| PHENOL SOLUTION FOR MOLECULAR BIOLOGY Equilibrated with 10 M tris HCl, pH 8.0, 1M EDTA | MATERIAL SAFETY DATA SHEET SDS/MSDS |
|---|---|

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

### 1.1 Product identifiers

Product name : Phenol Solution for Molecular Biology Equilibrated with 10 M tris HCl, pH 8.0, 1M EDTA

Product code : 875050

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

Identified uses : Laboratory chemicals, Industrial & for professional use only.

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

Company : Central Drug House (P) Ltd
7/28 Vardaan House
Ansari Road Daryaganj
New Delhi -110002
INDIA

Telephone : +91 11 49404040

Email : care@cdhfinechemical.com

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification acc. to GHS

| Section | Hazard class | Category | Hazard class and cat-egory | Hazard state-ment |
|---|---|---|---|---|
| 3.1O | acute toxicity (oral) | 3 | Acute Tox. 3 | H301 |
| 3.1D | acute toxicity (dermal) | 3 | Acute Tox. 3 | H311 |
| 3.1I | acute toxicity (inhal.) | 3 | Acute Tox. 3 | H331 |
| 3.2 | skin corrosion/irritation | 1B | Skin Corr. 1B | H314 |
| 3.3 | serious eye damage/eye irritation | 1 | Eye Dam. 1 | H318 |
| 3.5 | germ cell mutagenicity | 2 | Muta. 2 | H341 |
| 3.9 | specific target organ toxicity - repeated exposure | 2 | STOT RE 2 | H373 |

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis. Delayed or immediate effects can be expected after short or long-term exposure.

## 2.2 Label elements

Labelling

- Signal word danger

- Pictograms

GHS05, GHS06, GHS08 

- 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. |

- Precautionary statements

| | |
|---|---|
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection/hearing protec-tion. |
| P301+P310 | IF SWALLOWED: Immediately call a POISON CENTER/doctor. |
| P303+P361+P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |

## 2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

# SECTION 3: Composition/information on ingredients

## 3.1 Substances

| | |
|---|---|
| Name of substance | Phenol solution (Equillibrated with 10M Tris HCl pH 8.0 with 1M EDTA), For Molecular Biology |
| Identifiers | |
| CAS No | 108-95-2 |
| EC No | 203-632-7 |
| Index No (GB CLP) | 604-001-00-2 |

| Specific Conc. Limits | M-Factors | ATE | Exposure route |
|---|---|---|---|
| Skin Corr. 1B; H314: C ≥ 3 %<br>Skin Irrit. 2; H315: 1 % ≤ C < 3 %<br>Eye Dam. 1; H318: C ≥ 3 %<br>Eye Irrit. 2; H319: 1 % ≤ C < 3 % | - | 100 $^{mg}/_{kg}$<br>300 $^{mg}/_{kg}$<br>3 $^{mg}/_{l}$/4h | oral dermal<br><br>inhalation: vapour |

| | |
|---|---|
| Molecular formula | $C_6H_6O$ |
| Molar mass | 94.11 g/mol |

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

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

Symptoms and effects are not known to date.

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

None

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO2)

Unsuitable extinguishing media

Water jet

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

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO2)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately.
Fight fire with normal precautions from a reasonable distance.

## SECTION 6: Accidental release measures

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

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

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

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

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

- Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.

- Specific designs for storage rooms or vessels
- Storage temperature — Recommended storage temperature: 2 – 8 °C
- Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

### 7.3 Specific end use(s)

See section 16 for a general overview.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)

| Country | Name of agent | CAS No | Identifier | TWA [ppm] | TWA [mg/mS] | STEL [ppm] | STEL [mg/mS] | Ceiling-C [ppm] | Ceiling-C [mg/mS] | Notation | Source |
|---|---|---|---|---|---|---|---|---|---|---|---|
| EU | phenol | 108-95-2 | IOELV | 2 | 8 | 4 | 16 | | | H | 2009/161/EU |
| GB | phenol | 108-95-2 | WEL | 2 | 7.8 | 4 | 16 | | | H | EH40/2005 |

