

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by UK REACH Regulation SI 2019/758 - United Kingdom (UK)

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

1.1 Product identifier

Product name : Hempel's Curing Agent 97371
Product identity : 9737100000, 00138854
Product type : Curing agent

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

Field of application : metal industry, ships and shipyards.
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 UK Ltd
Berwyn House, The Pavilions
Llantarnam Park
Cwmbran
South Wales NP44 3FD
Telephone: 01633 833600
hempel@hempel.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation)

UK: **01633 833600** (08.00 - 17.00)
Ireland: **01 809 2166** (National Poisons Information Centre,
Monday-Sunday; 08:00-22:00)

See Section 4 of the safety data sheet (first aid measures).

Date of issue : 27 August 2025
Date of previous issue : 28 January 2025.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to UK CLP/GHS

Flam. Liq. 3, H226	FLAMMABLE LIQUIDS
Acute Tox. 4, H332	ACUTE TOXICITY (inhalation)
Skin Corr. 1B, H314	SKIN CORROSION/IRRITATION
Eye Dam. 1, H318	SERIOUS EYE DAMAGE/EYE IRRITATION
Skin Sens. 1, H317	SKIN SENSITISATION
STOT SE 3, H335	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation)

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 vapour.
H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.
H332 - Harmful if inhaled.
H335 - May cause respiratory irritation.

Precautionary statements :

Prevention : Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Response : IF INHALED: Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. 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.
Store in a well-ventilated place. Keep container tightly closed.

SECTION 2: Hazards identification

Hazardous ingredients :

- ☒ xylene
- 3-aminopropyl-diethylamine
- benzyl alcohol
- 2-methylpropan-1-ol
- ethylbenzene
- m-Xylylene-diamine
- 3-(2-aminoethylamino)propyltrimethoxysilane

Special packaging requirements

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

Tactile warning of danger : Not applicable.

2.3 Other hazards

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Product/ingredient name	Identifiers	%	GB CLP Classification	Type
<input checked="" type="checkbox"/> xylene	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9	≥10 - ≤24	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315	[1] [2]
3-aminopropyl-diethylamine	REACH #: 01-2119965402-39 EC: 203-236-4 CAS: 104-78-9 Index: 612-062-00-1	≥10 - ≤16	Flam. Liq. 3, H226 Acute Tox. 4, H302 Acute Tox. 3, H311 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT SE 3, H335	[1]
benzyl alcohol	REACH #: 01-2119492630-38 EC: 202-859-9 CAS: 100-51-6 Index: 603-057-00-5	≥10 - ≤19	Acute Tox. 4, H302 Eye Irrit. 2, H319 Skin Sens. 1B, H317	[1]
2-methylpropan-1-ol	REACH #: 01-2119484609-23 EC: 201-148-0 CAS: 78-83-1 Index: 603-108-00-1	≤10	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336	[1] [2]
ethylbenzene	REACH #: 01-2119489370-35 EC: 202-849-4 CAS: 100-41-4 Index: 601-023-00-4	≤5	Flam. Liq. 2, H225 Acute Tox. 4, H332 STOT RE 2, H373 (hearing organs)	[1] [2]
m-Xylylene-diamine	REACH #: 01-2119480150-50 EC: 216-032-5 CAS: 1477-55-0	≤5	Asp. Tox. 1, H304 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]
3-(2-aminoethylamino)propyltrimethoxysilane	REACH #: 01-2119970215-39 EC: 217-164-6 CAS: 1760-24-3	≤5	Eye Dam. 1, H318 Skin Sens. 1B, H317 STOT SE 3, H335	[1]
salicylic acid	REACH #: 01-2119486984-17 EC: 200-712-3 CAS: 69-72-7 Index: 607-732-00-5	≤1.7	Acute Tox. 4, H302 Eye Dam. 1, H318 Repr. 2, H361d	[1]
toluene	REACH #: 01-2119471310-51 EC: 203-625-9 CAS: 108-88-3 Index: 601-021-00-3	≤0.3	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361d STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304	[1] [2]

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

SECTION 3: Composition/information on ingredients

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit, see section 8.

