

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 2020/878 - Austria / Germany

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

1.1 Product identifier

Product name : Hempadur 4774M Base
Product identity : 4774M20454, 00138081
Product type : epoxy primer (base for multi-component product)

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 : 4774D = 4774M 4 vol. / 9874D 1 vol.
Identified uses : Industrial applications, Used by spraying.

1.3 Details of the supplier of the safety data sheet

Company details : Hempel (Germany) GmbH
Haderslebener Straße 9
25421 Pinneberg
Tel. (0 41 01) 70 70
Fax. (0 41 01) 70 71 31
hempel@hempel.com

Date of issue : 20 November 2023

Date of previous issue : 8 May 2023.

1.4 Emergency telephone number

(0 41 01) 70 70 (08.00 - 17.00)
Austria: Vergiftungsinformationszentrale
+43 1 406 43 43 (24 hrs)
Switzerland: Swiss Toxicological Information Centre
+41 44 251 51 51 (in Switzerland dial 145) (24 hrs)

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
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION
Eye Dam. 1, H318	SERIOUS EYE DAMAGE/ EYE IRRITATION
Skin Sens. 1, H317	SKIN SENSITIZATION
Aquatic Chronic 3, H412	AQUATIC HAZARD (LONG-TERM)

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.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention : Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Response : 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.

Hazardous ingredients :
Middle molecular epoxy resin MMW 700-1200
bisphenol A-(epichlorhydrin) epoxy resin MW =< 700
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.
butan-1-ol
1,3-bis(12-hydroxyocta-decanamide-N-methyle)benzene

Supplemental label elements :
Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.
Contains epoxy constituents. May produce an allergic reaction.

Special packaging requirements

SECTION 2: Hazards identification

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	%	Regulation (EC) No. 1272/2008 [CLP]	Type
titanium dioxide	REACH #: 01-2119489379-17 EC: 236-675-5 CAS: 13463-67-7 Index: 022-006-00-2	≥10 - ≤25	Carc. 2, H351 (inhalation)	[1] [*]
middle molecular epoxy resin MMW 700-1200	CAS: 25068-38-6 Index: Polymer	≥10 - ≤25	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317	[1]
bisphenol A-(epichlorhydrin) epoxy resin MW ≤< 700	REACH #: 01-2119456619-26 EC: 216-823-5 CAS: 1675-54-3 Index: 603-074-00-8	≥5 - ≤10	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317	[1]
xylene	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9	≥5 - ≤10	Aquatic Chronic 2, H411 Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332	[1] [2]
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	REACH #: 01-2119485289-22 EC: 271-846-8 CAS: 68609-97-2 Index: 603-103-00-4	≥3 - ≤5	Skin Irrit. 2, H315 Skin Sens. 1, H317	[1]
butan-1-ol	REACH #: 01-2119484630-38 EC: 200-751-6 CAS: 71-36-3 Index: 603-004-00-6	≥3 - ≤5	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]
1,3-bis(12-hydroxyocta- decanamide-N-methyle) benzene	REACH #: 01-0000016979-49 EC: 423-300-7	≤0.3	Skin Sens. 1B, H317 Aquatic Chronic 4, H413	[1]
4,4'-isopropylidenediphenol	REACH #: 01-2119457856-23 EC: 201-245-8 CAS: 80-05-7 Index: 604-030-00-0	≤0.025	Eye Dam. 1, H318 Skin Sens. 1, H317 Repr. 1B, H360F STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 See Section 16 for the full text of the H statements declared above.	[1] [2] [3]

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 of equivalent concern

[*] The classification as a carcinogen by inhalation applies only to mixtures placed on the market in powder form containing 1% or more of titanium dioxide particles with aerodynamic diameter ≤ 10 µm not bound within a matrix.

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/advice.
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 :	Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
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 skin irritation. 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

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician :	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 ₂ , 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 harmful 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 halogenated compounds metal oxide/oxides

SECTION 5: Firefighting measures

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

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. Contains epoxy constituents. Avoid all possible skin contact with epoxy and amine containing products, they may cause allergic reactions.