Notation

Ceiling-C ceiling value is a limit value above which exposure should not occur

| Notation | |
|---|---|
| H | absorbed through the skin |
| STEL | short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute peri-od (unless otherwise specified) |
| TWA | time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified) |

### 8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| Physical state | liquid |
| Colour | Colourless to yellow liquid capped with a layer of Tris buffer |
| Odour | characteristic |
| Melting point/freezing point | not determined |
| Boiling point or initial boiling point and boiling range | not determined |
| Flammability | this material is combustible, but will not ignite readily |
| Lower and upper explosion limit | not determined |
| Flash point | not determined |
| Auto-ignition temperature | not determined |
| Decomposition temperature | not relevant |
| pH (value) | not determined |
| Kinematic viscosity | not determined |
| Solubility(ies) | not determined |

Partition coefficient

| | |
|---|---|
| Partition coefficient n-octanol/water (log value) | this information is not available |
| Vapour pressure | not determined |

Density and/or relative density

| | |
|---|---|
| Density | not determined |
| Relative vapour density | information on this property is not available |
| Particle characteristics | not relevant (liquid) |

### 9.2 Other information

| | |
|---|---|
| Information with regard to physical hazard classes | hazard classes acc. to GHS (physical hazards): not relevant |

Other safety characteristics

| | |
|---|---|
| Liquid content | 100% |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity
Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

### 10.2 Chemical stability
See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions
No known hazardous reactions.

### 10.4 Conditions to avoid
There are no specific conditions known which have to be avoided.

### 10.5 Incompatible materials
Oxidisers

### 10.6 Hazardous decomposition products
Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

**Classification acc. to GHS**

Acute toxicity
Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled.

- Acute toxicity estimate (ATE)

| | |
|---|---|
| Oral | 100 $^{mg}/_{kg}$ |
| Dermal | 300 $^{mg}/_{kg}$ |
| Inhalation: vapour | 3 $^{mg}/_{l/4h}$ |

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

Serious eye damage/eye irritation
Causes serious eye damage.

Respiratory or skin sensitisation
Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity
Suspected of causing genetic defects.

Carcinogenicity
Shall not be classified as carcinogenic.

Reproductive toxicity
Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure
Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure
May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard
Shall not be classified as presenting an aspiration hazard.

### 11.2 Information on other hazards

There is no additional information.

## SECTION 12: Ecological information

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

### 12.2 Persistence and degradability

Data are not available.

### 12.3 Bioaccumulative potential

Data are not available.

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

**Remarks**

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

## SECTION 14: Transport information

### 14.1 UN number or ID number

| | |
|---|---|
| ADR/RID | UN 2821 |
| IMDG-Code | UN 2821 |
| ICAO-TI | UN 2821 |

### 14.2 UN proper shipping name

| | |
|---|---|
| ADR/RID | PHENOL SOLUTION |
| IMDG-Code | PHENOL SOLUTION |
| ICAO-TI | Phenol solution |

### 14.3 Transport hazard class(es)

| | |
|---|---|
| ADR/RID | 6.1 |
| IMDG-Code | 6.1 |
| ICAO-TI | 6.1 |

### 14.4 Packing group

| | |
|---|---|
| ADR/RID | II |
| IMDG-Code | II |
| ICAO-TI | II |

### 14.5 Environmental hazards

non-environmentally hazardous acc. to the dan-gerous goods regulations

### 14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

### 14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

### Information for each of the UN Model Regulations

### Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) - Additional information

| | |
|---|---|
| Classification code | T1 |
| Danger label(s) | 6.1 |



| | |
|---|---|
| Special provisions (SP) | 802(ADN) |
| Excepted quantities (EQ) | E4 |
| Limited quantities (LQ) | 100 ml |
| Transport category (TC) | 2 |
| Tunnel restriction code (TRC) | D/E |
| Hazard identification No | 60 |
| Emergency Action Code | 2X |

### Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) - Additional information

| | |
|---|---|
| Classification code | T1 |
| Danger label(s) | 6.1 |



| | |
|---|---|
| Special provisions (SP) | 802(ADN) |
| Excepted quantities (EQ) | E4 |
| Limited quantities (LQ) | 100 ml |
| Transport category (TC) | 2 |
| Hazard identification No | 60 |

