Safety Data Sheet
Conforms to Regulation (EC) No. 1907/2006 (REACH), Article 31, Annex II, as amended by Commission Regulation (EU) 2020/878
FACTORY COLORFLOW EP (B)
Date of first edition: 4/2/2021
Safety Data Sheet dated 4/19/2023
version 4

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

1.1. Product identifier

Mixture identification:

Trade name: FACTORY COLORFLOW EP (B)

Trade code: B0316 .030

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

Recommended use: hardener

Uses advised against: All uses other than recommended ones

1.3. Details of the supplier of the safety data sheet

Company: KERAKOLL S.p.A.
Via dell'Artigianato, 9
41049 Sassuolo (MODENA) - ITALY
Tel.+39 0536 816511 Fax. +39 0536816581
safety@kerakoll.com

1.4. Emergency telephone number

European emergency phone number 112
Kerakoll Italy (+39) 0536 816511
Ireland
Poison information centre: (+353) 809 2166 (Daily 8am-10pm)
In case of emergency call 999 or 112
Malta
In case of emergency call: 112 (24h)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) n. 1272/2008 (CLP)

Acute Tox. 4	Harmful if swallowed.
Skin Corr. 1A	Causes severe skin burns and eye damage.
Eye Dam. 1	Causes serious eye damage.
Skin Sens. 1	May cause an allergic skin reaction.
Aquatic Acute 1	Very toxic to aquatic life.
Aquatic Chronic 1	Very toxic to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:
No other hazards

2.2. Label elements

Regulation (EC) No 1272/2008 (CLP):

Pictograms and Signal Words

Danger

Hazard statements

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.

H317	May cause an allergic skin reaction.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

P260	Do not breathe vapours.
P273	Avoid release to the environment.
P302+P352	IF ON SKIN: Wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501	Dispose of contents/container in accordance with applicable regulations.

Contains

1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with glycidyl tolyl ether

Polyoxpropylenediamine

1,3-Cyclohexanedimethanamine

2,2'-iminodiethylamine; diethylenetriamine

Special provisions according to Annex XVII of REACH and subsequent amendments:

None

2.3. Other hazards

No PBT, vPvB or endocrine disruptor substances present in concentration >= 0.1%.

Other Hazards: No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Mixture identification: FACTORY COLORFLOW EP (B)

Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Numb.	Classification	Registration Number
50-75 %	1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with glycidyl tolyl ether	CAS:84144-79-6 EC:282-199-6	Acute Tox. 4, H302; Skin Corr. 1C, H314; Eye Dam. 1, H318; Skin Sens. 1, H317; Aquatic Acute 1, H400; Aquatic Chronic 1, H410, M-Chronic:1, M-Acute:1	01-2120762088-49
10-19,9 %	Polyoxpropylenediamine	CAS:9046-10-0 EC:618-561-0	Skin Corr. 1C, H314; Eye Dam. 1, H318; Aquatic Chronic 3, H412	01-2119557899-12
10-19,9 %	1,3-Cyclohexanedimethanamine	CAS:2579-20-6 EC:219-941-5	Acute Tox. 4, H302; Acute Tox. 4, H312; Aquatic Chronic 3, H412; Skin Corr. 1A, H314	01-2119543741-41
2,5-4,9 %	Alcohols, C10-16	CAS:67762-41-8 EC:267-019-6	Aquatic Acute 1, H400, M-Acute:1	
1-2,4 %	p-toluenesulphonic acid (containing a maximum of 5 % H2SO4)	CAS:6192-52-5 EC:203-180-0 Index:016-030-00-2	Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315 Specific Concentration Limits: C ≥ 20%: STOT SE 3 H335	01-2119538811-39
1-2,4 %	2,2'-iminodiethylamine; diethylenetriamine	CAS:111-40-0 EC:203-865-4 Index:612-058-00-X	Skin Corr. 1B, H314; Skin Sens. 1, H317; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 2, H330; STOT SE 3, H335	01-2119473793-27
< 0,5 %	2,6-di-tert-butyl-p-cresol	CAS:128-37-0 EC:204-881-4	Aquatic Chronic 1, H410; Aquatic Acute 1, H400, M-Acute:1, M-Chronic:1	01-2119555270-46/01-2119565113-46

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

OBTAIN IMMEDIATE MEDICAL ATTENTION.

Remove contaminated clothing immediatley and dispose off safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an opthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Give nothing to eat or drink.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

Eye irritation

Eye damages

Skin Irritation

Erythema

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO_2).

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters

Use suitable breathing apparatus .

