1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier
Product Name
Phenol, Crystals

Other means of identification
Product Code(s) 0735
UN/ID no. 1671
Synonyms No information available

Recommended use of the chemical and restrictions on use
Recommended Use For Further Manufacturing Use Only.
Uses advised against Not for Human or Animal Drug Use

Details of the supplier of the safety data sheet
Company Address VWR International, LLC
Radnor Corporate Center 100 Matsonford Road
Radnor, PA 19087-8660

Manufacturer Address VWR International, LLC 28600 Fountain Parkway
Solon, Ohio 44139

Distributor AMRESCO INC.
6681 Cochran Road
SOLON, OHIO 44139

Company Phone Number 1-800-829-2805
E-mail Address info@amresco-inc.com

Emergency Telephone Number Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity - Oral</td>
<td>Category 3</td>
</tr>
<tr>
<td>Acute Toxicity - Dermal</td>
<td>Category 3</td>
</tr>
<tr>
<td>Acute toxicity - Inhalation (Dusts/Mists)</td>
<td>Category 3</td>
</tr>
<tr>
<td>Skin Corrosion/Irritation</td>
<td>Category 1 Sub-category B</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>Category 1</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>Category 2</td>
</tr>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Category 2</td>
</tr>
</tbody>
</table>

Label elements

<table>
<thead>
<tr>
<th>Hazard statements</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>H301 - Toxic if swallowed</td>
<td></td>
</tr>
<tr>
<td>H311 - Toxic in contact with skin</td>
<td></td>
</tr>
<tr>
<td>H314 - Causes severe skin burns and eye damage</td>
<td></td>
</tr>
<tr>
<td>H331 - Toxic if inhaled</td>
<td></td>
</tr>
<tr>
<td>H341 - Suspected of causing genetic defects</td>
<td></td>
</tr>
<tr>
<td>H373 - May cause damage to organs through prolonged or repeated exposure</td>
<td></td>
</tr>
</tbody>
</table>
Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray

Precautionary Statements - Response
Specific treatment (see .? on this label)
Immediately call a POISON CENTER or doctor/physician
Specific treatment (see .? on this label)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
Call a POISON CENTER or doctor/physician if you feel unwell
Wash contaminated clothing before reuse
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth
Do NOT induce vomiting

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not regulated
Other Information
• Toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>EC No.</th>
<th>Weight %</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>108-95-2</td>
<td>203-632-7</td>
<td>95-100</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

First Aid Measures
Eye Contact
Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
**Skin Contact**

For severe burns, immediate medical attention is required. Remove contaminated clothing/shoes immediately. Blot from skin to avoid further spread. Rapid decontamination is critical. Immediately wash off with plenty of water, then with polyethylene glycol (PEG) solution and with plenty of water. Apply PEG/EtOH solution liberally to affected area. Leave for 15-30 seconds, then wash with water. Continue cycle of PEG/EtOH solution - water for at least 15 minutes. (PEG/EtOH solution consists of 2 parts polyethylene glycol 400 to 1 part ethanol. For external use only.) Wash off with soap and water. Obtain medical attention. Wash contaminated clothing before reuse.

**Inhalation**

Move to fresh air. If not breathing, give artificial respiration.

**Ingestion**

Immediate medical attention is required. Never give anything by mouth to an unconscious person.

**Protection of First-aiders**

Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms/Effects**

No information available.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician**

Treat symptomatically.

---

### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

Dry chemical, CO₂, water spray or alcohol-resistant foam.

**Unsuitable Extinguishing Media**

No information available.

**Specific Hazards Arising from the Chemical**

No information available.

**Explosion Data**

- **Sensitivity to Mechanical Impact**: None.
- **Sensitivity to Static Discharge**: None.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

---

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal protection**

Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

**Environmental Precautions**

**Environmental Precautions**

See Section 12 for additional Ecological information.

**Methods and material for containment and cleaning up**

**Methods for Containment**

Prevent further leakage or spillage if safe to do so.

**Methods for Cleaning Up**

Avoid dust formation. Pick up and transfer to properly labeled containers. Ventilate area and wash spill site after material pickup is complete.

---

### 7. HANDLING AND STORAGE
Precautions for Safe Handling

Handling  Handle in accordance with good industrial hygiene and safety practice. Heat Sensitive. Hygroscopic. Light Sensitive.

Conditions for safe storage, including any incompatibilities

Storage  Keep containers tightly closed in a dry, cool and well-ventilated place. Hygroscopic. Protect from light. Keep away from heat and sources of ignition.


8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol 108-95-2</td>
<td>TWA: 5 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA: 9 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ceiling: 15.6 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ceiling: 60 mg/m³</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA: 5 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TWA: 19 mg/m³</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering Measures  Showers  Eyewash stations  Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection  Safety glasses with side-shields. Face-shield. Avoid contact with eyes.

Skin and Body Protection  Wear protective gloves/clothing.