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/advise.
Inhalation :	Remove to fresh air and keep at rest in a position comfortable for breathing. Give nothing by mouth. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately.
Skin contact :	Wash skin thoroughly with soap and water or use recognised 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 :	Harmful if inhaled. May cause respiratory irritation.
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 :	Adverse symptoms may include the following: respiratory tract irritation coughing
Skin contact :	Adverse symptoms may include the following: pain or irritation redness blistering may occur
Ingestion :	Adverse symptoms may include the following: stomach pains

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, CO₂, powders, water spray.
Not to be used : waterjet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Flammable liquid and vapour. 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 combustion products : Decomposition products may include the following materials: carbon oxides nitrogen oxides metal oxide/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 vapour 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 spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. 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 spilt 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

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

Occupational exposure limits

Product/ingredient name	Exposure limit values
<div>  xylene </div> 2-methylpropan-1-ol	EH40/2005 WELs (United Kingdom (UK), 1/2020) [xylene, o-,m-,p- or mixed isomers] Absorbed through skin. STEL 15 minutes: 441 mg/m ³ . TWA 8 hours: 50 ppm. TWA 8 hours: 220 mg/m ³ . STEL 15 minutes: 100 ppm.
ethylbenzene	EH40/2005 WELs (United Kingdom (UK), 1/2020) STEL 15 minutes: 231 mg/m ³ . STEL 15 minutes: 75 ppm. TWA 8 hours: 154 mg/m ³ . TWA 8 hours: 50 ppm.
m-Xylylene-diamine	EH40/2005 WELs (United Kingdom (UK), 1/2020) Absorbed through skin. STEL 15 minutes: 552 mg/m ³ . STEL 15 minutes: 125 ppm. TWA 8 hours: 100 ppm. TWA 8 hours: 441 mg/m ³ .
toluene	EU OEL (Europe, 2/2010) Absorbed through skin. (ACGIH) C: 0.1 mg/m ³ . EH40/2005 WELs (United Kingdom (UK), 1/2020) Absorbed through skin. STEL 15 minutes: 384 mg/m ³ . TWA 8 hours: 191 mg/m ³ . TWA 8 hours: 50 ppm. STEL 15 minutes: 100 ppm.


Biological exposure indices

Product/ingredient name	Exposure limit values
<div>  xylene </div>	EH40/2005 BMGVs (United Kingdom (UK), 1/2020) [Xylene, o-, m-, p- or mixed isomers] BGV: 650 mmol/mol creatinine, methyl hippuric acid [in urine]. Sampling time: post shift.

Recommended monitoring procedures

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

Product/ingredient name	Type - Population - Exposure	Value	Effects
<div>  xylene </div>	DNEL - Workers - Long term - Inhalation	77 mg/m ³	Effects: Systemic
3-aminopropyldiethylamine	DNEL - Workers - Long term - Dermal	212 mg/kg bw/day	Effects: Systemic
benzyl alcohol	DNEL - Workers - Long term - Dermal	3.5 mg/kg	Effects: Systemic
ethylbenzene	DNEL - Workers - Long term - Inhalation	24.7 mg/m ³	Effects: Systemic
m-Xylylene-diamine	DNEL - Workers - Long term - Inhalation	22 mg/m ³	Effects: Systemic
3-(2-aminoethylamino)propyltrimethoxysilane	DNEL - Workers - Long term - Dermal	8 mg/kg bw/day	Effects: Systemic
salicylic acid	DNEL - Workers - Long term - Dermal	180 mg/kg bw/day	Effects: Systemic
toluene	DNEL - Workers - Long term - Inhalation	77 mg/m ³	Effects: Systemic
	DNEL - Workers - Long term - Dermal	0.33 mg/kg bw/day	Effects: Systemic
	DNEL - Workers - Long term - Inhalation	1.2 mg/m ³	Effects: Systemic
	DNEL - Workers - Long term - Inhalation	260 mg/m ³	Effects: Systemic
	DNEL - Workers - Long term - Dermal	5 mg/kg bw/day	Effects: Systemic
	DNEL - Workers - Long term - Dermal	2 mg/kg bw/day	Effects: Systemic
	DNEL - Workers - Long term - Inhalation	5 mg/m ³	Effects: Systemic
	DNEL - Workers - Long term - Dermal	384 mg/kg bw/day	Effects: Systemic
	DNEL - Workers - Long term - Inhalation	192 mg/m ³	Effects: Systemic

