

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2015/830 - Portugal

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

#### 1.1 Product identifier

Product name : HEMPEL'S CURING AGENT 9874A  
Product identity : 9874A00000  
Product type : Curing agent

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

Field of application : used only as part of two- or multi component products.  
Ready-for-use mixture : (see base component)  
Identified uses : Industrial applications, Used by spraying.

#### 1.3 Details of the supplier of the safety data sheet

Company details : Hempel (Portugal) Lda.  
Vale de Cantadores  
2954-002 Palmela  
Tel.: +351 212 351 022  
hempel@hempel.com

#### 1.4 Emergency telephone number

Telefone de Emergência da Hempel (Portugal) Lda:  
Tel: + 351 21 235 23 26 / + 351 21 235 10 22  
See Section 4 of the safety data sheet (first aid measures).  
Número Nacional de Emergência: 112  
CIAV - Centro de Informação Antivenenos (Portuguese Poison Centre)  
Tel: + 351 808 250 143  
Fax: + 351 213 303 275

Date of issue : 5 January 2018  
Date of previous issue : 29 June 2017.

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

Product definition : Mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Flam. Liq. 3, H226 FLAMMABLE LIQUIDS - Category 3  
Skin Corr. 1C, H314 SKIN CORROSION/IRRITATION - Category 1C  
Eye Dam. 1, H318 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1  
Skin Sens. 1, H317 SKIN SENSITIZATION - Category 1  
Aquatic Chronic 2, H411 AQUATIC HAZARD (LONG-TERM) - Category 2

See Section 11 for more detailed information on health effects and symptoms.

#### 2.2 Label elements

Hazard pictograms :



Signal word : Danger

Hazard statements :  
H226 - Flammable liquid and vapor.  
H314 - Causes severe skin burns and eye damage.  
H317 - May cause an allergic skin reaction.  
H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention : Do not breathe gas, vapor or spray. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response : IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Rinse skin with water or shower. Take off immediately all contaminated clothing. Immediately call a POISON CENTER or doctor.

Storage : Keep cool.

### SECTION 2: Hazards identification

Hazardous ingredients :

- fatty acids C18 unsaturated, reaction products with triethylenetetramine
- 2,4,6-tris(dimethylaminomethyl)phenol
- Methylstyrenated phenol
- n-butanol
- bis[(dimethylamino)methyl]phenol
- triethylenetetramine
- m-Xylylene-diamine
- 1,2-diaminoethane
- 2,2,4- and 2,4,4- trimethylhexamethylene diamine

#### Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

#### 2.3 Other hazards

Other hazards which do not result in classification : None known.

### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
fatty acids C18 unsaturated, reaction products with triethylenetetramine	REACH #: 01-2119490750-36 EC: 629-765-4 CAS: 1226892-44-9	≥10 - ≤23	Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)	- [1]
xylene	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9	≥5 - ≤10	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315	C [1] [2]
2,4,6-tris(dimethylaminomethyl)phenol	REACH #: 01-2119560597-27 EC: 202-013-9 CAS: 90-72-2	≥5 - ≤10	Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317	- [1]
Methylstyrenated phenol	REACH #: 01-2119555274-38 EC: 270-966-8 CAS: 68512-30-1	≥5 - ≤10	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 3, H412	- [1]
n-butanol	REACH #: 01-2119484630-38 EC: 200-751-6 CAS: 71-36-3 Index: 603-004-00-6	≥5 - ≤10	Flam. Liq. 3, H226 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336	- [1]
ethylbenzene	REACH #: 01-2119489370-35 EC: 202-849-4 CAS: 100-41-4 Index: 601-023-00-4	≥1 - ≤3	Flam. Liq. 2, H225 Acute Tox. 4, H332 STOT RE 2, H373 (hearing organs) Asp. Tox. 1, H304	- [1] [2]
bis[(dimethylamino)methyl]phenol	EC: 275-162-0 CAS: 71074-89-0	≥1 - ≤3	Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317	- [1]
triethylenetetramine	EC: 203-950-6 CAS: 112-24-3 Index: 612-059-00-5	≥1 - ≤3	Acute Tox. 4, H312 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412	- [1]
p-tert-butylphenol	REACH #: 01-2119489419-21 EC: 202-679-0 CAS: 98-54-4	<1	Skin Irrit. 2, H315 Eye Dam. 1, H318 Repr. 2, H361f (Fertility) STOT SE 3, H335	- [1]
m-Xylylene-diamine	REACH #: 01-2119480150-50 EC: 216-032-5 CAS: 1477-55-0	<1	Aquatic Chronic 1, H410 (M=1) Acute Tox. 4, H302 Acute Tox. 4, H332 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317 Aquatic Chronic 3, H412 EUH071	- [1] [2]
1,2-diaminoethane	REACH #: 01-2119480383-37 EC: 203-468-6 CAS: 107-15-3 Index: 612-006-00-6	<1	Flam. Liq. 3, H226 Acute Tox. 4, H302 Acute Tox. 3, H311 Skin Corr. 1B, H314	- [1] [2]

