

SAFETY DATA SHEET

PRONTOFIX HARDENER



Section 1. Identification

Product identifier : PRONTOFIX HARDENER
Cat. No. : 40200110, 50209130
Container size : 280 ml, 500 ml
Other means of identification : Not available.
Product type : Liquid.

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

Product use : For embedding and impregnation of materialographic specimens
Area of application : Professional applications.

Supplier's details : Struers Australia
27 Mayneview Street
Milton QLD 4064, Australia
Telephone: +61 7 3512 9600 (Working hours)

e-mail address of person responsible for this SDS : sdsquestions@struers.dk

Emergency telephone number (with hours of operation) : Australian Poisons Information Centre: 13 11 26.

Section 2. Hazard(s) identification

Classification of the substance or mixture : H227 FLAMMABLE LIQUIDS - Category 4
H331 ACUTE TOXICITY (inhalation) - Category 3
H314 SKIN CORROSION/IRRITATION - Category 1A
H318 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
H317 SKIN SENSITISATION - Category 1
H361 REPRODUCTIVE TOXICITY - Category 2
Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 62.5%

GHS label elements

Hazard pictograms :



Signal word : DANGER

Hazard statements : H227 - Combustible liquid.
H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.
H331 - Toxic if inhaled.
H361 - Suspected of damaging fertility or the unborn child.

Precautionary statements

Date of issue/Date of revision : 20/03/2026

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Version : 3

1/15



Section 2. Hazard(s) identification

Prevention	: P201 - Obtain special instructions before use. P280 - Wear protective gloves, protective clothing and eye or face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P261 - Avoid breathing vapour.
Response	: P308 + P313 - IF exposed or concerned: Get medical advice or attention. P304 + P340, P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. P301 + P310, P330, P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. P303 + P361 + P353, P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention. P363 - Wash contaminated clothing before reuse. P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
Storage	: Not applicable.
Disposal	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	: Not applicable.

Other hazards which do not result in classification : Causes digestive tract burns.

Section 3. Composition and ingredient information

Substance/mixture	: Mixture
Other means of identification	: Not available.

Ingredient name	% (w/w)	Identifiers
4-tert-butylphenol	≥30 - ≤60	CAS: 98-54-4
Amines, polyethylenepoly-, triethylenetetramine fraction	≥10 - ≤25	CAS: 90640-67-8
m-phenylenebis(methylamine)	≥10 - ≤20	CAS: 1477-55-0
2-methylpentane-1,5-diamine	≥10 - ≤15	CAS: 15520-10-2

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

The total concentration of ingredients in this product, reported or not in this section, is 100%.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Toxic if inhaled.
- Skin contact** : Causes severe burns. May cause an allergic skin reaction.
- Ingestion** : Corrosive to the digestive tract. Causes burns.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
reduced foetal weight
increase in foetal deaths
skeletal malformations

Section 4. First aid measures

- Ingestion** : Adverse symptoms may include the following:
 stomach pains
 reduced foetal weight
 increase in foetal deaths
 skeletal malformations

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.

- Unsuitable extinguishing media** : Do not use water jet.

- Specific hazards arising from the chemical** : Combustible liquid. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
 carbon dioxide
 carbon monoxide
 nitrogen oxides

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

- Hazchem code** : 2X

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Section 6. Accidental release measures

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Absorb spill with inert material (e.g. dry sand or earth) and place in a chemical waste container.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
4-tert-butylphenol	DFG MAC-values list (Germany, 7/2024) Develop D. Absorbed through skin , Skin sensitiser. TWA 8 hours: 0.08 ppm. PEAK 15 minutes: 0.16 ppm 4 times per shift [Interval: 1 hour]. TWA 8 hours: 0.5 mg/m ³ . PEAK 15 minutes: 1 mg/m ³ 4 times per shift [Interval: 1 hour].
m-phenylenebis(methylamine)	Safe Work Australia (Australia, 1/2024) Absorbed through skin. PEAK: 0.1 mg/m ³ .