Predicted effect concentrations

SECTION 8: Exposure controls/personal protection

Product/ingredient name	Compartment Detail	Value
xylene	Fresh water	0.327 mg/l
	Marine water	0.327 mg/l
	Fresh water sediment	12.46 mg/kg
	Marine water sediment	12.46 mg/kg
	Soil	2.31 mg/kg
3-aminopropyldiethylamine	Sewage Treatment Plant	6.68 mg/l
	Fresh water	0.2 mg/l
	Marine water	0.02 mg/l
	Fresh water sediment	2.788 mg/kg
	Marine water sediment	0.2788 mg/kg
benzyl alcohol	Soil	0.4403 mg/kg
	Sewage Treatment Plant	10 mg/l
	Soil - Assessment Factors	0.456 mg/kg wwt
	Sewage Treatment Plant - Assessment Factors	39 mg/l
	Sediment - Assessment Factors	5.27 mg/kg wwt
ethylbenzene	Marine water sediment - Assessment Factors	0.527 mg/kg wwt
	Marine - Assessment Factors	0.1 mg/l
	Fresh water - Assessment Factors	1 mg/l
	Fresh water	0.1 mg/l
	Marine water	0.01 mg/l
m-Xylylene-diamine	Sewage Treatment Plant	9.6 mg/l
	Fresh water sediment	13.7 mg/kg
	Soil	2.68 mg/kg
	Fresh water	0.094 mg/l
	Marine water	0.009 mg/l
3-(2-aminoethylamino)propyltrimethoxysilane	Fresh water sediment	12.4 mg/kg
	Marine water sediment	1.24 mg/kg
	Soil	2.44 mg/kg
	Sewage Treatment Plant	10 mg/l
	Fresh water	0.062 mg/l
salicylic acid	Marine water	0.0062 mg/l
	Sewage Treatment Plant	25 mg/l
	Fresh water sediment	0.22 mg/kg dwt
	Marine water sediment	0.022 mg/kg dwt
	Soil	0.0085 mg/kg dwt
toluene	Fresh water sediment	1.42 mg/kg
	Soil	0.166 mg/kg
	Fresh water	0.2 mg/l
	Marine water	0.02 mg/l
	Marine water sediment	0.142 mg/kg
	Sewage Treatment Plant	162 mg/l
	Fresh water	0.68 mg/l
	Marine water	0.68 mg/l
	Sewage Treatment Plant	13.61 mg/l
	Fresh water sediment	16.39 mg/kg
	Marine water sediment	16.39 mg/kg
	Soil	2.89 mg/kg

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.
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 :	Wear chemically 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.

SECTION 8: Exposure controls/personal protection

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:

Recommended: Silver Shield / Barrier / 4H gloves, polyvinyl alcohol (PVA), Viton®
May be used: nitrile rubber (>0.3 mm), neoprene rubber (>0.1 mm), butyl rubber (>0.5 mm)
Short term exposure: natural rubber (latex) (>0.4 mm), polyvinyl chloride (PVC), nitrile rubber (>0.1 mm), butyl rubber (>0.3 mm)

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved handling this product.
Wear suitable protective clothing. Always wear protective clothing when spraying.
Chemical-resistant apron.

Respiratory protection : 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. 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. (EN140) 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.
Colour : Transparent
Odour : 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: 25°C (77°F)
Evaporation rate : Testing not relevant or not possible due to nature of the product.
Flammability : Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.

	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
2-methylpropan-1-ol	<12.00102	<1.6	DIN EN 13016-2			

Vapour density : Not available.
Specific gravity : 0.95 g/cm³
Partition coefficient (LogKow) : Testing not relevant or not possible due to nature of the product.

	Ingredient name	°C	°F	Method
Auto-ignition temperature :	2-methylpropan-1-ol	415	779	

Decomposition temperature : Testing not relevant or not possible due to nature of the product.
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 oxidising materials.
Slightly explosive in the presence of the following materials or conditions: reducing materials.
Oxidising properties : Testing not relevant or not possible due to nature of the product.

9.2 Other information

Solvent(s) % by weight : Weighted average: 63 %
Water % by weight : Weighted average: 0 %

SECTION 9: Physical and chemical properties

VOC content : 504.8 g/l
TOC Content : Weighted average: 306 g/l
Solvent Gas : Weighted average: 0.136 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 pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

10.5 Incompatible materials

Highly reactive or incompatible with the following materials: oxidising materials.

Reactive or incompatible with the following materials: reducing materials.

Slightly reactive or incompatible with the following materials: 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 metal oxide/oxides

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008


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.

Direct contact with the eyes can cause irreversible damage, including blindness.

