



SAFETY DATA SHEET

Prefere 4040

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

1.1 Product identifier

Product name : Prefere 4040

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

Use of the substance/
mixture : Industrial/Professional Use: Adhesive. Woodworking industry.

1.3 Details of the supplier of the safety data sheet

Supplier : Dynea AS
P.O.Box 160, N-2001 Lillestrøm
Norway
Tel. +47 63897100
Fax. +47 63897610

e-mail address of person
responsible for this SDS : sds@dynea.com

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : Not available.

Supplier

Telephone number : +47 63897100

Hours of operation : 24 hours

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]

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

☑ Acute Tox. 4, H302
Skin Corr. 1B, H314
Eye Dam. 1, H318
Skin Sens. 1, H317
Muta. 2, H341
STOT SE 2, H371
Aquatic Chronic 3, H412

See Section 16 for the full text of the R phrases or H statements declared above.

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

2.2 Label elements

SECTION 2: Hazards identification

Hazard pictograms :



Signal word : Danger

Hazard statements : H302 - Harmful if swallowed.
 H314 - Causes severe skin burns and eye damage.
 H317 - May cause an allergic skin reaction.
 H341 - Suspected of causing genetic defects.
 H371 - May cause damage to organs.
 H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements : P201 - Obtain special instructions before use.
 P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
 P273 - Avoid release to the environment.
 P260 - Do not breathe vapour.
 P304 + P340 + P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician.
 P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
 P303 + P361 + P353 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a POISON CENTER or physician.
 P305 + P310 - IF IN EYES: Immediately call a POISON CENTER or physician.
 P405 - Store locked up.
 P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients : Formaldehyde, polymer with 1,3-benzenediol and phenol
 phenol
 resorcinol

Supplemental label elements : Not applicable.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Special packaging requirements

Not applicable.

2.3 Other hazards

Other hazards which do not result in classification : Air contaminants may be formed during use of the product.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	Type
Formaldehyde, polymer with 1, 3-benzenediol and phenol	REACH #: Exempted CAS: 25986-71-4	≥25 - <50	Skin Sens. 1, H317	[1]
phenol	REACH #: 01-2119471329-32 EC: 203-632-7 CAS: 108-95-2 Index: 604-001-00-2	≥5 - <10	Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 Skin Corr. 1B, H314 Eye Dam. 1, H318	[1] [2]

SECTION 3: Composition/information on ingredients

resorcinol	REACH #: 01-2119480136-40 EC: 203-585-2 CAS: 108-46-3 Index: 604-010-00-1	≥5 - <10	Muta. 2, H341 STOT RE 2, H373 (kidneys, liver, nervous system and skin) Aquatic Chronic 2, H411 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT SE 1, H370 (blood system and central nervous system (CNS)) (oral) STOT SE 2, H371 (respiratory tract) (oral) Aquatic Acute 1, H400 Aquatic Chronic 3, H412	[1] [2]
ethanol	REACH #: 01-2119457610-43 EC: 200-578-6 CAS: 64-17-5 Index: 603-002-00-5	≥3 - <5	Flam. Liq. 2, H225 Eye Irrit. 2, H319	[1] [2]
sodium hydroxide	REACH #: 01-2119457892-27 EC: 215-185-5 CAS: 1310-73-2 Index: 011-002-00-6	≥1 - <2	Met. Corr. 1, H290 Skin Corr. 1A, H314 Eye Dam. 1, H318	[1] [2]
methanol	REACH #: 01-2119433307-44 EC: 200-659-6 CAS: 67-56-1 Index: 603-001-00-X	≥0.3 - <0.5	Flam. Liq. 2, H225 Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 STOT SE 1, H370 (central nervous system (CNS) and optic nerve) See Section 16 for the full text of the H statements declared above.	[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, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [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

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

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Get medical attention immediately. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
- Inhalation** : Get medical attention immediately. Move exposed person to fresh air. If breathing is difficult, give oxygen.

SECTION 4: First aid measures

- Skin contact** : Get medical attention immediately. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation occurs.
- Ingestion** : Get medical attention immediately. Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician.
- General** : Move the victim to a safe area as soon as possible. If unconscious, place in recovery position and seek medical advice. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Allow the victim to rest in a well-ventilated area.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : May give off gas, vapour or dust that is very irritating or corrosive to the respiratory system.
- Skin contact** : Causes severe burns. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed. May cause burns to mouth, throat and stomach.

