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

1.1. Product identifier

Mixture identification:

Trade name: PRIMER MF/B

Trade code: 902415

UFI: CF90-M0F6-C006-EN4A

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

Recommended use: Hardener for epoxy products

Uses advised against: Not available

1.3. Details of the supplier of the safety data sheet

Company: MAPEI S.p.A. - Via Cafiero, 22 - 20158 Milano

Tel. +(39)02376731 (office hours) - Fax: +39-02-37673.214 - www.mapei.it

Responsable: sicurezza@mapei.it

1.4. Emergency telephone number

Centro antiveleni, Azienda ospedaliera "Antonio Cardarelli", III Servizio di anestesia e rianimazione, via Antonio Cardarelli 9, Napoli - Tel. 081 5453333

Centro antiveleni, Azienda ospedaliera universitaria Careggi, U.O. Tossicologia medica, via Largo Brambilla 3, Firenze - Tel. 055 7947819

Centro antiveleni, Centro nazionale d'informazione tossicologica, IRCCS Fondazione Salvatore Maugeri Clinica del lavoro e della riabilitazione, via Salvatore Maugeri 10, Pavia - Tel. 0382 24444

Centro antiveleni, Azienda ospedaliera Niguarda Ca' Granda, piazza Ospedale Maggiore 3, Milano - Tel. 02 66101029

Centro antiveleni, Azienda ospedaliera "Papa Giovanni XXIII", Tossicologia clinica, Dipartimento di farmacia clinica e farmacologia, piazza OMS 1, Bergamo - Tel. 800 883300

Centro antiveleni Policlinico "Umberto I", PRGM tossicologia d'urgenza, viale del Policlinico 155, Roma - Tel. 06 49978000

Centro antiveleni del Policlinico "Agostino Gemelli", Servizio di tossicologia clinica, largo Agostino Gemelli 8, Roma - Tel. 06 3054343

Centro antiveleni, Azienda ospedaliera universitaria Riuniti, viale Luigi Pinto 1, Foggia - Tel. 800 183459

Centro antiveleni, Ospedale pediatrico Bambino Gesù, Dipartimento emergenza e accettazione DEA, piazza Sant'Onofrio 4, Roma - Tel. 06 68593726

Centro antiveleni dell'Azienda ospedaliera universitaria integrata (AOUI) di Verona sede di Borgo Trento, piazzale Aristide Stefani, 1 - 37126 Verona - Tel. 800 011858

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.
STOT RE 2	May cause damage to organs through prolonged or repeated exposure.
Aquatic Chronic 3	Harmful 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.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P261	Avoid breathing mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/clothing and eye/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER.

Special Provisions:

EUH208	Contains 3-aminomethyl-3,5,5-trimethylcyclohexylamine. May produce an allergic reaction.
EUH208	Contains 2-piperazin-1-ylethylamine. May produce an allergic reaction.

Contains

Reaction products of 3-aminomethyl-3,5,5-trimethylcyclohexylamine and 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane

benzyl alcohol

2,4,6-tris(dimethylaminomethyl)phenol

2-Methylpentane-1,5-diamine

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

None.

2.3. Other hazards

PBT, vPvB or endocrine disruptor substances present in concentration >= 0.1%:

Component	Ident. Numb.	Quantity	Material Properties
4-tert-butylphenol	CAS: 98-54-4 - EINECS: 202-679-0 - Index: 604-090-00-8	>=1 - <2.5 %	SVHC – Endocrine disruptor

Other Hazards: No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

Not Relevant

3.2. Mixtures

Mixture identification: PRIMER MF/B

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

Qty	Name	Ident. Numb.	Classification	Registration Number	Material Properties
≥25 - <50 %	Reaction products of 3-aminomethyl-3,5,5-trimethylcyclohexylamine and 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	CAS:38294-64-3, 68609-08-5 EC:500-101-4	Skin Corr. 1B, H314; Eye Dam. 1, H318; Skin Sens. 1, H317; Aquatic Chronic 3, H412	01-2119965165-33-XXXX	
≥20 - <25 %	benzyl alcohol	CAS:100-51-6 EC:202-859-9 Index:603-057-00-5	Acute Tox. 4, H332; Acute Tox. 4, H302; Eye Irrit. 2, H319	01-2119492630-38-XXXX	
≥10 - <20 %	2,4,6-tris(dimethylaminomethyl)phenol	CAS:90-72-2 EC:202-013-9 Index:603-069-00-0	Skin Corr. 1C, H314; Eye Dam. 1, H318; Acute Tox. 4, H302	01-2119560597-27-XXXX	
≥5 - <10 %	2-Methylpentane-1,5-diamine	CAS:15520-10-2 EC:239-556-6	Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin	01-2119976310-41-XXXX	

