

Phenol

Safety Data Sheet

according to Regulation (EU) 2015/830

Date of issue: 01/06/2022

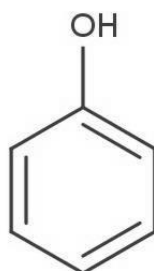
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Substance name : Phenol
EC Index-No. : 604-001-00-2
EC-No. : 203-632-7
CAS-No. : 108-95-2
Type of product : Pure substance, Hygroscopic substance. Preventive measures apply to the substance in dry state only
Formula : C₆H₆O
Chemical structure :



Synonyms : benzaphenol, solid / benzene phenol, solid / benzenol, solid / benzophenol, solid / carbolic acid / carbolic acid, crystals / carbolic acid, solid / cresote, solid / hydroxybenzene, solid / monohydroxybenzene / monophenol, solid / oxybenzene, solid / phenic acid, solid / phenic alcohol, solid / phenol / phenol alcohol, solid / phenol usp, crystals / phenol usp, solid / phenol, crystal / phenol, loose crystals / phenol, pure / Phenol, solid / phenyl alcohol, solid / phenyl hydrate, solid / phenyl hydroxide, solid / phenylalcohol / phenylic acid, solid / phenylic alcohol, solid

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Disinfectant
Solvent
Laboratory chemicals

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

ISOLAB Laborgeräte GmbH
Am Dillhof 2 - 63863 Eschau / GERMANY
Tel: + 49 93 74 / 978 55-0
Fax: +49 93 74 / 978 55-29
prodsafe@isolab.de

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Germany	Giftnotruf der Charité CBF, Haus VIII (Wirtschaftgebäude), UG	Hindenburgdamm 30 12203 Berlin	+49 30 19240	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Muta. 2 H341
Acute Tox. 3 (Inhalation) H331
Acute Tox. 3 (Dermal) H311
Acute Tox. 3 (Oral) H301
STOT RE 2 H373
Skin Corr. 1B H314

Full text of hazard classes and H-statements : see section 16

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Specific concentration limits:

- (1 =<C < 3) Skin Irrit. 2, H315
- (1 =<C < 3) Eye Irrit. 2, H319
- (C >= 3) Skin Corr. 1B, H314

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

- : 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

Precautionary statements (CLP)

- : P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
- P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308 + P310 - IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%
Phenol	(CAS-No.) 108-95-2 (EC-No.) 203-632-7 (EC Index-No.) 604-001-00-2	100

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general

- : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Never give alcohol to drink.

First-aid measures after inhalation

- : Remove the victim into fresh air. Do not apply mouth-to-mouth resuscitation. Immediately consult a doctor/medical service.

First-aid measures after skin contact

- : Wash immediately with PE-glycol 400. Wash immediately with lots of water (15 minutes)/shower. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital.

First-aid measures after eye contact

- : Rinse immediately with plenty of water for 15 minutes. Do not apply neutralizing agents. Take victim to an ophthalmologist.

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First-aid measures after ingestion : Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Do not give chemical antidote. Immediately consult a doctor/medical service. Call Poison Information Centre (www.big.be/antigif.htm). Take the container/vomit to the doctor/hospital. Ingestion of large quantities: immediately to hospital.

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

Symptoms/effects after inhalation : ON CONTINUOUS EXPOSURE/CONTACT: Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Dry/sore throat. Coughing. Respiratory difficulties. Rapid respiration. Dizziness. Disturbances of consciousness. FOLLOWING SYMPTOMS MAY APPEAR LATER: Possible laryngeal spasm/oedema. Risk of pneumonia. Risk of lung oedema.

Symptoms/effects after skin contact : Caustic burns/corrosion of the skin. Destruction of tissue. Feeling of weakness. Tremor. Coordination disorders. Shock. Disturbances of consciousness. Cramps/uncontrolled muscular contractions.

Symptoms/effects after eye contact : Corrosion of the eye tissue. Permanent eye damage.

Symptoms/effects after ingestion : Burns to the gastric/intestinal mucosa. Nausea. Abdominal pain. Diarrhoea. Low arterial pressure. Shock. Disturbances of consciousness. Respiratory collapse. FOLLOWING SYMPTOMS MAY APPEAR LATER: Disturbed sensation of pain. Enlargement/affection of the liver. Decreased renal function. Change in urine output. Urine discolouration. Methemoglobinemia.

Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Skin rash/inflammation. May stain the skin. Feeling of weakness. Headache. Difficulty in swallowing. Gastrointestinal complaints. Loss of appetite. Affection of the renal tissue. Urine discolouration. Increased salivation. Enlargement/affection of the liver. Central nervous system depression. Dizziness. Impaired concentration.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Preferably: water spray. Polyvalent foam. Alcohol-resistant foam. Water. ABC powder. Carbon dioxide.

Unsuitable extinguishing media : Solid water jet ineffective as extinguishing medium.

5.2. Special hazards arising from the substance or mixture

Fire hazard : DIRECT FIRE HAZARD. Material presenting a fire hazard. In finely divided state: increased fire hazard. INDIRECT FIRE HAZARD. Temperature above flashpoint: higher fire/explosion hazard. Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard : DIRECT EXPLOSION HAZARD. Fine dust is explosive with air. INDIRECT EXPLOSION HAZARD. Dust cloud can be ignited by a spark. Reactions with explosion hazards: see "Reactivity Hazard".

5.3. Advice for firefighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Face-shield. Corrosion-proof suit. Dust cloud production: compressed air/oxygen apparatus. See "Material-Handling" to select protective clothing.

Emergency procedures : Mark the danger area. Prevent dust cloud formation. No naked flames. Corrosion-proof appliances. Wash contaminated clothes. In case of reactivity hazard: consider evacuation.

Measures in case of dust release : In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows. Dust production: stop engines and no smoking. In case of dust production: no naked flames or sparks. Dust: spark-/explosionproof appliances/lighting equipment.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

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6.3. Methods and material for containment and cleaning up

- For containment : Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the solid spill. Knock down/dilute dust cloud with water spray. Take account of toxic/corrosive precipitation water. Powdered form: no compressed air for pumping over spills.
- Methods for cleaning up : Cover the solid spill with dry sand/earth/vermiculite soda ash or powdered limestone. Scoop solid spill into closing containers. See "Material-handling" for suitable container materials. Carefully collect the spill/leftovers. Powdered: do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Additional hazards when processed : Pulverization rapidly increases toxic concentration.
- Precautions for safe handling : Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Keep the substance free from contamination. Use corrosionproof equipment. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Powdered form: no compressed air for pumping over. Avoid raising dust. Keep away from naked flames/heat. Finely divided: spark- and explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Observe strict hygiene. Keep container tightly closed. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

7.2. Conditions for safe storage, including any incompatibilities

- Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
- Information on mixed storage : KEEP SUBSTANCE AWAY FROM: many substances. oxidizing agents. (strong) acids. (strong) bases. metals. halogens. water/moisture.
- Storage area : Store in a dry area. Store in a dark area. Ventilation at floor level. Keep locked up. Unauthorized persons are not admitted. Under a shelter/in the open. May be stored under nitrogen. Meet the legal requirements.
- Special rules on packaging : SPECIAL REQUIREMENTS: hermetical. watertight. dry. clean. opaque. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
- Packaging materials : SUITABLE MATERIAL: steel. stainless steel. nickel. polypropylene. glass. MATERIAL TO AVOID: lead. aluminium. iron. copper. zinc. bronze. tin.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Phenol (108-95-2)		
EU	Local name	Phenol
EU	IOELV TWA (mg/m ³)	8 mg/m ³ (Phenol; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
EU	IOELV TWA (ppm)	2 ppm (Phenol; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
EU	IOELV STEL (mg/m ³)	16 mg/m ³ (Phenol; EU; Short time value; Indicative occupational exposure limit value)
EU	IOELV STEL (ppm)	4 ppm (Phenol; EU; Short time value; Indicative occupational exposure limit value)
EU	Notes	skin
Austria	Local name	Phenol
Austria	MAK (mg/m ³)	8 mg/m ³
Austria	MAK (ppm)	2 ppm
Austria	MAK Short time value (mg/m ³)	16 mg/m ³
Austria	MAK Short time value (ppm)	4 ppm
Austria	Remark (AT)	H
Belgium	Local name	Phénol # Fenol
Belgium	Limit value (mg/m ³)	8 mg/m ³ (Phénol; Belgium; Time-weighted average exposure limit 8 h)

