SAFETY DATA SHEET

Aerodux 185

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

1.1 Product identifier

Product name : Aerodux 185

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
Acute Tox. 4, H332
Skin Corr. 1B, H314
Eye Dam. 1, H318
Skin Sens. 1, H317
Muta. 2, H341
STOT SE 2, H371
STOT RE 2, H373
Aquatic Chronic 3, H412

Classification according to Directive 1999/45/EC [DPD]

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

SECTION 2: Hazards identification

Classification : Muta. Cat. 3; R68
T; R23/24/25
Xn; R48/20/21/22
C; R34
R43

Human health hazards : Possible risk of irreversible effects. Toxic by inhalation, in contact with skin and if swallowed. Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. Causes burns. May cause sensitisation by skin contact.

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

Hazard pictograms :

Signal word : Danger

Hazard statements :
H302 + H332 - Harmful if swallowed or if inhaled.
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.
H373 - May cause damage to organs through prolonged or repeated exposure.
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

SECTION 2: Hazards identification

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

Chemical characterisation : Phenol resorcinol formaldehyde resin.

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
Formaldehyde, polymer with 1, 3-benzenediol and phenol	REACH #: Exempted CAS: 25986-71-4	≥25 - <50	R43	Skin Sens. 1, H317	[1]
phenol	REACH #: 01-2119471329-32 EC: 203-632-7 CAS: 108-95-2 Index: 604-001-00-2	≥17 - <25	Muta. Cat. 3; R68 T; R23/24/25 Xn; R48/20/21/22 C; R34	Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 Skin Corr. 1B, H314 Eye Dam. 1, H318 Muta. 2, H341 STOT RE 2, H373 (kidneys, liver, nervous system and skin) Aquatic Chronic 2, H411	[1] [2]
ethanol	REACH #: 01-2119457610-43 EC: 200-578-6 CAS: 64-17-5 Index: 603-002-00-5	≥6 - <10	F; R11	Flam. Liq. 2, H225 Eye Irrit. 2, H319	[1] [2]
resorcinol	REACH #: 01-2119480136-40 EC: 203-585-2 CAS: 108-46-3 Index: 604-010-00-1	≥3 - <4	Xn; R22 Xi; R36/38 N; R50	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]
methanol	REACH #: 01-2119433307-44 EC: 200-659-6 CAS: 67-56-1 Index: 603-001-00-X	≥1.2 - <2	F; R11 T; R23/24/25, R39/23/24/25	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)	[1] [2]
sodium hydroxide	REACH #: 01-2119457892-27 EC: 215-185-5 CAS: 1310-73-2 Index: 011-002-00-6	≥0.5 - <1	C; R35	Met. Corr. 1, H290 Skin Corr. 1A, H314 Eye Dam. 1, H318	[1] [2]

SECTION 3: Composition/information on ingredients

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

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. If necessary, call a poison center or physician.

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 : Harmful if inhaled. 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

SECTION 4: First aid measures

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 dry chemical, CO_2, 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.

Hazardous combustion products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

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.

SECTION 6: Accidental release measures

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. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.

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.

Seveso II Directive - Reporting thresholds (in tonnes)

Named substances

Name	Notification and MAPP threshold	Safety report threshold
methanol	500	5000

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
C2: Toxic	50	200

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/m³ 15 minutes. STEL: 4 ppm 15 minutes. TWA: 7.8 mg/m³ 8 hours.
ethanol	**EH40/2005 WELs (United Kingdom (UK), 12/2011).** TWA: 1000 ppm 8 hours. TWA: 1920 mg/m³ 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/m³ 8 hours. STEL: 92 mg/m³ 15 minutes.
methanol	**EH40/2005 WELs (United Kingdom (UK), 12/2011). Absorbed through skin.** STEL: 333 mg/m³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 266 mg/m³ 8 hours. TWA: 200 ppm 8 hours.
sodium hydroxide	**EH40/2005 WELs (United Kingdom (UK), 12/2011).** STEL: 2 mg/m³ 15 minutes.
formaldehyde	***[Air contaminant - Curing]*** **EH40/2005 WELs (United Kingdom (UK), 12/2011).** STEL: 2.5 mg/m³ 15 minutes. STEL: 2 ppm 15 minutes. TWA: 2 ppm 8 hours. TWA: 2.5 mg/m³ 8 hours.

