

# 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 Ltd  
6200 Edwards Blvd.  
Ontario  
L5T 2V7 Mississauga  
Canada  
  
Telephone: +1 (905) 814 8855

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

**Emergency telephone number (with hours of operation)** : Alberta & NWT:  
Poison & Drug Information Service (PADIS): 1-800-332-1414  
British Columbia:  
Drug and Poison Information Centre (DPIC): 604-682-5050 / 1-800-567-8911  
Ontario:  
Poison Centre: 1-800-268-9017  
Québec:  
Poison Control Centre: 1-800-463-5060  
Infotrac:  
1-800-535-5053

## Section 2. Hazard identification

|                                                   |        |                                                      |
|---------------------------------------------------|--------|------------------------------------------------------|
| <b>Classification of the substance or mixture</b> | : H227 | FLAMMABLE LIQUIDS - Category 4                       |
|                                                   | H302   | ACUTE TOXICITY (oral) - Category 4                   |
|                                                   | H312   | ACUTE TOXICITY (dermal) - Category 4                 |
|                                                   | H331   | ACUTE TOXICITY (inhalation) - Category 3             |
|                                                   | H314   | SKIN CORROSION - Category 1A                         |
|                                                   | H318   | SERIOUS EYE DAMAGE - Category 1                      |
|                                                   | H317   | SKIN SENSITIZATION - Category 1A                     |
|                                                   | H361   | TOXIC TO REPRODUCTION - Category 2                   |
|                                                   |        | Health Hazards Not Otherwise Classified - Category 1 |

### GHS label elements

|                                       |              |                               |              |                |     |      |
|---------------------------------------|--------------|-------------------------------|--------------|----------------|-----|------|
| <b>Date of issue/Date of revision</b> | : 20/03/2026 | <b>Date of previous issue</b> | : 13/01/2025 | <b>Version</b> | : 5 | 1/17 |
|---------------------------------------|--------------|-------------------------------|--------------|----------------|-----|------|



## Section 2. Hazard identification

### Hazard pictograms

:



### Signal word

: Danger

### Hazard statements

: H227 - Combustible liquid.  
 H302 + H312 - Harmful if swallowed or in contact with skin.  
 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.  
 Causes respiratory tract burns.  
 Causes digestive tract burns.

### Precautionary statements

#### Prevention

: P201 - Obtain special instructions before use.  
 P202 - Do not handle until all safety precautions have been read and understood.  
 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.  
 P271 - Use only outdoors or in a well-ventilated area.  
 P261 - Avoid breathing vapor.  
 P270 - Do not eat, drink or smoke when using this product.  
 P264 - Wash thoroughly after handling.  
 P272 - Contaminated work clothing should not be allowed out of the workplace.

#### 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

: P405 - Store locked up.

#### Disposal

: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

### Supplemental label elements

: Keep container tightly closed. Do not breathe vapor or spray. Do not taste or swallow. Use only with adequate ventilation. Wash thoroughly after handling.

### Other hazards which do not result in classification

: None known.

## Section 3. Composition/information on ingredients

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

| Ingredient name                                          | Other names | % (w/w)   | Identifiers     |
|----------------------------------------------------------|-------------|-----------|-----------------|
| 4-tert-butylphenol                                       | -           | ≥15 - ≤40 | CAS: 98-54-4    |
| Amines, polyethylenepoly-, triethylenetetramine fraction | -           | ≥15 - ≤40 | CAS: 90640-67-8 |
| m-phenylenebis(methylamine)                              | -           | ≥10 - ≤30 | CAS: 1477-55-0  |
| 2-methylpentane-1,5-diamine                              | -           | ≥10 - ≤30 | CAS: 15520-10-2 |

Ranges if listed above for hazardous ingredient(s) are prescribed ranges. The actual concentration(s) or actual concentration range(s) are being withheld as a trade secret.

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.

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.