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Phenol (108-95-2)		
Belgium	Limit value (ppm)	2 ppm (Phénol; Belgium; Time-weighted average exposure limit 8 h)
Belgium	Short time value (mg/m ³)	16 mg/m ³ (Phénol; Belgium; Short time value)
Belgium	Short time value (ppm)	4 ppm (Phénol; Belgium; Short time value)
Belgium	Remark (BE)	D: La mention D signifie que la résorption de l'agent, via la peau, les muqueuses ou les yeux, constitue une partie importante de l'exposition totale. Cette résorption peut se faire tant par contact direct que par présence de l'agent dans l'air. # De vermelding D betekent dat de opname van het agens via de huid, de slijmvliezen of de ogen een belangrijk deel van de totale blootstelling vormt. Deze opname kan het gevolg zijn van zowel direct contact als zijn aanwezigheid in de lucht.
Bulgaria	Local name	Фенол
Bulgaria	OEL TWA (mg/m ³)	8 mg/m ³
Bulgaria	OEL TWA (ppm)	2 ppm
Bulgaria	OEL STEL (mg/m ³)	16 mg/m ³
Bulgaria	OEL STEL (ppm)	4 ppm
Bulgaria	Notes	Кожа (възможна е значителна резорбция чрез кожата); • (Химични агенти, за които са определени гранични стойности във въздуха на работната среда за Европейската общност)
Croatia	Local name	Fenol
Croatia	GVI (granična vrijednost izloženosti) (mg/m ³)	8 mg/m ³
Croatia	GVI (granična vrijednost izloženosti) (ppm)	2 ppm
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (mg/m ³)	16 mg/m ³
Croatia	KGVI (kratkotrajna granična vrijednost izloženosti) (ppm)	4 ppm
Croatia	Naznake (HR)	Skin; EU*** (naznaka da se radi o tvarima za koje su utvrđene indikativne granične vrijednosti izloženosti prema Direktivi 2009/161/ EU (treća lista)); K (Skin); (naznaka da tvar može štetno djelovati kroz kožu); T (otrovno); C (nagrizajuće)
Czech Republic	Local name	Fenol
Czech Republic	Expoziční limity (PEL) (mg/m ³)	7.5 mg/m ³
Czech Republic	Expoziční limity (PEL) (ppm)	2 ppm
Czech Republic	Expoziční limity (NPK-P) (mg/m ³)	15 mg/m ³
Czech Republic	Expoziční limity (NPK-P) (ppm)	4 ppm
Czech Republic	Remark (CZ)	D
Denmark	Local name	Phenol
Denmark	Grænseværdie (langvarig) (mg/m ³)	4 mg/m ³
Denmark	Grænseværdie (langvarig) (ppm)	1 ppm
Denmark	Anmærkninger (DK)	E (betyder, at stoffet har en EF-grænseværdi); H (betyder, at stoffet kan optages gennem huden)
Estonia	Local name	Fenool (hüdroksübenseen)
Estonia	OEL TWA (mg/m ³)	8 mg/m ³
Estonia	OEL TWA (ppm)	2 ppm
Estonia	OEL STEL (mg/m ³)	16 mg/m ³
Estonia	OEL STEL (ppm)	4 ppm
Finland	Local name	Fenoli
Finland	HTP-arvo (8h) (mg/m ³)	8 mg/m ³
Finland	HTP-arvo (8h) (ppm)	2 ppm
Finland	HTP-arvo (15 min)	16 mg/m ³