Over-exposure signs/symptoms

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

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire. Use dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : None known.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** :  In a fire or if heated, a pressure increase will occur and the container may burst. 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.

SECTION 5: Firefighting measures

Hazardous combustion products : Decomposition products may include the following materials:
 carbon dioxide
 carbon monoxide
 metal oxide/oxides

5.3 Advice for firefighters

Special precautions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

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

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

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

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

6.3 Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Absorb with liquid-binding material (sand, diatomite, universal binders etc.) or use a spill kit.

Large spill : Approach the release from upwind. Stop leak if without risk. Move containers from spill area. 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. 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

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures : ☒ See Section 8 for information on appropriate personal protective equipment. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment.

SECTION 7: Handling and storage

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

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store away from incompatible materials (see Section 10). Store locked up. Keep away from food, drink and animal feeding stuffs. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product.

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
phenol	EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. TWA: 2 ppm 8 hours. STEL: 16 mg/m ³ 15 minutes. STEL: 4 ppm 15 minutes. TWA: 7.8 mg/m ³ 8 hours.
resorcinol	EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. STEL: 20 ppm 15 minutes. TWA: 10 ppm 8 hours. TWA: 46 mg/m ³ 8 hours. STEL: 92 mg/m ³ 15 minutes.
ethanol	EH40/2005 WELs (United Kingdom (UK), 12/2011). TWA: 1000 ppm 8 hours. TWA: 1920 mg/m ³ 8 hours.
sodium hydroxide	EH40/2005 WELs (United Kingdom (UK), 12/2011). STEL: 2 mg/m ³ 15 minutes.
methanol	EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin. STEL: 333 mg/m ³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 266 mg/m ³ 8 hours. TWA: 200 ppm 8 hours.
formaldehyde	[Air contaminant - Curing] EH40/2005 WELs (United Kingdom (UK), 12/2011). STEL: 2.5 mg/m ³ 15 minutes. STEL: 2 ppm 15 minutes. TWA: 2 ppm 8 hours. TWA: 2.5 mg/m ³ 8 hours.

SECTION 8: Exposure controls/personal protection

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.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
phenol	DNEL	Short term Inhalation	16 mg/m ³	Workers	Local
	DNEL	Long term Dermal	1.23 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	8 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	0.4 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Inhalation	1.32 mg/m ³	Consumers	Systemic
	DNEL	Long term Oral	0.4 mg/kg bw/day	Consumers	Systemic
resorcinol	DNEL	Long term Dermal	40 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	5.6 mg/m ³	Workers	Systemic
ethanol	DNEL	Short term Inhalation	1900 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	950 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	343 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	950 mg/m ³	Consumers	Local
	DNEL	Long term Inhalation	114 mg/m ³	Consumers	Systemic
	DNEL	Long term Dermal	206 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Oral	87 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Inhalation	1 mg/m ³	Workers	Local
sodium hydroxide	DNEL	Short term Dermal	20000 ppm	Workers	Local
	DNEL	Long term Inhalation	1 mg/m ³	Consumers	Local
	DNEL	Short term Dermal	20000 ppm	Consumers	Local
methanol	DNEL	Short term Dermal	40 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	260 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	260 mg/m ³	Workers	Local
	DNEL	Long term Dermal	40 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	260 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	260 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	260 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	260 mg/m ³	Workers	Local

SECTION 8: Exposure controls/personal protection

	DNEL	Inhalation Short term Dermal	8 mg/kg bw/day	Consumers	Systemic
	DNEL	Short term Inhalation	50 mg/m ³	Consumers	Systemic
	DNEL	Short term Oral	8 mg/kg bw/day	Consumers	Systemic
	DNEL	Short term Inhalation	50 mg/m ³	Consumers	Local
	DNEL	Long term Dermal	8 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Inhalation	50 mg/m ³	Consumers	Systemic
	DNEL	Long term Oral	8 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Inhalation	50 mg/m ³	Consumers	Local