Biological exposure indices

No exposure indices known.

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Recommended: butyl rubber.

The breakthrough time must be greater than the end use time of the product.

Section 8. Exposure controls and personal protection

- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

- Physical state** : Liquid.
- Colour** : Yellowish.
- Odour** : Amine.
- Odour threshold** : Not available.
- pH** : Not applicable.
- Melting point/freezing point** : Not available.
- Boiling point or initial boiling point and boiling range** : 180 to 300°C (356 to 572°F)
- Flash point** : Closed cup: >83°C (>181.4°F)
- Evaporation rate** : Not available.
- Flammability** : Not available.
- Lower and upper explosion limit/flammability limit** : Not available.
- Vapour pressure** :

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
2-methylpentane-1,5-diamine	0.2	0.027				

- Relative vapour density** : Not available.

- Relative density** : 0.99 to 1

- Solubility(ies)** :
- | Media | Result |
|-------|-------------|
| water | Not soluble |

- Miscible with water** : No.

- Partition coefficient: n-octanol/water** : Not applicable.

- Auto-ignition temperature** :
- | Ingredient name | °C | °F | Method |
|-----------------------------|-----|-----|--------|
| 2-methylpentane-1,5-diamine | 350 | 662 | |

- Decomposition temperature** : Not available.

- Viscosity** :
- Dynamic (room temperature): Not available.
- Kinematic (room temperature): 115 to 200 mm²/s (115 to 200 cSt)
- Kinematic (40°C (104°F)): Not available.



Section 9. Physical and chemical properties and safety characteristics

Flow time (ISO 2431) : Not available.

Particle characteristics

Median particle size : Not applicable.

Other information

Physical/chemical properties comments : No additional information.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
Under normal conditions of storage and use, hazardous polymerisation will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials : Reactive or incompatible with the following materials:
oxidising materials
Reactive or incompatible with the following materials: acids.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	
4-tert-butylphenol	Rabbit - Dermal - LD50 2318 mg/kg Rat - Oral - LD50 4000 mg/kg	
Amines, polyethylenepoly-, triethylenetetramine fraction	Rat - Oral - LD50 1716.2 mg/kg Rat - Male - Dermal - LD50 1465 mg/kg	
m-phenylenebis(methylamine)	Rabbit - Dermal - LD50 2 g/kg Rat - Oral - LD50 940 mg/kg Rat - Inhalation - LC50 Gas. 700 ppm [1 hours]	<u>Toxic effects:</u> Eye - Lacrimation Lung, Thorax, or Respiration - Respiratory depression
2-methylpentane-1,5-diamine	Rat - Dermal - LD50 1900 mg/kg Rat - Oral - LD50 1690 mg/kg Rat - Inhalation - LC50 Vapour	<u>Toxic effects:</u> Lung, Thorax, or

Section 11. Toxicological information

2900 mg/m³ [1 hours]Respiration - Dyspnea
Gastrointestinal - Hypermotility,
diarrhea

Conclusion/Summary[Product] : Not available.

Skin corrosion/irritation

Product/ingredient name

4-tert-butylphenol

Result

Rabbit - Skin - Mild irritant

Duration of treatment/exposure: 24
hours

Amount/concentration applied: 500 mg

Rabbit - Skin - Mild irritant

Duration of treatment/exposure: 4
hours

Amount/concentration applied: 500 mg

Conclusion/Summary[Product] : Not available.

Serious eye damage/eye irritation

Product/ingredient name

4-tert-butylphenol

Result

Rabbit - Eyes - Severe irritant

Duration of treatment/exposure: 24
hours

Amount/concentration applied: 50 ug

Rabbit - Eyes - Severe irritant

Amount/concentration applied: 10 mg

Conclusion/Summary[Product] : Not available.

Respiratory corrosion/irritation

Conclusion/Summary[Product] : Not available.

Respiratory or skin sensitization

Skin

Conclusion/Summary[Product] : Not available.