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Phenol (108-95-2)		
Finland	HTP-arvo (15 min) (ppm)	4 ppm
Finland	Huomautus (FI)	iho
France	Local name	Phénol
France	VME (mg/m ³)	7.8 mg/m ³ (Phénol; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
France	VME (ppm)	2 ppm (Phénol; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
France	VLE (mg/m ³)	15.6 mg/m ³ (Phénol; France; Short time value; VRC: Valeur réglementaire contraignante)
France	VLE (ppm)	4 ppm (Phénol; France; Short time value; VRC: Valeur réglementaire contraignante)
France	Note (FR)	Valeurs réglementaires contraignantes; risque de pénétration percutanée; substance classée mutagène de catégorie 2
Germany	Local name	Phenol
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	8 mg/m ³
Germany	TRGS 900 Occupational exposure limit value (ppm)	2 ppm
Germany	Remark (TRGS 900)	EU,H,11
Gibraltar	Eight hours mg/m ³	7.8 mg/m ³
Gibraltar	Eight hours ppm	2 ppm
Gibraltar	Name of agent	Phenol
Gibraltar	Notation	Skin
Greece	OEL TWA (mg/m ³)	19 mg/m ³
Greece	OEL TWA (ppm)	5 ppm
Greece	OEL STEL (mg/m ³)	38 mg/m ³
Greece	OEL STEL (ppm)	10 ppm
Hungary	Local name	FENOL
Hungary	AK-érték	8 mg/m ³
Hungary	CK-érték	16 mg/m ³
Hungary	Megjegyzések (HU)	b, m; l.
Ireland	Local name	Phenol
Ireland	OEL (8 hours ref) (mg/m ³)	8 mg/m ³
Ireland	OEL (8 hours ref) (ppm)	2 ppm
Ireland	OEL (15 min ref) (mg/m ³)	16 mg/m ³
Ireland	OEL (15 min ref) (ppm)	4 ppm
Ireland	Notes (IE)	Sk, IOELV
Italy	Local name	Fenolo
Italy	OEL TWA (mg/m ³)	8 mg/m ³
Italy	OEL TWA (ppm)	2 ppm
Italy	OEL STEL (mg/m ³)	16 mg/m ³
Italy	OEL STEL (ppm)	4 ppm
Latvia	Local name	Fenols(hidroksibenzols)
Latvia	OEL TWA (mg/m ³)	8 mg/m ³
Latvia	OEL TWA (ppm)	2 ppm
Latvia	OEL STEL (mg/m ³)	16 mg/m ³
Latvia	OEL STEL (ppm)	4 ppm
Lithuania	Local name	Fenolis
Lithuania	IPRV (mg/m ³)	8 mg/m ³
Lithuania	IPRV (ppm)	2 ppm
Lithuania	TPRV (mg/m ³)	16 mg/m ³
Lithuania	TPRV (ppm)	4 ppm

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Phenol (108-95-2)		
Lithuania	Remark (LT)	O (medžiaga į organizmą gali prasiskverbti pro nepažeistą odą)
Luxembourg	Local name	Phénol
Luxembourg	OEL TWA (mg/m ³)	7.8 mg/m ³
Luxembourg	OEL TWA (ppm)	2 ppm
Malta	Local name	Phenol
Malta	OEL TWA (mg/m ³)	7.8 mg/m ³
Malta	OEL TWA (ppm)	2 ppm
Netherlands	Local name	Fenol
Netherlands	Grenswaarde TGG 8H (mg/m ³)	8 mg/m ³ (Fenol; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
Netherlands	Grenswaarde TGG 8H (ppm)	2 ppm (Fenol; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
Netherlands	Remark (MAC)	H (Huidopname) Stoffen die relatief gemakkelijk door de huid kunnen worden opgenomen, hetgeen een substantiële bijdrage kan betekenen aan de totale inwendige blootstelling, hebben in de lijst een Haanduiding. Bij deze stoffen moeten naast maatregelen tegen inademing ook adequate maatregelen ter voorkoming van huidcontact worden genomen.
Poland	Local name	Fenol
Poland	NDS (mg/m ³)	7.8 mg/m ³
Poland	NDSch (mg/m ³)	16 mg/m ³
Portugal	Local name	Fenol
Portugal	OEL TWA (ppm)	5 ppm
Romania	Local name	Fenol
Romania	OEL TWA (mg/m ³)	7.8 mg/m ³
Romania	OEL TWA (ppm)	2 ppm
Slovakia	Local name	Fenol
Slovakia	NPHV (priemerná) (mg/m ³)	8 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	2 ppm
Slovakia	OEL STEL (mg/m ³)	16 mg/m ³
Slovakia	OEL STEL (ppm)	4 ppm
Slovakia	Upozornenie (SK)	K - znamená, že faktor môže byť ľahko absorbovaný kožou
Slovenia	Local name	fenol
Slovenia	OEL TWA (mg/m ³)	8 mg/m ³
Slovenia	OEL TWA (ppm)	2 ppm
Slovenia	OEL STEL (mg/m ³)	16 mg/m ³
Slovenia	OEL STEL (ppm)	4 ppm
Spain	Local name	Fenol
Spain	VLA-ED (mg/m ³)	8 mg/m ³
Spain	VLA-ED (ppm)	2 ppm
Spain	VLA-EC (mg/m ³)	16 mg/m ³
Spain	VLA-EC (ppm)	4 ppm

