

# SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758

## Phenol

Version 21.0

Revision Date: 27.12.2023

Date of last issue: 30.12.2022

Date of first issue: 20.01.2010

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

#### 1.1 Product identifier

Trade name : Phenol, Borvida B™ Phenol, Borvida C™ Phenol

Substance name : phenol

EC-No. : 203-632-7

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

Use of the Substance/Mixture : Raw material in chemical industry, Manufacture, Formulation, Distribution, Intermediate, Use in rubber production and processing, Use in polymer production, Use in polymer processing, Use in rubber production and processing, Phenolic resin processing (uses of downstream users of phenolic resins), Use as binders and release agents, Use in coatings, Laboratory use, Use in agrochemicals, Leather treatment products

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

: Borealis UK Ltd  
One St Peters Square, M2 3DE Manchester, United Kingdom  
Telephone: +44 (0) 1625 537390

E-mail address : [sds@borealisgroup.com](mailto:sds@borealisgroup.com)

#### 1.4 Emergency telephone number

||+1 760 476 3962 (3E), Access code: 336296

In an emergency, call NHS 111 or contact a doctor.

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)**

Borvida B and Borvida C are trademarks of the Borealis group.

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Acute toxicity, Category 3	H301: Toxic if swallowed.
Acute toxicity, Category 3	H331: Toxic if inhaled.
Acute toxicity, Category 3	H311: Toxic in contact with skin.
Skin corrosion, Sub-category 1B	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Germ cell mutagenicity, Category 2	H341: Suspected of causing genetic defects.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

## 2.2 Label elements

**Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)**

Hazard pictograms :



Signal word : Danger

Hazard statements : H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled.  
H314 Causes severe skin burns and eye damage.  
H341 Suspected of causing genetic defects.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements :

**Prevention:**

P273 Avoid release to the environment.  
P262 Do not get in eyes, on skin, or on clothing.  
P281 Use personal protective equipment as required.

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### Response:

P302 + P352 IF ON SKIN: Wash with plenty of water.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with  
water for several minutes. Remove contact lenses, if present  
and easy to do. Continue rinsing.  
P309 + P311 IF exposed or if you feel unwell: Call a  
POISON CENTER or doctor/ physician.

### Storage:

P405 Store locked up.

### Disposal:

P501 Dispose of contents/ container to an approved waste  
disposal plant.

### Additional Labelling

After contact with skin, wash immediately with plenty of polyethylene glycol (in  
disposable cloths) and with plenty of water.

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative  
and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Substance name : phenol  
EC-No. : 203-632-7

### Components

Chemical name	CAS-No. EC-No.	Concentration (% w/w)
phenol	108-95-2 203-632-7	>= 95 - <= 100

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### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

- General advice : Plan first aid action before beginning work with this product.  
First aider needs to protect himself.  
Move the victim to fresh air.  
Keep at rest.  
Remove contaminated clothing and shoes.  
If unconscious, place in recovery position and seek medical advice.  
Keep available:  
Eye wash bottle with pure water and disposable cloths in polyethylene glycol at the workplace and in vehicles.  
In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- If inhaled : Remove from exposure.  
Keep warm and at rest and provide fresh air.  
Give oxygen or artificial respiration if needed.  
Immediate medical attention is required.
- In case of skin contact : Take off all contaminated clothing immediately.  
Wash off with polyethylene glycol (in disposable cloths) and with plenty of water.  
Keep on washing until medical assistance is obtained and skin is not white.
- In case of eye contact : Continue rinsing eyes during transport to hospital.  
Rinse immediately with plenty of water, also under the eyelids, for at least 30 minutes.
- If swallowed : Rinse mouth.  
Drink plenty of water.  
Do NOT induce vomiting.  
Immediate medical attention is required.

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

- Symptoms : Symptoms of poisoning:  
Vomiting  
Convulsions  
Irregular cardiac activity

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Unconsciousness  
Breathing difficulties  
Death.

Inhalation:  
Irritation  
Shortness of breath  
Lung oedema

Skin contact:  
Skin disorders  
Corrosion  
Dermatitis  
Necrosis  
Death.

Ingestion:  
Severe irritation  
corrosive effects  
acute lethal effects

Risks : Symptoms may be delayed.  
Toxic if swallowed, in contact with skin or if inhaled.  
Causes serious eye damage.  
Suspected of causing genetic defects.  
May cause damage to organs through prolonged or repeated exposure.  
Causes severe burns.

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

Treatment : There is no specific antidote available.  
After contact with skin, wash immediately with plenty of polyethylene glycol (in disposable cloths) and with plenty of water.  
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
If ingested, irrigate the stomach using activated charcoal in addition.

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### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

Suitable extinguishing media : Dry powder  
Carbon dioxide (CO<sub>2</sub>)  
Alcohol-resistant foam  
Water mist

Unsuitable extinguishing media : High volume water jet

#### 5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Flammable.  
Vapours are heavier than air and may spread along floors.  
Vapours may form explosive mixtures with air.  
Burning produces noxious and toxic fumes.  
See chapter 10.