## Section 4. First-aid measures

### **Most important symptoms/effects, acute and delayed**

#### **Potential acute health effects**

- Eye contact** : Causes serious eye damage.
- Inhalation** : Toxic if inhaled. Corrosive to the respiratory system.
- Skin contact** : Causes severe burns. Harmful in contact with skin. May cause an allergic skin reaction.
- Ingestion** : May cause burns to mouth, throat and stomach. Harmful if swallowed. 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:  
respiratory tract irritation  
coughing  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
stomach pains  
reduced fetal weight  
increase in fetal 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. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, 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.

## 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 spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialized 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 spilled 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 materials 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 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 spilled product. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container



## Section 6. Accidental release measures

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 vapor 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 oxidizing 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 unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

| Ingredient name             | Exposure limits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| m-phenylenebis(methylamine) | <p><b>CA Saskatchewan Provincial (Canada, 4/2021)</b> Absorbed through skin.<br/>CEIL: 0.1 mg/m<sup>3</sup>.</p> <p><b>CA British Columbia Provincial (Canada, 3/2025)</b> Absorbed through skin.<br/>C: 0.1 mg/m<sup>3</sup>.</p> <p><b>CA Ontario Provincial (Canada, 6/2019)</b> Absorbed through skin.<br/>Ceiling Limit: 0.1 mg/m<sup>3</sup>.</p> <p><b>CA Quebec Provincial (Canada, 2/2024)</b> Absorbed through skin.<br/>C: 0.1 mg/m<sup>3</sup>.</p> <p><b>CA Alberta Provincial (Canada, 3/2023)</b> Absorbed through skin.<br/>C: 0.1 mg/m<sup>3</sup>.</p> |



## Section 8. Exposure controls/personal protection

### 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, vapor 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.

- 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

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

### Appearance

**Physical state** : Liquid.  
**Color** : Yellowish.  
**Odor** : Amine.  
**Odor threshold** : Not available.  
**Melting point and freezing point** : Not available.  
**Boiling point or initial boiling point and boiling range** : 180 to 300°C (356 to 572°F)

**Evaporation rate** : Not available.

**Flammability** : Not available.

**Lower and upper explosion limit or lower and upper flammability limit** : Not available.

**Flash point** : Closed cup: >83°C (>181.4°F)

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

**Decomposition temperature** : Not available.

**pH** : Not applicable.

**Viscosity** : Dynamic (room temperature): Not available.  
 Kinematic (room temperature): 115 to 200 mm<sup>2</sup>/s (115 to 200 cSt)  
 Kinematic (40°C (104°F)): Not available.

|                          |              |               |
|--------------------------|--------------|---------------|
| <b>Solubility(ies)</b> : | <b>Media</b> | <b>Result</b> |
|                          | water        | Not soluble   |

**Miscible with water** : No.

**Partition coefficient — n-octanol/water (logarithmic value)** : Not applicable.

| <b>Vapor pressure</b> : | Ingredient name             | Vapor Pressure at 20°C |       |        | Vapor pressure at 50°C |     |        |
|-------------------------|-----------------------------|------------------------|-------|--------|------------------------|-----|--------|
|                         |                             | mm Hg                  | kPa   | Method | mm Hg                  | kPa | Method |
|                         | 2-methylpentane-1,5-diamine | 0.2                    | 0.027 |        |                        |     |        |

