

Safety Data Sheet

PRIMER MF/B

Safety Data Sheet dated: 14/03/2023 - version 8

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Section 1: Identification

GHS Product identifier

Mixture identification:

Trade name: PRIMER MF/B

Trade code: 902415

Recommended use of the chemical and restrictions on use

Recommended use: Hardener for epoxy products

Uses advised against: no data available

Supplier's details

Company: MAPEI AUSTRALIA Pty Ltd

180 Viking Drive Wacol QLD 4076 Australia

T. +61 7 32765000 (Mon-Fri 8am to 4.30pm)

F. +61 7 32765076

Responsible: sales@mapei.com.au

Emergency phone number

Australian Poisons Information Centre 24 Hour Service 13 11 26

Police or Fire Brigade 000

Section 2: Hazard(s) identification



Classification of the Hazardous chemical

Acute toxicity (oral), Category 4

Harmful if swallowed.

Skin corrosion, Category 1A

Causes severe skin burns and eye damage.

Serious eye damage, Category 1

Causes serious eye damage.

Skin Sensitisation, Category 1

May cause an allergic skin reaction.

Specific target organ toxicity — repeated exposure, Category 2

May cause damage to organs through prolonged or repeated exposure if inhaled, in contact with skin and if swallowed.

Long-term (chronic) aquatic hazard - Category 3

Harmful to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:

No other hazards

GHS label elements, including precautionary statements

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 if inhaled, in contact with skin and if swallowed.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe mist/vapours/spray.

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment.

P280 Wear protective gloves/clothing and eye/face protection.

P301+P312 IF SWALLOWED: Call a POISON CENTER if you feel unwell.

P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P302+P352	IF ON SKIN: Wash with plenty of water.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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.
P314	Get medical advice if you feel unwell.
P321	Specific treatment (see supplementary instructions on this label)
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P501	Dispose of contents/container in accordance with applicable regulations.

Other hazards which do not result in a classification

Other Hazards: No other hazards

Section 3: Composition and information on ingredients

Substances

no data available

Mixtures

Mixture identification: PRIMER MF/B

Hazardous components within the meaning of the "Australian Work Health and Safety (WHS)" regulation and related classification:

Qty	Name	Ident. Numb.	Classification	Registration Number
≥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. 2A, 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	Acute Tox. 4, H302; Skin Corr. 1C, H314; Eye Dam. 1, H318	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 Corr. 1A, H314; Eye Dam. 1, H318; STOT SE 3, H335	01-2119976310-41-XXXX
≥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 Eye Dam. 1, H318 Skin Corr. 1B, H314 Skin Sens. 1A, H317 Specific Concentration Limits: C ≥ 0.001%: Skin Sens. 1A H317	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; Repr. 2, H361f; Aquatic Chronic 1, H410	01-2119489419-21-XXXX
≥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

Description of necessary 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 ophthalmologist immediately.
- Protect uninjured eye.

In case of Ingestion:

- Give nothing to eat or drink.

In case of Inhalation:

- If breathing is irregular or stopped, administer artificial respiration.
- In case of inhalation, consult a doctor immediately and show him packing or label.

Symptoms caused by exposure

- Eye irritation
- Eye damages
- Skin Irritation
- Erythema

Medical attention and special treatment

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

Section 5: Firefighting measures

Suitable extinguishing media

- None in particular.
- Water.
- Carbon dioxide (CO₂).

Extinguishing media which must not be used for safety reasons:

- None in particular.

Specific hazards arising from the chemical

- Do not inhale explosion and combustion gases.
- Burning produces heavy smoke.
- Hazardous combustion products: no data available
- Explosive properties: ==
- Oxidizing properties: no data available

Special protective equipment and precautions for fire-fighters

- 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.

HazChem Code/Emergency Action code

2X

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

- Wear personal protection equipment.
- Wear breathing apparatus if exposed to vapours/dusts/aerosols.
- Provide adequate ventilation.
- Use appropriate respiratory protection.

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.

Methods and material for containment and cleaning up

- Suitable material for taking up: absorbing material, organic, sand
- Wash with plenty of water.
- Retain contaminated washing water and dispose it.

Section 7: Handling and storage

Precautions for safe handling

- Avoid contact with skin and eyes, inhalation of vapours and mists.
- Use localized ventilation system.
- 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.

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.

Section 8: Exposure controls and personal protection

Control parameters – exposure standards, biological monitoring

Community Occupational Exposure Limits (OEL)

	OEL Type	Country	Occupational Exposure Limit
benzyl alcohol CAS: 100-51-6	National	FINLAND	Long Term: 45 mg/m ³ - 10 ppm
	National	POLAND	Long Term: 240 mg/m ³
	National	GERMANY	Long Term: 22 mg/m ³ - 5 ppm
	National	CZECH REPUBLIC	Long Term: 40 mg/m ³
	National	LATVIA	Long Term: 5 mg/m ³
	National	CZECH REPUBLIC	Ceiling - Short Term: 80 mg/m ³
	National	BULGARIA	Long Term: 5 mg/m ³
	National	LITHUANIA	Long Term: 5 mg/m ³
	National	SLOVENIA	Long Term: 22 mg/m ³ - 5 ppm; Short Term: 44 mg/m ³ - 10 ppm
	National	DENMARK	Long Term: 0.5 mg/m ³ - 0.08 ppm
4-tert-butylphenol CAS: 98-54-4	National	GERMANY	Long Term: 0.5 mg/m ³ - 0.08 ppm
	National	SLOVENIA	Long Term: 0.5 mg/m ³ - 0.08 ppm; Short Term: 2 mg/m ³ - 0.32 ppm
	National	SLOVAKIA	Long Term: 0.08 mg/m ³
	National	SLOVAKIA	Long Term: 0.5 mg/m ³
	National	SLOVENIA	Long Term: 0.5 mg/m ³ - 0.08 ppm; Short Term: 1 mg/m ³ - 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