### SECTION 3: Composition/information on ingredients

2,2,4- and 2,4,4-trimethylhexamethylene diamine	EC: 247-134-8 CAS: 25620-58-0	<1	Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1, H317 Acute Tox. 4, H302 Skin Corr. 1C, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412 See Section 16 for the full text of the H statements declared above.	-	[1]
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There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

#### Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit, see section 8.
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

General :	In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If breathing is irregular, drowsiness, loss of consciousness or cramps: Call 112 and give immediate treatment (first aid).
Eye contact :	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Seek immediate medical attention.
Inhalation :	Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Give nothing by mouth. If unconscious, place in recovery position and get medical attention immediately.
Skin contact :	Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners. In case of burns flush with water until the pain ceases. While flushing remove clothing from the affected area unless it is burnt into the skin. If hospital treatment is necessary flushing must continue during transfer and until the hospital staff takes over the treatment.
Ingestion :	If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do not induce vomiting unless directed to do so by medical personnel. Lower the head so that vomit will not re-enter the mouth and throat.
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.

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

##### Potential acute health effects

Eye contact :	Causes serious eye damage.
Inhalation :	No known significant effects or critical hazards.
Skin contact :	Causes severe burns. May cause an allergic skin reaction.
Ingestion :	No known significant effects or critical hazards.

##### Over-exposure signs/symptoms

Eye contact :	Adverse symptoms may include the following: pain watering redness
Inhalation :	No specific data.
Skin contact :	Adverse symptoms may include the following: pain or irritation redness blistering may occur
Ingestion :	Adverse symptoms may include the following: stomach pains

### SECTION 4: First aid measures

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

Notes to physician :	If gasses have been inhaled, from the decomposition of the product, symptoms may be delayed. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments :	No specific treatment.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

Extinguishing media :	Recommended: alcohol resistant foam, CO <sub>2</sub> , powders, water spray. Not to be used: waterjet.
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#### 5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture :	Flammable liquid and vapor. 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. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous combustion products :	Decomposition products may include the following materials: carbon oxides nitrogen oxides

#### 5.3 Advice for firefighters

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. Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Avoid all direct contact with the spilled material. Exclude sources of ignition and be aware of explosion hazard. Ventilate the area. Avoid breathing vapor or mist. Refer to protective measures listed in sections 7 and 8. No action shall be taken involving any personal risk or without suitable training. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

#### 6.2 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). Water polluting material. May be harmful to the environment if released in large quantities.

#### 6.3 Methods and materials for containment and cleaning up

Stop leak if without risk. Move containers from spill area. 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. 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 (see Section 13). Use spark-proof tools and explosion-proof equipment. Contaminated absorbent material may pose the same hazard as the spilled product.

#### 6.4 Reference to other sections

See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

### SECTION 7: Handling and storage

Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapors in air and avoid vapor concentrations higher than the occupational exposure limits. In addition, the product should be used only in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. To dissipate static electricity during transfer, ground drum and connect to receiving container with bonding strap. No sparking tools should be used.

Avoid inhalation of vapour, dust and spray mist. Avoid contact with skin and eyes. Eating, drinking and smoking should be prohibited in area where this material is handled, stored and processed. Appropriate personal protective equipment: see Section 8. Always keep in containers made from the same material as the original one.

#### 7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a cool, well-ventilated area away from incompatible materials and ignition sources. Keep out of the reach of children. Keep away from: Oxidizing agents, strong alkalis, strong acids. No smoking. Prevent unauthorized access. Containers that are opened must be carefully resealed and kept upright to prevent leakage.