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

SECTION 8: Exposure controls/personal protection

Product/ingredient name	Exposure limit values
 xylene oxirane, mono[(C12-14-alkyloxy)methyl] derivs. butan-1-ol ethylbenzene 4,4'-isopropylidenediphenol	Regulation on Limit Values - MAC (Austria, 4/2021). [Xylenes (all isomers)] PEAK: 442 mg/m³, 4 times per shift, 15 minutes. TWA: 50 ppm 8 hours. PEAK: 100 ppm, 4 times per shift, 15 minutes. TWA: 221 mg/m³ 8 hours. Regulation on Limit Values - MAC (Austria, 4/2021). [1,2-Epoxy-3-(tolylloxy) propane (all isomers)] TWA: 10 ppm 8 hours. TWA: 70 mg/m³ 8 hours. PEAK: 20 ppm, 4 times per shift, 15 minutes. PEAK: 140 mg/m³, 4 times per shift, 15 minutes. Regulation on Limit Values - MAC (Austria, 4/2021). [Butanol (all isomers except 2-methyl-2-propanol)] PEAK: 200 ppm, 4 times per shift, 15 minutes. TWA: 150 mg/m³ 8 hours. TWA: 50 ppm 8 hours. PEAK: 600 mg/m³, 4 times per shift, 15 minutes. Regulation on Limit Values - MAC (Austria, 4/2021). Absorbed through skin. CEIL: 880 mg/m³, 8 times per shift, 5 minutes. CEIL: 200 ppm, 8 times per shift, 5 minutes. TWA: 440 mg/m³, 8 times per shift, 8 hours. TWA: 100 ppm, 8 times per shift, 8 hours. Regulation on Limit Values - MAC (Austria, 4/2021). Sensitization potential. CEIL: 5 mg/m³ 15 minutes. Form: inhalable fraction TWA: 2 mg/m³ 8 hours. Form: inhalable fraction
 xylene butan-1-ol ethylbenzene 4,4'-isopropylidenediphenol	TRGS 900 OEL (Germany, 4/2023). [xylene] Absorbed through skin. TWA: 220 mg/m³ 8 hours. PEAK: 440 mg/m³ 15 minutes. TWA: 50 ppm 8 hours. PEAK: 100 ppm 15 minutes. DFG MAC-values list (Germany, 7/2022). [Xylene (all isomers)] Absorbed through skin. TWA: 50 ppm 8 hours. PEAK: 100 ppm, 4 times per shift, 15 minutes. TWA: 220 mg/m³ 8 hours. PEAK: 440 mg/m³, 4 times per shift, 15 minutes. TRGS 900 OEL (Germany, 4/2023). TWA: 310 mg/m³ 8 hours. PEAK: 310 mg/m³ 15 minutes. TWA: 100 ppm 8 hours. PEAK: 100 ppm 15 minutes. DFG MAC-values list (Germany, 7/2022). TWA: 100 ppm 8 hours. PEAK: 100 ppm, 4 times per shift, 15 minutes. TWA: 310 mg/m³ 8 hours. PEAK: 310 mg/m³, 4 times per shift, 15 minutes. TRGS 900 OEL (Germany, 4/2023). Absorbed through skin. PEAK: 176 mg/m³ 15 minutes. PEAK: 40 ppm 15 minutes. TWA: 88 mg/m³ 8 hours. TWA: 20 ppm 8 hours. DFG MAC-values list (Germany, 7/2022). Absorbed through skin. PEAK: 40 ppm, 4 times per shift, 15 minutes. PEAK: 176 mg/m³, 4 times per shift, 15 minutes. TWA: 88 mg/m³ 8 hours. TWA: 20 ppm 8 hours. DFG MAC-values list (Germany, 7/2022). Phototoxic. PEAK: 5 mg/m³, 4 times per shift, 15 minutes. Form: inhalable fraction TWA: 5 mg/m³ 8 hours. Form: inhalable fraction TRGS 900 OEL (Germany, 4/2023). PEAK: 5 mg/m³ 15 minutes. Form: inhalable fraction TWA: 5 mg/m³ 8 hours. Form: inhalable fraction