Acute toxicity

Product/ingredient name	Result	Dose / Exposure	Effects
 xylene	Rabbit - Dermal - LD50	>4200 mg/kg	Toxic effects: Liver - Other changes Kidney, Ureter, and Bladder - Other changes
	Rat - Oral - LD50	3523 mg/kg	
	Rat - Inhalation - LC50 Vapour	6350 ppm [4 hours]	
	Rat - Inhalation - LC50 Gas.	5000 ppm [4 hours]	
3-aminopropyldiethylamine	Rat - Oral - LD50	830 mg/kg	
	Rabbit - Dermal - LD50	524 mg/kg	
benzyl alcohol	Rat - Oral - LD50	1230 mg/kg	
	Rat - Inhalation - LC50 Dusts and mists	>4178 mg/m³ [4 hours]	
2-methylpropan-1-ol	Rat - Oral - LD50	2460 mg/kg	
	Rabbit - Dermal - LD50	3400 mg/kg	
	Rat - Inhalation - LC50 Vapour	19200 mg/m³ [4 hours]	
ethylbenzene	Rat - Oral - LD50	3500 mg/kg	
	Rabbit - Dermal - LD50	>5000 mg/kg	
m-Xylylene-diamine	Rat - Oral - LD50	930 mg/kg	
	Rabbit - Dermal - LD50	>3100 mg/kg	

SECTION 11: Toxicological information

3-(2-aminoethylamino)propyltrimethoxysilane	Rat - Inhalation - LC50 Dusts and mists Rat - Oral - LD50	1.34 mg/l [4 hours] 2413 mg/kg
salicylic acid	Rat - Dermal - LD50 Rat - Oral - LD50 Rat - Dermal - LD50 Rat - Inhalation - LC50 Dusts and mists	>2000 mg/kg 891 mg/kg >2000 mg/kg >0.9 mg/l [1 hours]
toluene	Rat - Oral - LD50 Rat - Inhalation - LC50 Vapour	636 mg/kg >20 mg/l [4 hours]

Acute toxicity estimates

Product/ingredient name	Oral mg/kg	Dermal mg/kg	Inhalation (gases) ppm	Inhalation (vapours) mg/l	Inhalation (dusts and mists) mg/l
Hempel's Curing Agent 97371	3100.9	2113.2	18931.3	137.4	
xylene	3523	1100	5000		
3-aminopropyl-diethylamine	830	524			
benzyl alcohol	1200				
2-methylpropan-1-ol	2460	3400			
ethylbenzene	3500		4500	11	
m-Xylylene-diamine	930			11	
3-(2-aminoethylamino)propyltrimethoxysilane	2413				
salicylic acid	891				

Irritation/Corrosion

Product/ingredient name	Result	Species	Exposure
xylene	Rabbit - Eyes - Severe irritant Rabbit - Skin - Moderate irritant	Duration of treatment/ exposure: 24 hours Duration of treatment/ exposure: 24 hours	Amount/concentration applied: 5 milligrams Amount/concentration applied: 500 milligrams
3-aminopropyl-diethylamine	Rabbit - Skin - Irritant Rabbit - Skin - Severe irritant		
benzyl alcohol	Rabbit - Eyes - Severe irritant Rabbit - Eyes - Visible necrosis		
2-methylpropan-1-ol	Rabbit - Skin - Mild irritant		
ethylbenzene	Rabbit - Eyes - Irritant Rabbit - Skin - Irritant Rabbit - Skin - Mild irritant	Duration of treatment/ exposure: 24 hours	Amount/concentration applied: 15 milligrams
m-Xylylene-diamine	Rabbit - Respiratory - Mild irritant Rabbit - Eyes - Mild irritant Rabbit - Eyes - Severe irritant Rabbit - Skin - Severe irritant	Duration of treatment/ exposure: 24 hours Duration of treatment/ exposure: 24 hours	Amount/concentration applied: 50 Micrograms Amount/concentration applied: 750 Micrograms
3-(2-aminoethylamino)propyltrimethoxysilane	Rabbit - Respiratory - Severe irritant Rabbit - Skin - Mild irritant		
salicylic acid	Rabbit - Eyes - Severe irritant Rabbit - Eyes - Severe irritant Human - Skin - Moderate irritant	Duration of treatment/ exposure: 24 hours	Amount/concentration applied: 30 pph
toluene	Rabbit - Eyes - Mild irritant Rabbit - Skin - Moderate irritant	Duration of treatment/ exposure: 0.5 minutes Duration of treatment/ exposure: 24 hours	Amount/concentration applied: 100 mg Amount/concentration applied: 20 mg

Sensitiser

Product/ingredient name	Species - Route of exposure	Result
3-(2-aminoethylamino)propyltrimethoxysilane	Guinea pig - skin	Result: Sensitising
	Mouse - skin	Result: Sensitising

Mutagenic effects

No known data available in our database.

