 : Exothermic reaction with strong acids.

10.4 Conditions to avoid

Conditions to avoid : None known.

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10.5 Incompatible materials

Materials to avoid : Strong acids

10.6 Hazardous decomposition products

Hazardous decomposition

products

carbon dioxide carbon monoxide

Halogenated compounds

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Components:

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

Acute oral toxicity : LD50 (Rat, female): > 2 000 mg/kg

Method: OECD Test Guideline 420

Assessment: The substance or mixture has no acute oral

toxicity

2,3-epoxypropyl o-tolyl ether:

Acute oral toxicity : LD50 (Rat, male and female): > 5 000 mg/kg

Method: OECD Test Guideline 401

Phenol, isopropylated, phosphate (3:1):

Acute oral toxicity : LD50 (Rat): > 5 000 mg/kg

Assessment: The component/mixture is low toxic after single

ingestion.

triphenyl phosphate:

Acute oral toxicity : LD50 (Mouse): > 5 000 mg/kg

Assessment: The substance or mixture has no acute oral

toxicity

Components:

2,3-epoxypropyl o-tolyl ether:

Acute inhalation toxicity : LC50 (Rat, male and female): > 6100 ppb

Exposure time: 4 h
Test atmosphere: vapour

Method: OECD Test Guideline 403

Phenol, isopropylated, phosphate (3:1):

Acute inhalation toxicity : LC50 (Rat, male and female): > 200 mg/l

Exposure time: 1 h

Test atmosphere: dust/mist

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Components:

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

Acute dermal toxicity : LD50 (Rat, male and female): > 2 000 mg/kg

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

Phenol, isopropylated, phosphate (3:1):

Acute dermal toxicity : LD50 (Rabbit): > 10 000 mg/kg

triphenyl phosphate:

Acute dermal toxicity : LD50 (Rabbit): > 7 900 mg/kg

Assessment: The substance or mixture has no acute dermal

toxicity

Acute toxicity (other routes of : No data available

administration)

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.

2,3-epoxypropyl o-tolyl ether: Assessment: Irritating to skin. Result: Severe skin irritation

Phenol, isopropylated, phosphate (3:1):

Species: Rabbit

Assessment: No skin irritation Result: No skin irritation

triphenyl phosphate: Species: Rabbit Exposure time: 4 h

Assessment: No skin irritation 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

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Result: Irritating to eyes.

2,3-epoxypropyl o-tolyl ether:

Species: Rabbit

Assessment: No eye irritation Method: OECD Test Guideline 405 Result: Normally reversible injuries

Phenol, isopropylated, phosphate (3:1):

Species: Rabbit Result: No eye irritation

triphenyl phosphate: Species: Rabbit

Assessment: No eye irritation Method: OECD Test Guideline 405

Result: No 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.

Method: OECD Test Guideline 429 Result: Causes sensitisation.

2,3-epoxypropyl o-tolyl ether:

Exposure routes: Skin Species: Guinea pig

Assessment: May cause sensitisation by skin contact.

Method: OECD Test Guideline 406

Result: May cause sensitisation by skin contact.

triphenyl phosphate:

Test Type: Maximisation Test

Exposure routes: Skin Species: Guinea pig

Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.

Components:

triphenyl phosphate:

Assessment: No skin irritation, No eye irritation

Does not cause skin sensitisation.

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

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: Concentration: 0 - 5000 ug/plate

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: positive

2,3-epoxypropyl o-tolyl ether:

Genotoxicity in vitro : Test Type: Ames test

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: positive

Phenol, isopropylated, phosphate (3:1):

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

: Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

triphenyl phosphate:

Genotoxicity in vitro : Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

: Test Type: unscheduled DNA synthesis assay

Method: OECD Test Guideline 482

Result: negative

: Test Type: Chromosome aberration test in vitro

Test system: Chinese hamster lung cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

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

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Cell type: Somatic Application Route: Oral Dose: 0 - 5000 mg/kg Method: OPPTS 870.5395

Result: negative

2,3-epoxypropyl o-tolyl ether:

Genotoxicity in vivo : Application Route: Oral

Dose: 2000 mg/kg

Method: OECD Test Guideline 474

Result: negative

Application Route: Dermal

Exposure time: 5 d Dose: 500 mg/kg Result: negative

Application Route: Dermal Exposure time: 8 Weeks

Dose: 1.5 mg/kg

Method: OECD Test Guideline 478

Result: positive

Phenol, isopropylated, phosphate (3:1):