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Phenol (108-95-2)		
Spain	Notes	Vía dérmica (Indica que, en las exposiciones a esta sustancia, la aportación por la vía cutánea puede resultar significativa para el contenido corporal total si no se adoptan medidas para prevenir la absorción. En estas situaciones, es aconsejable la utilización del control biológico para poder cuantificar la cantidad global absorbida del contaminante. Para más información véase el Apartado 5 de este documento), VLB® (Agente químico que tiene Valor Límite Biológico específico en este documento), VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo. Todos estos agentes químicos figuran al menos en una de las directivas de valores límite indicativos publicadas hasta ahora (ver Anexo C. Bibliografía). Los estados miembros disponen de un tiempo fijado en dichas directivas para su transposición a los valores límites de cada país miembro. Una vez adoptados, estos valores tienen la misma validez que el resto de los valores adoptados por el país).
Sweden	Local name	Fenol
Sweden	nivågränsvärde (NVG) (mg/m ³)	4 mg/m ³
Sweden	nivågränsvärde (NVG) (ppm)	1 ppm
Sweden	kortidsvärde (KTV) (mg/m ³)	16 mg/m ³
Sweden	kortidsvärde (KTV) (ppm)	4 ppm
Sweden	Anmärkning (SE)	H (Ämnet kan lätt upptas genom huden. Det föreskrivna gränsvärdet bedöms ge tillräckligt skydd endast under förutsättning att huden är skyddad mot exponering för ämnet ifråga); M (Medicinska kontroller kan krävas för hantering av ämnet. Se vidare föreskrifterna om medicinska kontroller i arbetslivet. För vissa ämnen ska arbetsgivaren erbjuda läkarundersökning och för andra ämnen gäller krav på periodisk läkarundersökning och tjänstbarhetsbedömning. Se föreskrifterna om kemiska arbetsmiljörisker); 21 (I ångform kan ämnet i betydande grad upptas genom huden)
United Kingdom	Local name	Phenol
United Kingdom	WEL TWA (mg/m ³)	7.8 mg/m ³ Phenol; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL TWA (ppm)	2 ppm Phenol; United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
United Kingdom	WEL STEL (mg/m ³)	16 mg/m ³ Phenol; United Kingdom; Short time value; Workplace exposure limit (EH40/2005)
United Kingdom	WEL STEL (ppm)	4 ppm Phenol; United Kingdom; Short time value; Workplace exposure limit (EH40/2005)
United Kingdom	Remark (WEL)	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Iceland	Local name	Fenól
Iceland	OEL (8 hours ref) (mg/m ³)	4 mg/m ³
Iceland	OEL (8 hours ref) (ppm)	1 ppm
Iceland	Notes (IS)	H
Russian Federation	Local name	Гидроксibenзол+
Russian Federation	OEL Ceiling (mg/m ³)	1 mg/m ³
Russian Federation	OEL TWA (mg/m ³)	0.3 mg/m ³
Russian Federation	Remark (RU)	2 класс опасности - высокоопасное; п (пары и/или газы); + (соединения, при работе с которыми требуется специальная защита кожи и глаз; символ проставлен вслед за наименованием вещества)