**Relative density** : 0.99 to 1

**Relative vapor density** : Not available.

### Particle characteristics

**Median particle size** : Not applicable.

### Other information

**Physical/chemical properties comments** : No additional information.



## Section 10. Stability and reactivity

|                                           |                                                                                                                                                                           |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reactivity</b>                         | : No specific test data related to reactivity available for this product or its ingredients.                                                                              |
| <b>Chemical stability</b>                 | : The product is stable.                                                                                                                                                  |
| <b>Possibility of hazardous reactions</b> | : Under normal conditions of storage and use, hazardous reactions will not occur.<br>Under normal conditions of storage and use, hazardous polymerization will not occur. |
| <b>Conditions to avoid</b>                | : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. |
| <b>Incompatible materials</b>             | : Reactive or incompatible with the following materials:<br>oxidizing materials<br>Reactive or incompatible with the following materials: acids.                          |
| <b>Hazardous decomposition products</b>   | : 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                                                                                                                                                         |                                                                                                            |
|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
|  tert-butylphenol | <b>Rabbit - Dermal - LD50</b><br>2318 mg/kg<br><b>Rat - Oral - LD50</b><br>4000 mg/kg                                                                          |                                                                                                            |
| Amines, polyethylenepoly-, triethylenetetramine fraction                                            | <b>Rat - Oral - LD50</b><br>1716.2 mg/kg<br><b>Rat - Male - Dermal - LD50</b><br>1465 mg/kg                                                                    |                                                                                                            |
| m-phenylenebis(methylamine)                                                                         | <b>Rabbit - Dermal - LD50</b><br>2 g/kg<br><b>Rat - Oral - LD50</b><br>940 mg/kg<br><b>Rat - Inhalation - LC50 Gas.</b><br>700 ppm [1 hours]                   | <u>Toxic effects:</u> Eye - Lacrimation Lung, Thorax, or Respiration - Respiratory depression              |
| 2-methylpentane-1,5-diamine                                                                         | <b>Rat - Dermal - LD50</b><br>1900 mg/kg<br><b>Rat - Oral - LD50</b><br>1690 mg/kg<br><b>Rat - Inhalation - LC50 Vapor</b><br>2900 mg/m <sup>3</sup> [1 hours] | <u>Toxic effects:</u> Lung, Thorax, or Respiration - Dyspnea<br>Gastrointestinal - Hypermotility, diarrhea |

**Conclusion/Summary [Product]** : Not available.

#### Skin corrosion/irritation

| Product/ingredient name | Result |
|-------------------------|--------|
|-------------------------|--------|

Date of issue/Date of revision : 20/03/2026 Date of previous issue : 13/01/2025 Version : 5 9/17



## Section 11. Toxicological information

-tert-butylphenol

### 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**

-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.

### Reproductive toxicity

**Conclusion/Summary [Product]** : Not available.



## Section 11. Toxicological information

### Specific target organ toxicity (single exposure)

#### Product/ingredient name

 tert-butylphenol

2-methylpentane-1,5-diamine

#### Result

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

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 the likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Inhalation.

### Potential acute health effects

- |                     |                                                                                                                       |
|---------------------|-----------------------------------------------------------------------------------------------------------------------|
| <b>Eye contact</b>  | : Causes serious eye damage.                                                                                          |
| <b>Inhalation</b>   | : Toxic if inhaled. Corrosive to the respiratory system.                                                              |
| <b>Skin contact</b> | : Causes severe burns. Harmful in contact with skin. May cause an allergic skin reaction.                             |
| <b>Ingestion</b>    | : May cause burns to mouth, throat and stomach. Harmful if swallowed. Corrosive to the digestive tract. Causes burns. |

### Symptoms related to the physical, chemical and toxicological characteristics

- |                     |                                                                                                                                                                                      |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eye contact</b>  | : Adverse symptoms may include the following:<br>pain<br>watering<br>redness                                                                                                         |
| <b>Inhalation</b>   | : Adverse symptoms may include the following:<br>respiratory tract irritation<br>coughing<br>reduced fetal weight<br>increase in fetal deaths<br>skeletal malformations              |
| <b>Skin contact</b> | : Adverse symptoms may include the following:<br>pain or irritation<br>redness<br>blistering may occur<br>reduced fetal weight<br>increase in fetal deaths<br>skeletal malformations |
| <b>Ingestion</b>    | : Adverse symptoms may include the following:<br>stomach pains<br>reduced fetal weight<br>increase in fetal deaths<br>skeletal malformations                                         |

## Section 11. Toxicological information

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**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 (vapors) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|----------------------------------------------------------|--------------|----------------|--------------------------|----------------------------|-------------------------------------|
| PRONTOFIX HARDENER                                       | 1895.2       | 1979.7         | 1866.7                   | 73.3                       | 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**