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

DNELs/DMELs

SECTION 8: Exposure controls/personal protection

Product/ingredient name	Type	Exposure	Value	Population	Effects
phenol	DNEL	Short term Inhalation	16 mg/m³	Workers	Local
	DNEL	Long term Dermal	1.23 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	8 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	0.4 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Inhalation	1.32 mg/m³	Consumers	Systemic
	DNEL	Long term Oral	0.4 mg/kg bw/day	Consumers	Systemic
ethanol	DNEL	Short term Inhalation	1900 mg/m³	Workers	Local
	DNEL	Long term Inhalation	950 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	343 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	950 mg/m³	Consumers	Local
	DNEL	Long term Inhalation	114 mg/m³	Consumers	Systemic
	DNEL	Long term Dermal	206 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Oral	87 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/m³	Workers	Systemic
methanol	DNEL	Short term Dermal	40 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	260 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	260 mg/m³	Workers	Local
	DNEL	Long term Dermal	40 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	260 mg/m³	Workers	Systemic
	DNEL	Long term Inhalation	260 mg/m³	Workers	Local
	DNEL	Short term Dermal	8 mg/kg bw/day	Consumers	Systemic
	DNEL	Short term Inhalation	50 mg/m³	Consumers	Systemic
	DNEL	Short term Oral	8 mg/kg bw/day	Consumers	Systemic
	DNEL	Short term Inhalation	50 mg/m³	Consumers	Local
	DNEL	Long term Dermal	8 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Inhalation	50 mg/m³	Consumers	Systemic
	DNEL	Long term Oral	8 mg/kg bw/day	Consumers	Systemic
	DNEL	Long term Inhalation	50 mg/m³	Consumers	Local
sodium hydroxide	DNEL	Long term Inhalation	1 mg/m³	Workers	Local
	DNEL	Short term Dermal	20000 ppm	Workers	Local
	DNEL	Long term Inhalation	1 mg/m³	Consumers	Local
	DNEL	Short term Dermal	20000 ppm	Consumers	Local

SECTION 8: Exposure controls/personal protection

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	-
	PNEC	Soil	0.136 mg/kg dwt	Assessment Factors
	PNEC	Sewage Treatment Plant	2.1 mg/l	Assessment Factors
ethanol	PNEC	Fresh water	0.96 mg/l	-
	PNEC	Marine	0.79 mg/l	-
	PNEC	Sewage Treatment Plant	580 mg/l	-
	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	-
resorcinol	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	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 : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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.

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.

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)

SECTION 8: Exposure controls/personal protection

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. [Light]
Odour	:	Phenolic. [Slight]
Odour threshold	:	Not available.
pH	:	6 to 8.5
Melting point/freezing point	:	Not available.
Initial boiling point and boiling range	:	Not available.
Flash point	:	Closed cup: 37°C [Pensky-Martens.] [Product does not sustain combustion.]
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)	:	1.135 to 1.16 g/cm³ [25°C]
Solubility	:	Soluble in water
Partition coefficient: n-octanol/ water	:	1.8
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	Not available.
Viscosity	:	Dynamic: 260 to 445 mPa·s [25 °C]
Explosive properties	:	Not available.
Oxidising properties	:	Not available.

9.2 Other information

VOC content (Without volume exclusion)	:	28.8 % (w/w) 330.5 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.

SECTION 10: Stability and reactivity

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

Toxicity data

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Aerodux 185	LD50 Oral	Rat	2048 mg/kg	-
phenol	LC0 Inhalation Vapour	Rat - Female	900 mg/m³	8 hours
	LD50 Dermal	Rat - Female	660 mg/kg	-
	LD50 Oral	Rat - Male, Female	340 mg/kg	-
	LDLo Oral	Human	140 mg/kg	-
ethanol	LC50 Inhalation Vapour	Rat - Male, Female	124.7 mg/l	4 hours
	LD50 Oral	Rat - Male, Female	10470 mg/kg	-
resorcinol	LD50 Dermal	Rabbit	3.36 g/kg	-
	LD50 Oral	Rat	301 mg/kg	-
	LDLo Oral	Human	29 mg/kg	-
methanol	LC50 Inhalation Vapour	Rat - Male, Female	128.2 mg/l	4 hours
	LD50 Dermal	Rabbit	17100 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
phenol	Skin - Erythema/Eschar	Rabbit	4	24 hours 0.5g	72 hours
	Eyes - Severe irritant	Rabbit	-	100mg	14 days
ethanol	Skin - Erythema/Eschar	Rabbit	0	60 hours 0.2ml	24 hours
	Eyes - Redness of the conjunctivae	Rabbit	2.1	1 minutes 0.1ml	21 days
resorcinol	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
	Skin - Moderate irritant	Rabbit	-	-	-
methanol	Skin - Oedema	Rabbit	0	-	72 hours
	Eyes - Cornea opacity	Rabbit	1	24 hours	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Moderate irritant	Rabbit	-	40 milligrams	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 milligrams	-
sodium hydroxide	Eyes - Oedema of the conjunctivae	Rabbit	>2.5	0.1ml (2%)	72 hours
	Eyes - Cornea opacity	Rabbit	>2	0.1ml (2%)	72 hours