			Corr. 1A, H314; Eye Dam. 1, H318; STOT SE 3, H335		
≥2.5 - <5 %	3-aminomethyl-3,5,5-trimethylcyclohexylamine	CAS:2855-13-2 EC:220-666-8 Index:612-067-00-9	Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1A, H317 Specific Concentration Limits: C ≥ 0,001%: Skin Sens. 1A H317 Acute Toxicity Estimate: ATE - Oral: 1030mg/kg bw	01-2119514687-32-xxxx	
≥1 - <2.5 %	4-tert-butylphenol	CAS:98-54-4 EC:202-679-0 Index:604-090-00-8	Skin Irrit. 2, H315; Eye Dam. 1, H318; Aquatic Chronic 1, H410; Repr. 2, H361f, M-Chronic:1	01-2119489419-21-XXXX	SVHC Endocrine disruptor
≥1 - <2.5 %	2-piperazin-1-ylethylamine	CAS:140-31-8 EC:205-411-0 Index:612-105-00-4	Acute Tox. 3, H311; Repr. 2, H361; STOT RE 1, H372; Acute Tox. 4, H302; Skin Corr. 1B, H314; Skin Sens. 1, H317; Aquatic Chronic 3, H412	01-2119471486-30	

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 immediately and dispose of 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).

Treatment:

(see paragraph 4.1)

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.

5.3. Advice for firefighters

Use suitable breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

6.2. Environmental precautions

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

Limit leakages with earth or sand.

6.3. Methods and material for containment and cleaning up

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

Retain contaminated washing water and dispose it.

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, inhalation 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.

Contaminated 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

Keep away from food, drink and feed.

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)

	OEL Type	Country	Occupational Exposure Limit
benzyl alcohol CAS: 100-51-6	National	FINLAND	Long Term: 45 mg/m3 - 10 ppm
	National	POLAND	Long Term: 240 mg/m3
	DFG	GERMANY	Ceiling - Short Term: 44 mg/m3 - 10 ppm
	National	GERMANY	Long Term: 22 mg/m3 - 5 ppm
	NDS	POLAND	Long Term: 240 mg/m3
	National	CZECH REPUBLIC	Long Term: 40 mg/m3
	National	LATVIA	Long Term: 5 mg/m3
	National	CZECH REPUBLIC	Ceiling - Short Term: 80 mg/m3
	National	BULGARIA	Long Term: 5 mg/m3
	National	LITHUANIA	Long Term: 5 mg/m3
	National	SLOVENIA	Long Term: 22 mg/m3 - 5 ppm; Short Term: 44 mg/m3 - 10 ppm
4-tert-butylphenol CAS: 98-54-4	DFG	GERMANY	Ceiling - Short Term: 1 mg/m3 - 0,16 ppm
	National	DENMARK	Long Term: 0,5 mg/m3 - 0,08 ppm
	National	GERMANY	Long Term: 0,5 mg/m3 - 0,08 ppm
	CHE	SWITZERLAND	Short Term: 1 mg/m3 - 0,16 ppm
	National	SLOVENIA	Long Term: 0,5 mg/m3 - 0,08 ppm; Short Term: 2 mg/m3 - 0,32 ppm
	National	SLOVAKIA	Long Term: 0,08 mg/m3
	National	SLOVAKIA	Long Term: 0,5 mg/m3

	National SLOVENIA Long Term: 0,5 mg/m3 - 0,08 ppm; Short Term: 1 mg/m3 - 0,16 ppm