#### 5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.

Further information : Keep people away from and upwind of spill/leak.  
Keep away from heat and sources of ignition.  
Observe the risk of explosion.  
Cool containers/tanks with water spray.  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

### SECTION 6: Accidental release measures

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

Remove all sources of ignition.  
Keep people away from and upwind of spill/leak.  
Do not breathe vapours.  
Avoid breathing dust.  
Avoid all contact with the product.

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Use personal protective equipment.  
Ensure adequate ventilation.  
Attempt to stop leakage without personal risk.

### 6.2 Environmental precautions

Should not be released into the environment.  
Prevent product from entering drains.  
If the product contaminates rivers and lakes or drains inform respective authorities.

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

Allow to solidify, use mechanical handling equipment.  
Shovel into suitable container for disposal.  
Large molten masses:  
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).  
Clean thoroughly.

### 6.4 Reference to other sections

For personal protection see section 8.  
For disposal considerations see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : Handle only in a place equipped with local exhaust (or other appropriate exhaust).  
Avoid inhalation of vapour or mist.  
Avoid contact with skin, eyes and clothing.  
Handle with extreme care.  
Ensure adequate ventilation.

Advice on protection against fire and explosion : Keep away from sources of ignition - No smoking.

Hygiene measures : Avoid contact with skin and eyes. Take off immediately all contaminated clothing. When using do not eat, drink or smoke. Keep away from food, drink and animal feedingstuffs. Clear up spills immediately and dispose of waste safely. Wash hands before breaks and immediately after handling the product. Use a high fat protective cream after cleaning skin.

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

- Requirements for storage areas and containers : Keep container tightly closed and in a well-ventilated place. Protect from sunlight.
- Further information on storage conditions : Keep locked up or in an area accessible only to qualified or authorised persons. Take precautionary measures against static discharges. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. Ensure that eye flushing systems and safety showers are located close to the working place.
- Advice on common storage : Keep away from food, drink and animal feedingstuffs. Keep away from incompatible materials. See chapter 10.
- Storage class (TRGS 510) : 6.1A, Combustible substances, toxic
- Further information on storage stability : Recommended storage temperature  
15 - 25 °C (solid)  
55 - 60 °C (liquid)
- Packaging material : Suitable material: Stainless steel  
Unsuitable material: Aluminium, Lead, Copper, Copper alloys, Zinc, Unlined steel, Plastics, Rubber products

### 7.3 Specific end use(s)

- Specific use(s) : Reserved for industrial and professional use.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
phenol	108-95-2	TWA	2 ppm 7,8 mg/m <sup>3</sup>	GB EH40
Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.				



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		STEL	4 ppm 16 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
phenol	108-95-2	TWA	2 ppm 8 mg/m3	2009/161/EU
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	4 ppm 16 mg/m3	2009/161/EU
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
phenol	108-95-2	TWA	2 ppm 7,8 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	4 ppm 16 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
phenol	108-95-2	TWA	2 ppm 8 mg/m3	2009/161/EU
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	4 ppm 16 mg/m3	2009/161/EU
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			

### Derived No Effect Level (DNEL):

Substance name	End Use	Exposure routes	Potential health effects	Value
phenol	Workers	Inhalation	Long-term systemic effects	8 mg/m3
			Acute local effects	16 mg/m3
	Workers	Skin contact	Long-term systemic effects	1,23 mg/kg bw/d
	Consumers	Inhalation	Long-term systemic effects	0,452 mg/m3
	Consumer use	Dermal	Long-term systemic	0,5 mg/kg

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			effects	bw/day
	Consumer use	Oral	Long-term systemic effects	0,5 mg/kg bw/day
phenol	Workers	Inhalation	Long-term systemic effects	8 mg/m <sup>3</sup>
			Acute local effects	16 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	1,23 mg/kg bw/d
	Consumers	Inhalation	Long-term systemic effects	0,452 mg/m <sup>3</sup>
	Consumer use	Dermal	Long-term systemic effects	0,5 mg/kg bw/day
	Consumer use	Oral	Long-term systemic effects	0,5 mg/kg bw/day

### Predicted No Effect Concentration (PNEC):

Substance name	Environmental Compartment	Value
phenol	Fresh water	0,008 mg/l
	Marine water	0,001 mg/l
	Fresh water sediment	0,091 mg/kg dwt
	Marine sediment	0,009 mg/kg dwt
	Soil	0,136 mg/kg dwt
	Intermittent use/release	0,031 mg/l
phenol	Sewage treatment plant	2,1 mg/l
	Fresh water	0,008 mg/l
	Marine water	0,001 mg/l
	Fresh water sediment	0,091 mg/kg dwt
	Marine sediment	0,009 mg/kg dwt
	Soil	0,136 mg/kg dwt
	Intermittent use/release	0,031 mg/l
	Sewage treatment plant	2,1 mg/l

## 8.2 Exposure controls

### Engineering measures

Minimise exposure using measures such as closed systems, dedicated facilities and suitable general / local exhaust ventilation.

Ensure safe systems of work or equivalent arrangements are in place to manage risks.

Regularly inspect, test and maintain all control measures.

### Personal protective equipment

Eye protection : Wear goggles (DIN EN 58211) and if needed face-shield.