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

Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

Suitable material for taking up: absorbing material, organic, sand

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhaltion of vapours and mists.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contamined clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Community Occupational Exposure Limits (OEL)

Component	OEL Type	Country	Ceiling	Long Term mg/m3	Long Term ppm	Short Term mg/m3	Short Term ppm	Notes
2,2',2''-nitrilotriethanol	ACGIH	NNN		5				Eye and skin irr
2,2'-iminodiethylamine; diethylenetriamine	NATIONAL	AUSTRALIA		4.200	1.000			
	NATIONAL	BELGIUM		4.300	1.000			
	NATIONAL	DENMARK		4.000	1.000	8.000	2.000	
	NATIONAL	FINLAND		4.300	1.000	13.000	3.000	
	NATIONAL	FRANCE		4.000	1.000			
	NATIONAL	HUNGARY		4.000		4.000		
	NATIONAL	IRELAND		4.000	1.000			
	NATIONAL	POLAND		4.200		15.000		
	NATIONAL	ROMANIA		2.000	0.500	4.000	1.000	
	NATIONAL	SPAIN		4.300	1.000			
	NATIONAL	SWEDEN		4.500	1.000	10.000	2.000	
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND		4.300	1.000			
	NATIONAL	BULGARIA		4.000				
	NATIONAL	CZECHIA		4.000		8.000		
	NATIONAL	CROATIA		4.300	1.000			
	NATIONAL	ESTONIA		4.500	1.000	10.000	2.000	
	NATIONAL	GREECE		4.000	1.000			
	NATIONAL	LITHUANIA		4.500	1.000	10.000	2.000	
	NATIONAL	PORTUGAL			1.000			
	ACGIH	NNN			1.000			Skin - URT and eye irr
2,6-di-tert-butyl-p-cresol	NATIONAL	AUSTRALIA		10.000				
	NATIONAL	AUSTRIA		10.000				
	NATIONAL	BELGIUM		2.000				Inhalable fraction and vapour
	NATIONAL	DENMARK		10.000		20.000		
	NATIONAL	FINLAND		10.000		20.000		
	NATIONAL	FRANCE		10.000				
	NATIONAL	GERMANY		10.000		40.000		ASG; Long term and short term: inhalable aerosol and vapour
	NATIONAL	GERMANY		10.000		40.000		DFG; Long term and short term: inhalable fraction and vapour

	NATIONAL	IRELAND	10.000				
	NATIONAL	SWITZERLAND	10.000				Inhalable aerosol
	NATIONAL	SWITZERLAND			40.000		
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	10.000				
	NATIONAL	BULGARIA	10.000		50.000		
	NATIONAL	CROATIA	10.000				
	NATIONAL	PORTUGAL	2.000				
	NATIONAL	SLOVENIA	10.000		40.000		
	NATIONAL	SPAIN	10.000				
	ACGIH	NNN	2.000				(IFV), A4 - URT irr
2,2'-iminodiethanol; diethanolamine	NATIONAL	AUSTRALIA	13.000	3.000			
	NATIONAL	AUSTRIA	2.000	0.460			
	NATIONAL	BELGIUM	1.000	0.200			Inhalable fraction and vapour
	NATIONAL	DENMARK	2.000	0.460	4.000	0.920	
	NATIONAL	FINLAND	2.000	0.460			
	NATIONAL	FRANCE	15.000	3.000			
	NATIONAL	GERMANY	0.500	0.110	0.500	0.110	AGS; long term and short term: inhalable fraction and vapour; The reaction with nitrosating agents may lead to the formation of the corresponding carcinogenic N-nitrosoamines
	NATIONAL	GERMANY	1.000		1.000		DFG; Long term and short term: inhalable fraction and vapour
	NATIONAL	IRELAND	1.000				
	NATIONAL	POLAND	9.000				Dz. U. 2018 poz. 1286 wraz z późn. zm
	NATIONAL	SPAIN	2.000	0.460			
	NATIONAL	SWEDEN	5.000	3.000	30.000	6.000	
	NATIONAL	SWITZERLAND	1.000		1.000		Long term and short term: inhalable aerosol
	ACGIH	NNN	1.000				(IFV), Skin, A3 - Liver and kidney dam

Predicted No Effect Concentration (PNEC) values

Component	CAS-No.	PNEC Limit	Exposure Route	Exposure Frequency
1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with glycidyl tolyl ether	84144-79-6	170.000 ng/L	Freshwater	
		17.000 ng/L	Marine water	
		660.000 µg/l	Microorganisms in sewage treatments	
		524.000 µg/kg	Freshwater sediments	
		52.400 mg/kg	Marine water sediments	
		524.000 µg/kg	Soil	
Polyoxpropylenediamine	9046-10-0	15.000 µg/l	Freshwater	
		150.000 µg/l	Intermittent releases	

			(freshwater)
		14.200 µg/l	Marine water
		7.500 mg/l	Microorganisms in sewage treatments
		132.000 µg/kg	Freshwater sediments
		125.000 µg/kg	Marine water sediments
		17.600 µg/kg	Soil
		6.930 mg/kg	Secondary poinsoning
1,3-Cyclohexanedimethanamine	2579-20-6	33.100 µg/l	Freshwater
		331.000 µg/l	Intermittent releases (freshwater)
		3.310 µg/l	Marine water
		10.000 mg/l	Microorganisms in sewage treatments
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4)	6192-52-5	73.000 µg/l	Freshwater
		730.000 µg/l	Intermittent releases (freshwater)
		1.300 µg/l	Marine water
		58.000 mg/l	Microorganisms in sewage treatments
		57.700 µg/kg	Freshwater sediments
		5.770 µg/kg	Marine water sediments
		16.000 µg/kg	Soil
2,2'-iminodiethylamine; diethylenetriamine	111-40-0	560.000 µg/l	Freshwater
		320.000 µg/l	Intermittent releases (freshwater)
		56.000 µg/l	Marine water
		6.000 mg/l	Microorganisms in sewage treatments
		1072.000 mg/kg	Freshwater sediments
		107.200 mg/kg	Marine water sediments
		7.970 mg/kg	Soil
2,6-di-tert-butyl-p-cresol	128-37-0	199.000 ng/L	Freshwater
		1.990 µg/l	Intermittent releases (freshwater)
		19.900 ng/L	Marine water
		170.000 µg/l	Microorganisms in sewage treatments
		99.600 µg/kg	Freshwater sediments
		9.960 µg/kg	Marine water sediments
		47.690 µg/kg	Soil
		8.330 mg/kg	Secondary poinsoning