Predicted No Effect Concentration (PNEC) values

Reaction products of 3-aminomethyl-3,5,5-trimethylcyclohexylamine and 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane CAS: 38294-64-3, 68609-08-5	Exposure Route: Fresh Water
	Exposure Route: Marine water
	Exposure Route: Intermittent release
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 10 mg/l
	Exposure Route: Freshwater sediments
	Exposure Route: Marine water sediments
	Exposure Route: Soil
	Exposure Route: Oral; PNEC Limit: 1 mg/kg
benzyl alcohol CAS: 100-51-6	Exposure Route: Fresh Water; PNEC Limit: 1 mg/l
	Exposure Route: Marine water; PNEC Limit: 0,1 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 5,27 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 0,527 mg/kg
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 39 mg/l
	Exposure Route: Soil; PNEC Limit: 0,45 mg/kg
	Exposure Route: Intermittent release; PNEC Limit: 2,3 mg/l
2-Methylpentane-1,5-diamine CAS: 15520-10-2	Exposure Route: Marine water; PNEC Limit: 0,042 mg/l
	Exposure Route: Fresh Water; PNEC Limit: 0,42 mg/l
	Exposure Route: Intermittent release; PNEC Limit: 0,42 mg/l
3-aminomethyl-3,5,5-trimethylcyclohexylamine CAS: 2855-13-2	Exposure Route: Fresh Water; PNEC Limit: 0,06 mg/l
	Exposure Route: Marine water; PNEC Limit: 0,006 mg/l
	Exposure Route: Intermittent release; PNEC Limit: 0,23 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 5,784 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 0,578 mg/kg
	Exposure Route: Soil; PNEC Limit: 1,121 mg/kg
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 3,18 mg/l
2-piperazin-1-ylethylamine CAS: 140-31-8	Exposure Route: Fresh Water; PNEC Limit: 0,058 mg/l
	Exposure Route: Marine water; PNEC Limit: 0,0058 mg/l
	Exposure Route: Intermittent release; PNEC Limit: 0,58 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 215 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 21,5 mg/kg
	Exposure Route: Soil; PNEC Limit: 42,9 mg/kg
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 250 mg/l

Derived No Effect Level (DNEL) values

Reaction products of 3-aminomethyl-3,5,5-trimethylcyclohexylamine and 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Industry: 0,493 mg/m3; Consumer: 0,74 mg/m3

CAS: 38294-64-3, 68609-08-5	
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Industry: 0,14 mg/kg; Consumer: 0,05 mg/kg
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
benzyl alcohol CAS: 100-51-6	Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects Consumer: 20 mg/kg
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 4 mg/kg
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Worker Industry: 110 mg/m3; Consumer: 27 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Industry: 22 mg/m3; Consumer: 5,4 mg/m3
	Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects Worker Industry: 40 mg/kg; Consumer: 20 mg/kg
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Industry: 8 mg/kg; Consumer: 4 mg/kg
2,4,6-tris (dimethylaminomethyl) phenol CAS: 90-72-2	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Industry: 0,31 mg/m3
2-Methylpentane-1,5-diamine CAS: 15520-10-2	Exposure Route: Human Dermal; Exposure Frequency: Long Term (repeated) Worker Industry: 1,5 mg/kg
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term (repeated) Worker Industry: 0,25 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term (acute) Worker Industry: 0,5 mg/m3
3-aminomethyl-3,5,5-trimethylcyclohexylamine CAS: 2855-13-2	Exposure Route: Human Inhalation Worker Industry: 20,1 mg/m3
2-piperazin-1-ylethylamine CAS: 140-31-8	Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects Worker Industry: 20 mg/kg; Consumer: 10 mg/kg
	Exposure Route: Human Dermal; Exposure Frequency: Short Term, local effects Worker Industry: 0,04 mg/cm2; Consumer: 0,02 mg/cm2
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Industry: 3,3 mg/kg; Consumer: 1,7 mg/kg
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Industry: 3,6 mg/m3; Consumer: 0,9 mg/m3
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, local effects Worker Industry: 0,006 mg/cm2; Consumer: 0,003 mg/cm2
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Worker Industry: 21,4 mg/m3; Consumer: 5,3 mg/m3
	Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects Consumer: 1,5 mg/kg
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 0,3 mg/kg

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:

Suitable materials for safety gloves; EN ISO 374:

Polychloroprene - CR: thickness >=0,5mm; breakthrough time >=480min.

Nitrile rubber - NBR: thickness >=0,35mm; breakthrough time >=480min.

Butyl rubber - IIR: thickness >=0,5mm; breakthrough time >=480min.

Fluorinated rubber - FKM: thickness >=0,4mm; breakthrough time >=480min.

Neoprene gloves are suggested (0,5 mm) not recommended gloves: not waterproof gloves

Respiratory protection:

Personal Protective Equipment should comply with relevant CE standards (as EN ISO 374 for gloves and EN ISO 166 for goggles), correctly maintained and stored. Consult the supplier to check the suitability of equipment against specific chemicals and for user information.