Hand protection

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- Material : thick PVC  
Break through time : > 480 min
- Material : Neoprene  
Break through time : 140 min
- Material : polyvinylchloride (PVC)  
Break through time : 75 min
- Remarks : The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.  
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
- Skin and body protection : Wear suitable protective clothing.  
Safety shoes according to EN 345-347.  
If splashes are likely to occur:  
Complete suit protecting against chemicals
- Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.  
Respirator with combination filter for vapour/particulate (EN 141)
- Filter type : ABEK-P3-filter
- Protective measures : Avoid exposure - obtain special instructions before use.  
Ensure that eye flushing systems and safety showers are located close to the working place.  
Provide specific activity training to operators to minimise exposures.  
Consider the need for risk based health surveillance.  
Identify and implement corrective actions.

### Environmental exposure controls

- General advice : Should not be released into the environment. Prevent product from entering drains. If the product contaminates rivers and lakes or drains inform respective authorities.

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### SECTION 9: Physical and chemical properties

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

Appearance	:	solid solid (< 40,9 °C) liquid (> 40,9 °C)
Colour	:	colourless (liquid), white (solid) Change in colour if exposed to air and light: pink, red
Odour	:	pungent
Odour Threshold	:	0,006 - 6 ppm
pH	:	4 - 5 (20 °C) Concentration: 10 g/l
Melting point	:	40,9 °C
Boiling point	:	181,9 °C (1.013 hPa)
Flash point	:	81 °C Method: ISO 2719
Upper explosion limit / Upper flammability limit	:	9,0 %(V)
Lower explosion limit / Lower flammability limit	:	1,3 %(V)
Vapour pressure	:	0,2 hPa (20 °C) 3 hPa (50 °C)
Relative vapour density	:	3,2 (20 °C) (Air = 1.0)

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Density	:	1,07 g/cm <sup>3</sup> (20 °C)
		1,13 g/cm <sup>3</sup> (25 °C)
		Method: DIN 51757
Solubility(ies)		
Water solubility	:	84 g/l (20 °C)
		87 g/l (25 °C)
		completely miscible (68 °C)
Solubility in other solvents	:	Soluble in most organic solvents. Solvent: Fat solubility
Auto-ignition temperature	:	595 °C Method: DIN 51794
Viscosity		
Viscosity, dynamic	:	3,437 mPa.s (50 °C)
Explosive properties	:	Not explosive
Oxidizing properties	:	Not oxidizing

### 9.2 Other information

Molecular weight	:	94,11 g/mol
Particle size	:	3 - 10 mm
Self-ignition	:	715 °C 1.013 hPa

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No dangerous reaction known under conditions of normal use.

### 10.2 Chemical stability

May attack many plastics, rubbers and coatings.  
hygroscopic

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### 10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

### 10.4 Conditions to avoid

Conditions to avoid : Exposure to air.  
Exposure to sunlight.  
Keep away from heat and sources of ignition.  
No decomposition if used as directed.

### 10.5 Incompatible materials

Materials to avoid : Oxidizing agents  
Aldehydes  
Isocyanates  
Nitrites  
Nitride  
Friedel-Crafts catalysts  
Metals  
Vapours may form explosive mixtures with air.

### 10.6 Hazardous decomposition products

Heating or fire can release toxic and corrosive gases.  
Under fire conditions:  
Carbon monoxide  
Carbon dioxide (CO<sub>2</sub>)

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Toxic if swallowed, in contact with skin or if inhaled.

#### Components:

#### phenol:

Acute oral toxicity : LD<sub>50</sub> (Rat): 340 mg/kg  
Method: OECD Test Guideline 401  
  
LDLo (Humans): 140 mg/kg

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Acute inhalation toxicity : LC50 (Rat): > 900 mg/m<sup>3</sup>  
Exposure time: 8 h  
Test atmosphere: dust/mist  
Symptoms: Irritation of mucous membranes, Shortness of  
breath, Respiratory disorders  
Remarks: Toxic.  
Danger of serious damage to health by prolonged exposure.

Acute dermal toxicity : LD50 (Rat): 660 mg/kg  
Method: OECD Test Guideline 402

### Skin corrosion/irritation

Causes severe burns.

#### Components:

##### phenol:

Remarks : Exposure quickly causes a strong corrosive action upon all  
body tissue.  
Possible risk of irreversible effects.

### Serious eye damage/eye irritation

Causes serious eye damage.

#### Components:

##### phenol:

Species : Rabbit  
Exposure time : 72 h  
Method : OECD Test Guideline 405  
Result : Corrosive

### Respiratory or skin sensitisation

#### Skin sensitisation

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

#### Respiratory sensitisation

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

#### Germ cell mutagenicity

Suspected of causing genetic defects.

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### Components:

#### phenol:

- Genotoxicity in vitro : Test Type: Ames test  
Method: OECD Test Guideline 471  
Result: negative
- Genotoxicity in vivo : Test Type: in vitro assay  
Method: OECD Test Guideline 487  
Result: positive
- Genotoxicity in vivo : Test Type: in vivo assay  
Method: Mutagenicity (micronucleus test)  
Result: weak positive
- Germ cell mutagenicity-  
Assessment : In vitro tests showed mutagenic effects, Suspected of causing  
genetic defects.