Derived No Effect Level (DNEL) values

Component	CAS-No.	Worker Industry	Worker Professional	Consumer	Exposure Route	Exposure Frequency
1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with glycidyl tolyl ether	84144-79-6		2.350 mg/m³		Human Inhalation	Long Term, systemic effects
			666.000 µg/kg		Human Dermal	Long Term, systemic

					effects
Polyoxpropylenediamine	9046-10-0	1.360 mg/m³		Human Inhalation	Long Term, systemic effects
		2.500 mg/kg		Human Dermal	Long Term, systemic effects
1,3-Cyclohexanedimethanamine	2579-20-6	9.470 µg/m³		Human Inhalation	Long Term, local effects
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4)	6192-52-5	53.600 mg/m³	8.700 mg/m³	Human Inhalation	Long Term, systemic effects
		7.600 mg/kg	2.500 mg/kg	Human Dermal	Long Term, systemic effects
			2.500 mg/kg	Human Oral	Long Term, systemic effects
2,2'-iminodiethylamine; diethylenetriamine	111-40-0	15.400 mg/m³	4.600 mg/m³	Human Inhalation	Long Term, systemic effects
		91.100 mg/m³	25.500 mg/m³	Human Inhalation	Short Term, systemic effects
		870.000 µg/m³		Human Inhalation	Long Term, local effects
		2.600 mg/m³		Human Inhalation	Short Term, local effects
		11.400 mg/kg	4.880 mg/kg	Human Dermal	Long Term, systemic effects
		1.100 mg/cm²		Human Dermal	Long Term, local effects
2,6-di-tert-butyl-p-cresol	128-37-0	4.400 mg/m³	780.000 µg/m³	Human Inhalation	Long Term, systemic effects
		4.700 mg/kg	1.700 mg/kg	Human Dermal	Long Term, systemic effects
			0.250 mg/kg	Human Oral	Long Term, systemic effects

8.2. Exposure controls

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Use adequate protective respiratory equipment.

Thermal Hazards:

N.A.

Environmental exposure controls:

N.A.

Hygienic and Technical measures

N.A.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State Liquid

Color: Yellow

Odour: Like: Ammonia

Odour threshold: N.A.

pH: =11.00

Kinematic viscosity: N.A.

Melting point / freezing point: N.A.
Initial boiling point and boiling range: N.A.
Flash point: > 100°C / 212°F
Upper/lower flammability or explosive limits: N.A.
Vapour density: N.A.
Vapour pressure: N.A.
Relative density: 1.02 g/cm3
Solubility in water: N.A.
Solubility in oil: N.A.
Partition coefficient (n-octanol/water): N.A.
Auto-ignition temperature: N.A.
Decomposition temperature: N.A.
Flammability: N.A.
Volatile Organic compounds - VOCs = 2.47 % ; 25.14 g/l
Particle characteristics:
Particle size: N.A.

9.2. Other information

Miscibility: N.A.
Conductivity: N.A.
Evaporation rate: N.A. No other relevant information

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Data not available.

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

Stable under normal conditions.

10.5. Incompatible materials

None in particular.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

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

Toxicological Information of the Preparation

a) acute toxicity	The product is classified: Acute Tox. 4(H302)
b) skin corrosion/irritation	The product is classified: Skin Corr. 1A(H314)
	Skin Corrosive - Product has been tested with Corrositex - OECD 435 - In Vitro Membrane Barrier Test Method for Skin Corrosion. Results: >60 min. Corrosive sub-category 1C - PG III
c) serious eye damage/irritation	The product is classified: Eye Dam. 1(H318)
d) respiratory or skin sensitisation	The product is classified: Skin Sens. 1(H317)
e) germ cell mutagenicity	Not classified
	Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified
	Based on available data, the classification criteria are not met
g) reproductive toxicity	Not classified
	Based on available data, the classification criteria are not met
h) STOT-single exposure	Not classified
	Based on available data, the classification criteria are not met
i) STOT-repeated exposure	Not classified
	Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified
	Based on available data, the classification criteria are not met

Toxicological information on main components of the mixture:

1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with glycidyl tolyl ether	a) acute toxicity	LD50 Oral Rat < 301.00 mg/kg	
Polyoxpropylenediamine	a) acute toxicity	LD50 Oral Rat = 2885.00000 mg/kg	
		LC50 Inhalation Vapour Rat > 0.74000 mg/l 8h	
		LD50 Skin Rabbit = 2980.00000 mg/kg 24h	
	b) skin corrosion/irritation	Skin Corrosive Rabbit Positive 4h	
	c) serious eye damage/irritation	Eye Corrosive Rabbit Positive	
	f) carcinogenicity	Genotoxicity Negative	Mouse oral route
	g) reproductive toxicity	No Observed Adverse Effect Level Skin Rat = 30.00000 mg/kg	
1,3-Cyclohexanedimethanamine	a) acute toxicity	LD50 Oral Rat > 300.00000 mg/kg	
		LD50 Skin Rabbit = 1700.00000 mg/kg 24h	
	b) skin corrosion/irritation	Skin Corrosive Rabbit Positive	
	d) respiratory or skin sensitisation	Skin Sensitization Guineapig Negative	
	f) carcinogenicity	Genotoxicity Negative	Mouse oral route
	g) reproductive toxicity	No Observed Effect Level Oral Rat = 300.00000 mg/kg	
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4)	a) acute toxicity	LD50 Oral Rat >= 1104.00 mg/kg	
		LC50 Inhalation Vapour Rat >= 50.00 mg/l 8h	
		LD50 Skin Rabbit > 2000.00 mg/kg	
	b) skin corrosion/irritation	Skin Corrosive Rabbit Positive 4h	
	c) serious eye damage/irritation	Eye Corrosive Rabbit Positive	
	d) respiratory or skin sensitisation	Skin Sensitization Guineapig Negative	
	f) carcinogenicity	Genotoxicity Negative	Mouse oral route
		Carcinogenicity Negative	
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 1000.00 mg/kg	
2,2'-iminodiethylamine; diethylenetriamine	a) acute toxicity	LD50 Oral Rat = 1.62 ml/Kg	
		LC50 Inhalation Rat Negative 4h	No mortality
		LD50 Skin Rabbit = 1.09 ml/Kg	
	b) skin corrosion/irritation	Skin Corrosive Rabbit Positive	
	c) serious eye damage/irritation	Eye Corrosive Rabbit Positive	
	d) respiratory or skin sensitisation	Skin Sensitization Positive	Mouse
		Respiratory Sensitization Negative	Mouse
	f) carcinogenicity	Genotoxicity Negative	Mouse oral route
		Carcinogenicity Skin Negative	
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 30.00 mg/kg	

2,6-di-tert-butyl-p-cresol	a) acute toxicity	LD50 Oral Rat > 5000.00000 mg/kg 24h	
		LD50 Skin Rat > 2000.00000 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Negative 4h	
	c) serious eye damage/irritation	Eye Irritant Rabbit No	
	f) carcinogenicity	Genotoxicity Negative	Mouse intraperitoneal rout
		Carcinogenicity Negative	
	g) reproductive toxicity	Reproductive Toxicity Oral Rat = 100.00000 mg/kg	

11.2 Information on other hazards

Endocrine disrupting properties:

No endocrine disruptor substances present in concentration >= 0.1%

SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

Very toxic to aquatic organisms.

Very toxic to aquatic life with long lasting effects.

List of Eco-Toxicological properties of the product

The product is classified: Aquatic Acute 1(H400), Aquatic Chronic 1(H410)

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with glycidyl tolyl ether	CAS: 84144-79-6 - EINECS: 282-199-6	a) Aquatic acute toxicity : LC50 Fish = 660.00 µg/L 96h OECD Guideline 203
		a) Aquatic acute toxicity : LC50 Daphnia = 14.00 mg/L 24h OECD Guideline 202
		a) Aquatic acute toxicity : EC50 Algae = 0.17 mg/L 72h OECD Guideline 201
		a) Aquatic acute toxicity : EC50 Sludge = 66.00 mg/L 3h OECD Guideline 209
Polyoxpropylenediamine	CAS: 9046-10-0 - EINECS: 618-561-0	a) Aquatic acute toxicity : LC50 Fish Oncorhyncus mykiss > 15.00000 mg/L 96h OECD Guideline 203
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 80.00000 mg/L 48h OECD Guideline 202
		a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 15.00000 mg/L 72h OECD Guideline 201
		a) Aquatic acute toxicity : NOEC Algae Pseudokirchneriella subcapitata = 1.40000 mg/L 72h OECD Guideline 201
		a) Aquatic acute toxicity : EC50 Sludge Activated Sludge = 750.00000 mg/L 3h OECD Guideline 209
		a) Aquatic acute toxicity : NOEC Sludge Activated Sludge = 310.00000 mg/L 3h OECD Guideline 209
1,3-Cyclohexanedimethanamine	CAS: 2579-20-6 - EINECS: 219-941-5	a) Aquatic acute toxicity : LC50 Fish Golden orfe = 130.00000 mg/L 96h OECD test guideline 203
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 33.10000 mg/L 48h OECD test guideline 202
		a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 56.70000 mg/L 72h OECD test guideline 201
		a) Aquatic acute toxicity : EC50 microorganisms > 1000.00000 mg/L
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4)	CAS: 6192-52-5 - EINECS: 203-180-0 - INDEX: 016-030-00-2	a) Aquatic acute toxicity : LC50 Fish Goldorfen = 325.00 mg/L 96h OECD Guideline 203