PNECs

Product/ingredient name	Type	Compartment Detail	Value	Method Detail
phenol	PNEC	Fresh water	0.0077 mg/l	Assessment Factors
	PNEC	Marine	0.00077 mg/l	Assessment Factors
	PNEC	Intermittent release	0.031 mg/l	Assessment Factors
	PNEC	Fresh water sediment	0.0915 mg/kg dwt	Equilibrium Partitioning
	PNEC	Marine water sediment	0.00915 mg/kg dwt	-
resorcinol	PNEC	Soil	0.136 mg/kg dwt	Assessment Factors
	PNEC	Sewage Treatment Plant	2.1 mg/l	Assessment Factors
ethanol	PNEC	Fresh water	0.0172 mg/l	-
	PNEC	Marine	0.00172 mg/l	-
	PNEC	Fresh water sediment	0.109 mg/kg dwt	-
	PNEC	Marine water sediment	0.0109 mg/kg dwt	-
	PNEC	Soil	10 mg/kg dwt	-
methanol	PNEC	Fresh water	0.96 mg/l	-
	PNEC	Marine	0.79 mg/l	-
	PNEC	Sewage Treatment Plant	580 mg/l	-
methanol	PNEC	Fresh water sediment	3.6 mg/kg dwt	-
	PNEC	Marine water sediment	2.9 mg/kg dwt	-
	PNEC	Soil	0.63 mg/kg dwt	-
	PNEC	Fresh water	154 mg/l	Assessment Factors
	PNEC	Marine	15.4 mg/l	Assessment Factors
	PNEC	Intermittent release	1540 mg/l	Assessment Factors
	PNEC	Sediment	570.4 mg/kg dwt	Equilibrium Partitioning
PNEC	Soil	23.5 mg/kg wwt	Equilibrium Partitioning	
PNEC	Sewage Treatment Plant	100 mg/l	Assessment Factors	

8.2 Exposure controls

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

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

SECTION 8: Exposure controls/personal protection

Eye/face protection	: Use eye protection according to EN 166, designed to protect against liquid splashes. Recommended: Tightly-fitting goggles
Hand protection	: Wear suitable gloves tested to EN374. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. Recommended : Protective Index 6 / Breakthrough time >480 minutes: neoprene rubber 0.7 mm thickness or butyl rubber 0.7 mm thickness
Other skin protection	: Wear work clothing with long sleeves. Cotton or cotton/synthetic overalls or coveralls are normally suitable. Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	: 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. Long Term Exposure / high concentrations : Self-contained respirator (DIN EN 133) or full face mask (DIN EN 136) Short term exposure / Low exposure : Half-face mask (DIN EN 140) Recommended: Type A (Brown): organic gases and vapours with a boiling point higher than 65°C. Type B (grey): Inorganic gases and vapours.
Environmental exposure controls	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	: Liquid.
Colour	: Brownish-red.
Odour	: Phenolic.
Odour threshold	: Not available.
pH	: 8 to 9
Melting point/freezing point	: Not available.
Initial boiling point and boiling range	: Not available.
Flash point	: Closed cup: 70°C
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not available.
Burning time	: Not applicable.
Burning rate	: Not applicable.
Upper/lower flammability or explosive limits	: Not available.
Vapour pressure	: Not available.
Vapour density	: Not available.
Relative density	: Not available.
Density (liquid)	: 1.15 to 1.16 g/cm ³ [25°C]
Solubility	: Soluble in water
Partition coefficient: n-octanol/ water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Dynamic: 5000 to 10000 mPa·s [25 °C]
Explosive properties	: Not available.

SECTION 9: Physical and chemical properties

Oxidising properties : Not available.

9.2 Other information

VOC content (Without volume exclusion) : 13.3 % (w/w)
153.2 g/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 : No specific data.

10.5 Incompatible materials : No specific data.

10.6 Hazardous decomposition products : Formaldehyde and phenol may be released during processing.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Potential Adverse effects

Inhalation : May give off gas, vapour or dust that is very irritating or corrosive to the respiratory system.