### **Carcinogenicity**

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

### Components:

#### phenol:

- Remarks : Animal testing did not show any carcinogenic effects.  
IARC: (International Agency for Research on Cancer)  
Group 3: Not classifiable as to its carcinogenicity to humans

### **Reproductive toxicity**

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

### Components:

#### phenol:

- Effects on fertility : Remarks: No known effect.

### **STOT - single exposure**

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

### **STOT - repeated exposure**

May cause damage to organs through prolonged or repeated exposure.



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### Repeated dose toxicity

#### Components:

##### phenol:

Species : Rat  
NOAEL : 300 mg/kg, bw/d  
Application Route : Oral  
Remarks : Systemic effects  
Subchronic toxicity

Remarks : Prolonged exposure may cause chronic effects:  
disorder of nervous system,  
injuries to liver and kidneys.  
Repeated skin contact:  
dermatitis,  
disorder of pigmentation.

### Aspiration toxicity

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

### Experience with human exposure

#### Components:

##### phenol:

General Information : Absorbs rapidly into the body by inhalation, skin contact and oral intake.

### Further information

#### Product:

Remarks : Symptoms may be delayed.

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Product:

##### Ecotoxicology Assessment

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

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### Components:

#### **phenol:**

- Toxicity to fish : Remarks: Toxic to aquatic life with long lasting effects.  
LC50 (Oncorhynchus mykiss (rainbow trout)): 8,9 mg/l  
Exposure time: 96 h  
Test substance: phenol
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): 3,1 mg/l  
Exposure time: 48 h  
Test substance: phenol
- Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 61,1 mg/l  
Exposure time: 96 h  
Test substance: phenol
- EC50 (Entomoneis cf punctulata (diatom)): 76 mg/l  
Exposure time: 72 h  
Test substance: phenol
- EC50 (Lemna minor (duckweed)): 61,82 mg/l  
Exposure time: 7 d  
Test substance: phenol
- Toxicity to fish (Chronic toxicity) : NOEC: 0,077 mg/l  
Exposure time: 60 d  
Species: Cirrhina mrigala  
Test substance: phenol
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10: 0,46 mg/l  
Exposure time: 16 d  
Species: Daphnia magna (Water flea)  
Test substance: phenol
- Plant toxicity : EC50: 79 mg/kg  
Exposure time: 14 d  
Species: Lactuca sativa (lettuce)  
Test substance: phenol

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### 12.2 Persistence and degradability

#### Components:

##### phenol:

- Biodegradability : Inoculum: activated sludge  
Result: Readily biodegradable.  
Biodegradation: 62 %  
Method: OECD Test Guideline 301C  
Test substance: phenol
- Chemical Oxygen Demand (COD) : 2.300 mg/g  
Test substance: phenol
- Photodegradation : Test substance: phenol  
Remarks: Estimated atmospheric lifetime:  
14h  
Photodegradable.

### 12.3 Bioaccumulative potential

#### Components:

##### phenol:

- Bioaccumulation : Species: Danio rerio (zebra fish)  
Bioconcentration factor (BCF): 17,5  
Elimination: yes  
Test substance: phenol  
Method: OECD Test Guideline 305E  
Remarks: Bioaccumulation not expected.

### 12.4 Mobility in soil

#### Components:

##### phenol:

- Mobility : Medium: Air  
Content: 0,8 %
- : Medium: Water  
Content: 98,8 %  
Remarks: The product evaporates slowly., The product is  
soluble in water.

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: Medium: Soil  
Content: 0,2 %  
Remarks: High mobility

### 12.5 Results of PBT and vPvB assessment

#### Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

### 12.6 Other adverse effects

#### Product:

Endocrine disrupting potential : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Additional ecological information : Should not be released into the environment.  
Prevent product from entering drains.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Dispose of as hazardous waste in compliance with local and national regulations.  
Where possible recycling is preferred to disposal or incineration.  
European waste code:  
07 01 99 (wastes not otherwise specified (basic organic chemicals))

Contaminated packaging : Dispose of as hazardous waste in compliance with local and national regulations.  
Reuse or recycle if not contaminated.

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### SECTION 14: Transport information

#### 14.1 UN number

ADR : UN 2312

RID : UN 2312

IMDG : UN 2312

#### 14.2 UN proper shipping name

ADR : PHENOL, MOLTEN

RID : PHENOL, MOLTEN

IMDG : PHENOL, MOLTEN

#### 14.3 Transport hazard class(es)

ADR : 6.1

RID : 6.1

IMDG : 6.1

#### 14.4 Packing group

##### ADR

Packing group : II  
Classification Code : T1  
Hazard Identification Number : 60  
Labels : 6.1  
Tunnel restriction code : (D/E)

##### RID

Packing group : II  
Classification Code : T1  
Hazard Identification Number : 60  
Labels : 6.1

##### IMDG

Packing group : II  
Labels : 6.1  
EmS Code : F-A, S-A

#### 14.5 Environmental hazards

##### ADR

Environmentally hazardous : yes

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### RID

Environmentally hazardous : yes

### IMDG

Marine pollutant : yes

### 14.6 Special precautions for user

Remarks : Other UN-Number: 1671 (PHENOL, SOLID)

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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

Ship type : 2  
Pollution category : Y

## SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

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

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Category		Quantity 1	Quantity 2
H2	ACUTE TOXIC	50 t	200 t
E2	ENVIRONMENTAL HAZARDS	200 t	500 t