#### 7.3 Specific end use(s)

See separate Product Data Sheet for recommendations or industrial sector specific solutions.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

Product/ingredient name	Exposure limit values
xylene	<b>Portuguese Institute of Quality (Portugal, 11/2014).</b> TWA: 100 ppm 8 hours. STEL: 150 ppm 15 minutes.
n-butanol	<b>Portuguese Institute of Quality (Portugal, 11/2014).</b> TWA: 20 ppm 8 hours.
ethanol	<b>Portuguese Institute of Quality (Portugal, 11/2014).</b> STEL: 1000 ppm 15 minutes.
ethylbenzene	<b>Portuguese Institute of Quality (Portugal, 11/2014).</b> TWA: 20 ppm 8 hours.
m-Xylylene-diamine	<b>Portuguese Institute of Quality (Portugal, 11/2014). Absorbed through skin.</b> CEIL: 0.1 mg/m <sup>3</sup>
1,2-diaminoethane	<b>Portuguese Institute of Quality (Portugal, 11/2014). Absorbed through skin.</b> TWA: 10 ppm 8 hours.

#### Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### Derived effect levels

No DNELs/DMELs available.

#### Predicted effect concentrations

No PNECs available.

#### 8.2 Exposure controls

##### Appropriate engineering controls

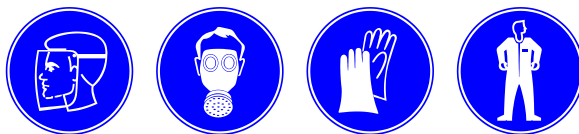
Arrange sufficient ventilation by local exhaust ventilation and good general ventilation to keep the airborne concentrations of vapors or dust lowest possible and below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

##### Individual protection measures

General :

Gloves must be worn for all work that may result in soiling. Apron/coveralls/protective clothing must be worn when soiling is so great that regular work clothes do not adequately protect skin against contact with the product. Safety eyewear should be used when there is a likelihood of exposure.

### SECTION 8: Exposure controls/personal protection



Hygiene measures :	Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using lavatory, and at the end of day.
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.
Hand protection :	<p>Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training. The quality of the chemical-resistant protective gloves must be chosen as a function of the specific workplace concentrations and quantity of hazardous substances.</p> <p>Since the actual work situation is unknown. Supplier of gloves should be contacted in order to find the appropriate type. Below listed glove(s) should be regarded as generic advice:</p> <p>Recommended: Silver Shield / Barrier / 4H gloves, polyvinyl alcohol (PVA), Viton® May be used: nitrile rubber, neoprene rubber, butyl rubber Short term exposure: natural rubber (latex), polyvinyl chloride (PVC)</p>
Body protection :	<p>Personal protective equipment for the body should be selected based on the task being performed and the risks involved handling this product.</p> <p>Wear suitable protective clothing. Always wear protective clothing when spraying.</p> <p>Chemical-resistant apron.</p>
Respiratory protection :	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If working areas have insufficient ventilation: When the product is applied by means that will not generate an aerosol such as, brush or roller wear half or totally covering mask equipped with gas filter of type A, when grinding use particle filter of type P. When the product is applied by spraying and for continuous or prolonged work always wear an air-fed respirator e.g. hood with supply of fresh or compressed air or a full face, powered air purifying filter. Be sure to use an approved/certified respirator or equivalent.

#### 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.

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

Physical state :	Liquid.
Odor :	Solvent-like
pH :	Testing not relevant or not possible due to nature of the product.
Melting point/freezing point :	Testing not relevant or not possible due to nature of the product.
Boiling point/boiling range :	Testing not relevant or not possible due to nature of the product.
Flash point :	Closed cup: 31°C (87.8°F)
Evaporation rate :	Testing not relevant or not possible due to nature of the product.
Flammability :	<p>Extremely flammable in the presence of the following materials or conditions: open flames, sparks and static discharge.</p> <p>Highly flammable in the presence of the following materials or conditions: heat.</p>
Lower and upper explosive (flammable) limits :	0.8 - 19 vol %
Vapor pressure :	Testing not relevant or not possible due to nature of the product.
Vapor density :	Testing not relevant or not possible due to nature of the product.
Specific gravity :	0.972 g/cm³
Solubility(ies) :	Easily soluble in the following materials: cold water and hot water.
Partition coefficient (LogKow) :	Testing not relevant or not possible due to nature of the product.
Auto-ignition temperature :	Lowest known value: 337.78°C (640°F) (triethylenetetramine).
Decomposition temperature :	Testing not relevant or not possible due to nature of the product.