Respiratory

Conclusion/Summary[Product] : Not available.

Germ cell mutagenicity

Conclusion/Summary[Product] : Not available.

Carcinogenicity

Conclusion/Summary[Product] : Not available.



Section 11. Toxicological information

Reproductive toxicity

Conclusion/Summary[Product] : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name

2-methylpentane-1,5-diamine

Result

SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE
(Respiratory tract irritation) - Category 3

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : Toxic if inhaled.
Skin contact : Causes severe burns. May cause an allergic skin reaction.
Ingestion : Corrosive to the digestive tract. Causes burns.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
 pain
 watering
 redness

Inhalation : Adverse symptoms may include the following:
 reduced foetal weight
 increase in foetal deaths
 skeletal malformations

Skin contact : Adverse symptoms may include the following:
 pain or irritation
 redness
 blistering may occur
 reduced foetal weight
 increase in foetal deaths
 skeletal malformations

Ingestion : Adverse symptoms may include the following:
 stomach pains
 reduced foetal weight
 increase in foetal deaths
 skeletal malformations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Section 11. Toxicological information

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Conclusion/Summary[Product] : Not available.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
PRONTOFIX HARDENER	2304.7	2912.5	700.0	27.5	N/A
4-tert-butylphenol	4000	2318	N/A	N/A	N/A
Amines, polyethylenepoly-, triethylenetetramine fraction	1716.2	1465	N/A	N/A	N/A
m-phenylenebis(methylamine)	940	2000	350	N/A	N/A
2-methylpentane-1,5-diamine	1690	1900	N/A	11	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name

4-tert-butylphenol

Result

Chronic - NOEC - Fresh water

Fish - *Pimephales promelas*

0.01 mg/l [128 days]

Acute - EC50 - Fresh water

Algae - Green algae - *Scenedesmus quadricauda* - Exponential growth phase

11.08 mg/l [72 hours]

Chronic - NOEC - Fresh water

Algae - Green algae - *Scenedesmus quadricauda* - Exponential growth phase

1 mg/l [72 hours]

Acute - LC50

Fish - *Oryzias latipes* (Ricefish))

OECD 210 [Fish, Early-Life Stage Toxicity Test]

Effect: Population
OECD

Effect: Population
OECD

Section 12. Ecological information

Amines, polyethylenepoly-, triethylenetetramine fraction	5.1 mg/l [96 hours]	
	Acute - EC50	
	Daphnia - <i>Daphnia magna</i> (Big water flea)	
	3.4 mg/l [48 hours]	
m-phenylenebis(methylamine)	Chronic - NOEC - Fresh water	Effect: Population
	Crustaceans - Shrimp - <i>Neocaridina</i>	ASTM
	<i>sp.</i> - Sub-adult	
	265.38 µg/l [21 days]	
	Acute - EC50 - Fresh water	
	Daphnia	
	33.9 mg/l [48 hours]	
	Acute - EC50	
	Algae - <i>Scenedesmus subspicatus</i>	
	12 mg/l [72 hours]	
	Acute - LC50 - Fresh water	OECD 203 [Fish, Acute Toxicity Test]
	Fish	
	87.6 mg/l [96 hours]	
	Acute - EC50 - Fresh water	OECD 202 [Daphnia sp. Acute Immobilization Test and Reproduction Test]
	Daphnia	
	15.2 mg/l [48 hours]	
	Chronic - NOEC - Fresh water	OECD 211 [Daphnia Magna Reproduction Test]
	Daphnia	
	4.7 mg/l [21 days]	
	Acute - NOEC - Fresh water	OECD 201 [Alga, Growth Inhibition Test]
2-methylpentane-1,5-diamine	Algae	
	10.5 mg/l [72 hours]	
	Acute - LC50	
	Fish - <i>Leuciscus idus</i> (golden orphan)	
	215 mg/l [96 hours]	
	Chronic - NOEC - Fresh water	OECD 211 [Daphnia Magna Reproduction Test]
	Daphnia	
	≥9.3 mg/l [21 days]	

Conclusion/Summary[Product] : Not available.