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### 15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

## SECTION 16: Other information

### Full text of other abbreviations

2009/161/EU	:	Europe. COMMISSION DIRECTIVE 2009/161/EU establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
2009/161/EU / TWA	:	Limit Value - eight hours
2009/161/EU / STEL	:	Short term exposure limit
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	:	Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the

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International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

### Further information

- Training advice : Provide adequate information, instruction and training for operators.
- Regular trainings of all employees which are involved in the transport of dangerous goods (according to chapter 1.3 ADR).
- Other information : Issued according to Regulation (EC) No 1907/2006, Annex II, and its amendments.  
Changes since the last version are highlighted in the margin.  
This version replaces all previous versions.
- Sources of key data used to compile the Safety Data Sheet : REACH Registration Dossier Phenol. P&D-REACH Consortium, 2023  
International Chemical Safety Card, Phenol, October 2001 (<http://www.inchem.org/documents/icsc/icsc/eics0070.htm>)



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### Disclaimer

To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication; however we do not assume any liability whatsoever for the accuracy and completeness of such information.

**Borealis makes no warranties which extend beyond the description contained herein. Nothing herein shall constitute any warranty of merchantability or fitness for a particular purpose.**

**It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.**

No liability can be accepted in respect of the use of Borealis' products in conjunction with other materials. The information contained herein relates exclusively to our products when not used in conjunction with any third party materials.

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## Annex: Exposure Scenarios

### Table of Contents

#### Identified uses:

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#### Use: Manufacture of substance, Manufacture

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Main User Groups : **SU3:** Industrial uses  
Process categories : **PROC1:** Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Environmental Release Categories : **ERC1:** Manufacture of the substance

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-1-Manufacture.pdf>

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#### Use: Formulation & (re)packing of substances and mixtures, Distribution of substance, Formulation or re-packing

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Main User Groups : **SU3:** Industrial uses  
Process categories : **PROC1:** Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions  
**PROC3:** Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition  
**PROC5:** Mixing or blending in batch processes  
**PROC6:** Calendering operations  
**PROC7:** Industrial spraying  
**PROC8a:** Transfer of substance or mixture (charging/discharging) at non dedicated-facilities  
**PROC8b:** Transfer of substance or mixture (charging/discharging) at dedicated facilities  
**PROC9:** Transfer of substance or mixture into small containers (dedicated filling line, including weighing)  
**PROC10:** Roller application or brushing

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**PROC13:** Treatment of articles by dipping and pouring  
**PROC14:** Tableting, compression, extrusion, pelettisation,  
granulation

Environmental Release Categories : **ERC2:** Formulation into mixture

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-2-Formulation-or-repacking.pdf>

### Use: Use as an intermediate, Use at industrial sites

Main User Groups : **SU3:** Industrial uses  
Sectors of end-use : **SU8, SU9:** Manufacture of bulk, large scale chemicals  
(including petroleum products), Manufacture of fine chemicals  
Chemical product category : **PC0:** Other  
**PC21:** Laboratory chemicals  
**PC29:** Pharmaceuticals  
**PC30:** Photo-chemicals  
**PC35:** Washing and cleaning products  
**PC39:** Cosmetics, personal care products  
Process categories : **PROC1:** Chemical production or refinery in closed process  
without likelihood of exposure or processes with equivalent  
containment conditions  
**PROC3:** Manufacture or formulation in the chemical industry  
in closed batch processes with occasional controlled exposure  
or processes with equivalent containment condition  
**PROC5:** Mixing or blending in batch processes  
**PROC6:** Calendering operations  
**PROC7:** Industrial spraying  
**PROC8a:** Transfer of substance or mixture  
(charging/discharging) at non dedicated-facilities  
**PROC8b:** Transfer of substance or mixture  
(charging/discharging) at dedicated facilities  
**PROC9:** Transfer of substance or mixture into small  
containers (dedicated filling line, including weighing)  
**PROC10:** Roller application or brushing  
**PROC13:** Treatment of articles by dipping and pouring  
**PROC14:** Tableting, compression, extrusion, pelettisation,  
granulation  
**PROC15:** Use as laboratory reagent

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**PROC28:** Manual maintenance (cleaning and repair) of machinery

Environmental Release Categories : **ERC6a:** Use of intermediate

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-3-Use-at-industrial-site-Use-as-Intermediate.pdf>

### Use: Use in polymer production, Use at industrial sites

Main User Groups : **SU3:** Industrial uses  
Sectors of end-use : **SU12:** Manufacture of plastics products, including compounding and conversion  
Chemical product category : **PC32:** Polymer preparations and compounds  
Process categories : **PROC1:** Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions  
**PROC2:** Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions  
**PROC3:** Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition  
**PROC4:** Chemical production where opportunity for exposure arises  
**PROC5:** Mixing or blending in batch processes  
**PROC6:** Calendering operations  
**PROC8a:** Transfer of substance or mixture (charging/discharging) at non dedicated-facilities  
**PROC8b:** Transfer of substance or mixture (charging/discharging) at dedicated facilities  
**PROC9:** Transfer of substance or mixture into small containers (dedicated filling line, including weighing)  
**PROC10:** Roller application or brushing  
**PROC13:** Treatment of articles by dipping and pouring  
**PROC14:** Tableting, compression, extrusion, pelettisation, granulation  
**PROC15:** Use as laboratory reagent  
**PROC28:** Manual maintenance (cleaning and repair) of machinery

