## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>HMIS</th>
<th>Personal Protective Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>![NFPA 2-3-0 Diagram]</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Health Hazard</th>
<th>Fire Hazard</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

- **Product code:** P1070
- **Product Name:** PHENOL, LIQUEFIED, REAGENT
- **Chemical Name:** Carbolic acid
- **Synonyms:** Carbolic acid, liquified
- **Recommended use:** Disinfectant.
- **CAS #:** Mixture
- **Formula:** No information available
- **RTECS #:** SJ3325000
- **CI#:** Not available
- **Supplier:** Spectrum Chemicals and Laboratory Products, Inc.
  14422 South San Pedro St.
  Gardena, CA 90248
  (310) 516-8000
- **Order Online At:** [https://www.spectrumchemical.com](https://www.spectrumchemical.com)
- **Emergency Telephone Number:** CHEMTREC: 1-800-424-9300
- **Contact Person:** Regina Wachenheim (East Coast)
- **Contact Person:** Martin LaBenz (West Coast)

## 2. HAZARDS IDENTIFICATION

See Section 8.
2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER!
The product causes burns of eyes, skin and mucous membranes
May be fatal if inhaled
Toxic in contact with skin
Harmful if swallowed

<table>
<thead>
<tr>
<th>Odor:</th>
<th>Physical state:</th>
<th>Appearance:</th>
<th>Color:</th>
</tr>
</thead>
</table>

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

POTENTIAL HEALTH EFFECTS

Principal Routes of Exposure:
Ingestion. Inhalation. Skin.

Acute Potential Health Effects:

Skin Contact:
Causes skin burns. Phenol burns may be severe, but painless due to damage to the nerve endings causing numbness. The skin may turn white and opaque or dull gray and wrinkled. Later, it may turn gray-white or yellowish brown and may be deeply eroded and scarred. Black Gangrene may occur at the sight of contact. It may be absorbed through the skin. If absorbed through skin it may cause systemic effects. Toxic in contact with skin. If absorbed through the skin it may affect behavior/central nervous system and cause central nervous system effects. If absorbed through the skin, it may affect the liver and kidneys (nephritis, hematuria) and may induce cardiac arrhythmias.

Eye Contact:
Causes eye burns. Corrosive to the eyes and may cause severe damage including blindness.

Inhalation:
Volutility of Phenol is low at room temperature, but hazard increases as temperature rises. Inhalation of large amounts of vapor may be fatal. May affect respiration. May cause central nervous system effects. May cause pulmonary edema. May affect the liver. May affect the urinary system.

Ingestion:
Causes burns. Can burn mouth, throat, and stomach. May cause methemoglobinemia. May cause central nervous system effects. May affect respiration. It may affect the kidneys. May affect the liver.

Chronic Potential Health Effects:

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogen Status:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>Group 3 Not classifiable as to its carcinogenicity to humans by IARC</td>
</tr>
<tr>
<td>108-95-2 (88-91)</td>
<td>A4 - Not Classifiable as a Human Carcinogen by ACGIH</td>
</tr>
<tr>
<td>Water</td>
<td>Not applicable</td>
</tr>
<tr>
<td>7732-18-5 (9-12)</td>
<td></td>
</tr>
</tbody>
</table>

Target Organs:


Product code: P1070
Product name: PHENOL, LIQUEFIED, REAGENT
Mutagenic Effects: May affect genetic material
Animal experiments showed mutagenic effects
Mutagenic effects in mammalian somatic cells
Experiments with human lymphocytes have shown mutagenic effects
Experiments with animal lymphocytes have shown mutagenic effects
Mutations in microorganisms

Teratogenic Effects: No information available

Aggravated Medical Conditions: No information available

See Section 11 for additional Toxicological Information

POTENTIAL ENVIRONMENTAL EFFECTS
No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>108-95-2</td>
<td>88-91</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>9-12</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

General Advice: Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.