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Phenol (108-95-2)		
Norway	Local name	Fenol
Norway	Grenseverdier (AN) (mg/m ³)	4 mg/m ³
Norway	Grenseverdier (AN) (ppm)	1 ppm
Norway	Grenseverdier (Korttidsverdi) (mg/m ³)	12 mg/m ³
Norway	Grenseverdier (Korttidsverdi) (ppm)	3 ppm
Norway	Merknader (NO)	H (Kjemikalier som kan tas opp gjennom huden); E (EU har en veiledende grenseverdi for stoffet); S (Korttidsverdi er en verdi for gjennomsnittskonsentrasjonen av et kjemisk stoff i pustesonen til en arbeidstaker som ikke skal overskrides i en fastsatt referanseperiode. Referanseperioden er 15 minutter hvis ikke annet er oppgitt)
Switzerland	Local name	Phenol
Switzerland	VME (mg/m ³)	19 mg/m ³
Switzerland	VME (ppm)	5 ppm
Switzerland	VLE (mg/m ³)	19 mg/m ³
Switzerland	VLE (ppm)	5 ppm
Switzerland	Remark (CH)	H B M2 - OAW, Lunge, ZNS - DFG, INRS, NIOSH, OSHA
Turkey	Local name	Fenol
Turkey	OEL TWA (mg/m ³)	8 mg/m ³
Turkey	OEL TWA (ppm)	2 ppm
Turkey	OEL STEL (mg/m ³)	16 mg/m ³
Turkey	OEL STEL (ppm)	4 ppm
Turkey	Comments	Deri
Australia	Local name	Phenol
Australia	TWA (mg/m ³)	4 mg/m ³
Australia	TWA (ppm)	1 ppm
Australia	Remark (AU)	Sk - Absorption through the skin may be a significant source of exposure.
USA - ACGIH	Local name	Phenol
USA - ACGIH	ACGIH TWA (ppm)	5 ppm (Phenol; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value)
USA - ACGIH	Remark (ACGIH)	URT irr; lung dam; CNS impair
USA - OSHA	Local name	Phenol
USA - OSHA	OSHA PEL (TWA) (mg/m ³)	19 mg/m ³
USA - OSHA	OSHA PEL (TWA) (ppm)	5 ppm

8.2. Exposure controls

Materials for protective clothing:

GIVE EXCELLENT RESISTANCE: viton. GIVE GOOD RESISTANCE: butyl rubber, tetrafluoroethylene. GIVE LESS RESISTANCE: No data available. GIVE POOR RESISTANCE: natural rubber, nitrile rubber, polyethylene, PVA, PVC, neoprene/natural rubber, nitrile rubber/PVC

Hand protection:

Gloves

Eye protection:

Face shield. In case of dust production: protective goggles

Type	Use	Characteristics	Standard
Face shield	Dust, Fine dust	Dust protection	

Skin and body protection:

Corrosion-proof clothing. In case of dust production: head/neck protection. In case of dust production: dustproof clothing

Respiratory protection:

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Dust production: dust mask with filter type P3. High dust production: self-contained breathing apparatus

Device	Filter type	Condition	Standard
Dust mask	Type P3	Dust protection	
Self-contained breathing apparatus (SCBA)	Type P3	High dust protection	



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline solid. Needles.
Molecular mass	: 94.11 g/mol
Colour	: Pure substance: colourless to white. On exposure to air: rose to brown.
Odour	: Irritating/pungent odour. Sweet odour. Aromatic odour.
Odour threshold	: 0.06 ppm 0.2 mg/m ³
pH	: 5 (50 g/l, H ₂ O, 20 °C)
Relative evaporation rate (butylacetate=1)	: < 0.03
Melting point	: 38 - 43 °C
Freezing point	: No data available
Boiling point	: 181.8 °C (1013 hPa)
Flash point	: 79 °C
Critical temperature	: 421 °C
Auto-ignition temperature	: 715 °C (1013 hPa)
Decomposition temperature	: 800 °C
Flammability (solid, gas)	: No data available
Vapour pressure	: 0.2 hPa (20 °C)
Vapour pressure at 50 °C	: 3.3 hPa (50 °C)
Critical pressure	: 61286 hPa
Relative vapour density at 20 °C	: No data available
Relative density	: 1.06 (25 °C)
Relative density of saturated gas/air mixture	: 1
Density	: 1060 kg/m ³ (20 °C)
Solubility	: Moderately soluble in water. Soluble in ethanol. Soluble in methanol. Soluble in ether. Soluble in acetone. Soluble in chloroform. Soluble in tetrachloromethane. Soluble in acetic acid. Soluble in carbon disulfide. Soluble in sodium hydroxide solution. Soluble in glycerol. Soluble in acids. Soluble in halogenated hydrocarbons. Soluble in dimethyl sulfoxide. Soluble in dimethylformamide. Soluble in oils/fats. Water: 8.4 g/100ml (20 °C) Ethanol: > 10 g/100ml Acetone: Complete
Log Pow	: 1.47 (Experimental value; Equivalent or similar to OECD 117; 30 °C)
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 0.0041 Pa.s (45 °C; 0.0034 Pa.s; 50 °C)
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 1.3 - 9.5 vol % 50 - 370 g/m ³