Carcinogenicity

SECTION 11: Toxicological information

No known data available in our database.

Reproductive toxicity

No known data available in our database.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
3-aminopropyl-diethylamine	Category 3		Respiratory tract irritation
2-methylpropan-1-ol	Category 3		Respiratory tract irritation
	Category 3		Narcotic effects
3-(2-aminoethylamino)propyltrimethoxysilane	Category 3		Respiratory tract irritation
toluene	Category 3		Narcotic effects

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
ethylbenzene	Category 2	-	hearing organs
toluene	Category 2	-	-

Aspiration hazard

Product/ingredient name	Result
ethylbenzene	ASPIRATION HAZARD - Category 1
toluene	ASPIRATION HAZARD - Category 1

Information on likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential chronic health effects

No known significant effects or critical hazards.

11.2 Information on other hazards

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.

Product/ingredient name	Result	Species	Exposure
benzyl alcohol	Acute - LC50	Fish	460 mg/l [96 hours]
	Acute - EC50	Daphnia	230 mg/l [48 hours]
	Acute - IC50	Algae	770 mg/l [72 hours]
2-methylpropan-1-ol	Chronic - NOEC - Fresh water	Daphnia - Water flea - <i>Daphnia magna</i>	4000 µg/l [21 days]
ethylbenzene	Chronic - NOEC - Fresh water	Algae - Green algae - <i>Pseudokirchneriella subcapitata</i>	<1000 µg/l [96 hours]
m-Xylylene-diamine	Acute - LC50	Fish - <i>Leuciscus idus</i>	87.6 mg/l [96 hours]
	Acute - EC50	Daphnia - Daphnia - <i>Daphnia</i>	15.2 mg/l [48 hours]
	Acute - EC50	Algae	20.3 mg/l [72 hours]
	Acute - NOEC	Daphnia	4.7 mg/l [21 days]
3-(2-aminoethylamino)propyltrimethoxysilane	Acute - LC50	Fish	597 mg/l [96 hours]
	Acute - EC50	Daphnia	81 mg/l [48 hours]
	Acute - EC50	Algae	126 mg/l [72 hours]
toluene	Chronic - NOEC - Fresh water	Daphnia - Water flea - <i>Daphnia magna</i>	1000 µg/l [21 days]
	Chronic - NOEC - Fresh water	Algae - Green algae - <i>Pseudokirchneriella subcapitata</i>	<500000 µg/l [96 hours]

12.2 Persistence and degradability

SECTION 12: Ecological information

Product/ingredient name	Test	Result
xylene	OECD Ready Biodegradability - Manometric Respirometry Test	>60% [28 days] - Readily 90 - 98% [28 days] - Readily
3-aminopropyldiethylamine	OECD Ready Biodegradability - DOC Die-Away Test	90% [28 days] - Readily
benzyl alcohol	OECD Ready Biodegradability - Modified MITI Test (I)	92 - 96% [14 days] - Readily
	OECD Ready Biodegradability - DOC Die-Away Test	95 - 97% [21 days] - Readily
ethylbenzene		>70% [28 days] - Readily
m-Xylylene-diamine	OECD Ready Biodegradability - CO2 Evolution Test	49% [28 days] - Inherent
3-(2-aminoethylamino)propyltrimethoxysilane	OECD Ready Biodegradability - DOC Die-Away Test	39% [28 days] - Not readily
salicylic acid		100% [14 days] - Readily
toluene		100% [14 days] - Readily

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
xylene			Readily
3-aminopropyldiethylamine			Readily
benzyl alcohol			Readily
ethylbenzene			Readily
m-Xylylene-diamine			Inherent
3-(2-aminoethylamino)propyltrimethoxysilane			Not readily
salicylic acid			Readily
toluene			Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
xylene	3.12	8.1 - 25.9	Low
3-aminopropyldiethylamine	0.3	6.3	Low
benzyl alcohol	0.87	1.37	Low
2-methylpropan-1-ol	1	-	Low
ethylbenzene	3.6	-	Low
m-Xylylene-diamine	0.18	2.69	Low
3-(2-aminoethylamino)propyltrimethoxysilane	-0.77	-	Low
salicylic acid	2.21 - 2.26	-	Low
toluene	2.73	90	Low