Skin Contact: Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician immediately.

Eye Contact: Flush eye with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. WARNING! It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. Call a physician immediately.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Call a physician or Poison Control Centre immediately.

Notes to Physician: Treat symptomatically

5. FIRE-FIGHTING MEASURES

Flammable Properties
Flashpoint (°C/°F): >90.56 °C/>195°F

Flash Point Tested according to:
Open cup

Lower Explosion Limit (%): No information available
Upper Explosion Limit (%): No information available

Autoignition Temperature (°C/°F): No information available

Suitable Extinguishing Media: Dry chemical. Carbon dioxide (CO2). Water spray mist or foam. Alcohol-resistant foam.

Unsuitable Extinguishing Media: No information available.

Hazardous Combustion Products: Carbon monoxide; Carbon dioxide

Specific hazards: Combustible material
Containers may explode when heated
Contact with metals may evolve flammable hydrogen gas
When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards

Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

Specific Methods: Dike fire-control water for later disposal; do not scatter the material. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:
Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Remove all sources of ignition. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protective equipment. Avoid contact with skin, eyes and clothing.

Environmental Precautions:
Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods for Cleaning Up:
Absorb spill with inert material (e.g. vermiculite, dry sand or earth), then place in a suitable chemical waste container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Handling

Technical Measures/Precautions:
Use only in area provided with appropriate exhaust ventilation. Keep away from open flames, hot surfaces and sources of ignition. Keep away from incompatible materials.
Safe Handling Advice:
Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe vapors or spray mist. Keep away from heat and sources of ignition. Handle in accordance with good industrial hygiene and safety practice.

Storage

Technical Measures/Storage Conditions:
Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Protect from light. Sensitive to light. Store in light-resistant containers. Store in a segregated and approved area. Store away from incompatible materials.

Incompatible Materials:

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure:
Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Personal Protective Equipment

Eye protection:  
Face-shield.

Skin and body protection:  
Chemical resistant protective suit. Gloves. boots.

Respiratory protection:  
Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures:  
Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands and face before breaks and immediately after handling the product.

National occupational exposure limits

<table>
<thead>
<tr>
<th>Components</th>
<th>OSHA</th>
<th>NIOSH</th>
<th>ACGIH</th>
<th>AIHA WHEEL</th>
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<tr>
<td>Phenol - 108-95-2</td>
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<td>5 ppm TWA 19 mg/m³ TWA</td>
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<td>Water - 7732-18-5</td>
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<tr>
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<td>5 ppm TWA 19 mg/m³ TWA</td>
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<td>Water 7732-18-5</td>
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</table>

<table>
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<tr>
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<th>Mexico</th>
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<td>Phenol 108-95-2</td>
<td>1 ppm TWA 4 mg/m³ TWA</td>
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</tr>
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</table>

Product code: P1070  
Product name: PHENOL, LIQUEFIED, REAGENT  

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid.


Flash point (°C): >90.56

Stability: Stable at normal conditions

Conditions to avoid:
Heat. Ignition sources. Exposure to light. Turns pink or red on exposure to light.

Incompatible Materials:

Hazardous decomposition products:
Carbon monoxide. Carbon dioxide.

Solubility: Soluble in Water

Appearance: No information available

Molecular/Formula weight: No information available

Lower Explosion Limit (%): No information available

Upper Explosion Limit (%): No information available

Melting point/range(°C/°F): No information available

Boiling point/range(°C/°F): No information available

Decomposition temperature(°C/°F): No information available

Specific gravity: 1.05

Vapor pressure @ 20°C (kPa): No information available

VOC content (g/L): No information available

Miscibility: No information available

10. STABILITY AND REACTIVITY

Stability: Stable at normal conditions

Conditions to avoid:

Incompatible Materials:

Hazardous decomposition products:
Carbon monoxide. Carbon dioxide.
Possibility of Hazardous Reactions:
- Contact of phenol with peroxodisulfuric acid may cause explosion.
- The combination of phenol with acetaldehyde results in violent condensation.
- The combination of phenol with 1,3-butadiene, and born trifluoride diethyl ether complex results in an intense exothermic reaction.
- The combination of phenol with isocyanates results in heat generation and violent polymerization.
- The combination of phenol with nitrides results in heat and flammable gas generation.
- Violent reaction with aluminum chloride and nitromethane at 110 deg. C.
- Hot phenol reacts with metals.
- A combination of phenol with mineral oxidizing acids results in fire.
- Violent reaction with phenol and aluminum chloride + nitrobenzene at 120 deg. C.
- Potential for an explosive reaction exists when phenol comes into contact with formaldehyde or sodium nitrate + trifluoroacetic acid.
- Mixtures of air and 3-10% phenol are explosive.
- Phenol + sodium nitrite causes explosion on heating.
- When heated, phenol evolves flammable vapors which will form explosive mixtures with air.
- Phenol + calcium hypochlorite results in an exothermic reaction producing toxic fumes which may ignite.

Polymerization:
- Hazardous polymerisation does not occur.

Corrosivity:
- Severe corrosive effect on Brass. Minor corrosive effect on bronze.

Special Remarks on Corrosivity:
- No information available.

### 11. TOXICOLOGICAL INFORMATION

#### Acute Toxicity

**Component Information**

**Phenol - 108-95-2**
- LD50/oral/rat = 317 mg/kg
- LD50/oral/mouse = 270 mg/kg
- LD50/dermal/rat = 525 mg/kg Dermal LD50 Rat
- 669 mg/kg
- LD50/dermal/rabbit = 630 mg/kg Dermal LD50 Rabbit
- LC50/inhalation/rat = 316 mg/m³ 4 h
- LC50/inhalation/mouse = No information available
- Other LD50 or LC50 information = No information available

**Water - 7732-18-5**
- LD50/oral/rat = > 90 mL/kg Oral LD50 Rat
- LD50/oral/mouse = No information available
- LD50/dermal/rat = No information available
- LD50/dermal/rabbit = No information available
- LC50/inhalation/rat = No information available
- LC50/inhalation/mouse = No information available
- Other LD50 or LC50 information = No information available

**Product Information**

**Product code:** P1070

**Product name:** PHENOL, LIQUEFIED, REAGENT
Local Effects

**Skin irritation:**
Causes burns. The skin may turn white and opaque or dull gray and wrinkled. Later, it may turn gray-white or yellowish brown and may be deeply eroded and scarred. Black Gangrene may occur at the sight of contact. Phenol burns may be severe, but painless due to damage to the nerve endings causing numbness.

**Eye irritation:**
Causes burns. Corrosive to the eyes and may cause severe damage including blindness. May cause corneal injury.

**Inhalation:**
Severely irritating to the upper respiratory tract. It can irritate the lungs. It may cause pulmonary edema. Can cause dyspnea (shortness of breath and difficulty breathing). May affect respiration (respiratory depression). May affect behavior/central nervous system (somnolence). Inhalation of large amounts of vapor may be fatal. Volatility is low at room temperature, but hazard increases as temperature rises. Harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20 deg. C. Inhalation of large quantities can cause systemic effects similar to that of ingestion.