Genotoxicity in vivo : Application Route: Oral

Method: OECD Test Guideline 475

Result: negative

Cell type: Somatic Application Route: Oral

Result: negative

Components:

2,3-epoxypropyl o-tolyl ether:

Germ cell mutagenicity-

Assessment

: Positive results from in vitro mammalian mutagenicity assays, chemical structure activity relationship to known germ cell

mutage

triphenyl phosphate:

Germ cell mutagenicity-

Assessment

: Tests on bacterial or mammalian cell cultures did not show

mutagenic effects.

Germ cell mutagenicity-

Assessment

: No data available

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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

Carcinogenicity - : No data available

Assessment

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.

Phenol, isopropylated, phosphate (3:1):

Species: Rat, male and female

Application Route: Oral

Method: OECD Test Guideline 421

triphenyl phosphate:

Species: Rat, male and female

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Application Route: Oral

Dose: 166, 341, 516, 690 mg/kg

General Toxicity - Parent: No-observed-effect level: 690

mg/kg body weight

Method: OECD Test Guideline 415

Result: Animal testing did not show any effects on fertility.

Components:

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

Effects on foetal : Species: Rabbit, female development : 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

Phenol, isopropylated, phosphate (3:1):

Species: Rat

Application Route: Oral

Dose: 0, 100, 200, and 400 mg/kg/da

General Toxicity Maternal: No observed adverse effect level:

200 mg/kg body weight

Developmental Toxicity: No observed adverse effect level:

400 mg/kg body weight

Method: OECD Test Guideline 414

triphenyl phosphate:

Species: Rat

Application Route: Oral

General Toxicity Maternal: No observed adverse effect level:

> 690 mg/kg body weight

Teratogenicity: No observed adverse effect level: > 690 mg/kg

body weight

Method: OECD Test Guideline 414 Result: No teratogenic effects

Components:

Phenol, isopropylated, phosphate (3:1):

Reproductive toxicity - : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

according to Regulation (EC) No. 1907/2006



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triphenyl phosphate:

Reproductive toxicity - : No evidence of adverse effects on sexual function and fertility,

Assessment or on development, based on animal experiments.

STOT - single exposure

No data available

STOT - repeated exposure

Components:

Phenol, isopropylated, phosphate (3:1):

Exposure routes: Ingestion Target Organs: Adrenal gland

Assessment: The substance or mixture is classified as specific target organ toxicant, repeated

exposure, category 2.

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 WeeksNumber of exposures: 7 d

Method: Subchronic toxicity

Species: Rat, male and female

NOEL: 10 mg/kg

Application Route: Skin contact

Exposure time: 13 WeeksNumber of exposures: 5 d

Method: Subchronic toxicity

Species: Mouse, male NOAEL: 100 mg/kg

Application Route: Skin contact

Exposure time: 13 WeeksNumber of exposures: 3 d

Method: Subchronic toxicity

2,3-epoxypropyl o-tolyl ether: Species: Rat, male and female

NOEC: > 4

Test atmosphere: vapour

Exposure time: 4 WeeksNumber of exposures: 6 h

Method: OECD Test Guideline 412

Phenol, isopropylated, phosphate (3:1):

Species: Rat, male and female

NOEC: < 25 mg/kg

Application Route: Ingestion Test atmosphere: dust/mist

Exposure time: 672 hNumber of exposures: 7 d

Method: Subacute toxicity

according to Regulation (EC) No. 1907/2006



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triphenyl phosphate:

Species: Rat, male and female NOAEL: 105 - 117 mg/kg Application Route: oral (feed) Method: OECD Test Guideline 408

Target Organs: Liver

Components:

triphenyl phosphate:

Repeated dose toxicity - : No skin irritation, No eye irritation

Assessment No adverse effect has been observed in chronic toxicity tests.