Exposure Route: Fresh Water; PNEC Limit: 1 mg/l

benzyl alcohol
CAS: 100-51-6

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
Exposure Route: Marine water; PNEC Limit: 0.042 mg/l

2-Methylpentane-1,5-diamine
CAS: 15520-10-2

Exposure Route: Fresh Water; PNEC Limit: 0.42 mg/l
Exposure Route: Intermittent release; PNEC Limit: 0.42 mg/l
Exposure Route: Fresh Water; PNEC Limit: 0.06 mg/l

3-aminomethyl-3,5,5-trimethylcyclohexylamine
CAS: 2855-13-2

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
Exposure Route: Fresh Water; PNEC Limit: 0.058 mg/l

2-piperazin-1-ylethylamine
CAS: 140-31-8

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
CAS: 38294-64-3, 68609-08-5

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Industry: 0.493 mg/m³; Consumer: 0.74 mg/m³

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

Appropriate engineering controls

no data available

Individual protection measures, such as personal protective equipment (PPE)

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; AS/NZS 2161.10:

Polychloroprene - CR: thickness $\geq 0,5\text{mm}$; breakthrough time $\geq 480\text{min}$.

Nitrile rubber - NBR: thickness $\geq 0,35\text{mm}$; breakthrough time $\geq 480\text{min}$.

Butyl rubber - IIR: thickness $\geq 0,5\text{mm}$; breakthrough time $\geq 480\text{min}$.

Fluorinated rubber - FKM: thickness $\geq 0,4\text{mm}$; breakthrough time $\geq 480\text{min}$.

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

Respiratory protection:

Respiratory protection must be used where exposure levels exceed workplace exposure limits. Refer to AS/NZS 1715-1716 for information on selection and use of appropriate respiratory protection equipment.

Use adequate protective respiratory equipment.

Section 9: Physical and chemical properties

Physical state: Liquid

Appearance: liquid

Color: Yellow

Odour: Characteristic

pH: 11.00

Melting point / freezing point: no data available

Initial boiling point and boiling range: no data available

Flash point: no data available

Evaporation rate: no data available

Flammability (Solid, Gas) no data available

Lower and upper explosion limit/flammability limits: no data available

Vapour pressure: no data available

Vapour density: no data available
Relative density: 1.00 g/cm³
Solubility in water: partly soluble
Solubility in oil: soluble
Partition coefficient (n-octanol/water): no data available
Auto-ignition temperature: no data available
Decomposition temperature: no data available
Kinematic viscosity: no data available
VOC % (Volatile Organic Compound) : (A+B) 29.9 (Rule 1168) g/l

Particle characteristics:

Particle size: no data available
Particle size distribution: no data available
Shape and aspect ratio: no data available
Specific surface area: no data available

Section 10: Stability and reactivity

Reactivity

Stable under normal conditions

Chemical stability

no data available

Possibility of hazardous reactions

None.

Conditions to avoid

Stable under normal conditions.

Incompatible materials

None in particular.

Hazardous decomposition products

None.

Section 11: Toxicological information

Information on toxicological effects

Toxicological Information of the Preparation

a) acute toxicity	The product is classified: Acute toxicity (oral), Category 4(H302) ATEmix - Oral : 1863.77 mg/kg bw
b) skin corrosion/irritation	The product is classified: Skin corrosion, Category 1A(H314)
c) serious eye damage/irritation	The product is classified: Serious eye damage, Category 1(H318)
d) respiratory or skin sensitisation	The product is classified: Skin Sensitisation, Category 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: Specific target organ toxicity — repeated exposure, Category 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
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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	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

Section 12: Ecological information

Ecotoxicity

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

Eco-Toxicological Information:

Harmful to aquatic life with long lasting effects.

List of Eco-Toxicological properties of the product

The product is classified: Long-term (chronic) aquatic hazard - Category 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 -	a) Aquatic acute toxicity : LL50 Fish = 70.7 mg/L 96h
	EINECS: 500-101-4	
		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

Persistence and degradability

Component	Persistence/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

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 - Bioconcentration factor		
		Kow - Partition coefficient	3.600	log Pow 25°C, pH 7

Mobility in soil

no data available

Other adverse effects

no data available

Section 13: Disposal considerations

Disposal methods

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

no data available

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.

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

UN number

2735

UN proper shipping name

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

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)

Transport hazard class(es)

ADG-Class: 8

ADR-Class: 8

IATA-Class: 8

IMDG-Class: 8

Packing group, if applicable

ADG-Packing Group: II

ADR-Packing Group: II

IATA-Packing group: II

IMDG-Packing group: II

Environmental hazards

ADG-Environmental Pollutant: No

Marine pollutant: No

Special precautions for user

ADG-Subsidiary hazards -

ADG-S.P.: 274

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

Additional Information

no data available

HazChem Code/Emergency Action code

2X

Section 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

This Safety Data Sheet has been prepared according to the Australian Work Health and Safety (WHS) act and the Code of Practice on preparation of safety data sheets for Hazardous Chemicals.

AICIS: all components are listed

Section 16: Any other relevant 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.
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
3.3/2A	Eye Irrit. 2A	Eye irritation, Category 2A
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
AUS-HAE/C1	Aquatic Chronic 1	Long-term (chronic) aquatic hazard - Category 1
AUS-HAE/C3	Aquatic Chronic 3	Long-term (chronic) aquatic hazard - Category 3

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:

- 3. COMPOSITION/INFORMATION ON INGREDIENTS
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 11. TOXICOLOGICAL INFORMATION
- 16. OTHER INFORMATION