12.4 Mobility in soil

Soil/water partition coefficient

Product/ingredient name	logK _{oc}	K _{oc}
xylene	1.59	39
3-aminopropyldiethylamine	1.81	65.1621
benzyl alcohol	1.1	12.6442
2-methylpropan-1-ol	1.08	12.0246
ethylbenzene	2.23	170.406
m-Xylylene-diamine	1.67	46.5812
3-(2-aminoethylamino)propyltrimethoxysilane	1.54	34.5002
salicylic acid	1.58	37.6361
toluene	2.07	117.115

Results of PMT and vPvM assessment

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
xylene	No	No	Yes	No	No	No	Yes
3-aminopropyldiethylamine	No	No	Yes	No	No	No	Yes
benzyl alcohol	No	No	Yes	No	No	No	Yes
2-methylpropan-1-ol	No	No	Yes	No	No	No	Yes
ethylbenzene	No	No	Yes	Yes	No	No	No
m-Xylylene-diamine	No	No	Yes	No	No	No	Yes
3-(2-aminoethylamino)propyltrimethoxysilane	No	No	Yes	No	No	No	Yes
salicylic acid	No	No	Yes	Yes	No	No	Yes
toluene	No	No	Yes	Yes	No	No	No

Mobility : The product does not meet the criteria to be considered as a PMT or vPvM.

SECTION 12: Ecological information

12.5 Results of PBT and vPvB assessment

Conclusion/Summary : The product does not meet the criteria to be considered as a PBT or vPvB.

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 minimised 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*

Packaging

The generation of waste should be avoided or minimised 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 / ID no.	14.2 Proper shipping name	14.3 Transport hazard class(es)	14.4 PG*	14.5 Env*	Additional information
ADR/RID Class	UN2733	AMINES, FLAMMABLE, CORROSIVE, N.O.S. (xylene, 3-aminopropyldiethylamine)	3 8  	III	No.	-
IMDG Class	UN2733	AMINES, FLAMMABLE, CORROSIVE, N.O.S. (xylene, 3-aminopropyldiethylamine)	3 8  	III	No.	<u>Emergency schedules</u> F-E, S-C
IATA Class	UN2733	AMINES, FLAMMABLE, CORROSIVE, N.O.S. (xylene, 3-aminopropyldiethylamine)	3 8  	III	No.	-

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 Maritime transport in bulk according to IMO instruments

Not applicable.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH) Annex XIV - List of substances subject to authorisation - 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.

SECTION 15: Regulatory information

Seveso category

P5c: Flammable liquids 2 and 3 not falling under P5a or P5b

15.2 Chemical safety assessment

-

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 vapour.
 H226 Flammable liquid and vapour.
 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.
 H319 Causes serious eye irritation.
 H332 Harmful if inhaled.
 H335 May cause respiratory irritation.
 H336 May cause drowsiness or dizziness.
 H361d Suspected of damaging the unborn child.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H412 Harmful to aquatic life with long lasting effects.
 EUH071 Corrosive to the respiratory tract.

Full text of classifications [CLP/GHS] :

Acute Tox. 3 ACUTE TOXICITY - Category 3
 Acute Tox. 4 ACUTE TOXICITY - Category 4
 Aquatic Chronic 3 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
 Asp. Tox. 1 ASPIRATION HAZARD - Category 1
 Eye Dam. 1 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
 Eye Irrit. 2 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
 Flam. Liq. 2 FLAMMABLE LIQUIDS - Category 2
 Flam. Liq. 3 FLAMMABLE LIQUIDS - Category 3
 Repr. 2 REPRODUCTIVE TOXICITY - Category 2
 Skin Corr. 1B SKIN CORROSION/IRRITATION - Category 1B
 Skin Irrit. 2 SKIN CORROSION/IRRITATION - Category 2
 Skin Sens. 1 SKIN SENSITISATION - Category 1
 Skin Sens. 1B SKIN SENSITISATION - Category 1B
 STOT RE 2 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
 STOT SE 3 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

Classification	Justification
FLAMMABLE LIQUIDS	On basis of test data
ACUTE TOXICITY (inhalation)	Calculation method
SKIN CORROSION/IRRITATION	Calculation method
SERIOUS EYE DAMAGE/EYE IRRITATION	Calculation method
SKIN SENSITISATION	Calculation method
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation)	Calculation method

Notice to reader

🔹 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.