**Ingestion:**
Harmful if swallowed. Causes digestive or gastrointestinal tract burns. Corrosive to the mouth, throat, and stomach. There is burning pain in the mouth and throat as well as white necrotic lesions in the mouth, esophagus and stomach. Ingestion may cause nausea, vomiting, diarrhea. May cause abdominal pain. May cause gastrointestinal bleeding. May cause pallor. May cause excessive sweating. May cause hemolytic anemia. May cause metabolic acidosis. May affect the cardiovascular system (hypotension). May cause methemoglobinemia, (the formation of methemoglobin in the blood which causes deficient oxygenation of the blood due to decreased available hemoglobin). Signs and symptoms of methemoglobinemia include shortness of breath, cyanosis (a bluish discoloration of the mucous membranes and unpigmented areas of the body), mental status changes such as headache, mental impairment, fatigue, muscular weakness, exercise intolerance, lightheadedness, dizziness, incoordination, seizures, and loss of consciousness. Arterial blood with elevated methemoglobin levels has a characteristic chocolate-brown color as compared to normal bright red oxygen containing arterial blood. Severe methemoglobinemia is characterized by bradycardia or tachyadardia (slow or fast heart beat), dysrhythmias, seizures, coma and death.. It may cause central nervous system depression. May affect behavior/central nervous system (convulsions). May affect behavior/central nervous system (tremors). May affect behavior/central nervous system (dizziness, headache). May affect behavior/central nervous system (hallucinations, drowsiness, nervousness, twitching, delirium). May affect respiration (dyspnea - difficulty breathing and shortness of breath). May affect respiration (tachypnea (rapid breathing)). May cause tinnitus. May cause pupillary dilation. May affect eyes (pinpoint pupils). May cause dim vision. May affect urinary system (kidneys). May affect liver.

**Sensitization:**
No information available

**Chronic Toxicity**

**Product code:** P1070  
**Product name:** PHENOL, LIQUEFIED, REAGENT
Chronic Toxicity

Prolonged or repeated inhalation may cause bronchitis with coughing, phlegm, and/or shortness of breath. Prolonged or repeated ingestion may affect the liver, and kidneys. Prolonged or repeated ingestion may affect the liver (jaundice, liver function tests impaired). Prolonged or repeated ingestion may affect the blood (changes in red blood cell count). Prolonged or repeated ingestion may affect behavior/central nervous system. Prolonged or repeated ingestion may affect the cardiovascular system. Prolonged or repeated ingestion may affect the brain. Prolonged or repeated inhalation may affect the liver. Prolonged or repeated inhalation may affect the kidneys. Prolonged or repeated inhalation may affect the cardiovascular system. Prolonged or repeated ingestion may affect the blood (anemia). Prolonged or repeated inhalation may affect the blood (changes in serum composition). Signs and symptoms of chronic inhalation exposure may include headache, cough, weakness, fatigue, anorexia, vomiting, insomnia, nervousness, weight loss, paresthesia, ochronosis, and albuminuria. Other signs and symptoms of chronic exposure to phenol include vertigo, muscle aches and weakness, dark urine, nephritis, and hepatitis.

Carcinogenic effects: Not considered carcinogenic

<table>
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<tr>
<th>Components</th>
<th>NTP</th>
<th>IARC</th>
<th>OSHA HCS - Carcinogens</th>
<th>ACGIH - Carcinogens</th>
<th>Australia - Prohibited Carcinogenic Substances</th>
<th>Australia - Notifiable Carcinogenic Substances</th>
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</thead>
<tbody>
<tr>
<td>Water</td>
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<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
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</tbody>
</table>

Mutagenic Effects: May affect genetic material
Animal experiments showed mutagenic effects
Mutagenic effects in mammalian somatic cells
Experiments with human lymphocytes have shown mutagenic effects
Experiments with animal lymphocytes have shown mutagenic effects
Mutations in microorganisms

Reproductive Effects: There is limited evidence that Phenol may damage the developing fetus in animals
No information on developmental toxicity effects on humans was found
No information on reproductive toxicity effects on humans was found

Teratogenic Effects: No information available


12. ECOLOGICAL INFORMATION

ECOTOXICITY

Toxicity to terrestrial and aquatic plants and animals: No information available

Ecotoxicity effects: Aquatic environment.