### SECTION 9: Physical and chemical properties

Viscosity :	Aspiration hazard (H304) Not classified. Testing not relevant due to nature of the product.
Explosive properties :	Explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat and oxidizing materials. Slightly explosive in the presence of the following materials or conditions: reducing materials.
Oxidizing properties :	Testing not relevant or not possible due to nature of the product.

#### 9.2 Other information

Solvent(s) % by weight :	Weighted average: 17 %
Water % by weight :	Weighted average: 0 %
VOC content :	166.5 g/l
TOC Content :	Weighted average: 128 g/l
Solvent Gas :	Weighted average: 0.049 m³/l

### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

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

#### 10.2 Chemical stability

The product is stable.

#### 10.3 Possibility of hazardous reactions

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

#### 10.4 Conditions to avoid

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.

#### 10.5 Incompatible materials

Extremely reactive or incompatible with the following materials: acids.  
Highly reactive or incompatible with the following materials: oxidizing materials.  
Reactive or incompatible with the following materials: reducing materials and organic materials.

#### 10.6 Hazardous decomposition products

When exposed to high temperatures (i.e. in case of fire) harmful decomposition products may be formed:

Decomposition products may include the following materials: carbon oxides nitrogen oxides

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Exposure to component solvent vapor concentrations may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Solvents may cause some of the above effects by absorption through the skin. Symptoms and signs include headaches, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. If splashed in the eyes, the liquid may cause irritation and reversible damage. Accidental swallowing may cause stomach pain. Chemical lung inflammation may occur if the product is taken into the lungs via vomiting.

Inhalation of a corrosive substance may result in health effects such as stinging, coughing and in extreme cases, dyspnoea or loss of consciousness with a risk of lung damage, possibly lung oedema. Cauterization of skin and mucous membrane. If splashed in the eyes, the liquid may cause irreversible damage. Accidental swallowing may cause stinging and cauterization to mouth, oesophagus and stomach. Symptoms and signs include bloody vomiting, chock and loss of consciousness.

#### Acute toxicity

### SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
xylene	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LC50 Inhalation Vapor	Rat	6350 ppm	4 hours
	LD50 Dermal	Rabbit	>4200 mg/kg	-
	LD50 Oral	Rat	3523 mg/kg	-
	LD50 Dermal	Rat	1280 mg/kg	-
2,4,6-tris(dimethylaminomethyl) phenol				
	LD50 Oral	Rat	1200 mg/kg	-
	LD50 Oral	Rat	2169 mg/kg	-
Methylstyrenated phenol	LC50 Inhalation Dusts and mists	Rat	>5 mg/l	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
n-butanol	LC50 Inhalation Vapor	Rat	24000 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
	LD50 Oral	Rat	790 mg/kg	-
ethylbenzene	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
triethylenetetramine	LD50 Dermal	Rabbit	550 mg/kg	-
	LD50 Oral	Rat	1716 mg/kg	-
p-tert-butylphenol	LC50 Inhalation Dusts and mists	Rat	>5600 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	2318 mg/kg	-
	LD50 Oral	Rat	3250 uL/kg	-
m-Xylylene-diamine	LC50 Inhalation Dusts and mists	Rat	1.34 mg/l	4 hours
	LD50 Dermal	Rabbit	>3100 mg/kg	-
	LD50 Oral	Rat	930 mg/kg	-
1,2-diaminoethane	LD50 Dermal	Rabbit	730 mg/kg	-
	LD50 Oral	Rat	500 mg/kg	-
2,2,4- and 2,4,4-trimethylhexamethylene diamine	LD50 Oral	Rat	910 mg/kg	-

#### Acute toxicity estimates

Route	ATE value
Oral	15948.4 mg/kg
Dermal	12450.3 mg/kg
Inhalation (gases)	68480.9 ppm
Inhalation (vapors)	686.3 mg/l