Safe Use of Mixture Information

Hempel's Curing Agent 97371



This document is intended to communicate the conditions of safe use for the product and should always be read in combination with the product's Safety Data Sheet and labels.

General description of the process covered

Outdoor spray painting by professionals for specialist applications, with respiratory protection

Wear suitable coveralls to prevent exposure to the skin. Wear chemical-resistant gloves in combination with 'basic' employee training.

This safe use information is linked to : Professional spray painting, near-industrial setting - Level IV
HMP I/PW 05d

Sector(s) of use : Industrial uses - Professional uses

Product category(ies) : Coatings and paints, thinners, paint removers

Operational conditions

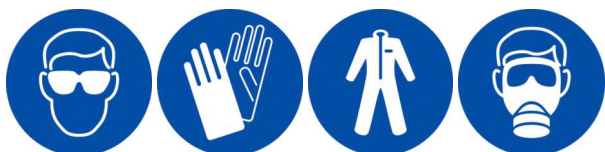
Place of use : Outdoor use

Range of application/Process conditions : Assumes a good standard of occupational hygiene and safety management has been implemented.
Avoid contact with contaminated tools and objects.

Risk management measures (RMM)

Contributing activity	Process category (ies)	Maximum duration	Ventilation		Respiratory	Eye	Hands
			Type and air changes per hour				
Preparation of material for application	PROC05	More than 4 hours	Outdoors	3 - 5	Wear a respirator conforming to EN140 with an assigned protection factor of at least 10.	Use eye protection according to EN 166.	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Loading of application equipment and handling of coated parts before curing	PROC08b	More than 4 hours	Outdoors	3 - 5	None	Use eye protection according to EN 166.	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Industrial application of coatings by spraying	PROC07	More than 4 hours	Outdoors	3 - 5	Wear a respirator conforming to EN140 with an assigned protection factor of at least 10.	Use eye protection according to EN 166.	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Film formation - force drying, stoving and other technologies	PROC04	More than 4 hours	Outdoors	3 - 5	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Cleaning	PROC05	More than 4 hours	Outdoors	3 - 5	Wear a respirator conforming to EN140 with an assigned protection factor of at least 10.	Use eye protection according to EN 166.	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Waste management	PROC08b	More than 4 hours	Outdoors	3 - 5	None	Use eye protection according to EN 166.	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

See section 8 of this Safety Data Sheet for specifications.



Safe Use of Mixture Information

Hempel's Curing Agent 97371



This document is intended to communicate the conditions of safe use for the product and should always be read in combination with the product's Safety Data Sheet and labels.

General description of the process covered

Outdoor painting by professionals by dipping or with brush, roller, putty knife etc.

This safe use information is linked to : Professional low-energy painting, near-industrial setting - Level IV
HMP I/PW 05d

Sector(s) of use : Industrial uses - Professional uses

Product category(ies) : Coatings and paints, thinners, paint removers

Operational conditions

Place of use : Outdoor use

Risk management measures (RMM)

Contributing activity	Process category (ies)	Maximum duration	Ventilation		Respiratory	Eye	Hands
			Type and air changes per hour				
Preparation of material for application	PROC05	More than 4 hours	Outdoors	3 - 5	Wear a respirator conforming to EN140 with an assigned protection factor of at least 10.	Use eye protection according to EN 166.	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Loading of application equipment and handling of coated parts before curing	PROC08b	More than 4 hours	Outdoors	3 - 5	None	Use eye protection according to EN 166.	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Professional application of coatings by brush or roller	PROC10	More than 4 hours	Outdoors	3 - 5	Wear a respirator conforming to EN140 with an assigned protection factor of at least 10.	Use eye protection according to EN 166.	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Film formation - force drying, stoving and other technologies	PROC04	More than 4 hours	Outdoors	3 - 5	None	Use eye protection according to EN 166.	Wear suitable gloves tested to EN374.
Cleaning	PROC05	More than 4 hours	Outdoors	3 - 5	Wear a respirator conforming to EN140 with an assigned protection factor of at least 10.	Use eye protection according to EN 166.	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
Waste management	PROC08b	More than 4 hours	Outdoors	3 - 5	None	Use eye protection according to EN 166.	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

See section 8 of this Safety Data Sheet for specifications.