Aquatic toxicity:

*Phenol - 108-95-2*
**Freshwater Algae Data:**
- 0.0188 - 0.1044 mg/L EC50 Pseudokirchneriella subcapitata 96 h
- 187 - 279 mg/L EC50 Desmodesmus subspicatus 72 h
- 46.42 mg/L EC50 Pseudokirchneriella subcapitata 96 h

**Freshwater Fish Species Data:**
- 11.9 - 25.3 mg/L LC50 Lepomis macrochirus 96 h flow-through
- 11.9 - 50.5 mg/L LC50 Pimephales promelas 96 h flow-through
- 20.5 - 25.6 mg/L LC50 Pimephales promelas 96 h static
- 23.4 - 36.6 mg/L LC50 Oryzias latipes 96 h static
- 33.9 - 43.3 mg/L LC50 Oryzias latipes 96 h flow-through
- 34.09 - 47.64 mg/L LC50 Poecilia reticulata 96 h static
- 4.23 - 7.49 mg/L LC50 Oncorhynchus mykiss 96 h semi-static
- 5.0 - 12.0 mg/L LC50 Oncorhynchus mykiss 96 h
- 5.449 - 6.789 mg/L LC50 Oncorhynchus mykiss 96 h flow-through
- 7.5 - 14 mg/L LC50 Oncorhynchus mykiss 96 h static
- 0.00175 mg/L LC50 Cyprinus carpio 96 h semi-static
- 11.5 mg/L LC50 Lepomis macrochirus 96 h semi-static
- 13.5 mg/L LC50 Lepomis macrochirus 96 h static
- 27.8 mg/L LC50 Brachydanio rerio 96 h
- 31 mg/L LC50 Poecilia reticulata 96 h semi-static
- 32 mg/L LC50 Pimephales promelas 96 h

**Water Flea Data:**
- 10.2 - 15.5 mg/L EC50 Daphnia magna 48 h
- 4.24 - 10.7 mg/L EC50 Daphnia magna 48 h

**Mobility:**
No information available

**Persistence and degradability:**
No information available

**Bioaccumulative potential:**
No information available

### 13. DISPOSAL CONSIDERATIONS

**Waste from residues / unused products:**
Waste must be disposed of in accordance with Federal, State and Local regulation.

**Contaminated packaging:**
Empty containers should be taken for local recycling, recovery or waste disposal.

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>J188</td>
</tr>
<tr>
<td>Water</td>
<td>None</td>
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<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

### 14. TRANSPORT INFORMATION

**DOT**
- **UN-No:** UN2821
- **Proper Shipping Name:** Phenol solutions
- **Hazard Class:** 6.1
- **Packing Group:** II
- **Subsidiary Risk:** Not applicable
- **Marine Pollutant:** No data available
- **ERG No:** 153
- **DOT RQ (lbs):** No information available
- **Symbol(s):** R4

**TDG (Canada)**
- **UN-No:** UN2821
- **Proper Shipping Name:** Phenol solution
- **Hazard Class:** 6.1
15. REGULATORY INFORMATION

International Inventories

Product code: P1070  Product name: PHENOL, LIQUEFIED, REAGENT
### Components

<table>
<thead>
<tr>
<th>Components</th>
<th>U.S. TSCA</th>
<th>Philippines (PICCS)</th>
<th>KOREA KECL</th>
<th>Japan ENCS</th>
<th>CHINA</th>
<th>Australia (AICS)</th>
<th>EINECS-No.</th>
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<tbody>
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<td>Phenol</td>
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<td>Present</td>
<td>Present KE-28209</td>
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<td>Present</td>
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<td>Water</td>
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<td>Present KE-35400</td>
<td>Not present</td>
<td>Present</td>
<td>Present</td>
<td>Present 231-791-2</td>
</tr>
</tbody>
</table>

### U.S. Regulations

**Phenol**

- Massachusetts RTK: Present
- New Jersey RTK Hazardous Substance List: Present
- New Jersey (EHS) List: Present
- New Jersey - Discharge Prevention - List of Hazardous Substances: Present
- Pennsylvania RTK: Environmental hazard
- Pennsylvania RTK - Environmental Hazard List: Present
- Minnesota - Hazardous Substance List: Present
- New York Release Reporting - List of Hazardous Substances: Not applicable
- Louisiana Reportable Quantity List for Pollutants: 1000 lb final RQ, 454 kg final RQ
- California Directors List of Hazardous Substances: Present