Recommended monitoring procedures

SECTION 8: Exposure controls/personal protection

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

Product/ingredient name	Type	Exposure	Value	Population	Effects
Bisphenol A-(epichlorhydrin) epoxy resin MW =< 700 xylene oxirane, mono[(C12-14-alkyloxy)methyl] derivs. ethylbenzene 4,4'-isopropylidenediphenol	DNEL	Long term Dermal	8.33 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	12.25 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	77 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	212 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	1 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	3.6 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	180 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	77 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	0.031 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	2 mg/m ³	Workers	Systemic

Predicted effect concentrations

Product/ingredient name	Compartment Detail	Value	Method Detail
Bisphenol A-(epichlorhydrin) epoxy resin MW =< 700 xylene oxirane, mono[(C12-14-alkyloxy)methyl] derivs. ethylbenzene	Fresh water	0.006 mg/l	-
	Marine	0.0006 mg/l	-
	Sewage Treatment Plant	10 mg/l	-
	Fresh water sediment	0.996 mg/l	-
	Marine water sediment	0.0996 mg/l	-
	Soil	0.196 mg/l	-
	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	-
	Sewage Treatment Plant	6.68 mg/l	-
	Fresh water	0.106 mg/l	-
	Marine water	0.011 mg/l	-
	Fresh water sediment	307.16 mg/kg dwt	-
	Marine water sediment	30.72 mg/kg dwt	-
	Soil	1.234 mg/kg dwt	-
	Sewage Treatment Plant	10 mg/l	-
	Fresh water	0.1 mg/l	-
	Marine water	0.01 mg/l	-
	Sewage Treatment Plant	9.6 mg/l	-
	Fresh water sediment	13.7 mg/kg	-
	Soil	2.68 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. Where personal protection equipment is required this shall be chosen in accordance with German BGR regulations of the "Berufsgenossenschaften".

Hygiene measures :

Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using lavatory, and at the end of day.

SECTION 8: Exposure controls/personal protection

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 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. 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, butyl rubber Short term exposure: neoprene rubber, natural rubber (latex), polyvinyl chloride (PVC)
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.
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. 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.
Color :	Cream
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: 34°C (93.2°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.
Lower and upper explosive (flammable) limits :	0.8 - 11.3 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 :	1.65 g/cm ³
Partition coefficient (LogKow) :	Testing not relevant or not possible due to nature of the product.
Auto-ignition temperature :	Lowest known value: 355°C (671°F) (butan-1-ol).
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 and heat.
Oxidizing properties :	Testing not relevant or not possible due to nature of the product.

9.2 Other information

Solvent(s) % by weight :	Weighted average: 14 %
Water % by weight :	Weighted average: 0 %
VOC content :	225.1 g/l

SECTION 9: Physical and chemical properties

VOC content, Ready-for-use mixture : 46.3 g/l

TOC Content : Weighted average: 189 g/l

Solvent Gas : Weighted average: 0.057 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

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

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 halogenated compounds 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.

