

PHENOL

Safety Data Sheet

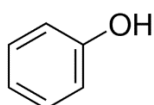
according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Previous revision date: 03/13/2024, Revision date: 01/13/2026, Version: 2.1

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

1.1. Product identifier

Product identification : Substance
 Substance name : PHENOL
 EC-No. : 200-632-7
 CAS-No. : 108-95-2
 REACH registration No. : 01-2119471329-32
 Formula : C₆H₆O
 Chemical structure :



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 : Laboratory chemicals
 Manufacture of substances.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer

Rabigh Refining and Petrochemical Company
 PO Box 101, Rabigh 21911, Kingdom of Saudi Arabia
 T +966 12 425 0390, 800 440 9000
SDSGroup@petrorabigh.com

1.4. Emergency telephone number

Emergency number :

Asia Pacific	CareChem 24 +65 3158 1074
US, Canada Outside above area	ChemTrec +1-800-424-9300 +703-527-3887
Europe (Europe & English Speaking)	CareChem 24 +44 1235 239 670
Middle East & Africa (Arabic speaking)	CareChem 24 +44 1235 239 671

PHENOL

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Acute toxicity, oral (Category 3)	H301
Acute toxicity, dermal (Category 3)	H311
Acute toxicity, inhalation (Category 3)	H331
Skin corrosion/irritation (Category 1, 1A, 1B, 1C)	H314
Germ cell mutagenicity (Category 2)	H341
Specific target organ toxicity, repeated exposure (Category 2)	H373
Hazardous to the aquatic environment, long-term hazard (Category 2)	H411

2.2. Label elements

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

Hazard pictograms (CLP)

:



Signal word (CLP)

: Danger

Hazard statements (CLP)

:

H301: Toxic if swallowed
H311: Toxic in contact with skin
H331: Toxic if inhaled
H314: Causes severe skin burns and eye
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 (CLP)

:

P261: Avoid breathing dust/fume/gas/mist/vapours/spray
P273: Avoid release to the environment
P280: Wear protective gloves/protective clothing/eye
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

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

Name	: PHENOL
CAS-No.	: 108-95-2
EC-No.	: 203-632-7

Name	Product identifier	%
Phenol	CAS-No.: 108-95-2 EC-No.: 203-632-7	100

PHENOL

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention. Rinse skin with water/shower. Take off immediately all contaminated clothing.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects after inhalation	: Very toxic by inhalation, corrosive and causes burns to the respirator tract system. May cause damage to organs through prolonged or repeated exposure.
Symptoms/effects after skin contact	: Corrosive, causes burns and is readily absorbed through the skin leading to toxicological effects.
Symptoms/effects after eye contact	: Corrosive and causes severe eye damage.
Symptoms/effects after ingestion	: Toxic if swallowed: Vomiting and other symptoms similar to those listed under 'Inhalation'.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: On combustion forms: Highly flammable liquid and vapor.
Explosion hazard	: May form flammable/explosive vapor-air mixture.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent firefighting water from entering the environment.
Protective equipment for firefighters	: Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.
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PHENOL

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

6.1.1. For non-emergency personnel

- | | |
|----------------------|---|
| Protective equipment | : Wear recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection". |
| Emergency procedures | : Evacuate unnecessary personnel. Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapors/spray. |

6.1.2. For emergency responders

- | | |
|----------------------|--|
| Protective equipment | : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection". |
| Emergency procedures | : Ventilate area. |

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- | | |
|-------------------------|--|
| Methods for cleaning up | : Take up liquid spill into absorbent material. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Notify authorities if product enters sewers or public waters. |
| Other information | : Dispose of materials or solid residues at an authorized site. |

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of residues refer to section 13 : "Disposal considerations".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- | | |
|-----------------------------------|---|
| Additional hazards when processed | : Keep container in a well-ventilated place. Protect from light. |
| Precautions for safe handling | : Execute works under fume hood. Do not inhale substance. Avoid contact with skin, eyes, and clothing. The material is to be handled with extreme caution. Requires good ventilation. Welding operations are permitted only under supervision. Precautions against fire and explosion: Keep away from sources of ignition - No smoking. |
| Hygiene measures | : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. |

7.2. Conditions for safe storage, including any incompatibilities

- | | |
|------------------------|---|
| Technical measures | : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. |
| Storage conditions | : Keep container tightly closed in a cool, well-ventilated place. Store locked up. Store in a well-ventilated place. Keep cool. Keep in fireproof place. Keep container tightly closed. |
| Incompatible materials | : Heat sources. |

7.3. Specific end use(s)

No additional information available

PHENOL

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

Phenol (108-95-2)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Phenol
ACGIH OEL TWA [ppm]	5 ppm
Remark (ACGIH)	TLV® Basis: URT irritation, lung damage, CNS impairment. Notations: Skin;
ACGIH chemical category	A4-Not Classifiable Human Carcinogen, Skin - potential significant contribution to overall exposure by the cutaneous route
Regulatory reference	ACGIH 2023
USA - ACGIH - Biological Exposure Indices	
Local name	Phenol
BEI	250 mg/g creatinine Parameter: Phenol - Medium: urine - Sampling time: end of shift (background; nonspecific)
Regulatory reference	ACGIH 2023

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the workstation.