		a) Aquatic acute toxicity : LC50 Daphnia Daphnia Magna = 100.00 mg/L 48h OECD 202
		a) Aquatic acute toxicity : NOEC Algae Selenastrum capricornutum = 44.80 mg/L 72h OECD Guideline 201
		a) Aquatic acute toxicity : NOEC Sludge activated sludge = 580.00 mg/L 3h
2,2'-iminodiethylamine; diethylenetriamine	CAS: 111-40-0 - EINECS: 203-865-4 - INDEX: 612-058-00-X	a) Aquatic acute toxicity : LC50 Fish Poecilia reticulata = 430.00 mg/L 96h
		b) Aquatic chronic toxicity : NOEC Fish Gasterosteus aculeatus = 10.00 mg/L - 28days
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 32.00 mg/L 48h
		b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 5.60 mg/L - 21days
		a) Aquatic acute toxicity : EC50 Algae Pseudokirchnerella subcapitata = 1164.00 mg/L 72h OECD 201
		c) Bacteria toxicity : EC50 nitrifying bacteria = 32.70 mg/L - 17h
		d) Terrestrial toxicity : LC50 Worm = 797.00 mg/kg
2,6-di-tert-butyl-p-cresol	CAS: 128-37-0 - EINECS: 204-881-4	a) Aquatic acute toxicity : LC50 Fish Danio rerio > 0.57000 mg/L 96h
		b) Aquatic chronic toxicity : EC10 Fish Oryzias latipes = 0.05300 mg/L ,,OECD Guideline 210 (Fish, Early-Life Stage Toxicity Test)
		a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 0.48000 mg/L 48h OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
		a) Aquatic acute toxicity : EC50 Algae > 0.40000 mg/L 72h
		c) Bacteria toxicity : EC50 Tetrahymena pyriformis = 1.70000 mg/L

12.2. Persistence and degradability

Component	Persitence/Degradability:	Test	Value	Notes
Polyoxpropylenediamine	Non-readily biodegradable	CO2 production	9.800	%; OECD Guideline 301B
1,3-Cyclohexanedimethanamine	Non-readily biodegradable	CO2 production		OECD Guideline No 301 B.
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4)	Readily biodegradable	CO2 production		
2,2'-iminodiethylamine; diethylenetriamine	Readily biodegradable		87.000	21days
2,6-di-tert-butyl-p-cresol	Non-readily biodegradable	Biochemical oxigen demand	4.500	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))

12.3. Bioaccumulative potential

Component	Bioaccumulation	Test	Value	Notes
p-toluenesulphonic acid (containing a maximum of 5 % H2SO4)	Not bioaccumulative			
2,2'-iminodiethylamine; diethylenetriamine	Bioaccumulative	BCF - Bioconcentrantion factor	6.300	
2,6-di-tert-butyl-p-cresol	Bioaccumulative	BCF - Bioconcentrantion factor	598.400	L/kg ww

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

No PBT/vPvB Ingredients are present

12.6 Endocrine disrupting properties

No endocrine disruptor substances present in concentration >= 0.1%

12.7 Other adverse effects

N.A.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

A waste code according to European waste catalogue (EWC) cannot be specified, due to dependence on the usage. Contact an authorized waste disposal service.

Properties of waste which render it hazardous (Annex III, Directive 2008/98/EC):

N.A.

SECTION 14: Transport information

14.1. UN number or ID number

2735

14.2. UN proper shipping name

ADR-Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. (1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with glycidyl tolyl ether - Polyoxpropylenediamine)

IATA-Technical name: AMINES, LIQUID, CORROSIVE, N.O.S. (1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with glycidyl tolyl ether - Polyoxpropylenediamine)

IMDG-Technical name: AMINES, LIQUID, CORROSIVE, N.O.S. (1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with glycidyl tolyl ether - Polyoxpropylenediamine)

14.3. Transport hazard class(es)

ADR-Class: 8

IATA-Class: 8

IMDG-Class: 8

14.4. Packing group

ADR-Packing Group: II

IATA-Packing group: II

IMDG-Packing group: II

14.5. Environmental hazards

Toxic Component most present: 1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with glycidyl tolyl ether

Marine pollutant: Yes

Environmental Pollutant: Yes

IMDG-EMS: F-A, S-B

14.6. Special precautions for user

Road and Rail (ADR-RID) :

ADR-Label: 8

ADR - Hazard identification number: 80

ADR-Special Provisions: 274

ADR-Transport category (Tunnel restriction code): 2 (E)

ADR Limited Quantities: 1 L

ADR Excepted Quantities: E2

Air (IATA) :

IATA-Passenger Aircraft: 851

IATA-Cargo Aircraft: 855

IATA-Label: 8

IATA-Subsidiary hazards: -

IATA-Erg: 8L

IATA-Special Provisioning: A3 A803

Sea (IMDG) :

IMDG-Stowage Code: Category A

IMDG-Stowage Note: SG35 SGG18

IMDG-Subsidiary hazards: -

IMDG-Special Provisioning: 274

14.7. Maritime transport in bulk according to IMO instruments

N.A.

SECTION 15: Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work)
Dir. 2000/39/EC (Occupational exposure limit values)
Regulation (EC) n. 1907/2006 (REACH)
Regulation (EC) n. 1272/2008 (CLP)
Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
Regulation (EU) n. 286/2011 (ATP 2 CLP)
Regulation (EU) n. 618/2012 (ATP 3 CLP)
Regulation (EU) n. 487/2013 (ATP 4 CLP)
Regulation (EU) n. 944/2013 (ATP 5 CLP)
Regulation (EU) n. 605/2014 (ATP 6 CLP)
Regulation (EU) n. 2015/1221 (ATP 7 CLP)
Regulation (EU) n. 2016/918 (ATP 8 CLP)
Regulation (EU) n. 2016/1179 (ATP 9 CLP)
Regulation (EU) n. 2017/776 (ATP 10 CLP)
Regulation (EU) n. 2018/669 (ATP 11 CLP)
Regulation (EU) n. 2018/1480 (ATP 13 CLP)
Regulation (EU) n. 2019/521 (ATP 12 CLP)
Regulation (EU) n. 2020/217 (ATP 14 CLP)
Regulation (EU) n. 2020/1182 (ATP 15 CLP)
Regulation (EU) n. 2021/643 (ATP 16 CLP)
Regulation (EU) n. 2020/878
Regulation (EC) nr 648/2004 (Detergents).