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure
xylene	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams
	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams
	Eyes - Severe irritant	Rabbit	-	24 hours 50 Micrograms
2,4,6-tris(dimethylaminomethyl) phenol				
	Skin - Severe irritant	Rabbit	-	24 hours 2 milligrams
Methylstyrenated phenol	Eyes - Mild irritant	Rabbit	-	-
n-butanol	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams
ethylbenzene	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams
	Respiratory - Mild irritant	Rabbit	-	-
	Eyes - Mild irritant	Rabbit	-	-
triethylenetetramine	Eyes - Moderate irritant	Rabbit	-	24 hours 20 milligrams
	Skin - Severe irritant	Rabbit	-	24 hours 5 milligrams
p-tert-butylphenol	Eyes - Severe irritant	Rabbit	-	24 hours 50 Micrograms
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams
m-Xylylene-diamine	Eyes - Severe irritant	Rabbit	-	24 hours 50 Micrograms
	Skin - Severe irritant	Rabbit	-	24 hours 750 Micrograms
	Respiratory - Severe irritant	Rabbit	-	-
1,2-diaminoethane	Eyes - Severe irritant	Rabbit	-	24 hours 750 Micrograms
	Skin - Severe irritant	Rabbit	-	24 hours 10 milligrams
2,2,4- and 2,4,4-trimethylhexamethylene diamine	Skin - Severe irritant	Mouse	-	-
	Eyes - Severe irritant	Rabbit	-	-

#### Sensitizer

Product/ingredient name	Route of exposure	Species	Result
triethylenetetramine	skin	Guinea pig	Sensitizing
2,2,4- and 2,4,4-trimethylhexamethylene diamine	skin	Guinea pig	Sensitizing

#### Mutagenic effects

No known significant effects or critical hazards.

### SECTION 11: Toxicological information

#### Carcinogenicity

No known significant effects or critical hazards.

#### Reproductive toxicity

No known significant effects or critical hazards.

#### Teratogenic effects

No known significant effects or critical hazards.

#### Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
n-butanol	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects
p-tert-butylphenol	Category 3	Not applicable.	Respiratory tract irritation

#### Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
ethylbenzene	Category 2	Not determined	hearing organs

#### Aspiration hazard

Product/ingredient name	Result
ethylbenzene	ASPIRATION HAZARD - Category 1

#### Information on the likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Inhalation.

#### Potential chronic health effects

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
p-tert-butylphenol	-	-	-	Repr. 2, H361f (Fertility)

Sensitization : Contains fatty acids C18 unsaturated, reaction products with triethylenetetramine, Methylstyrenated phenol, triethylenetetramine, m-Xylylene-diamine, 1,2-diaminoethane, 2,2,4- and 2,4,4-trimethylhexamethylene diamine. May produce an allergic reaction.

Other information : No additional known significant effects or critical hazards.

### SECTION 12: Ecological information

#### 12.1 Toxicity

Do not allow to enter drains or watercourses. Toxic to aquatic life with long lasting effects.

Product/ingredient name	Result	Species	Exposure
2,4,6-tris(dimethylaminomethyl) phenol	Acute EC50 84 mg/l	Algae	72 hours
Methylstyrenated phenol	Acute LC50 175 mg/l	Fish	96 hours
	Acute EC50 15 mg/l	Algae	72 hours
	Acute EC50 14 - 51 mg/l	Daphnia	48 hours
	Acute EC50 25.8 mg/l	Fish	96 hours
n-butanol	Acute EC50 1328 mg/l	Daphnia	96 hours
	Acute LC50 1.376 mg/l	Fish	96 hours
ethylbenzene	Chronic NOEC <1000 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
triethylenetetramine	Acute EC50 20 mg/l	Algae	72 hours
	Acute EC50 31.1 mg/l	Daphnia	48 hours
	Acute LC50 330 mg/l	Fish	96 hours
p-tert-butylphenol	Acute EC50 14 - 22.7 mg/l	Aquatic plants	72 hours
	Acute EC50 3.9 mg/l	Daphnia	48 hours
	Acute LC50 1.6 mg/l	Fish	48 hours
	Acute LC50 5140 - 5620 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 2.3 mg/l Fresh water	Fish - Cyprinus carpio - Adult	28 days
m-Xylylene-diamine	Acute EC50 12 mg/l	Algae	72 hours
	Acute EC50 15.2 mg/l	Daphnia - Daphnia	48 hours
	Acute LC50 75 mg/l	Fish - Leuciscus idus	96 hours
	Acute NOEC 4.7 mg/l	Daphnia	21 days
1,2-diaminoethane	Chronic NOEC 160 µg/l Fresh water	Daphnia - Daphnia magna	21 days
2,2,4- and 2,4,4-trimethylhexamethylene diamine	Acute EC50 29.5 mg/l	Algae	72 hours