Respiratory Protection  If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures  Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State  Solid  Odor  Phenolic Medicinal sweetish odor

Appearance  White  Odor Threshold  No information available

Color  No information available

Property  Values  Remarks  • Method

pH  <8.0
Melting point/freezing point  39-41 °C
Boiling Point/Range  182 °C
Flash Point (High in °C)  79 °C  Closed cup
Evaporation Rate  No information available
Flammability (solid, gas)  No information available
Flammability Limit in Air  Upper flammability limit: 1.3
**10. STABILITY AND REACTIVITY**

**Reactivity**
No data available

**Chemical Stability**
Stable under recommended storage conditions. Unstable if heated.

**Possibility of Hazardous Reactions**
None under normal processing.

**Conditions to Avoid**

**Incompatible Materials**

**Hazardous Decomposition Products**
Carbon oxides. May emit toxic fumes under fire conditions.

**11. TOXICOLOGICAL INFORMATION**

**Information on likely routes of exposure**

**Product Information**
Highly Toxic Corrosive, causes burns

**Inhalation**
Toxic by inhalation.

**Eye Contact**
Irritating to eyes.

**Skin Contact**
Toxic in contact with skin. Causes burns.

**Ingestion**
Toxic if swallowed.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol 108-95-2</td>
<td>= 317 mg/kg (Rat)</td>
<td>= 630 mg/kg (Rabbit)</td>
<td>= 316 mg/m^3 (Rat) 4 h</td>
</tr>
</tbody>
</table>

**Information on toxicological effects**

**Symptoms**
No information available.
Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization
No information available.

Mutagenic Effects
No information available.

Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol 108-95-2</td>
<td>-</td>
<td>Group 3</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Reproductive Toxicity
No information available.

STOT - single exposure
No information available.

STOT - repeated exposure
No information available.

Chronic Toxicity
Suspected mutagen.

Target Organ Effects
Liver, Kidneys, Central nervous system (CNS).

Aspiration hazard
No information available.

Numerical measures of toxicity - Product Information
The following values are calculated based on chapter 3.1 of the GHS document.

12. ECOLOGICAL INFORMATION

Ecotoxicity
0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Toxicity to Fish</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol 108-95-2</td>
<td>187 - 279: 72 h Desmodesmus subspicatus mg/L EC50 static 46.42: 96 h Pseudokirchneriella subcapitata mg/L EC50 0.0188 - 0.1044: 96 h Pseudokirchneriella subcapitata mg/L EC50 static</td>
<td>20.5 - 25.6: 96 h Pimephales promelas mg/L LC50 static 5.449 - 6.789: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 11.9 - 50.5: 96 h Pimephales promelas mg/L LC50 flow-through 32: 96 h Pimephales promelas mg/L LC50 5.0 - 12.0: 96 h Oncorhynchus mykiss mg/L LC50 13.5: 96 h Lepomis macrochirus mg/L LC50 static 0.00175: 96 h Cyprinus carpio mg/L LC50 semi-static 31: 96 h Poecilia reticulata mg/L LC50 semi-static 34.09 - 47.64: 96 h Poecilia reticulata mg/L LC50 static 33.9 - 43.3: 96 h Oryzias latipes mg/L LC50 flow-through 11.9 - 25.3: 96 h Lepomis macrochirus mg/L LC50 flow-through 11.5: 96 h Lepomis macrochirus mg/L LC50 static 27.8: 96 h Brachydanio rerio mg/L LC50 23.4 - 36.6: 96 h Oryzias latipes mg/L LC50 static 7.5 - 14: 96 h Oncorhynchus mykiss mg/L LC50 static 4.23 - 7.49: 96 h Oncorhynchus mykiss mg/L LC50 semi-static</td>
<td>4.24 - 10.7: 48 h Daphnia magna mg/L EC50 Static 10.2 - 15.5: 48 h Daphnia magna mg/L EC50</td>
</tr>
</tbody>
</table>

Persistence and Degradability
No information available.

Bioaccumulation/Accumulation
No information available.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol 108-95-2</td>
<td>1.47</td>
</tr>
</tbody>
</table>

Other Adverse Effects
No information available.
13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Method Dispose of material in accordance with all federal, state, and local regulations.

Contaminated Packaging Do not re-use empty containers.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>108-95-2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>Toxic; Corrosive</td>
</tr>
<tr>
<td>108-95-2</td>
<td></td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT

UN/ID no. 1671
Proper shipping name Phenol, Solid
Hazard Class 6.1
Packing Group II

IATA

UN/ID no. 1671
Proper shipping name Phenol, Solid
Hazard Class 6.1
Packing Group II

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Does not comply</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>Complies</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Complies</td>
</tr>
<tr>
<td>ENCS</td>
<td>Complies</td>
</tr>
<tr>
<td>IECSC</td>
<td>Complies</td>
</tr>
<tr>
<td>KECL</td>
<td>Complies</td>
</tr>
<tr>
<td>PICCS</td>
<td>Complies</td>
</tr>
<tr>
<td>AICS</td>
<td>Complies</td>
</tr>
</tbody>
</table>

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:
Product Code(s) 0735 - Phenol, Crystals

Phenol
108-95-2 (95-100)

1.0

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

Clean Water Act
This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol 108-95-2</td>
<td>1000 lb</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Hazardous Substances RQs</th>
<th>Extremely Hazardous Substances RQs</th>
<th>RQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol 108-95-2</td>
<td>1000 lb</td>
<td>1000 lb</td>
<td></td>
</tr>
</tbody>
</table>

U.S. State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Prop. 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol 108-95-2</td>
<td>-</td>
</tr>
</tbody>
</table>

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol 108-95-2</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. EPA Label Information
EPA Pesticide Registration Number Not regulated

16. OTHER INFORMATION

Issuing Date 14-Jul-2009
Revision Date 08-Jan-2016
Revision Note No information available
Disclaimer 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. VWR International and its Affiliates shall not be held liable for any damage resulting from handling.

End of Safety Data Sheet