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product: 3

Restrictions related to the substances contained: 75

Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1	Lower-tier threshold (tonnes)	Upper-tier threshold (tonnes)
Product belongs to category: E1	100	200

Regulation (EU) 649/2012 (PIC regulation):

No Substance Listed

German Water Hazard Class.

Class 2: hazardous for water.

SVHC Substances:

No data available

15.2. Chemical safety assessment

A Chemical Safety Assessment has been carried out for the mixture.

SECTION 16: Other information

Code	Description
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Code	Hazard class and hazard category	Description
3.1/2/Inhal	Acute Tox. 2	Acute toxicity (inhalation), Category 2
3.1/4/Dermal	Acute Tox. 4	Acute toxicity (dermal), Category 4
3.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
3.2/1A	Skin Corr. 1A	Skin corrosion, Category 1A
3.2/1B	Skin Corr. 1B	Skin corrosion, Category 1B
3.2/1C	Skin Corr. 1C	Skin corrosion, Category 1C
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/1	Eye Dam. 1	Serious eye damage, Category 1
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3
4.1/A1	Aquatic Acute 1	Acute aquatic hazard, category 1
4.1/C1	Aquatic Chronic 1	Chronic (long term) aquatic hazard, category 1
4.1/C3	Aquatic Chronic 3	Chronic (long term) aquatic hazard, category 3

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
3.1/4/Oral	Calculation method
3.2/1A	Calculation method
3.3/1	Calculation method
3.4.2/1	Calculation method
4.1/A1	Calculation method
4.1/C1	Calculation method

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

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

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic

COD: Chemical Oxygen Demand

COV: Volatile Organic Compound

CSA: Chemical Safety Assessment

CSR: Chemical Safety Report

DMEL: Derived Minimal Effect Level

DNEL: Derived No Effect Level.

DPD: Dangerous Preparations Directive

DSD: Dangerous Substances Directive

EC50: Half Maximal Effective Concentration

ECHA: European Chemicals Agency

EINECS: European Inventory of Existing Commercial Chemical Substances.

ES: Exposure Scenario
GefStoffVO: Ordinance on Hazardous Substances, Germany.
GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association.
IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
IC50: half maximal inhibitory concentration
ICAO: International Civil Aviation Organization.
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG: International Maritime Code for Dangerous Goods.
INCI: International Nomenclature of Cosmetic Ingredients.
IRCCS: Scientific Institute for Research, Hospitalization and Health Care
KAFH: Keep Away From Heat
KSt: Explosion coefficient.
LC50: Lethal concentration, for 50 percent of test population.
LD50: Lethal dose, for 50 percent of test population.
LDLo: Leathal Dose Low
N.A.: Not Applicable
N/A: Not Applicable
N/D: Not defined/ Not available
NA: Not available
NIOSH: National Institute for Occupational Safety and Health
NOAEL: No Observed Adverse Effect Level
OSHA: Occupational Safety and Health Administration.
PBT: Persistent, Bioaccumulative and Toxic
PGK: Packaging Instruction
PNEC: Predicted No Effect Concentration.
PSG: Passengers
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
TLV: Threshold Limiting Value.
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
vPvB: Very Persistent, Very Bioaccumulative.
WGK: German Water Hazard Class.

Paragraphs modified from the previous revision:

- 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING
- 2. HAZARDS IDENTIFICATION
- 3. COMPOSITION/INFORMATION ON INGREDIENTS
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 11. TOXICOLOGICAL INFORMATION
- 12. ECOLOGICAL INFORMATION
- 13. DISPOSAL CONSIDERATIONS
- 14. TRANSPORT INFORMATION
- 15. REGULATORY INFORMATION
- 16. OTHER INFORMATION

Exposure Scenario
2,6-di-tert-butyl-p-cresol

Exposure Scenario, 25/06/2021

Substance identity	
	2,6-di-tert-butyl-p-cresol
CAS No.	128-37-0
EINECS No.	204-881-4
Registration number	01-2119555270-46/01-2119565113-46

Table of contents

1. ES 1 Widespread use by professional workers; Various products (PC9a, PC1)

1.1 TITLE SECTION

Exposure Scenario name	Professional application of coatings and inks
Date - Version	25/06/2021 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)
Product Categories	Coatings and paints, thinners, paint removers (PC9a) - Adhesives, sealants (PC1)

Environment Contributing Scenario

CS1	ERC8c - ERC8f

1.2 Conditions of use affecting exposure

1.2. CS1: Environment Contributing Scenario (ERC8c, ERC8f)

Environmental release categories	Widespread use leading to inclusion into/onto article (indoor) - Widespread use leading to inclusion into/onto article (outdoor) (ERC8c, ERC8f)

Amount used, frequency and duration of use (or from service life)

Amounts used:

Annual amount per site <= 27.5 t(onnes)/year

Conditions and measures related to sewage treatment plant

STP type:

Onsite Sewage Treatment Plant

STP effluent (m^3/day): 2000

Conditions and measures related to treatment of waste (including article waste)

Waste treatment

Hazardous waste incineration

No specific measures identified.