8.2.2. Personal protection equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Chemical goggles or safety glasses. Use eye protection according to EN 166. Safety glasses

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

PHENOL

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Hand protection:

Wear protective gloves. Wear suitable gloves tested to EN374

8.2.2.3. Respiratory protection

Respiratory protection:

Wear appropriate mask. [In case of inadequate ventilation] wear respiratory protection.

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid, Crystalline solid
Colour	: White crystalline solid (below melting point) Colorless to light yellowish liquid (at or above melting point)
Odour	: Phenolic, Medicinal
Odour threshold	: Not available
Melting point	: 40.9 °C
Freezing point	: 40.0 – 43.0 °C
Boiling point	: 180°C at 1.0134 hPa
Flammability	: Not available
Explosive limits	: Not available
Lower explosion limit	: 1.7 vol %
Upper explosion limit	: 8.6 vol %
Flash point	: 79 °C (Closed Cup)
Auto-ignition temperature	: 715 °C
Decomposition temperature	: Not available
pH	: Not available
Viscosity	: 0.604 mPa.s
Solubility	: Water: 1.886 g/l at 25 °C
Partition coefficient n-octanol/water (Log Kow)	: Not available
Partition coefficient n-octanol/water (Log Pow)	: Not available
Vapor pressure	: Not available
Vapor pressure at 50°C	: Not available
Density	: Not available
Relative density	: 1.06
Relative vapor density at 20°C	: 3.24
Particle characteristics	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

PHENOL

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

10.2. Chemical stability

The product is stable at normal handling and storage conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Oxidizing agents

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Phenol (71-43-2)

LD50 oral rat	317 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
LD50 dermal rabbit	630 mg/kg
LC50 Inhalation - Rat	0.316 mg/l air Animal: rat, Animal sex: female, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.

Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : May cause genetic defects.
Carcinogenicity ACGIH : A4

Phenol (71-43-2)

IARC group	Group 3
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No additional information available

11.2.2. Other information

Other information : Likely routes of exposure: ingestion, inhalation, skin and eye

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified

PHENOL

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Hazardous to the aquatic environment, long-term (chronic) : Not classified

Phenol (71-43-2)

LC50 - Fish	12 mg/l (Exposure time: 96 h)
LC50 - Daphnia	5.3 mg/l (Exposure time: 48 h)
EC50 - Daphnia	23 mg/l (Exposure time: 48 h)
EC50 96h - Algae	150 mg/l Test organisms

12.2. Persistence and degradability

Phenol (71-43-2)

Persistence and degradability	Not established.
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12.3. Bioaccumulative potential

Phenol (71-43-2)

Bioaccumulative potential	Not established.
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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

Additional information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Dispose of in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
Additional information	: Handle contaminated packages in the same way as the substance itself. Non-contaminated packages may be recycled.
Ecology - waste materials	: Avoid release to the environment.

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
Molten: UN 2312	UN 2312	UN 2312	UN 2312	UN 2312

PHENOL

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Solid: UN 1671	UN 1671	UN 1671	UN 1671	UN 1671
14.2. UN proper shipping name				
Phenol Solid or Molten	Phenol Solid or Molten	Phenol Solid or Molten	Phenol Solid or Molten	Phenol Solid or Molten
Transport document description				
No data available	No data available	No data available	No data available	No data available
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 Marine pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user

No data available

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

No data available

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

No data available

PHENOL

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Effective concentration for 50 percent of test population (median effective concentration)
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Lethal concentration for 50 percent of test population (median lethal concentration)
LD50	Lethal dose for 50 percent of test population (median lethal dose)
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulation concerning the International Carriage of Dangerous Goods by Railways
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative

PHENOL

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Abbreviations and acronyms:

ED	Endocrine disrupting properties
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Sources of Key data	: Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 (et sequens).
Other information	: None.
Petro Rabigh Company identification number	: PR-0003

Full text of H- and EUH-statements:

H301	Toxic if swallowed
H311	Toxic in contact with skin
H331	Toxic if inhaled
H314	Causes severe skin burns and eye
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

Safety Data Sheet (SDS), EU

SDS Disclaimer

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