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Environmental Release Categories : **ERC6c:** Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article)

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-4-Use-at-industrial-site-Polymer-manufacturing.pdf>

### Use: Use in polymer processing, Use at industrial sites

Main User Groups : **SU3:** Industrial uses  
Sectors of end-use : **SU12:** Manufacture of plastics products, including compounding and conversion  
Chemical product category : **PC32:** Polymer preparations and compounds  
Process categories : **PROC5:** Mixing or blending in batch processes  
**PROC6:** Calendering operations  
**PROC8a:** Transfer of substance or mixture (charging/discharging) at non dedicated-facilities  
**PROC28:** Manual maintenance (cleaning and repair) of machinery

Environmental Release Categories : **ERC6c:** Use of monomer in polymerisation processes at industrial site (inclusion or not into/onto article)

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-5-Use-at-industrial-site-Polymer-Processing.pdf>

### Use: Use in rubber production and processing, Use at industrial sites

Main User Groups : **SU3:** Industrial uses  
Sectors of end-use : **SU11:** Manufacture of rubber products  
Chemical product category : **PC0:** Other  
Process categories : **PROC1:** Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions  
**PROC2:** Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with

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equivalent containment conditions

**PROC3:** Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

**PROC4:** Chemical production where opportunity for exposure arises

**PROC5:** Mixing or blending in batch processes

**PROC6:** Calendering operations

**PROC7:** Industrial spraying

**PROC8a:** Transfer of substance or mixture (charging/discharging) at non dedicated-facilities

**PROC8b:** Transfer of substance or mixture (charging/discharging) at dedicated facilities

**PROC9:** Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

**PROC10:** Roller application or brushing

**PROC13:** Treatment of articles by dipping and pouring

**PROC14:** Tableting, compression, extrusion, pelettisation, granulation

**PROC28:** Manual maintenance (cleaning and repair) of machinery

Environmental Release Categories : **ERC6d:** Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-6-Use-at-industrial-site-Rubber-production-and-processing.pdf>

### Use: Phenolic resin processing (uses of downstream users of phenolic resins), Use at industrial sites

Main User Groups : **SU3:** Industrial uses  
Sectors of end-use : **SU8, SU12:** Manufacture of bulk, large scale chemicals (including petroleum products), Manufacture of plastics products, including compounding and conversion  
Chemical product category : **PC32:** Polymer preparations and compounds  
Process categories : **PROC1:** Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions  
**PROC2:** Chemical production or refinery in closed continuous

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process with occasional controlled exposure or processes with equivalent containment conditions

**PROC3:** Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition

**PROC4:** Chemical production where opportunity for exposure arises

**PROC5:** Mixing or blending in batch processes

**PROC8a:** Transfer of substance or mixture (charging/discharging) at non dedicated-facilities

**PROC8b:** Transfer of substance or mixture (charging/discharging) at dedicated facilities

**PROC14:** Tableting, compression, extrusion, pelettisation, granulation

**PROC15:** Use as laboratory reagent

Environmental Release Categories : **ERC4:** Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-7-Use-at-industrial-site-Phenolic-Resin-processing-DU-uses-of-Phenolic-Resins-25.pdf>

### Use: Use as binders and release agents, Use at industrial sites

Main User Groups : **SU3:** Industrial uses  
Chemical product category : **PC24:** Lubricants, greases, release products

Process categories : **PROC1:** Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions  
**PROC2:** Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions  
**PROC3:** Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition  
**PROC4:** Chemical production where opportunity for exposure arises  
**PROC5:** Mixing or blending in batch processes  
**PROC6:** Calendering operations  
**PROC7:** Industrial spraying

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**PROC8a:** Transfer of substance or mixture (charging/discharging) at non dedicated-facilities  
**PROC8b:** Transfer of substance or mixture (charging/discharging) at dedicated facilities  
**PROC9:** Transfer of substance or mixture into small containers (dedicated filling line, including weighing)  
**PROC10:** Roller application or brushing  
**PROC13:** Treatment of articles by dipping and pouring  
**PROC28:** Manual maintenance (cleaning and repair) of machinery

Environmental Release Categories : **ERC5:** Use at industrial site leading to inclusion into/onto article

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-8-Use-at-industrial-site-Use-as-binder-or-release-agent.pdf>

### Use: Use in coatings, Use at industrial sites

Main User Groups : **SU3:** Industrial uses  
Chemical product category : **PC9a:** Coatings and paints, thinners, paint removers

Process categories : **PROC5:** Mixing or blending in batch processes  
**PROC8a:** Transfer of substance or mixture (charging/discharging) at non dedicated-facilities  
**PROC10:** Roller application or brushing  
**PROC13:** Treatment of articles by dipping and pouring

Environmental Release Categories : **ERC4:** Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-9-Use-at-industrial-site-Uses-in-coatings.pdf>