Ingestion : Harmful if swallowed. May cause burns to mouth, throat and stomach.
Adverse symptoms may include the following:
stomach pains

Skin contact : Causes severe burns. May cause an allergic skin reaction.
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Eye contact : Causes serious eye damage.
Adverse symptoms may include the following:
pain
watering
redness

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
phenol	LC0 Inhalation Vapour	Rat - Female	900 mg/m ³	8 hours
	LD50 Dermal	Rat - Female	660 mg/kg	-
	LD50 Oral	Rat - Male, Female	340 mg/kg	-
resorcinol	LDLo Oral	Human	140 mg/kg	-
	LD50 Dermal	Rabbit	3.36 g/kg	-
	LD50 Oral	Rat	301 mg/kg	-
ethanol	LDLo Oral	Human	29 mg/kg	-
	LC50 Inhalation Vapour	Rat - Male,	124.7 mg/l	4 hours

SECTION 11: Toxicological information

methanol	LD50 Oral	Female Rat - Male, Female	10470 mg/kg	-
	LC50 Inhalation Vapour	Rat - Male, Female	128.2 mg/l	4 hours
	LD50 Dermal	Female Rabbit	17100 mg/kg	-

phenol: Toxic by inhalation, in contact with skin and if swallowed.

resorcinol: Harmful if swallowed.

ethanol: Based on available data, the classification criteria are not met.

methanol: Toxic by inhalation, in contact with skin and if swallowed.

Acute toxicity estimates

Product	ATE value
Oral	898.2 mg/kg
Dermal	7192.8 mg/kg
Inhalation (vapours)	34.06 mg/l

Product Conclusion/ Summary : Harmful if swallowed.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
phenol	Skin - Erythema/Eschar	Rabbit	4	24 hours 0.5g	72 hours
resorcinol	Eyes - Severe irritant	Rabbit	-	100mg	14 days
	Skin - Moderate irritant	Rabbit	-	-	-
ethanol	Eyes - Severe irritant	Rabbit	-	-	-
	Skin - Erythema/Eschar	Rabbit	0	60 hours 0.2ml	24 hours
sodium hydroxide	Eyes - Redness of the conjunctivae	Rabbit	2.1	1 minutes 0.1ml	21 days
	Eyes - Oedema of the conjunctivae	Rabbit	>2.5	0.1ml (2%)	72 hours
	Eyes - Cornea opacity	Rabbit	>2	0.1ml (2%)	72 hours

Skin : **phenol:** Corrosive to the skin.
resorcinol: Irritating to skin.
ethanol: Based on available data, the classification criteria are not met.
methanol: Based on available data, the classification criteria are not met.

Eyes : **phenol:** Corrosive to eyes.
resorcinol: Risk of serious damage to eyes.
ethanol: Irritating to eyes.
sodium hydroxide: Risk of serious damage to eyes.
methanol: Based on available data, the classification criteria are not met.

Product Conclusion/ Summary : Causes severe skin burns and eye damage.

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
phenol	skin	Mouse	Not sensitizing
resorcinol	skin	Guinea pig	Not sensitizing
	skin	Human	Sensitising
sodium hydroxide	skin	Human	Not sensitizing
methanol	Respiratory	Guinea pig	Not sensitizing
	skin	Guinea pig	Not sensitizing

SECTION 11: Toxicological information

- Skin** : **Formaldehyde, polymer with 1,3-benzenediol and phenol**: May cause sensitisation by skin contact.
phenol: Not sensitizing
resorcinol: Sensitising
sodium hydroxide: Not sensitizing
methanol: Not sensitizing
- Respiratory** : **phenol**: Not sensitizing
resorcinol: Based on available data, the classification criteria are not met.
methanol: Not sensitizing
- Product Conclusion/ Summary** : May cause an allergic skin reaction.

Chronic toxicity

Product/ingredient name	Result	Species	Dose	Exposure
phenol	Sub-chronic NOAEL Oral Sub-acute NOAEL Dermal	Rat - Male Rabbit	300 mg/kg 130 mg/kg	13 weeks 18 days; 5 hours per day
ethanol	Sub-chronic NOAEL Oral	Rat - Male, Female	1.28 mg/kg	14 weeks; 7 days per week
methanol	Sub-chronic LOAEL Oral	Rat - Male, Female	3.16 mg/kg	14 weeks; 7 days per week
	Chronic NOAEL Oral	Rat - Male, Female	466 to 529 mg/kg Repeated dose	104 weeks
	Chronic NOEC Inhalation Vapour	Rat - Male, Female	0.13 mg/l	12 months
	Chronic NOAEC Inhalation Vapour	Rat - Male, Female	1.3 mg/l Continuous	108 days
	Chronic NOAEC Inhalation Vapour	Rat	1.33 mg/l Continuous	17 days; 22.7 hours per day