### SECTION 12: Ecological information

#### 12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
xylene	-	>60 % - Readily - 28 days	-	-
2,4,6-tris(dimethylaminomethyl)phenol	OECD 301D 301D Ready Biodegradability - Closed Bottle Test	4 % - Not readily - 28 days	-	-
n-butanol	OECD 301D Ready Biodegradability - Closed Bottle Test	92 % - 20 days	-	-
ethylbenzene	-	>70 % - Readily - 28 days	-	-
p-tert-butylphenol	OECD 301A Ready Biodegradability - DOC Die-Away Test	98 % - Readily - 28 days	-	-
m-Xylylene-diamine	OECD 301B 301B Ready Biodegradability - CO <sub>2</sub> Evolution Test	49 % - Inherent - 28 days	-	-
2,2,4- and 2,4,4-trimethylhexamethylene diamine	-	7 % - Not readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
xylene	-	-	Readily
2,4,6-tris(dimethylaminomethyl)phenol	-	-	Not readily
n-butanol	-	-	Readily
ethylbenzene	-	-	Readily
p-tert-butylphenol	-	-	Readily
m-Xylylene-diamine	-	-	Inherent
2,2,4- and 2,4,4-trimethylhexamethylene diamine	-	-	Not readily

#### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
fatty acids C18 unsaturated, reaction products with triethylenetetramine	2.2	-	low
xylene	3.12	8.1 - 25.9	low
2,4,6-tris(dimethylaminomethyl)phenol	0.219	-	low
Methylstyrenated phenol	3.627	-	low
n-butanol	1	3.16	low
ethylbenzene	3.6	-	low
triethylenetetramine	-1.66 - -1.4	-	low
p-tert-butylphenol	3	44 - 48	low
m-Xylylene-diamine	0.18	2.69	low
1,2-diaminoethane	-7.02	-	low
2,2,4- and 2,4,4- trimethylhexamethylene diamine	0.77	-	low

#### 12.4 Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : No known data available in our database.

Mobility : No known data available in our database.

#### 12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

#### 12.6 Other adverse effects

No known significant effects or critical hazards.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Residues of the product is listed as hazardous waste. Dispose of according to all state and local applicable regulations. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Spillage, remains, discarded clothes and similar should be discarded in a fireproof container.

European waste catalogue no. (EWC) is given below.

European waste catalogue (EWC) : 08 01 11\*









### SECTION 13: Disposal considerations

#### Packaging

The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

### SECTION 14: Transport information

Transport may take place according to national regulation or ADR for transport by road, RID for transport by train, IMDG for transport by sea, IATA for transport by air.

	14.1 UN no.	14.2 Proper shipping name	14.3 Transport hazard class(es)	14.4 PG*	14.5 Env*	Additional information
<b>ADR/RID Class</b>	UN3469	PAINT, FLAMMABLE, CORROSIVE	3 8   	III	Yes.	The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg. <b>Tunnel code</b> (D/E)
<b>IMDG Class</b>	UN3469	PAINT, FLAMMABLE, CORROSIVE. (fatty acids C18 unsaturated, reaction products with triethylenetetramine)	3 8   	III	Yes.	The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg. <b>Emergency schedules</b> F-E, S-C
<b>IATA Class</b>	UN3469	PAINT, FLAMMABLE, CORROSIVE	3 8  	III	Yes.	The environmentally hazardous substance mark may appear if required by other transportation regulations.

PG\* : Packing group

Env.\* : Environmental hazards

#### 14.6 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.

#### 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable.

### SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH) Annex XIV - List of substances subject to authorization - Substances of very high concern

##### Annex XIV

None of the components are listed.

##### Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Not applicable.