### Use: Use in laboratories, Use at industrial sites

Main User Groups : **SU3:** Industrial uses  
Sectors of end-use : **SU8, SU9, SU24:** Manufacture of bulk, large scale chemicals



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Chemical product category : (including petroleum products), Manufacture of fine chemicals, Scientific research and development  
**PC1:** Adhesives, sealants  
**PC3:** Air care products  
**PC4:** Anti-freeze and de-icing products  
**PC8:** Biocidal products  
**PC9a:** Coatings and paints, thinners, paint removers  
**PC9b:** Fillers, putties, plasters, modelling clay  
**PC9c:** Finger paints  
**PC12:** Fertilizers  
**PC15:** Non-metal surface treatment products  
**PC21:** Laboratory chemicals  
**PC24:** Lubricants, greases, release products  
**PC27:** Plant protection products  
**PC29:** Pharmaceuticals  
**PC30:** Photo-chemicals  
**PC31:** Polishes and wax blends  
**PC32:** Polymer preparations and compounds  
**PC35:** Washing and cleaning products  
**PC38:** Welding and soldering products, flux products  
**PC39:** Cosmetics, personal care products  
**PC40:** Extraction agents  
**PC0:** Other

Process categories : **PROC8a:** Transfer of substance or mixture (charging/discharging) at non dedicated-facilities  
**PROC10:** Roller application or brushing  
**PROC15:** Use as laboratory reagent  
**PROC19:** Manual activities involving hand contact  
**PROC28:** Manual maintenance (cleaning and repair) of machinery

Environmental Release Categories : **ERC4:** Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-10-Use-at-industrial-site-Use-in-laboratories.pdf>

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**Use: Formulation & (re)packing of substances and mixtures, Leather treatment products, Use at industrial sites**

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- Main User Groups : **SU3:** Industrial uses  
Chemical product category : **PC23:** Leather treatment products
- Process categories : **PROC1:** Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions  
**PROC2:** Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions  
**PROC3:** Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition  
**PROC5:** Mixing or blending in batch processes  
**PROC8a:** Transfer of substance or mixture (charging/discharging) at non dedicated-facilities  
**PROC8b:** Transfer of substance or mixture (charging/discharging) at dedicated facilities
- Environmental Release Categories : **ERC6a:** Use of intermediate

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-11-Use-at-industrial-site-DoU-Formulation-Leather-treatment.pdf>

### Use: Use in agrochemicals, Use at industrial sites

- Main User Groups : **SU3:** Industrial uses  
Sectors of end-use : **SU9:** Manufacture of fine chemicals  
Chemical product category : **PC12:** Fertilizers  
**PC0:** Other
- Process categories : **PROC4:** Chemical production where opportunity for exposure arises  
**PROC5:** Mixing or blending in batch processes  
**PROC8a:** Transfer of substance or mixture (charging/discharging) at non dedicated-facilities  
**PROC8b:** Transfer of substance or mixture (charging/discharging) at dedicated facilities  
**PROC9:** Transfer of substance or mixture into small containers (dedicated filling line, including weighing)  
**PROC14:** Tableting, compression, extrusion, pelettisation, granulation

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**PROC15:** Use as laboratory reagent

Environmental Release Categories : **ERC6a:** Use of intermediate

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-12-Use-at-industrial-site-Agrochemical-uses.pdf>

**Use: Phenolic resin processing (uses of downstream users of phenolic resins), Use at industrial sites**

Main User Groups : **SU3:** Industrial uses  
Chemical product category : **PC32:** Polymer preparations and compounds

Process categories : **PROC1:** Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions  
**PROC2:** Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions  
**PROC3:** Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition  
**PROC4:** Chemical production where opportunity for exposure arises  
**PROC5:** Mixing or blending in batch processes  
**PROC8a:** Transfer of substance or mixture (charging/discharging) at non dedicated-facilities  
**PROC8b:** Transfer of substance or mixture (charging/discharging) at dedicated facilities  
**PROC14:** Tableting, compression, extrusion, pelettisation, granulation  
**PROC15:** Use as laboratory reagent

Environmental Release Categories : **ERC4:** Use of non-reactive processing aid at industrial site (no inclusion into or onto article)

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-13-Use-at-industrial-site-Phenolic-Resin-processing-DU-uses-of-Phenolic-Resins-1.pdf>

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## Phenol

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### Use: Use in polymer production, Widespread use by professional workers

- Main User Groups : **SU22:** Professional uses  
Chemical product category : **PC32:** Polymer preparations and compounds
- Process categories : **PROC1:** Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions  
**PROC2:** Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions  
**PROC8a:** Transfer of substance or mixture (charging/discharging) at non dedicated-facilities  
**PROC8b:** Transfer of substance or mixture (charging/discharging) at dedicated facilities  
**PROC9:** Transfer of substance or mixture into small containers (dedicated filling line, including weighing)  
**PROC14:** Tableting, compression, extrusion, pelettisation, granulation
- Environmental Release Categories : **ERC8c:** Widespread use leading to inclusion into/onto article (indoor)

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-14-Widespread-use-by-professional-workers-Polymer-manufacturing.pdf>