Mutagenicity

Product/ingredient name	Test	Experiment	Result
phenol	OECD 487 In vitro Micronucleus Test	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic Metabolic activation: Yes	Positive
	OECD 473 In vitro Mammalian Chromosomal Aberration Test	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic Metabolic activation: Yes	Positive
ethanol	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: + & -	Negative
	OECD 476 In vitro Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal Metabolic activation: + & -	Negative
	OECD 478 Genetic Toxicology: Rodent Dominant Lethal Test	Experiment: In vivo Subject: Mammalian-Animal Metabolic activation: + & -	Equivocal

SECTION 11: Toxicological information

phenol: Mutagenic in mammalian somatic cells, based on *in vitro* studies.
resorcinol: Based on available data, the classification criteria are not met.
ethanol: Based on available data, the classification criteria are not met.
methanol: Based on available data, the classification criteria are not met.

Product Conclusion/ Summary : Suspected of causing genetic defects.

Carcinogenicity

phenol: Phenol is not considered to be carcinogen in experimental animals after repeated oral exposure. There is evidence for promoting activity of phenol after repeated dermal application at concentrations inducing severe local effects due to the corrosive properties. There is no evidence for carcinogenicity in epidemiology.
resorcinol: Based on available data, the classification criteria are not met.
ethanol: Based on available data, the classification criteria are not met.
methanol: Based on available data, the classification criteria are not met.

Product Conclusion/ Summary : Formaldehyde is classified as a category 1B carcinogen by EU (Suspected of causing cancer in humans). The classification is mainly based on carcinogenic effects demonstrated in animal experiments, but also on experience from occupational use indicating, but not proving, increased risk of cancer in humans. The actual risk is a rare type of cancer in the nasopharyngeal area (upper part of the throat, behind the nose).

Animal experiments have demonstrated that the cancer risk has a strong link to high and repeated doses of formaldehyde, with an effect threshold at 2 ppm. This is the basis for the derived no effect level (DNEL) for occupational use of 0,3 ppm. Exposure below this level gives limited or no risk of adverse effects.

Reproductive toxicity

phenol: In a long-term drinking water study in rats and mice mammary gland, no effects on reproductive organs were detected.
resorcinol: Based on available data, the classification criteria are not met.
ethanol: Based on available data, the classification criteria are not met.
methanol: Based on available data, the classification criteria are not met.

Product Conclusion/ Summary : Based on available data, the classification criteria are not met.

Teratogenicity

phenol: Oral exposure to phenol resulted in growth retardation of the offspring and impaired postnatal viability and growth. However, these effects were found in dose levels that were also toxic to the dams. Therefore, phenol is not considered to have specific embryo- or fetotoxic effects.
methanol: Based on available data, the classification criteria are not met.

Product Conclusion/ Summary : Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
resorcinol	Category 1	Oral	blood system and central nervous system (CNS)
	Category 2	Oral	respiratory tract
methanol	Category 1	All	central nervous system (CNS) and optic nerve

Specific target organ toxicity (repeated exposure)

SECTION 11: Toxicological information

Product/ingredient name	Category	Route of exposure	Target organs
phenol	Category 2	Not determined	kidneys, liver, nervous system and skin

Aspiration hazard

Product Conclusion/ Summary : Based on available data, the classification criteria are not met.

Interactive effects : No specific data.