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

Effect: Population  
OECD

Effect: Population

## Section 12. Ecological information

|                                                          |                                                                                 |                                                                        |
|----------------------------------------------------------|---------------------------------------------------------------------------------|------------------------------------------------------------------------|
| Amines, polyethylenepoly-, triethylenetetramine fraction | Algae - Green algae - <i>Scenedesmus quadricauda</i> - Exponential growth phase | OECD                                                                   |
|                                                          | 1 mg/l [72 hours]                                                               |                                                                        |
|                                                          | <b>Acute - LC50</b>                                                             |                                                                        |
|                                                          | Fish - <i>Oryzias latipes</i> (Ricefish))                                       |                                                                        |
|                                                          | 5.1 mg/l [96 hours]                                                             |                                                                        |
|                                                          | <b>Acute - EC50</b>                                                             |                                                                        |
|                                                          | Daphnia - <i>Daphnia magna</i> (Big water flea)                                 |                                                                        |
|                                                          | 3.4 mg/l [48 hours]                                                             |                                                                        |
|                                                          | <b>Chronic - NOEC - Fresh water</b>                                             | Effect: Population                                                     |
|                                                          | Crustaceans - Shrimp - <i>Neocaridina</i> sp. - Sub-adult                       | ASTM                                                                   |
| m-phenylenebis(methylamine)                              | 265.38 µg/l [21 days]                                                           |                                                                        |
|                                                          | <b>Acute - EC50 - Fresh water</b>                                               |                                                                        |
|                                                          | Daphnia                                                                         |                                                                        |
|                                                          | 33.9 mg/l [48 hours]                                                            |                                                                        |
|                                                          | <b>Acute - EC50</b>                                                             |                                                                        |
|                                                          | Algae - <i>Scenedesmus subspicatus</i>                                          |                                                                        |
|                                                          | 12 mg/l [72 hours]                                                              |                                                                        |
|                                                          | <b>Acute - LC50 - Fresh water</b>                                               | OECD 203 [Fish, Acute Toxicity Test]                                   |
|                                                          | Fish                                                                            |                                                                        |
|                                                          | 87.6 mg/l [96 hours]                                                            |                                                                        |
| 2-methylpentane-1,5-diamine                              | <b>Acute - EC50 - Fresh water</b>                                               | OECD 202 [Daphnia sp. Acute Immobilization Test and Reproduction Test] |
|                                                          | Daphnia                                                                         |                                                                        |
|                                                          | 15.2 mg/l [48 hours]                                                            |                                                                        |
|                                                          | <b>Chronic - NOEC - Fresh water</b>                                             | OECD 211 [Daphnia Magna Reproduction Test]                             |
|                                                          | Daphnia                                                                         |                                                                        |
|                                                          | 4.7 mg/l [21 days]                                                              |                                                                        |
|                                                          | <b>Acute - NOEC - Fresh water</b>                                               | OECD 201 [Alga, Growth Inhibition Test]                                |
|                                                          | Algae                                                                           |                                                                        |
|                                                          | 10.5 mg/l [72 hours]                                                            |                                                                        |
|                                                          | <b>Acute - LC50</b>                                                             |                                                                        |
|                                                          | Fish - <i>Leuciscus idus</i> (golden orphan)                                    |                                                                        |
|                                                          | 215 mg/l [96 hours]                                                             |                                                                        |
|                                                          | <b>Chronic - NOEC - Fresh water</b>                                             | 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          | <b>Aerobic</b>              | OECD 301F [Ready Biodegradability - Manometric Respirometry Test]   |
| m-phenylenebis(methylamine) | 60% [28 days] - Readily     |                                                                     |
|                             | 49% [28 days] - Not readily | OECD 301B [Ready Biodegradability - CO <sub>2</sub> Evolution Test] |
| 2-methylpentane-1,5-diamine | <b>Aerobic - 1.1 mg/l</b>   | OECD 301D [Ready Biodegradability - Closed Bottle Test]             |
|                             | 100% [28 days] - Readily    |                                                                     |