Epoxy and amine containing products can cause skin disorders such as allergic eczema. The allergy may arise after only a short exposure period.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Titanium dioxide	LC50 Inhalation Dusts and mists	Rat	>6.8 mg/l	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
	LD50 Dermal	Rat	>2000 mg/kg	-
middle molecular epoxy resin MMW 700-1200 bisphenol A-(epichlorhydrin) epoxy resin MW ≤ 700	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Dermal	Rat	>2000 mg/kg	-
xylene	LD50 Oral	Rat	>2000 mg/kg	-
	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LC50 Inhalation Vapor	Rat	6350 ppm	4 hours
	LD50 Dermal	Rabbit	>4200 mg/kg	-
oxirane, mono[(C12-14-alkyloxy) methyl] derivs.	LD50 Oral	Rat	3523 mg/kg	-
	LD50 Dermal	Rat	>4500 mg/kg	-
butan-1-ol	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation Vapor	Rat	24000 mg/m³	4 hours
	LD50 Dermal	Rabbit	3400 mg/kg	-
ethylbenzene	LD50 Oral	Rat	790 mg/kg	-
	LD50 Dermal	Rabbit	>5000 mg/kg	-
1,3-bis(12-hydroxyocta-	LD50 Oral	Rat	3500 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	>5 mg/m³	4 hours

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decanamide-N-methyle)benzene	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
4,4'-isopropylidenediphenol	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	3250 mg/kg	-
	LD50 Oral	Rat	3250 mg/kg	-

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
Hempadur 4774M Base	26209.5	13307.8	48947.9	627.1	
xylene	3523	1100	5000		
butan-1-ol	790	3400		24	
ethylbenzene	3500		4500	11	
4,4'-isopropylidenediphenol	3250				

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure
Titanium dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent
bisphenol A-(epichlorhydrin) epoxy resin MW =< 700	Eyes - Mild irritant	Rabbit	-	-
	Skin - Mild irritant	Rabbit	-	-
xylene	Eyes - Severe irritant	Rabbit	-	24 hours 5 milligrams
	Skin - Irritant	Rabbit	-	-
oxirane, mono[(C12-14-alkyloxy) methyl] derivs.	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams
	Eyes - Mild irritant	Rabbit	-	-
	Skin - Moderate irritant	Rabbit	-	-
butan-1-ol	Eyes - Severe irritant	Rabbit	-	24 hours 2 milligrams
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams
ethylbenzene	Eyes - Mild irritant	Rabbit	-	-
	Respiratory - Mild irritant	Rabbit	-	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 milligrams
4,4'-isopropylidenediphenol	Eyes - Severe irritant	Rabbit	-	24 hours 250 Micrograms
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams

Sensitizer

Product/ingredient name	Route of exposure	Species	Result
Middle molecular epoxy resin MMW 700-1200	skin	Guinea pig	Sensitizing
bisphenol A-(epichlorhydrin) epoxy resin MW =< 700	skin	Guinea pig	Sensitizing
oxirane, mono[(C12-14-alkyloxy) methyl] derivs.	skin	Guinea pig	Sensitizing

Mutagenic effects

No known significant effects or critical hazards.

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
butan-1-ol	Category 3		Respiratory tract irritation
	Category 3		Narcotic effects
4,4'-isopropylidenediphenol	Category 3		Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

SECTION 11: Toxicological information

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

No known significant effects or critical hazards.

Sensitization : Contains middle molecular epoxy resin MMW 700-1200, bisphenol A-(epichlorhydrin) epoxy resin MW =< 700, oxirane, mono[(C12-14-alkyloxy)methyl] derivs., 1,3-bis(12-hydroxyocta-decanamide-N-methyle)benzene. May produce an allergic reaction.

11.2 Information on other hazards

Endocrine disrupting properties : See Section 15 for details.

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. Harmful to aquatic life with long lasting effects.