Persistence and degradability

Product/ingredient name	Result	
4-tert-butylphenol	Aerobic	OECD 301F [Ready Biodegradability - Manometric Respirometry Test]
m-phenylenebis(methylamine)	60% [28 days] - Readily	OECD 301B [Ready Biodegradability - CO2 Evolution Test]
	49% [28 days] - Not readily	OECD 301D [Ready Biodegradability - Closed Bottle Test]
2-methylpentane-1,5-diamine	Aerobic - 1.1 mg/l	
	100% [28 days] - Readily	

Conclusion/Summary[Product] : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
4-tert-butylphenol	-	-	Readily
Amines, polyethylenepoly-, triethylenetetramine fraction	-	-	Not readily
m-phenylenebis(methylamine)	-	-	Not readily
2-methylpentane-1,5-diamine	-	-	Readily

Section 12. Ecological information

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
~~4~~ -tert-butylphenol	3	44 to 48 [OECD 305 C, METI guideline (concentration test on chemical substances in fish)]	Low
Amines, polyethylenepoly-, triethylenetetramine fraction	-2.65	-	Low
m-phenylenebis (methylamine)	0.18	2.69	Low

Mobility in soil

Soil/water partition coefficient : Not available.

Other adverse effects

No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions 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 non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	ADG	ADR/RID	IMDG	IATA
UN number	UN2735	UN2735	UN2735	UN2735
UN proper shipping name	AMINES, LIQUID, CORROSIVE, N.O.S. (Amines, polyethylenepoly-, triethylenetetramine fraction, 2-methylpentane-1,5-diamine)	AMINES, LIQUID, CORROSIVE, N.O.S. (Amines, polyethylenepoly-, triethylenetetramine fraction, 2-methylpentane-1,5-diamine)	AMINES, LIQUID, CORROSIVE, N.O.S. (Amines, polyethylenepoly-, triethylenetetramine fraction, 2-methylpentane-1,5-diamine)	Amines, liquid, corrosive, n.o.s. (Amines, polyethylenepoly-, triethylenetetramine fraction, 2-methylpentane-1,5-diamine)
Transport hazard class(es)	8 	8  	8  	8 

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Section 14. Transport information

Packing group	I	I	I	I
Environmental hazards	Yes. The environmentally hazardous substance mark is not required.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

Additional information

- ADG** : **Hazchem code** 2X
Special provisions 274
- ADR/RID** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Hazard identification number 88
Limited quantity 0
Special provisions 274
Tunnel code (E)
- IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Emergency schedules F-A, S-B
Special provisions 274
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.
Quantity limitation Passenger and Cargo Aircraft: 0.5 L. Packaging instructions: 850. Cargo Aircraft Only: 2.5 L. Packaging instructions: 854. Limited Quantities - Passenger Aircraft: Forbidden. Packaging instructions: Forbidden.
Special provisions A3, A803

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

Standard for the Uniform Scheduling of Medicines and Poisons

5

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

Australia inventory (AIC) : Not determined.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Section 15. Regulatory information

Not listed.

Section 16. Any other relevant information

History

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Prepared by	: Sphera Solutions
Key to abbreviations	: ADG = Australian Dangerous Goods ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) N/A = Not available RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail SGG = Segregation Group SUSMP = Standard Uniform Schedule of Medicine and Poisons UN = United Nations

Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 4	On basis of test data
ACUTE TOXICITY (inhalation) - Category 3	Calculation method
SKIN CORROSION/IRRITATION - Category 1A	Calculation method
SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1	Calculation method
SKIN SENSITISATION - Category 1	Calculation method
REPRODUCTIVE TOXICITY - Category 2	Calculation method

References	: Work Health and Safety Regulations 2011, as ammended Preparation of Safety Data Sheets for Hazardous Chemicals, Code of Practice, Safe Work Australia Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG), National Transport Commission
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Indicates information that has changed from previously issued version.

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