### International Maritime Dangerous Goods Code (IMDG) - Additional information

| | |
|---|---|
| Marine pollutant | - |
| Danger label(s) | 6.1 |



| | |
|---|---|
| Special provisions (SP) | - |
| Excepted quantities (EQ) | E4 |
| Limited quantities (LQ) | 100 mL |
| EmS | F-A, S-A |
| Stowage category | A |

**International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information**

Danger label(s) 6.1



| | |
|---|---|
| Special provisions (SP) | A3 |
| Excepted quantities (EQ) | E4 |
| Limited quantities (LQ) | 1 L |

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Relevant provisions of the European Union (EU)

**Deco-Paint Directive**

| | |
|---|---|
| VOC content | 100 % |

**Industrial Emissions Directive (IED)**

| | |
|---|---|
| VOC content | 100 % |

**Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)**

not listed

**Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)**

not listed

**Water Framework Directive (WFD)**

List of pollutants (WFD)

| Name of substance | CAS No | Listed in | Remarks |
|---|---|---|---|
| Phenol solution (Equillibrated with 10mM Tris HCl pH 8.0 with 1mM EDTA), For Molecular Biology | | a) | |

Legend

a) Indicative list of the main pollutants

**Regulation on persistent organic pollutants (POP)**

not listed

**National regulations (GB)**

**List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list**

not listed

**Restrictions according to GB REACH, Annex 17**

Dangerous substances with restrictions (GB REACH, Annex 17)

| Name of substance | Name acc. to inventory | CAS No | No |
|---|---|---|---|
| Phenol solution (Equillibrated with 10mM Tris HCl pH 8.0 with 1mM EDTA), For Mo- | this product meets the criteria for classifica-tion in accordance with Regulation No | | 3 |

| Dangerous substances with restrictions (GB REACH, Annex 17) | | | |
|---|---|---|---|
| **Name of substance** | **Name acc. to inventory** | **CAS No** | **No** |
| lecular Biology | 1272/2008/EC | | |

### National inventories

| Country | Inventory | Status |
|---|---|---|
| EU | REACH Reg. | substance is listed |
| US | TSCA | substance is listed (ACTIVE) |

Legend

REACH Reg. REACH registered substances TSCA Toxic Substance Control Act

**15.2** Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Abbreviations and acronyms

| Abbr. | Descriptions of used abbreviations |
|---|---|
| 2009/161/EU | Commission Directive 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 |
| ADR | Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road) |
| ATE | Acute Toxicity Estimate |
| CAS | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances) |
| Ceiling-C | Ceiling value |
| DGR | Dangerous Goods Regulations (see IATA/DGR) |
| EC No | The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union) |
| ED | Endocrine disruptor |
| EH40/2005 | EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-li-cence/) |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| ELINCS | European List of Notified Chemical Substances |
| EmS | Emergency Schedule |
| GB CLP | The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/720 (as amended) |
| GB REACH | The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended) |
| GHS | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations |
| IATA | International Air Transport Association |
| IATA/DGR | Dangerous Goods Regulations (DGR) for the air transport (IATA) |
| ICAO | International Civil Aviation Organization |

| Abbr. | Descriptions of used abbreviations |
|---|---|
| ICAO-TI | Technical instructions for the safe transport of dangerous goods by air |
| IMDG | International Maritime Dangerous Goods Code |
| IMDG-Code | International Maritime Dangerous Goods Code |
| index No | The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008 |
| IOELV | Indicative occupational exposure limit value |
| NLP | No-Longer Polymer |
| PBT | Persistent, Bioaccumulative and Toxic |
| ppm | Parts per million |
| REACH | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| RID | Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail) |
| STEL | Short-term exposure limit |
| TWA | Time-weighted average |
| VOC | Volatile Organic Compounds |
| vPvB | Very Persistent and very Bioaccumulative |
| WEL | Workplace exposure limit |

Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the In-ternational Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dan-gerous Goods Regulations (DGR) for the air transport (IATA).

List of relevant phrases (code and full text as stated in section 2 and 3)

| Code | Text |
|---|---|
| H301 | Toxic if swallowed. |
| H311 | Toxic in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage. |
| H331 | Toxic if inhaled. |
| H341 | Suspected of causing genetic defects. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |

## Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.