Other conditions affecting environmental exposure

Local marine water dilution factor: 100

Local freshwater dilution factor: 10

Receiving surface water flow: 18000 m^3/day

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional Good Practice Advice:

Ensure control measures are regularly inspected and maintained.

1.3 Exposure estimation and reference to its source

1.3. CS1: Environment Contributing Scenario (ERC8c, ERC8f)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
N/A	N/A	ECETOC TRA environment v3	< 1

1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure Scenario
1,3-Cyclohexanedimethanamine

Exposure Scenario, 29/12/2021

Substance identity	
	1,3-Cyclohexanedimethanamine
CAS No.	2579-20-6
EINECS No.	219-941-5
Registration number	01-2119543741-41

Table of contents

1. ES 1 Widespread use by professional workers

1.1 TITLE SECTION

Exposure Scenario name	Professional application of coatings and inks
Date - Version	29/12/2021 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)

Environment Contributing Scenario

CS1 Wet formulation	ERC8a - ERC8c

Worker Contributing Scenario

CS2 Rolling, Brushing - Material transfers	PROC8a - PROC10

1.2 Conditions of use affecting exposure

1.2. CS1: Environment Contributing Scenario: Wet formulation (ERC8a, ERC8c)

Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) - Widespread use leading to inclusion into/onto article (indoor) (ERC8a, ERC8c)

Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

34 Pa

Technical and organisational conditions and measures

Control measures to prevent releases

No specific measures identified.

Conditions and measures related to sewage treatment plant

STP type:

No specific measures identified.

Conditions and measures related to treatment of waste (including article waste)

Waste treatment

This material and its container must be disposed of as hazardous.
Dispose of this material and its container at hazardous or special waste collection point.
Dispose of waste cans and containers according to local regulations.

1.2. CS2: Worker Contributing Scenario: Rolling, Brushing - Material transfers (PROC8a, PROC10)

Process Categories	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Roller application or brushing (PROC8a, PROC10)

Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

34 Pa

Concentration of substance in product:

Covers percentage substance in the product up to 25 %.

Amount used, frequency and duration of use/exposure

Duration:

Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

Ensure operatives are trained to minimise exposures.
Local exhaust ventilation

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection

Wear suitable gloves tested to EN374.
Wear suitable face shield.
Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.
Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin.
Wear suitable respiratory protection.

Other conditions affecting worker exposure

Indoor use
Professional use

Body parts exposed:

Assumes that potential dermal contact is limited to hands.

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional Good Practice Advice:

Clear spills immediately.

1.3 Exposure estimation and reference to its source

1.3. CS1: Environment Contributing Scenario: Wet formulation (ERC8a, ERC8c)

Additional information on exposure estimation:

As no environmental hazard was identified no environmental-related exposure assessment and risk characterization was performed.

1.3. CS2: Worker Contributing Scenario: Rolling, Brushing - Material transfers (PROC8a, PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, short-term	N/A	ECETOC TRA worker v2.0	0.992
dermal, systemic, short-term	N/A	ECETOC TRA worker v2.0	0.005
combined routes, systemic, short-term	N/A	ECETOC TRA worker v2.0	0.998

1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure Scenario
Polyoxpropylenediamine

Exposure Scenario, 17/06/2021

Substance identity	
	Polyoxpropylenediamine
CAS No.	9046-10-0
EINECS No.	618-561-0
Registration number	01-2119557899-12

Table of contents

1. ES 1 Widespread use by professional workers; Various products (PC9b, PC32)

1.1 TITLE SECTION

Exposure Scenario name	Use in coatings - Use in rigid foams, coatings, adhesives and sealants - Waterproofing agent
Date - Version	17/06/2021 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)
Product Categories	Fillers, putties, plasters, modelling clay (PC9b) - Polymer preparations and compounds (PC32)

Environment Contributing Scenario

CS1	ERC8c

Worker Contributing Scenario

CS2 Rolling, Brushing	PROC10
CS3 Mixing operations - Manual	PROC19

1.2 Conditions of use affecting exposure

1.2. CS1: Environment Contributing Scenario (ERC8c)

Environmental release categories	Widespread use leading to inclusion into/onto article (indoor) (ERC8c)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
= 90 Pa

Concentration of substance in product:
Covers percentage substance in the product up to 25 %.

Amount used, frequency and duration of use (or from service life)

Emission days: 365 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

Municipal sewage treatment plant is assumed.	Water - minimum efficiency of: = 1.5 %

Conditions and measures related to sewage treatment plant

STP type:
Municipal Sewage Treatment Plant
STP effluent (m³/day): 2000

Other conditions affecting environmental exposure

Local marine water dilution factor: 100
Local freshwater dilution factor: 10
Receiving surface water flow: 18000 m³/day
Indoor use

1.2. CS2: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Process Categories	Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
= 90 Pa

Concentration of substance in product:
Covers percentage substance in the product up to 25 %.