Product/ingredient name	Result	Species	Exposure
titanium dioxide	Acute LC50 >100 mg/l	Daphnia	48 hours
middle molecular epoxy resin MMW 700-1200	Acute LC50 >100 mg/l	Fish	96 hours
	Acute EC50 >100 mg/l	Daphnia	48 hours
bisphenol A-(epichlorhydrin) epoxy resin MW =< 700	Acute LC50 >100 mg/l	Fish	96 hours
	Acute EC50 >11 mg/l	Algae	72 hours
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	Acute EC50 1.8 mg/l	Daphnia	48 hours
	Acute LC50 2 mg/l	Fish	96 hours
	Acute IC50 843.75 mg/l	Algae	72 hours
butan-1-ol	Acute LC50 5000 mg/l	Fish	96 hours
	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
1,3-bis(12-hydroxyocta-decanamide-N-methyle)benzene	Acute LC50 >100 mg/l	Algae	72 hours
4,4'-isopropylidenediphenol	Acute LC50 >100 mg/l	Fish	96 hours
	Acute LC50 7.5 mg/l	Fish	96 hours
	Chronic NOEC 0.8 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days
	Chronic NOEC 0.2 - 20 ppb Fresh water	Fish - Xiphophorus helleri - Juvenile (Fledgling, Hatchling, Weanling)	60 days

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
bisphenol A-(epichlorhydrin) epoxy resin MW =< 700	OECD 302B Inherent Biodegradability: Zahn-Wellens/EMPA Test	12 % - Not readily - 28 days	-	-
xylene	OECD 301F Ready Biodegradability - Manometric Respirometry Test	90 - 98 % - Readily - 28 days	-	-
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	-	>60 % - Readily - 28 days	-	-
	-	87 % - Readily - 28 days	-	-
butan-1-ol	OECD 301D Ready Biodegradability - Closed Bottle Test	92 % - 20 days	-	-
ethylbenzene	-	>70 % - Readily - 28 days	-	-
1,3-bis(12-hydroxyocta-decanamide-N-methyle)benzene	-	5 % - 28 days	-	-
4,4'-isopropylidenediphenol	-	1 - 2 % - Not readily - 28 days	-	-

SECTION 12: Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
bisphenol A-(epichlorhydrin) epoxy resin MW =< 700	-	-	Not readily
xylene	-	-	Readily
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	-	-	Readily
butan-1-ol	-	-	Readily
ethylbenzene	-	-	Readily
1,3-bis(12-hydroxyocta-decanamide-N-methyle)benzene	-	-	Not readily
4,4'-isopropylidenediphenol	-	-	Not readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
middle molecular epoxy resin MMW 700-1200	2.64 - 3.78	31	low
bisphenol A-(epichlorhydrin) epoxy resin MW =< 700	2.64 - 3.78	31	low
xylene	3.12	8.1 - 25.9	low
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	3.77	160 - 263	low
butan-1-ol	1	3.16	low
ethylbenzene	3.6	-	low
4,4'-isopropylidenediphenol	3.4	20 - 67	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : No known data available in our database.

Mobility : No known data available in our database.

12.5 Results of PBT and vPvB assessment

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
This mixture does not contain any substances that are assessed to be a PBT or a vPvB.							

12.6 Endocrine disrupting properties

See Section 15 for details.

12.7 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*

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.

Empty containers or liners may retain some product residues.

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.

SECTION 14: Transport information

	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	UN1263	PAINT	3 	III	No.	<u>Tunnel code</u> (D/E)
IMDG Class	UN1263	PAINT	3 	III	No.	<u>Emergency schedules</u> F-E, S-E
IATA Class	UN1263	PAINT	3 	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 authorization - Substances of very high concern

Annex XIV

None of the components are listed.

Substances of very high concern

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
 4,4'-isopropylidenediphenol	Toxic to reproduction	Recommended	ED/01/2018	10/1/2019
4,4'-isopropylidenediphenol	Endocrine disrupting properties for human health	Recommended	ED/01/2018	10/1/2019
4,4'-isopropylidenediphenol	Endocrine disrupting properties for environment	Recommended	ED/01/2018	10/1/2019

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

National regulations

Austria

VbF class :

A II
Very dangerous flammable liquid.

Limitation of the use of organic solvents :

Permitted.

Germany

Storage code :

3

Hazardous incident ordinance :

This product is controlled under the Germany Hazardous Incident Ordinance.