9.2. Other information

Minimum ignition energy	: 0.25 mJ (100kPa)
Specific conductivity	: 2.4 µS/m
Saturation concentration	: 0.77 g/m ³

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VOC content : 100 %
Other properties : Hygroscopic. Substance has acid reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts on exposure to temperature rise with (some) metals. At very high temperature: decomposes: release of highly flammable gases/vapours (hydrogen). Upon combustion: CO and CO₂ are formed. Decomposes slowly on exposure to air. Reacts violently with (strong) oxidizers: (increased) risk of fire/explosion. Violent to explosive reaction with many compounds e.g.: with (some) acids/bases.

10.2. Chemical stability

Hygroscopic. Discolours on exposure to light. Discolours on exposure to air.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Inhalation: Toxic if inhaled. Dermal: Toxic in contact with skin. Oral: Toxic if swallowed.

Phenol (108-95-2)	
LD50 oral rat	317 mg/kg (Rat)
LD50 dermal rabbit	850 mg/kg (Rabbit)
LC50 inhalation rat (mg/l)	0.32 mg/l/4h (Rat; Literature study)

Skin corrosion/irritation : Causes severe skin burns and eye damage.
pH: 6

Serious eye damage/irritation : Serious eye damage, category 1, implicit
pH: 6

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Suspected of causing genetic defects.

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

IARC group : 3

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008. Not classified as dangerous for the environment according to the criteria of Directive 67/548/EEC.

Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). Not included in the list of fluorinated greenhouse gases (Regulation (EC) No 842/2006). TA-Luft Klasse 5.2.5/l.

Ecology - water : Ground water pollutant. Toxic to fishes. Toxic to invertebrates (Daphnia). Harmful to algae. Highly toxic to plankton.

Phenol (108-95-2)	
LC50 other aquatic organisms 1	0.04 mg/l (4 days; Rana sp.; LC50)
EC50 Daphnia 2	6.6 mg/l (EC50; 48 h; Daphnia magna; Static system)

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12.2. Persistence and degradability

Phenol (108-95-2)	
Persistence and degradability	Readily biodegradable in water. Photolysis in water. Readily biodegradable in the soil. Inhibits biodegradation processes in the soil. Low potential for adsorption in soil. Photooxidation in the air.
Biochemical oxygen demand (BOD)	1.68 g O ₂ /g substance
Chemical oxygen demand (COD)	2.28 g O ₂ /g substance
ThOD	2.38 g O ₂ /g substance
BOD (% of ThOD)	0.71

12.3. Bioaccumulative potential

Phenol (108-95-2)	
Log Pow	1.47 (Experimental value; Equivalent or similar to OECD 117; 30 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

Phenol (108-95-2)	
Surface tension	0.0713 N/m (20 °C)

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove to an authorized waste incinerator for solvents with energy recovery. Do not discharge into surface water. Obtain the consent of pollution control authorities before discharging to wastewater treatment plants.

Additional information : LWCA (the Netherlands): KGA category 06. Hazardous waste according to Directive 2008/98/EC.

European List of Waste (LoW) code : 07 06 04* - other organic solvents, washing liquids and mother liquors

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
1671	1671	1671	1671	1671
14.2. UN proper shipping name				
PHENOL, SOLID	PHENOL, SOLID	Phenol, solid	PHENOL, SOLID	PHENOL, SOLID
Transport document description				
UN 1671 PHENOL, SOLID, 6.1, II, (D/E)	UN 1671 PHENOL, SOLID, 6.1, II	UN 1671 Phenol, solid, 6.1, II	UN 1671 PHENOL, SOLID, 6.1, II	UN 1671 PHENOL, SOLID, 6.1, II
14.3. Transport hazard class(es)				
6.1	6.1	6.1	6.1	6.1
14.4. Packing group				
II	II	II	II	II
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No