Conclusion/Summary

Skin : **phenol**: Corrosive to the skin.
ethanol: Non-irritating to the skin.
resorcinol: Irritating to skin.
methanol: Non-irritating to the skin.

SECTION 11: Toxicological information

Eyes : **phenol**: Corrosive to eyes.
ethanol: Irritating to eyes.
resorcinol: Irritating to eyes.
methanol: Non-irritating to the eyes.
sodium hydroxide: Risk of serious damage to eyes.

Respiratory : **methanol**: No specific data.

Sensitisation

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

Conclusion/Summary

Skin : **Formaldehyde, polymer with 1,3-benzenediol and phenol**: May cause sensitisation by skin contact.
phenol: Not sensitizing
resorcinol: Sensitising
methanol: Not sensitizing
sodium hydroxide: Not sensitizing

Respiratory : **phenol**: Not sensitizing
resorcinol: Not determined
methanol: Not sensitizing

Chronic toxicity

Product/ingredient name	Result	Species	Dose	Exposure
phenol	Sub-chronic NOAEL Oral	Rat - Male	300 mg/kg	13 weeks
	Sub-acute NOAEL Dermal	Rabbit	130 mg/kg	18 days; 5 hours per day
ethanol	Sub-chronic NOAEL Oral	Rat - Male, Female	1.28 mg/kg	14 weeks; 7 days per week
	Sub-chronic LOAEL Oral	Rat - Male, Female	3.16 mg/kg	14 weeks; 7 days per week
methanol	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	Positive

SECTION 11: Toxicological information

		Cell: Somatic Metabolic activation: Yes	
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
methanol	DNA damage and repair assay	Experiment: In vitro Subject: Bacteria	Positive
	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 476	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 474	Experiment: In vivo Subject: Mammalian-Animal	Negative

Carcinogenicity

Conclusion/Summary : **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: No carcinogenic effect.
methanol: Methanol was investigated for chronic toxicity and carcinogenicity in two long-term body inhalation studies. There was no evidence of a carcinogenic potential in rats and mice exposed to air concentrations up to 1.3 mg/L.

In studies with oral administration in rats and mice the number of tumor-bearing animals in the rat study showed a clear dose-related trend. The effective dose levels were far above human occupational exposure levels and are already associated with other forms of toxicity in humans.

Reproductive toxicity

Conclusion/Summary : **phenol**: In a long-term drinking water study in rats and mice mammary gland, no effects on reproductive organs were detected.
resorcinol: No known significant effects or critical hazards.
methanol: Conclusive, but not sufficient for classification.

Teratogenicity

Conclusion/Summary : **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: Conclusive, but not sufficient for classification.

Specific target organ toxicity (single exposure)

SECTION 11: Toxicological information

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)

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

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

11.2 Mixture / Product-specific information

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	434.8 mg/kg
Dermal	2773.1 mg/kg
Inhalation (vapours)	13.64 mg/l

Potential acute health effects

Inhalation : Harmful if inhaled. 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.

Skin contact : Causes severe burns. May cause an allergic skin reaction.

Eye contact : Causes serious eye damage.

Potential chronic health effects

General : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit 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.

Mutagenicity : Suspected of causing genetic defects.

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

Short term exposure No known significant effects or critical hazards.