Amount used, frequency and duration of use/exposure

Duration:
Covers use up to = 480 min

Frequency:
Covers use up to = 5 days per week

Technical and organisational conditions and measures

Technical and organisational measures
Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.
Avoid direct eye contact with product, also via contamination on hands.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with ''basic'' employee training. Wear respiratory protection when its use is identified for certain contributing scenarios. Wear suitable respiratory protection. Wear suitable face shield.	Dermal - minimum efficiency of: = 90 %

Other conditions affecting worker exposure

Indoor use
Professional use
Temperature: Assumes use at not more than 20 °C above ambient temperature.

1.2. CS3: Worker Contributing Scenario: Mixing operations - Manual (PROC19)

Process Categories	Manual activities involving hand contact (PROC19)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
= 90 Pa

Concentration of substance in product:
Covers percentage substance in the product up to 25 %.

Amount used, frequency and duration of use/exposure

Duration:
Covers use up to = 240 min

Frequency:
Covers use up to = 5 days per week

Technical and organisational conditions and measures

Technical and organisational measures
Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.
Avoid direct eye contact with product, also via contamination on hands.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with ''basic'' employee training. Wear respiratory protection when its use is identified for certain contributing scenarios. Wear suitable respiratory protection. Wear suitable face shield.	Dermal - minimum efficiency of: = 95 %

Other conditions affecting worker exposure

Indoor use
Professional use
Temperature: Assumes use at not more than 20 °C above ambient temperature.

1.3 Exposure estimation and reference to its source

1.3. CS2: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	= 0.6857 mg/kg bw/day	ECETOC TRA worker v3	= 0.274286

1.3. CS3: Worker Contributing Scenario: Mixing operations - Manual (PROC19)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	= 1.7697 mg/kg bw/day	ECETOC TRA worker v3	= 0.707143

1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Exposure Scenario
Polyoxpropylenediamine

Exposure Scenario, 17/06/2021

Substance identity	
	Polyoxpropylenediamine
CAS No.	9046-10-0
EINECS No.	618-561-0
Registration number	01-2119557899-12

Table of contents

1. ES 1 Widespread use by professional workers; Various products (PC9b, PC32)

1.1 TITLE SECTION

Exposure Scenario name	Use in coatings - Use in rigid foams, coatings, adhesives and sealants - Waterproofing agent
Date - Version	17/06/2021 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)
Product Categories	Fillers, putties, plasters, modelling clay (PC9b) - Polymer preparations and compounds (PC32)

Environment Contributing Scenario

CS1	ERC8c

Worker Contributing Scenario

CS2 Rolling, Brushing	PROC10
CS3 Mixing operations - Manual	PROC19

1.2 Conditions of use affecting exposure

1.2. CS1: Environment Contributing Scenario (ERC8c)

Environmental release categories	Widespread use leading to inclusion into/onto article (indoor) (ERC8c)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
= 90 Pa

Concentration of substance in product:
Covers percentage substance in the product up to 25 %.

Amount used, frequency and duration of use (or from service life)

Emission days: 365 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

Municipal sewage treatment plant is assumed.	Water - minimum efficiency of: = 1.5 %

Conditions and measures related to sewage treatment plant

STP type:
Municipal Sewage Treatment Plant
STP effluent (m³/day): 2000

Other conditions affecting environmental exposure

Local marine water dilution factor: 100
Local freshwater dilution factor: 10
Receiving surface water flow: 18000 m³/day
Indoor use

1.2. CS2: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Process Categories	Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
= 90 Pa

Concentration of substance in product:
Covers percentage substance in the product up to 25 %.

Amount used, frequency and duration of use/exposure

Duration:
Covers use up to = 480 min

Frequency:
Covers use up to = 5 days per week

Technical and organisational conditions and measures

Technical and organisational measures
Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.
Avoid direct eye contact with product, also via contamination on hands.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with ''basic'' employee training. Wear respiratory protection when its use is identified for certain contributing scenarios. Wear suitable respiratory protection. Wear suitable face shield.	Dermal - minimum efficiency of: = 90 %

Other conditions affecting worker exposure

Indoor use
Professional use
Temperature: Assumes use at not more than 20 °C above ambient temperature.

1.2. CS3: Worker Contributing Scenario: Mixing operations - Manual (PROC19)

Process Categories	Manual activities involving hand contact (PROC19)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
= 90 Pa

Concentration of substance in product:
Covers percentage substance in the product up to 25 %.

Amount used, frequency and duration of use/exposure

Duration:
Covers use up to = 240 min

Frequency:
Covers use up to = 5 days per week

Technical and organisational conditions and measures

Technical and organisational measures
Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.
Avoid direct eye contact with product, also via contamination on hands.

Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with ''basic'' employee training. Wear respiratory protection when its use is identified for certain contributing scenarios. Wear suitable respiratory protection. Wear suitable face shield.	Dermal - minimum efficiency of: = 95 %

Other conditions affecting worker exposure

Indoor use
Professional use
Temperature: Assumes use at not more than 20 °C above ambient temperature.

1.3 Exposure estimation and reference to its source

1.3. CS2: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	= 0.6857 mg/kg bw/day	ECETOC TRA worker v3	= 0.274286

1.3. CS3: Worker Contributing Scenario: Mixing operations - Manual (PROC19)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	= 1.7697 mg/kg bw/day	ECETOC TRA worker v3	= 0.707143

1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.