**Conclusion/Summary [Product]** : Not available.

## Section 12. Ecological information

| 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          |

### Bioaccumulative potential

| Product/ingredient name                                  | LogP <sub>ow</sub> | 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 minimized 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. Vapor 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

|                            | TDG Classification                                                                                                                                                       | DOT Classification                                                                                                           | IMDG                                                                                                                                                                        | IATA                                                                                                                         |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| UN number                  | UN2735                                                                                                                                                                   | UN2735                                                                                                                       | UN2735                                                                                                                                                                      | UN2735                                                                                                                       |
| UN proper shipping name    | AMINES, LIQUID, CORROSIVE, N.O.S.<br>(Amines, polyethylenepoly-, triethylenetetramine fraction, 2-methylpentane-1,5-diamine)                                             | Amines, liquid, corrosive, n.o.s.<br>(Amines, polyethylenepoly-, triethylenetetramine fraction, 2-methylpentane-1,5-diamine) | AMINES, LIQUID, CORROSIVE, N.O.S.<br>(Amines, polyethylenepoly-, triethylenetetramine fraction, 2-methylpentane-1,5-diamine)                                                | Amines, liquid, corrosive, n.o.s.<br>(Amines, polyethylenepoly-, triethylenetetramine fraction, 2-methylpentane-1,5-diamine) |
| Transport hazard class(es) | 8<br>  | 8<br>                                       | 8<br>  | 8<br>                                     |
| Packing group              | I                                                                                                                                                                        | I                                                                                                                            | I                                                                                                                                                                           | I                                                                                                                            |
| Environmental hazards      | Yes.                                                                                                                                                                     | No.                                                                                                                          | Yes.                                                                                                                                                                        | Yes. The environmentally hazardous substance mark is not required.                                                           |

### Additional information

#### TDG Classification

: Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8), 2.7 (Marine pollutant mark). The marine pollutant mark is not required when transported by road or rail.  
**Explosive Limit and Limited Quantity Index** 0  
**ERAP Index** 1000  
**Passenger Carrying Road or Rail Index** 0.5  
**Special provisions** 16

#### DOT Classification

: **Limited quantity** No.  
**Packaging instruction** Exceptions: None. Non-bulk: 201. Bulk: 243.  
**Quantity limitation** Passenger aircraft/rail: 0.5 L. Cargo aircraft: 2.5 L.  
**Special provisions** B10, N34, T14, TP2, TP27

#### 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.

## Section 15. Regulatory information

### Canadian lists

**Canadian NPRI** : None of the components are listed.

**CEPA Toxic substances** : None of the components are listed.

**Canada inventory** : 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

Not listed.

## Section 16. Other information

### History

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

**Date of previous issue** : 13/01/2025

**Version** : 5

**Prepared by** : Sphera Solutions

**Key to abbreviations** : ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 DOT = Department of Transportation  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 HPR = Hazardous Products Regulations  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 IMO = International Maritime Organization  
 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  
 SGG = Segregation Group  
 UN = United Nations

### Procedure used to derive the classification



## Section 16. Other information

| Classification                                       | Justification         |
|------------------------------------------------------|-----------------------|
| FLAMMABLE LIQUIDS - Category 4                       | On basis of test data |
| ACUTE TOXICITY (oral) - Category 4                   | Calculation method    |
| ACUTE TOXICITY (dermal) - Category 4                 | Calculation method    |
| ACUTE TOXICITY (inhalation) - Category 3             | Calculation method    |
| SKIN CORROSION - Category 1A                         | Calculation method    |
| SERIOUS EYE DAMAGE - Category 1                      | Calculation method    |
| SKIN SENSITIZATION - Category 1A                     | Calculation method    |
| TOXIC TO REPRODUCTION - Category 2                   | Calculation method    |
| Health Hazards Not Otherwise Classified - Category 1 | Calculation method    |

**References** : HPR = Hazardous Products Regulations

▢ Indicates information that has changed from previously issued version.

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.