Long term exposure No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Ingestion : Adverse symptoms may include the following:
stomach pains

SECTION 11: Toxicological information

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

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

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Aerodux 185	Acute EC50 48 mg/l Marine water	Algae - Skeletonema	72 hours
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 - Oncorhinchus 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
ethanol	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
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	-
	Acute LC50 42 mg/l	Crustaceans - Grass Shrimp	96 hours
	Acute LC50 53 mg/l Fresh water	Fish - Pimephales Promelas	96 hours
methanol	EC50 22000 mg/l Fresh water	Algae - Selenastrum capricornutum	96 hours Static

SECTION 12: Ecological information

	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
sodium hydroxide	Acute EC50 40.4 mg/l	Daphnia - Ceriodaphia sp.	48 hours

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
Aerodux 185	OECD 306	28 % - Inherent - 28 days	-	-
phenol	-	86 to 96 % - 20 days	3 to 10 mg/l	Fresh water Marine water
	-	80.1 % - 50 days	20 to 50 mg/l	Activated sludge
	OECD 301C	62 % - Readily - 4.16 days	100 mg/l	Activated sludge
resorcinol	-	89 % - 2 days	446 mg/l	-
methanol	-	83 to 91 % - Readily - 3 days	-	Fresh water Sediment
	-	71 to 83 % - Readily - 5 days	BOD/ThOD	Sewage
	-	69 to 97 % - 5 days	O_2 Consumption	Marine water
	-	53.4 % - 5 days	-	-
	-	46.3 % - 5 days	-	-

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

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Aerodux 185	-	-	Inherent
phenol	Estuarine water 7 days, 24°C Estuarine water 73 days, 10°C Estuarine water 15 days, 10 to 24°C	-	Readily
resorcinol	-	-	Readily
methanol	-	50%; 17.2 day(s)	Readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Aerodux 185	1.8	-	low
phenol	1.47	17.5	low
ethanol	-0.35	-	low
resorcinol	0.8	3.16	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

SECTION 12: Ecological information

PBT : Not applicable.

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 spilt 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

Additional information	**Hazard identification number** 80 **Limited quantity** 1 L **Special provisions** 274 **Tunnel code** (E)	The product is only regulated as an environmentally hazardous substance when transported in tank vessels. **Special provisions** 274	**Emergency schedules (EmS)** F-A, S-B **Special provisions** 274	**Passenger and Cargo Aircraft** Quantity limitation: 1 L Packaging instructions: 851 **Cargo Aircraft Only** Quantity limitation: 30 L Packaging instructions: 855 **Limited Quantities - Passenger Aircraft** Quantity limitation: 0.5 L Packaging instructions: Y840 **Special provisions** A3, A803

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 controlled under the Seveso II Directive.

Named substances

Name
methanol

Danger criteria

Category
C2: Toxic

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	Calculation method
Acute Tox. 4, H332	Calculation method
Skin Corr. 1B, H314	Calculation method
Eye Dam. 1, H318	Calculation method
Skin Sens. 1, H317	Calculation method
Muta. 2, H341	Calculation method
STOT SE 2, H371	Calculation method
STOT RE 2, H373	Calculation method
Aquatic Chronic 3, H412	Calculation method

SECTION 16: Other information

Full text of abbreviated H statements :

H225	Highly flammable liquid and vapour.
H290	May be corrosive to metals.
H301	Toxic if swallowed.
H301 (oral)	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H311 (dermal)	Toxic 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.
H331	Toxic if inhaled.
H331 (inhalation)	Toxic if inhaled.
H332	Harmful if inhaled.
H341	Suspected of causing genetic defects.
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	May cause damage to organs through prolonged or repeated exposure.
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
Acute Tox. 4, H332	ACUTE TOXICITY (inhalation) - 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	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
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

SECTION 16: Other information

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

Full text of abbreviated R phrases : R11- Highly flammable.
R68- Possible risk of irreversible effects.
R23/24/25- Toxic by inhalation, in contact with skin and if swallowed.
R39/23/24/25- Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R22- Harmful if swallowed.
R48/20/21/22- Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R34- Causes burns.
R35- Causes severe burns.
R36/38- Irritating to eyes and skin.
R43- May cause sensitisation by skin contact.
R50- Very toxic to aquatic organisms.

Full text of classifications [DSD/DPD] : F - Highly flammable
Muta. Cat. 3 - Mutagen category 3
T - Toxic
C - Corrosive
Xn - Harmful
Xi - Irritant
N - Dangerous for the environment

Date of issue/ Date of revision : 22.05.2015.

Date of previous issue : 20.11.2012.

Previous product name : Not available.

Version : 5