#### Other EU regulations

##### Seveso category

This product is controlled under the Seveso III Directive.

Seveso category
P5c: Flammable liquids 2 and 3 not falling under P5a or P5b E2: Hazardous to the aquatic environment - Chronic 2 6: Flammable (R10) 9ii: Toxic for the environment

#### National regulations Non-GHS

List name	Product/ingredient name	Name on list	Classification	Notes
Portugal Occupational Exposure Limits	ethanol	etanol; álcool etílico	Carc. A3	-
Portugal Occupational Exposure Limits	ethylbenzene	etilbenzeno	Carc. A3	-

### SECTION 15: Regulatory information

#### 15.2 Chemical Safety Assessment

This product contains substances for which Chemical Safety Assessments are still required.

### SECTION 16: Other information

Abbreviations and acronyms :

ATE = Acute Toxicity Estimate  
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
 EUH statement = CLP-specific Hazard statement  
 RRN = REACH Registration Number  
 DNEL = Derived No Effect Level  
 PNEC = Predicted No Effect Concentration

Full text of abbreviated H statements :

H225 Highly flammable liquid and vapor.  
 H226 Flammable liquid and vapor.  
 H302 Harmful if swallowed.  
 H304 May be fatal if swallowed and enters airways.  
 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.  
 H332 Harmful if inhaled.  
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 H335 May cause respiratory irritation.  
 H336 May cause drowsiness or dizziness.  
 H361f Suspected of damaging fertility.  
 H373 May cause damage to organs through prolonged or repeated exposure.  
 H400 Very toxic to aquatic life.  
 H410 Very toxic to aquatic life with long lasting effects.  
 H411 Toxic to aquatic life with long lasting effects.  
 H412 Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS] :

Acute Tox. 3, H311 ACUTE TOXICITY (dermal) - Category 3  
 Acute Tox. 4, H302 ACUTE TOXICITY (oral) - Category 4  
 Acute Tox. 4, H312 ACUTE TOXICITY (dermal) - Category 4  
 Acute Tox. 4, H332 ACUTE TOXICITY (inhalation) - Category 4  
 Aquatic Acute 1, H400 AQUATIC HAZARD (ACUTE) - Category 1  
 Aquatic Chronic 1, H410 AQUATIC HAZARD (LONG-TERM) - Category 1  
 Aquatic Chronic 2, H411 AQUATIC HAZARD (LONG-TERM) - Category 2  
 Aquatic Chronic 3, H412 AQUATIC HAZARD (LONG-TERM) - Category 3  
 Asp. Tox. 1, H304 ASPIRATION HAZARD - Category 1  
 EUH071 Corrosive to the respiratory tract.  
 Eye Dam. 1, H318 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1  
 Flam. Liq. 2, H225 FLAMMABLE LIQUIDS - Category 2  
 Flam. Liq. 3, H226 FLAMMABLE LIQUIDS - Category 3  
 Repr. 2, H361f TOXIC TO REPRODUCTION (Fertility) - Category 2  
 Resp. Sens. 1, H334 RESPIRATORY SENSITIZATION - Category 1  
 Skin Corr. 1B, H314 SKIN CORROSION/IRRITATION - Category 1B  
 Skin Corr. 1C, H314 SKIN CORROSION/IRRITATION - Category 1C  
 Skin Irrit. 2, H315 SKIN CORROSION/IRRITATION - Category 2  
 Skin Sens. 1, H317 SKIN SENSITIZATION - Category 1  
 Skin Sens. 1B, H317 SKIN SENSITIZATION - Category 1B  
 STOT RE 2, H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2  
 STOT SE 3, H335 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
 STOT SE 3, H336 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
FLAMMABLE LIQUIDS - Category 3 SKIN CORROSION/IRRITATION - Category 1C SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 SKIN SENSITIZATION - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 2	On basis of test data Calculation method Calculation method Calculation method Calculation method

Notice to reader

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### SECTION 16: Other information

▣ Indicates information that has changed from previously issued version.

The information contained in this safety data sheet is based on the present state of knowledge and EU and national legislation. It provides guidance on health, safety and environmental aspects for handling the product in a safe way and should not be construed as any guarantee of the technical performance or suitability for particular applications.

It is always the duty of the user/employer to ascertain that the work is planned and carried out in accordance with the national regulations.