### Use: Use in polymer processing, Widespread use by professional workers

- Main User Groups : **SU22:** Professional uses  
Chemical product category : **PC32:** Polymer preparations and compounds
- Process categories : **PROC1:** Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions  
**PROC2:** Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions  
**PROC8a:** Transfer of substance or mixture (charging/discharging) at non dedicated-facilities  
**PROC8b:** Transfer of substance or mixture (charging/discharging) at dedicated facilities

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**PROC9:** Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Environmental Release Categories : **ERC8c:** Widespread use leading to inclusion into/onto article (indoor)

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-15-Widespread-use-by-professional-workers-Polymer-processing.pdf>

**Use: Phenolic resin processing (uses of downstream users of phenolic resins), Widespread use by professional workers**

Main User Groups : **SU22:** Professional uses  
Chemical product category : **PC32:** Polymer preparations and compounds

Process categories : **PROC1:** Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions  
**PROC2:** Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions  
**PROC3:** Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition  
**PROC4:** Chemical production where opportunity for exposure arises  
**PROC5:** Mixing or blending in batch processes  
**PROC8a:** Transfer of substance or mixture (charging/discharging) at non dedicated-facilities  
**PROC8b:** Transfer of substance or mixture (charging/discharging) at dedicated facilities  
**PROC14:** Tableting, compression, extrusion, pelettisation, granulation  
**PROC15:** Use as laboratory reagent

Environmental Release Categories : **ERC8a:** Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-16-Widespread-use-by-professional-workers-Phenolic-resins-processing-DU-uses-of-phenolic-resins.pdf>

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### Use: Use in laboratories, Widespread use by professional workers

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- Main User Groups : **SU22:** Professional uses  
Chemical product category : **PC21:** Laboratory chemicals
- Process categories : **PROC10:** Roller application or brushing  
**PROC15:** Use as laboratory reagent
- Environmental Release Categories : **ERC8a:** Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-17-Widespread-use-by-professional-workers-Use-in-laboratories.pdf>

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### Use: Use in coatings, Widespread use by professional workers

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- Main User Groups : **SU22:** Professional uses  
Chemical product category : **PC9a:** Coatings and paints, thinners, paint removers
- Process categories : **PROC5:** Mixing or blending in batch processes  
**PROC8a:** Transfer of substance or mixture (charging/discharging) at non dedicated-facilities  
**PROC10:** Roller application or brushing  
**PROC13:** Treatment of articles by dipping and pouring
- Environmental Release Categories : **ERC8b:** Widespread use of reactive processing aid (no inclusion into or onto article, indoor)

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-18-Widespread-use-by-professional-workers-Use-in-coatings.pdf>

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### Use: Use in binder and release agents, Widespread use by professional workers

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- Main User Groups : **SU22:** Professional uses  
Chemical product category : **PC24:** Lubricants, greases, release products

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- Process categories : **PROC1:** Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions  
**PROC2:** Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions  
**PROC3:** Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition  
**PROC4:** Chemical production where opportunity for exposure arises  
**PROC5:** Mixing or blending in batch processes  
**PROC6:** Calendaring operations  
**PROC8a:** Transfer of substance or mixture (charging/discharging) at non dedicated-facilities  
**PROC8b:** Transfer of substance or mixture (charging/discharging) at dedicated facilities  
**PROC9:** Transfer of substance or mixture into small containers (dedicated filling line, including weighing)  
**PROC10:** Roller application or brushing  
**PROC14:** Tableting, compression, extrusion, pelettisation, granulation
- Environmental Release Categories : **ERC8b:** Widespread use of reactive processing aid (no inclusion into or onto article, indoor)

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-19-Widespread-use-by-professional-workers-Use-as-binders-and-release-agents.pdf>

### Use: Use in agrochemicals, Widespread use by professional workers

- Main User Groups : **SU22:** Professional uses
- Chemical product category : **PC12:** Fertilizers  
**PC0:** Other
- Process categories : **PROC4:** Chemical production where opportunity for exposure arises  
**PROC5:** Mixing or blending in batch processes  
**PROC8a:** Transfer of substance or mixture (charging/discharging) at non dedicated-facilities

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**PROC8b:** Transfer of substance or mixture  
(charging/discharging) at dedicated facilities

Environmental Release Categories : **ERC8b:** Widespread use of reactive processing aid (no  
inclusion into or onto article, indoor)

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-20-Widespread-use-by-professional-workers-Agrochemical-uses.pdf>

### Use: Consumer uses, Service life - consumers

Main User Groups : **SU21:** Consumer uses  
Article categories : **AC 0:** Other Articles

Environmental Release Categories : **ERC10a, ERC11a:** Widespread use of articles with low  
release (outdoor), Widespread use of articles with low release  
(indoor)

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-21-Service-life-consumers-Paper-phenolic-circuit-board-and-phenol-resin-impregnated-paper.pdf>

### Use: Consumer uses, Service life - consumers

Main User Groups : **SU21:** Consumer uses  
Article categories : **AC2:** Machinery, mechanical appliances, electrical/electronic  
articles

Environmental Release Categories : **ERC10a, ERC11a:** Widespread use of articles with low  
release (outdoor), Widespread use of articles with low release  
(indoor)

Additional information available from:

<https://www.borealisgroup.com/storage/Base-Chemicals/Phenol/Exposure-Scenarios/ES-22-Service-life-consumers-Indoor-air-exposure-from>



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