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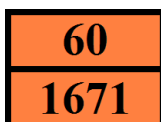


ADR	IMDG	IATA	ADN	RID
	Marine pollutant : No			
No supplementary information available				

14.6. Special precautions for user

- Overland transport

Classification code (ADR)	: T2
Special provisions (ADR)	: 279
Limited quantities (ADR)	: 500g
Excepted quantities (ADR)	: E4
Packing instructions (ADR)	: P002, IBC08
Mixed packing provisions (ADR)	: MP10
Portable tank and bulk container instructions (ADR)	: T3
Portable tank and bulk container special provisions (ADR)	: TP33
Tank code (ADR)	: SGAH
Tank special provisions (ADR)	: TU15, TE19
Vehicle for tank carriage	: AT
Transport category (ADR)	: 2
Special provisions for carriage - Packages (ADR)	: V11
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV13, CV28
Special provisions for carriage - Operation (ADR)	: S9, S19
Hazard identification number (Kemler No.)	: 60
Orange plates	:



Tunnel restriction code (ADR)	: D/E
EAC code	: 2X

- Transport by sea

Transport regulations (IMDG)	: Subject
Special provisions (IMDG)	: 279
Limited quantities (IMDG)	: 500 g
Excepted quantities (IMDG)	: E4
Packing instructions (IMDG)	: P002
IBC packing instructions (IMDG)	: IBC08
IBC special provisions (IMDG)	: B2, B4
Tank instructions (IMDG)	: T3
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-A
Stowage category (IMDG)	: A
Properties and observations (IMDG)	: Colourless or white crystals or crystallized mass. Melting point: 43°C (pure product). Soluble in water. Toxic if swallowed, by skin contact or by vapour inhalation. Rapidly absorbed through the skin.
MFAG-No	: 153

- Air transport

Transport regulations (IATA)	: Subject to the provisions
PCA Excepted quantities (IATA)	: E4
PCA Limited quantities (IATA)	: Y644
PCA limited quantity max net quantity (IATA)	: 1kg

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PCA packing instructions (IATA) : 669
PCA max net quantity (IATA) : 25kg
CAO packing instructions (IATA) : 676
CAO max net quantity (IATA) : 100kg
Special provisions (IATA) : A113
ERG code (IATA) : 6L

- Inland waterway transport

Classification code (ADN) : T2
Special provisions (ADN) : 279, 802
Limited quantities (ADN) : 500 g
Excepted quantities (ADN) : E4
Equipment required (ADN) : PP, EP
Number of blue cones/lights (ADN) : 2

- Rail transport

Transport regulations (RID) : Subject
Classification code (RID) : T2
Special provisions (RID) : 279
Limited quantities (RID) : 500g
Excepted quantities (RID) : E4
Packing instructions (RID) : P002, IBC08
Special packing provisions (RID) : B4
Mixed packing provisions (RID) : MP10
Portable tank and bulk container instructions (RID) : T3
Portable tank and bulk container special provisions (RID) : TP33
Tank codes for RID tanks (RID) : SGAH
Special provisions for RID tanks (RID) : TU15
Transport category (RID) : 2
Special provisions for carriage – Packages (RID) : W11
Special provisions for carriage - Loading, unloading and handling (RID) : CW13, CW28, CW31
Colis express (express parcels) (RID) : CE9
Hazard identification number (RID) : 60

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions
Phenol is not on the REACH Candidate List
Phenol is not on the REACH Annex XIV List

VOC content : 100 %

15.1.2. National regulations

Germany

VwVwS Annex reference : Water hazard class (WGK) 2, hazard to waters (Classification according to VwVwS, Annex 1 or 2; ID No. 170)
WGK remark : Classification water polluting in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 2)

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12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

Waterbezwaarlijkheid : 7 - Toxic to aquatic organisms

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

Class for fire hazard : Class III-1

Store unit : 50 liter

Classification remarks : Flammable according to the Danish Ministry of Justice; Emergency management guidelines for the storage of flammable liquids must be followed

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product
The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:	
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Muta. 2	Germ cell mutagenicity, Category 2
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
H301	Toxic if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H331	Toxic if inhaled
H341	Suspected of causing genetic defects
H373	May cause damage to organs through prolonged or repeated exposure

SDS ISOLAB

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product