Hazard class for water :

2

Technical instruction on air quality control :

 TA-Luft Number 5.2.5: 30.9%
TA-Luft Class II - Number 5.2.2: 8.3%
TA-Luft Class II - Number 5.2.5: 1.8%

AOX : The product contains organically bound halogens and can contribute to the AOX value in waste water.

SECTION 15: Regulatory information

References :

Other Rules:

- BGR 190 (Rules for the use of respiratory protective equipment)
- BGR 192 (Rules for the use of eye and face protection)
- BGR 195 (Rules for the use of gloves)

Switzerland

VOC content :

13.1 % (w/w)

National regulations Non-GHS

List name	Product/ingredient name	Name on list	Classification	Notes
DFG MAC-values list	titanium dioxide	Titanium dioxide (inhalable fraction)	K3, M3	-
DFG MAC-values list	ethylbenzene	Ethylbenzene	K3, M3	-
Switzerland Occupational Exposure Limits	4,4'-isopropylidenediphenol	Bisphenol A; 2,2-Bis (4-hydroxyphenyl)propan	Repro. R1BF	-

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 vapor.
 H226 Flammable liquid and vapor.
 H302 Harmful if swallowed.
 H304 May be fatal if swallowed and enters airways.
 H312 Harmful in contact with skin.
 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.
 H351 Suspected of causing cancer.
 H360F May damage 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.
 H413 May cause long lasting harmful effects to aquatic life.

Full text of classifications [CLP/GHS] :

Acute Tox. 4 ACUTE TOXICITY - Category 4
 Aquatic Acute 1 AQUATIC HAZARD (ACUTE) - Category 1
 Aquatic Chronic 1 AQUATIC HAZARD (LONG-TERM) - Category 1
 Aquatic Chronic 2 AQUATIC HAZARD (LONG-TERM) - Category 2
 Aquatic Chronic 3 AQUATIC HAZARD (LONG-TERM) - Category 3
 Aquatic Chronic 4 AQUATIC HAZARD (LONG-TERM) - Category 4
 Asp. Tox. 1 ASPIRATION HAZARD - Category 1
 Carc. 2 CARCINOGENICITY - Category 2
 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. 1B TOXIC TO REPRODUCTION - Category 1B
 Skin Irrit. 2 SKIN CORROSION/IRRITATION - Category 2
 Skin Sens. 1 SKIN SENSITIZATION - Category 1
 Skin Sens. 1B SKIN SENSITIZATION - Category 1B
 STOT RE 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
 STOT SE 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 3

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

SECTION 16: Other information

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

Hempadur 4774M Base



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

Indoor or outdoor spray painting by professionals or with brush, roller, putty knife, dipping etc. with good general room ventilation

This safe use information is linked to : Professional spray painting and/or low-energy painting, local effect - Level III
Skin Corr. 1, Eye Dam. 1, Resp. Sens. 1 or EUH071

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

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

Operational conditions

Place of use : Indoor or 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	Good general room ventilation - 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 chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.
Loading of application equipment and handling of coated parts before curing	PROC08a	More than 4 hours	Good general room ventilation - Outdoors	3 - 5	None	Use eye protection according to EN 166.	Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.
Professional application of coatings by brush or roller	PROC10	More than 4 hours	Good general room ventilation - Outdoors	3 - 5	None	Use eye protection according to EN 166.	Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.
Professional application of coatings by spraying	PROC11	More than 4 hours	Good general room ventilation - 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 chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.
Film formation - force drying, stoving and other technologies	PROC04	More than 4 hours	Good general room ventilation - Outdoors	3 - 5	None	None	Wear suitable gloves tested to EN374.
Cleaning	PROC05	More than 4 hours	Good general room ventilation - 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 chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.
Waste management	PROC08a	More than 4 hours	Good general room ventilation - Outdoors	3 - 5	None	Use eye protection according to EN 166.	Wear chemical-resistant gloves (tested to EN374) in combination with 'basic' employee training.

See chapter 8 of this Safety Data Sheet for specifications.