Respiratory protection must be used where exposure levels exceed workplace exposure limits. Refer to appropriate EN standards, like EN 136, 140, 143, 149, 14387 for information on selection and use of appropriate respiratory protection equipment.

Hygienic and Technical measures

Not available

Appropriate engineering controls:

Not available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid

Appearance: liquid

Color: Yellow

Odour: Characteristic

Odour threshold: Not available

Melting point / freezing point: Not available

Initial boiling point and boiling range: Not available

Flammability: N.A.

Upper/lower flammability or explosive limits: Not available

Flash point: Not available

Auto-ignition temperature: Not available

Decomposition temperature: Not available

pH: 11.00

Viscosity: 50.00 cPs

Kinematic viscosity: Not available

Solubility in water: partly soluble

Solubility in oil: soluble

Partition coefficient (n-octanol/water): Not available

Vapour pressure: Not available

Relative density: 1.00 g/cm3

Vapour density: Not available

Particle characteristics:

Particle size: Not available

9.2. Other information

Miscibility: Not available

Conductivity: Not available

Explosive properties: ==

No other relevant information

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Stable under normal conditions

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)
	ATEmix - Oral : 1863.77 mg/kg bw
b) skin corrosion/irritation	The product is classified: Skin Corr. 1A(H314)
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	The product is classified: STOT RE 2(H373)
j) aspiration hazard	Not classified
	Based on available data, the classification criteria are not met

Toxicological information on main components of the mixture:

Reaction products of 3-aminomethyl-3,5,5-trimethylcyclohexylamine and 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	a) acute toxicity	NOAEL Oral Rat = 30 mg/kg
benzyl alcohol	a) acute toxicity	LC50 Inhalation Mist Rat = 11, mg/l 4h
		LD50 Oral Rat = 1230, mg/kg
	g) reproductive toxicity	NOAEL Rat = 1072, mg/m3
2,4,6-tris (dimethylaminomethyl) phenol	a) acute toxicity	LD50 Oral Rat = 2169 mg/kg
		LD50 Skin Rat > 1, ml/kg
2-Methylpentane-1,5-diamine	a) acute toxicity	LC50 Inhalation Mist Rat = 4,9 mg/l 1h
		LD50 Oral Rat = 1170 mg/kg
		LD50 Skin Rat = 1870 mg/kg
		LC50 Inhalation Rat = 4,1 mg/l 1h
		LC50 Inhalation Rat = 2,9 mg/l 1h
		LD50 Oral Rat = 1690 mg/kg
3-aminomethyl-3,5,5-trimethylcyclohexylamine	a) acute toxicity	ATE - Oral : 1030 mg/kg bw
		LC50 Inhalation Dust Rat > 5,01 mg/l 4h
		LD50 Oral Rat = 1030 mg/kg
		LD50 Skin Rat > 2000 mg/kg
4-tert-butylphenol	a) acute toxicity	LD50 Skin Rabbit = 2318 mg/kg
		LD50 Oral Rat = 4000 mg/kg
2-piperazin-1-ylethylamine	a) acute toxicity	LD50 Skin Rabbit = 866 mg/kg

	LD50 Oral Rabbit > 2097 mg/kg
	LD50 Skin Rabbit = 880 µL/kg
	LD50 Oral Rat = 2140 µL/kg
e) germ cell mutagenicity	NOAEL Rat > 899 mg/kg
g) reproductive toxicity	NOAEL Oral Rat = mg/kg

11.2. Information on other hazards

Endocrine disrupting properties:

N.A.

SECTION 12: Ecological information

12.1. Toxicity

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

Eco-Toxicological Information:

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

List of Eco-Toxicological properties of the product

The product is classified: Aquatic Chronic 3(H412)