Other information : No specific data.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
phenol	Acute EC50 76 mg/l Static Marine water	Algae - Entomoneis cf punctulata	72 hours Static
	Acute EC50 61.1 mg/l Static Fresh water	Algae - Pseudokirchnerella subcapitata	96 hours Static
	Acute EC50 3.1 mg/l Static Fresh water	Daphnia - Ceriodaphnia dubia - Neonate	48 hours Static
	Acute IC50 21 mg/l Static Fresh water	Micro-organism - Nitrosomonas sp.	24 hours Static
	Acute LC50 8.9 mg/l Flow through Fresh water	Fish - Oncorhynchus Mykiss	96 hours Flow through
	Chronic EC10 0.46 mg/l Semi-static Fresh water	Daphnia - Daphnia magna	16 days Semi-static
	Chronic NOEC 0.077 mg/l Semi-static Fresh water	Fish - Cirrhina mrigala	60 days Semi-static
resorcinol	Acute EC0 60 mg/l Fresh water	Algae - Scenedesmus	-
	Acute EC0 0.8 mg/l	Daphnia	-
	Acute EC0 <1000 mg/l	Micro-organism - E-Coli	-
ethanol	Acute LC50 42 mg/l	Crustaceans - Grass Shrimp	96 hours
	Acute LC50 53 mg/l Fresh water	Fish - Pimephales Promelas	96 hours
	EC50 675 mg/l Fresh water	Algae - Chlorella vulgaris	4 days Static
	EC50 4432 mg/l Fresh water	Aquatic plants - Lemna gibba	7 days Static
	Acute LC50 5012 mg/l Fresh water	Daphnia - Ceriodaphnia dubia	48 hours Static
	Acute LC50 14200 mg/l Fresh water	Fish - Pimephales promelas	96 hours Flow through
	Acute LC50 15300 mg/l Fresh water	Fish - Pimephales promelas	96 hours Flow through
	Chronic LC50 1806 mg/l Fresh water	Daphnia - Cerodaphnia dubia	10 days Semi-static
	Chronic LC50 454 mg/l Fresh water	Daphnia - Daphnia magna	9 days Semi-static
	Chronic NOEC 9.6 mg/l Fresh water	Daphnia - Daphnia magna	9 days Semi-static
sodium hydroxide	Acute EC50 40.4 mg/l	Daphnia - Ceriodaphia sp.	48 hours

SECTION 12: Ecological information

methanol	EC50 22000 mg/l Fresh water	Algae - Selenastrum capricornutum	96 hours Static
	IC50 8800 mg/l Fresh water	Micro-organism - Nitrosomonas sp.	24 hours Static
	Acute EC50 >10000 mg/l Fresh water	Daphnia - Daphnia magna	48 hours Static
	Acute LC50 15400 mg/l Fresh water	Fish - Lepomis macrochirus	96 hours Flow through
	Chronic NOEC 7900 mg/l Fresh water	Fish - Oryzias latipes	200 hours Static

Conclusion/Summary : **phenol**: Toxic to aquatic organisms.
methanol: No known significant effects or critical hazards.

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
phenol	-	86 to 96 % - 20 days	3 to 10 mg/l	Fresh water
	-	80.1 % - 50 days	20 to 50 mg/l	Marine water
resorcinol methanol	OECD 301C	62 % - Readily - 4.16 days	100 mg/l	Activated sludge
	-	89 % - 2 days	446 mg/l	Activated sludge
	-	83 to 91 % - Readily - 3 days	-	-
	-	71 to 83 % - Readily - 5 days	BOD/ThOD	Fresh water
	-	69 to 97 % - 5 days	O ₂ Consumption	Sediment
	-	53.4 % - 5 days	-	Sewage
	-	46.3 % - 5 days	-	Marine water

Conclusion/Summary : **phenol**: Readily biodegradable
methanol: Readily biodegradable

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
phenol	Estuarine water 7 days, 24°C Estuarine water 73 days, 10°C Estuarine water 15 days, 10 to 24°C	-	Readily
resorcinol	-	-	Readily
ethanol	-	-	Readily
methanol	-	50%; 17.2 day(s)	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
phenol	1.47	647	high
resorcinol	0.8	3.16	low
ethanol	-0.35	-	low
methanol	-0.77	<10	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

SECTION 12: Ecological information

vPvB : Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Yes.
Cured resin is regarded as non-hazardous waste.

European waste catalogue (EWC)





Waste code	Waste designation
08 04 09*	waste adhesives and sealants containing organic solvents or other dangerous substances

Packaging

Methods of disposal : 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.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN1760	UN1760	UN1760	UN1760
14.2 UN proper shipping name	CORROSIVE LIQUID, N.O.S. (phenol, sodium hydroxide)	CORROSIVE LIQUID, N.O.S. (phenol, sodium hydroxide)	CORROSIVE LIQUID, N.O.S. (phenol, sodium hydroxide)	Corrosive liquid, n.o.s. (phenol, sodium hydroxide)
14.3 Transport hazard class(es)	8 	8 	8 	8 
14.4 Packing group	II	II	II	II
14.5 Environmental hazards	No.	Yes.	No.	No.