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

SECTION 12: Ecological information

12.1 Toxicity

Components:

according to Regulation (EC) No. 1907/2006



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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

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

2,3-epoxypropyl o-tolyl ether:

Toxicity to fish : LC50 : 13 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

LC50 (Oncorhynchus mykiss (rainbow trout)): 2,8 - 5,1 mg/l

Exposure time: 96 h Test Type: static test

Test substance: Fresh water Method: OECD Test Guideline 203

LC50 (Brachydanio rerio (zebrafish)): ca. 6,5 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)): ca. 3,3 mg/l

Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): 5,1 mg/l

Exposure time: 72 h

according to Regulation (EC) No. 1907/2006



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Test Type: static test

Test substance: Fresh water Method: OECD Test Guideline 201

Toxicity to microorganisms : IC50 : > 100 mg/l

Exposure time: 3 h Test Type: static test

Test substance: Fresh water Method: OECD Test Guideline 209

Phenol, isopropylated, phosphate (3:1):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1,15 mg/l

Exposure time: 96 h
Test Type: semi-static test
Test substance: Fresh water
Method: OECD Test Guideline 203

LC50 (Pimephales promelas (fathead minnow)): 10,8 mg/l

Exposure time: 96 h Test Type: static test

Test substance: Fresh water

Toxicity to daphnia and other

aquatic invertebrates

: EC50 (Daphnia magna (Water flea)): 2,44 mg/l

Exposure time: 48 h Test Type: static test

Test substance: Fresh water

Method: Directive 67/548/EEC, Annex V, C.2.

Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): > 2,5 mg/l

Exposure time: 96 h Test Type: static test

Test substance: Fresh water Method: OECD Test Guideline 201

Toxicity to microorganisms : IC50 (activated sludge): > 1 000 mg/l

Exposure time: 3 h
Test Type: static test

Test substance: Fresh water Method: OECD Test Guideline 209

triphenyl phosphate:

Toxicity to fish : LC50 : 0,36 - 0,85 mg/l

Exposure time: 96 h Remarks: Toxic to fish.

Toxicity to daphnia and other

aquatic invertebrates

: EC50 : 1,35 mg/l Exposure time: 48 h

Toxicity to algae : NOEC: 0,25 - 2,5 mg/l

Exposure time: 72 h

M-Factor (Acute aquatic

toxicity)

: 1

Toxicity to fish (Chronic : Lowest Observed Effect Concentration: 0,055 mg/l

according to Regulation (EC) No. 1907/2006



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toxicity) Exposure time: 30 d

Species: Oncorhynchus mykiss (rainbow trout)

Test Type: flow-through test

Toxicity to daphnia and other

aquatic invertebrates

(Chronic toxicity)

: NOEC: 0,254 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea)

Test Type: semi-static test

Method: OECD Test Guideline 211

Lowest Observed Effect Concentration: 0,931 mg/l

Exposure time: 21 d

Species: Daphnia magna (Water flea)

Test Type: semi-static test

Method: OECD Test Guideline 211

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

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

2,3-epoxypropyl o-tolyl ether:

Biodegradability : Inoculum: activated sludge

Concentration: 10 mg/l

Result: Not readily biodegradable.

Biodegradation: 17 % Exposure time: 28 d

Method: OECD Test Guideline 301B

according to Regulation (EC) No. 1907/2006



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Stability in water : Degradation half life (DT50): 10,5 hrs (25 °C)

pH: 4

Method: OECD Test Guideline 111

Remarks: Fresh water

Degradation half life (DT50): 9,4 hrs (25 °C)

pH: 7

Method: OECD Test Guideline 111

Remarks: Fresh water

Degradation half life (DT50): 8,96 hrs (25 °C)

pH: 9

Method: OECD Test Guideline 111

Remarks: Fresh water

Phenol, isopropylated, phosphate (3:1):

Biodegradability : Inoculum: activated sludge

Concentration: 2,1 mg/l Result: Not biodegradable Biodegradation: 17,9 % Exposure time: 28 d

Method: OECD Test Guideline 301D

Stability in water : Degradation half life (DT50): 18,5 d (25 °C)

pH: 7

Method: OECD Test Guideline 111

Remarks: Fresh water

Degradation half life (DT50): 6,05 d (25 °C)

pH: 9

Method: OECD Test Guideline 111

Remarks: Fresh water

triphenyl phosphate:

Biodegradability : Result: Readily biodegradable.