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
Reaction products of 3-aminomethyl-3,5,5-trimethylcyclohexylamine and 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	CAS: 38294-64-3, 68609-08-5 - EINECS: 500-101-4	a) Aquatic acute toxicity : LL50 Fish = 70,7 mg/L 96h
		a) Aquatic acute toxicity : NOELR Fish = 50 mg/L 96h
		a) Aquatic acute toxicity : NOELR Daphnia = 4,3 mg/L 48h
		a) Aquatic acute toxicity : EL50 Daphnia = 11,1 mg/L 48h
		a) Aquatic acute toxicity : EL50 Algae = 79,4 mg/L 72h
		a) Aquatic acute toxicity : NOEC Algae = 3,1 mg/L 72h
benzyl alcohol	CAS: 100-51-6 - EINECS: 202-859-9 - INDEX: 603-057-00-5	a) Aquatic acute toxicity : EC50 Daphnia = 230 mg/L 48
		a) Aquatic acute toxicity : LC50 Fish = 770 mg/L 1
		a) Aquatic acute toxicity : EC50 Algae = 770 mg/L 72
		a) Aquatic acute toxicity : LC50 Fish = 460 mg/L 96
		a) Aquatic acute toxicity : LC50 Fish Pimephales promelas = 460 mg/L 96h EPA
2,4,6-tris(dimethylaminomethyl)phenol	CAS: 90-72-2 - EINECS: 202-013-9 - INDEX: 603-069-00-0	a) Aquatic acute toxicity : LC50 Fish = 175 mg/L 96h
		a) Aquatic acute toxicity : EC50 Algae = 46,7 mg/L 72h
		a) Aquatic acute toxicity : NOEC Algae = 25,1 mg/L 72h
2-Methylpentane-1,5-diamine	CAS: 15520-10-2 - EINECS: 239-556-6	a) Aquatic acute toxicity : EC50 Algae > 100 mg/L 72
		a) Aquatic acute toxicity : EC50 Fish = 1825 mg/L 96
		a) Aquatic acute toxicity : EC50 Daphnia = 19,8 mg/L 48
3-aminomethyl-3,5,5-trimethylcyclohexylamine	CAS: 2855-13-2 - EINECS: 220-666-8 - INDEX: 612-067-00-9	a) Aquatic acute toxicity : LC50 Fish = 110 mg/L 96
		a) Aquatic acute toxicity : EC50 Daphnia = 23 mg/L 48
		a) Aquatic acute toxicity : EC50 Daphnia = 388 mg/L 48
		a) Aquatic acute toxicity : EC50 Algae > 50 mg/L 72

		b) Aquatic chronic toxicity : NOEC Daphnia = 3 mg/L - 21 d
		a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna 14,6 mg/L 48h EPA
		a) Aquatic acute toxicity : EC50 Algae Desmodesmus subspicatus = 37 mg/L 72h IUCLID
4-tert-butylphenol	CAS: 98-54-4 - EINECS: 202-679-0 - INDEX: 604-090-00-8	a) Aquatic acute toxicity : LC50 Fish Pimephales promelas 4,71 mg/L 96h EPA
		a) Aquatic acute toxicity : LC50 Fish Cyprinus carpio = 6,9 mg/L 96h EPA
		a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 3,9 mg/L 48h IUCLID
		a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna 3,4 mg/L 48h EPA
		a) Aquatic acute toxicity : EC50 Algae Desmodesmus subspicatus = 11,2 mg/L 72h IUCLID
2-piperazin-1-ylethylamine	CAS: 140-31-8 - EINECS: 205-411-0 - INDEX: 612-105-00-4	a) Aquatic acute toxicity : LC50 Fish = 2190 mg/L 96
		a) Aquatic acute toxicity : EC50 Daphnia = 58 mg/L 48
		a) Aquatic acute toxicity : EC50 Algae > 1000 mg/L 72
		a) Aquatic acute toxicity : LC50 Fish Pimephales promelas 1950 mg/L 96h EPA
		a) Aquatic acute toxicity : LC50 Fish Poecilia reticulata > 1000 mg/L 96h IUCLID
		a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss >= 100 mg/L 96h IUCLID
		a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 32 mg/L 48h IUCLID
		a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 495 mg/L 72h IUCLID

12.2. Persistence and degradability

Component	Persitence/Degradability:	Test	Duration	Value	Notes:
Reaction products of 3-aminomethyl-3,5,5-trimethylcyclohexylamine and 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Non-readily biodegradable	Oxygen consumption	28 d	0	apparent toxicity or inhibition of the micro inoculum

12.3. Bioaccumulative potential

Component	Bioaccumulation	Test	Value	Notes:
Reaction products of 3-aminomethyl-3,5,5-trimethylcyclohexylamine and 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Not bioaccumulative	BCF - Bioconcentrantion factor		
		Kow - Partition coefficient	3,600	log Pow 25°C, pH 7

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

PBT, vPvB or endocrine disruptor substances present in concentration >= 0.1%:

Component	Ident. Numb.	Quantity	Material Properties
4-tert-butylphenol	CAS: 98-54-4 - EINECS: 202-679-0 - Index: 604-090-00-8	>=1 - <2.5 %	SVHC – Endocrine disruptor

12.6. Endocrine disrupting properties

N.A.