SECTION 14: Transport information

<p>Additional information</p>	<p><u>Hazard identification number</u> 80</p> <p><u>Limited quantity</u> 1 L</p> <p><u>Special provisions</u> 274</p> <p><u>Tunnel code</u> (E)</p>	<p>The product is only regulated as an environmentally hazardous substance when transported in tank vessels.</p> <p><u>Special provisions</u> 274</p>	<p><u>Emergency schedules (EmS)</u> F-A, S-B</p> <p><u>Special provisions</u> 274</p>	<p><u>Passenger and Cargo Aircraft</u> Quantity limitation: 1 L Packaging instructions: 851</p> <p><u>Cargo Aircraft Only</u> Quantity limitation: 30 L Packaging instructions: 855</p> <p><u>Limited Quantities - Passenger Aircraft</u> Quantity limitation: 0.5 L Packaging instructions: Y840</p> <p><u>Special provisions</u> A3, A803</p>
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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 73/78 and the IBC Code : Not available.

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

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

Europe inventory : All components are listed or exempted.

Black List Chemicals : Not listed

Priority List Chemicals : Not listed

Integrated pollution prevention and control list (IPPC) - Air : Not listed

Integrated pollution prevention and control list (IPPC) - Water : Not listed

SECTION 15: Regulatory information

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
phenol	-	Muta. 2, H341	-	-

Seveso II Directive

This product is not controlled under the Seveso II Directive.

National regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

15.2 Chemical Safety Assessment

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

SECTION 16: Other information

☑ Indicates information that has changed from previously issued version.

Abbreviations and acronyms

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

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

Classification	Justification
☑ Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Muta. 2, H341 STOT SE 2, H371 Aquatic Chronic 3, H412	Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method Calculation method

Full text of abbreviated H statements

H225 H290 H301 H301 (oral) H302 H311 H311 (dermal) H314 H315 H317 H318 H319 H331 H331 (inhalation) H341	Highly flammable liquid and vapour. May be corrosive to metals. Toxic if swallowed. Toxic if swallowed. Harmful if swallowed. Toxic in contact with skin. Toxic in contact with skin. Causes severe skin burns and eye damage. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. Causes serious eye irritation. Toxic if inhaled. Toxic if inhaled. Suspected of causing genetic defects.
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SECTION 16: Other information

H370 (blood system and central nervous system (CNS))	Causes damage to organs if swallowed. (blood system and central nervous system (CNS))
H370 (central nervous system (CNS) and optic nerve)	Causes damage to organs. (central nervous system (CNS) and optic nerve)
H371	May cause damage to organs.
H371 (respiratory tract)	May cause damage to organs if swallowed. (respiratory tract)
H373 (kidneys, liver, nervous system and skin)	May cause damage to organs through prolonged or repeated exposure. (kidneys, liver, nervous system and skin)
H400	Very toxic to aquatic life.
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, H301	ACUTE TOXICITY (oral) - Category 3
Acute Tox. 3, H311	ACUTE TOXICITY (dermal) - Category 3
Acute Tox. 3, H331	ACUTE TOXICITY (inhalation) - Category 3
Acute Tox. 4, H302	ACUTE TOXICITY (oral) - Category 4
Aquatic Acute 1, H400	ACUTE AQUATIC HAZARD - Category 1
Aquatic Chronic 2, H411	LONG-TERM AQUATIC HAZARD - Category 2
Aquatic Chronic 3, H412	LONG-TERM AQUATIC HAZARD - Category 3
Eye Dam. 1, H318	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Eye Irrit. 2, H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Flam. Liq. 2, H225	FLAMMABLE LIQUIDS - Category 2
Met. Corr. 1, H290	CORROSIVE TO METALS - Category 1
Muta. 2, H341	GERM CELL MUTAGENICITY - Category 2
Skin Corr. 1A, H314	SKIN CORROSION/IRRITATION - Category 1A
Skin Corr. 1B, H314	SKIN CORROSION/IRRITATION - Category 1B
Skin Irrit. 2, H315	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1, H317	SKIN SENSITIZATION - Category 1
STOT RE 2, H373 (kidneys, liver, nervous system and skin)	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (kidneys, liver, nervous system and skin) - Category 2
STOT SE 1, H370 (blood system and central nervous system (CNS)) (oral)	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (blood system and central nervous system (CNS)) (oral) - Category 1
STOT SE 1, H370 (central nervous system (CNS) and optic nerve)	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (central nervous system (CNS) and optic nerve) - Category 1
STOT SE 2, H371	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 2
STOT SE 2, H371 (respiratory tract) (oral)	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (respiratory tract) (oral) - Category 2

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