**Chemicals Known to the State of California to Cause Cancer:**
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

**Chemicals Known to the State of California to Cause Reproductive Toxicity:**
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

<table>
<thead>
<tr>
<th>Components</th>
<th>Carcinogen</th>
<th>Developmental Toxicity</th>
<th>Male Reproductive Toxicity</th>
<th>Female Reproductive Toxicity</th>
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### CERCLA/SARA

<table>
<thead>
<tr>
<th>Components</th>
<th>CERCLA - Hazardous Substances and their Reportable Quantities</th>
<th>Section 302 Extremely Hazardous Substances and TPQs</th>
<th>Section 302 Extremely Hazardous Substances and RQs</th>
<th>Section 313 - Chemical Category</th>
<th>Section 313 - Reporting de minimis</th>
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### U.S. TSCA

<table>
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<tr>
<th>Components</th>
<th>TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)</th>
<th>TSCA 8(d) - Health and Safety Reporting</th>
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</table>

### Canada

**WHMIS hazard class:**
- D1A  Very toxic materials
- E   Corrosive material

**Phenol**
- D1A  E

---

**Product code:** P1070  **Product name:** PHENOL, LIQUEFIED, REAGENT
Canada Controlled Products Regulation:
This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

<table>
<thead>
<tr>
<th>Components</th>
<th>WHMIS Ingredient Disclosure List -</th>
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</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>1 %</td>
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</tbody>
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Inventory

<table>
<thead>
<tr>
<th>Components</th>
<th>Canada (DSL)</th>
<th>Canada (NDSL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>Present</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Water</td>
<td>Present</td>
<td>Not Listed</td>
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<table>
<thead>
<tr>
<th>Components</th>
<th>CEPA Schedule I - Toxic Substances</th>
<th>CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Water</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

EU Classification

**R-phrase(s)**
R34 - Causes burns.
R68 - Possible risk of irreversible effects.
R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed.
R48/20/21/22 - Also harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.

**S -phrase(s)**
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28 - After contact with skin, wash immediately with plenty of .?
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 1/2 - Keep locked up and out of the reach of children.
S24/25 - Avoid contact with skin and eyes.
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

<table>
<thead>
<tr>
<th>Components</th>
<th>Classification</th>
<th>Concentration Limits:</th>
<th>Safety Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>T; R23/24/25</td>
<td>10%&lt;=C; T; R:23/24/25</td>
<td>S1/2 S24/25 S26 S28</td>
</tr>
<tr>
<td></td>
<td>C; R34</td>
<td>3%&lt;=C&lt;10%; Xn; R:20/21/22</td>
<td>S36/37/39 S45</td>
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<tr>
<td></td>
<td>Xn; R48/20/21/22</td>
<td>3%&lt;=C; C; R:34</td>
<td></td>
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<tr>
<td></td>
<td>Muta.Cat.3; R68</td>
<td>1%&lt;=C&lt;3%; Xi; R:36/38</td>
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</tbody>
</table>

Water

The product is classified in accordance with Annex VI to Directive 67/548/EEC

**Indication of danger:**
T - Toxic
C - Corrosive.
Xn - Harmful.

**Product code:** P1070  **Product name:** PHENOL, LIQUEFIED, REAGENT
16. OTHER INFORMATION

The MSDS format complies with ANSI Z400.1/Z129.1-2010 standards.

Preparation Date: 08-Nov-2013

Reason for revision: Not applicable

Prepared by: Sonia Owen

Literature reference: No information available

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. The physical properties reported in this MSDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

Product code: P1070

Product name: PHENOL, LIQUEFIED, REAGENT