12.7. Other adverse effects

Not available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Recover if possible.

A waste code (EWC) according to European List of Waste (LoW) cannot be specified, due to dependence on the usage. Contact and send to an authorized waste disposal service.

Methods of disposal:

Disposal of this product, solutions, packaging and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Dispose of surplus and nonrecyclable products via a licensed waste disposal contractor.

Do not dispose of waste into sewers.

Hazardous waste: Yes

Disposal considerations:

Do not allow to enter drains or watercourses.

Dispose of product according to all federal, state and local applicable regulations.

If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.

Dispose of containers contaminated by the product in accordance with local or national legal provisions. For further information, contact your local waste authority.

Special precautions:

This material and its container must be disposed of in a safe way. Care should be taken when handling untreated empty containers.

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Empty containers or liners may retain some product residues. Do not re-use empty containers.

SECTION 14: Transport information

14.1. UN number or ID number

2735

14.2. UN proper shipping name

ADR-Shipping Name: POLYAMINES, LIQUID, CORROSIVE, N.O.S. (cycloaliphatic polyamines - isophoronediamine)

IATA-Technical name: POLYAMINES, LIQUID, CORROSIVE, N.O.S. (cycloaliphatic polyamines - isophoronediamine)

IMDG-Technical name: POLYAMINES, LIQUID, CORROSIVE, N.O.S. (cycloaliphatic polyamines - isophoronediamine)

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

Marine pollutant: No

Environmental Pollutant: No

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)

Air (IATA):

IATA-Passenger Aircraft: 851

IATA-Cargo Aircraft: 855

IATA-Label: 8

IATA-Subsidiary hazards: -

IATA-Erg: 8L

IATA-Special Provisions: A3 A803

Sea (IMDG):

IMDG-Stowage Code: Category A

IMDG-Stowage Note: SG35 SGG18

IMDG-Subsidiary hazards: -

IMDG-Special Provisions: 274

IMDG-EMS: F-A, S-B

14.7. Maritime transport in bulk according to IMO instruments

Not Applicable

SECTION 15: Regulatory information

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

VOC (2004/42/EC) : 45 (A+B) g/l

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 (EU) n. 2020/878

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. 2019/521 (ATP 12 CLP)

Regulation (EU) n. 2018/1480 (ATP 13 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. 2021/849 (ATP 17 CLP)

Regulation (EU) n. 2022/692 (ATP 18 CLP)

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

None

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

SVHC Substances:

Substances in candidate list (Art. 59 Reg. 1907/2006, REACH):

Component	Ident. Numb.	Quantity	Material Properties
4-tert-butylphenol	CAS: 98-54-4	>=1 - <2.5 %	SVHC
	EINECS: 202-679-0		Endocrine disruptor
	Index: 604-090-00-8		

National regulations

Lagerklasse (TRGS-510): 8B - Non-combustible corrosive substances

German Water Hazard Class.

Class 3: extremely hazardous.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

SECTION 16: Other information

Code	Description
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
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.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H361	Suspected of damaging fertility or the unborn child.
H361f	Suspected of damaging fertility.
H372	Causes damage to organs through prolonged or repeated exposure if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
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
3.1/3/Dermal	Acute Tox. 3	Acute toxicity (dermal), Category 3
3.1/4/Dermal	Acute Tox. 4	Acute toxicity (dermal), Category 4
3.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), 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
3.4.2/1A	Skin Sens. 1A	Skin Sensitisation, Category 1A
3.7/2	Repr. 2	Reproductive toxicity, Category 2
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3
3.9/1	STOT RE 1	Specific target organ toxicity — repeated exposure, Category 1
3.9/2	STOT RE 2	Specific target organ toxicity — repeated exposure, Category 2
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
3.9/2	Calculation method
4.1/C3	Calculation method

If appropriate, specific provisions in relation to possible training for workers are mentioned in section 2. Any training related to safety in the workplace must in any case refer to a risk assessment that must be carried out by a company safety officer taking into account the specific operating and environmental conditions in which the products are used.

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 SDS 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: KAFH
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:

- SECTION 2: Hazards identification
- SECTION 3: Composition/information on ingredients
- SECTION 8: Exposure controls/personal protection
- SECTION 9: Physical and chemical properties

- SECTION 11: Toxicological information
- SECTION 12: Ecological information
- SECTION 15: Regulatory information
- SECTION 16: Other information