Biodegradation: > 60 % Exposure time: 28 d

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- : log Pow: 3,242 (25 °C)

octanol/water pH: 7,1

Method: OECD Test Guideline 117

2,3-epoxypropyl o-tolyl ether:

Partition coefficient: n- : log Pow: 2,5 (21 °C)

octanol/water Method: OECD Test Guideline 107

according to Regulation (EC) No. 1907/2006



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Phenol, isopropylated, phosphate (3:1):

Partition coefficient: n- : log Pow: 4,9 - 5,2

octanol/water

triphenyl phosphate:

Bioaccumulation : Bioconcentration factor (BCF): 132

Partition coefficient: n-

octanol/water

: log Pow: 4,59 - 4,76

12.4 Mobility in soil

Components:

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

Distribution among : Koc: 445

environmental compartments

2,3-epoxypropyl o-tolyl ether:

Distribution among : Koc: ca. 210

environmental compartments Method: OECD Test Guideline 121

Phenol, isopropylated, phosphate (3:1):

Distribution among : Koc: 2704 - 8769

environmental compartments Method: OECD Test Guideline 121

triphenyl phosphate:

Distribution among : Koc: 2514 - 5500

environmental compartments

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.

SECTION 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.

according to Regulation (EC) No. 1907/2006



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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.

SECTION 14: Transport information

IATA

14.1 UN number : UN 3082

14.2 UN proper shipping : Environmentally hazardous substance, liquid, n.o.s.

name

(BISPHENOL A EPOXY RESIN)

: 964

: 9

14.3 Transport hazard : 9

class(es)

14.4 Packing group : 111

Labels Miscellaneous

Packing instruction (cargo

aircraft)

Packing instruction : 964

(passenger aircraft)

IMDG

14.1 UN number : UN 3082

14.2 UN proper shipping : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

name

N.O.S. (BISPHENOL A EPOXY RESIN)

: 9 14.3 Transport hazard

class(es)

14.4 Packing group : 111 Labels : 9 : F-A, S-F

EmS Code

14.5 Environmental hazards

Marine pollutant : yes

ADR

14.1 UN number : UN 3082

14.2 UN proper shipping ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

name N.O.S.

(BISPHENOL A EPOXY RESIN)

14.3 Transport hazard

class(es)

14.4 Packing group : 111 Labels 9

14.5 Environmental hazards

Environmentally hazardous : yes

according to Regulation (EC) No. 1907/2006



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RID

14.1 UN number : UN 3082

14.2 UN proper shipping : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

name N.O.S.

(BISPHENOL A 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.

SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High :

Concern 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

REACH - List of substances subject to authorisation -

Future sunset date

: Not applicable

Water contaminating class

(Germany)

: WGK 3 highly 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 applicableOrganic Substances:Not applicable

: Carcinogenic substances:

Not applicable
: Mutagenic:
Not applicable

Toxic to reproduction:

Not applicable

Other regulations:

Take note of Law on the protection of mothers at work, in education and in studies (Maternity Protection Act - MuSchG).

Take note of Directive 94/33/EC on the protection of young people at work or stricter national

according to Regulation (EC) No. 1907/2006



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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 : Not 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), IECSC (China), ENCS (Japan), KECI (Korea), NZIOC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (United States of America (USA))

15.2 Chemical safety assessment

Chemical Safety Assessments for all substances in this product are either Complete or Not applicable.

SECTION 16: Other information

Full text of H-Statements

H315 : Causes skin irritation.

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

H341 : Suspected of causing genetic defects.

H361 : Suspected of damaging fertility or the unborn child.

H373 : May cause damage to organs through prolonged or repeated

exposure if swallowed.

H400 : Very toxic to aquatic life.

H411 : Toxic to aquatic life with long lasting effects.

according to Regulation (EC) No. 1907/2006



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Full text of other abbreviations

Aquatic Acute : Short-term (acute) aquatic hazard Aquatic Chronic : Long-term (chronic) aquatic hazard

Eye Irrit. : Eye irritation

Muta. : Germ cell mutagenicity
Repr. : Reproductive toxicity
Skin Irrit. : Skin irritation
Skin Sens. : Skin sensitisation

STOT RE : Specific target organ toxicity - repeated exposure

DE TRGS 900 : Germany. TRGS 900 - Occupational exposure limit values.

DE TRGS 900 / AGW : Time Weighted Average

Further information

Classification of the mixture: Classification procedure:

Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
Skin Sens. 1	H317	Calculation method
Muta. 2	H341	Calculation method
Repr. 2	H361	Calculation method
Aquatic Chronic 2	H411	Calculation method

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