

# MATERIAL SAFETY DATA SHEET



Conforms to 93/112/EC and ISO 11014-1

## 1. Chemical Product and Company Identification

**Product Name:** Phenol

**Product Number:** EC-611

**Chemical Names/**

Carbolic acid; Phenylic acid; Hydroxybenzene;

**Description:**

Monohydroxybenzene; Phenyl hydroxide

**Manufacturer**

National Diagnostics  
305 Patton Drive  
Atlanta, GA 30336

**Telephone Numbers**

(800) 526-3867  
(404) 699-2121

**Emergency Numbers**

**Chemtrec**

**(800) 424-9300 (U.S. & Canada)**

**01-703-527-3887 (outside U.S. & Canada)**

## 2. Composition/Information on Ingredients

Component	% Comp.	CAS #	EINECS #	TLV (Units)
PHENOL	> 95	108-95-2	203-632-7	5ppm (TWA)

## EEC LABEL SYMBOL AND CLASSIFICATION



**R: 34-24/25**

**Causes burns. Toxic in contact with skin and if swallowed.**

**S: 28-45**

**After contact with skin, wash immediately with water. In case of accident or if you feel unwell, seek medical advice immediately.**

## 3. Hazards Identification

### Appearance and Odor

Colorless solid with a sharp, medicinal, sweet odor.

### EMERGENCY OVERVIEW - IMMEDIATE HAZARD

POISON! DANGER! MAY BE FATAL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. RAPIDLY ABSORBED THROUGH SKIN. CORROSIVE. CAUSES SEVERE BURNS TO EVERY AREA OF CONTACT. AFFECTS CENTRAL NERVOUS

SYSTEM, LIVER AND KIDNEYS. COMBUSTIBLE.

**EMERGENCY OVERVIEW - CHRONIC HAZARD WARNING:**

THE SUBSTANCE IS TOXIC TO LUNGS, MUCOUS MEMBRANES. REPEATED OR PROLONGED EXPOSURE TO THE SUBSTANCE CAN PRODUCE TARGET ORGANS DAMAGE: EYES-IRRITATION, SKIN - LOCAL SKIN DESTRUCTION OR DERMATITIS, RESPIRATORY - LUNG DAMAGE.

**Potential Health Effects**

**Inhalation**

Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma. May be fatal if exposed to high concentrations. Aspiration may lead to pulmonary edema. Inhalation at high concentrations may cause CNS depression and asphyxiation.

**Ingestion**

Harmful if swallowed. May cause severe and permanent damage to the digestive tract. May cause central nervous system depression. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. May cause perforation of the digestive tract. Causes digestive tract burns with immediate pain, swelling of the throat, convulsions, and possible coma.

**Skin**

Harmful if absorbed through the skin. Corrosive. Rapidly absorbed through the skin with systemic poisoning effects to follow.

**Eyes**

Contact with liquid or vapor causes severe burns and possible irreversible eye damage. May cause chemical conjunctivitis and corneal damage.

**Signs and Symptoms of Overexposure**

**Inhalation**

Symptoms include pallor, loss of appetite, nausea, vomiting, diarrhea, weakness, darkened urine, headache, sweating, convulsions, cyanosis, unconsciousness, fatigue, pulmonary edema and coma.

**Ingestion**

Symptoms include excitement, followed by headache, dizziness, drowsiness, and nausea.

**Skin**

Discoloration and severe burns may occur, but may be disguised by a loss in pain sensation.

**Eyes**

Eye burns with redness, pain, blurred vision may occur.

**Carcinogenicity**

Classified as a IARC Group 3 Carcinogen.

**Mutagenicity**

Information not available.

**Reproductive Toxicity**

Information not available.

**Teratogenic Effects**

Information not available.

**Routes of Entry**

Ingestion, inhalation, skin and eye contact.

**Target Organ Statement**

No information found.

**4. First Aid Measures**

**Inhalation**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call

a physician.

### **Ingestion**

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician. If conscious, give 15-30 cc vegetable oil.

### **Skin**

Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

### **Eyes**

Immediately flush eyes with plenty of water for at least fifteen minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

## **5. Fire Fighting Measures**

Flash Point	174F (79C)	Flammable Limits	N.A.
Flash Point Method	N.A.	Autoignition temperature	1,121F (605C)

### **Extinguishing media**

Use media appropriate to the primary cause of fire.

### **Protective Equipment**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

### **Hazardous Combustion Products**

Highly toxic gases may be involved in fires of this product.

### **Unusual Fire and Explosion Hazards**

Emits toxic fumes under fire conditions.

NFPA Codes: Health 3 Flammability 2 Reactivity 1

## **6. Accidental Release Measures**

### **Steps to be taken in case material is released or spilled**

Eliminate source of ignition. Ventilate area. Cover with absorbent material (soda ash) to confine spill and sweep or shovel into container. Close container tightly. Avoid breathing vapors.

### **Waste Disposal Method**

Disposal must be made in accordance with applicable federal, state, and local regulations.

### **Personal Precautions**

Wear appropriate protective equipment as specified in section 8.

## **7. Handling and Storage**

### **Handling**

Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling. Transfer methods should avoid static sparks. Use explosion proof ventilation.

### **Storage**

Keep in a tightly closed container, stored in a cooled, dry, ventilated area away from sources of heat or ignition. Protect from physical damage. Isolate from incompatible materials (section 10).

### **Storage Temperature**

## Disposal

Observe all national, state, and local regulations regarding disposal.

## 8. Exposure Controls/Personal Protection

### Airborne Exposure Limits

Component: PHENOL

ACGIH Threshold Limit Value (TLV): 5ppm (TWA)

OSHA Permissible Exposure Limit (PEL): 5ppm (TWA)

### Engineering Controls

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborn Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source.

### Respiratory Protection

For conditions of use where exposure to the dust or mist is apparent, a full-face dust/mist respirator may be worn. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator.

### Eye Protection

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

### Skin Protection

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

### Other Control Measures

## 9. Physical Properties

<b>Boiling point</b>	360F (182C)	<b>Evaporation Rate</b>	
<b>Melting point</b>	109F (43C)	<b>Solubility in water</b>	1g/15 ml of water
<b>Vapor pressure (mmHg)</b>	0.4 @ 20C	<b>pH</b>	6
<b>Vapor density (Air = 1)</b>	3.2	<b>Specific gravity (H2O = 1)</b>	1.06 @ 20C/4C
<b>% volatile by volume</b>	100		

## 10. Stability and Reactivity

### Stability

Stable under normal temperatures and pressures. Heat will contribute to instability.

### Conditions to Avoid

Heat, flame, ignition sources and incompatibles.

### Hazardous Decomposition Products

Carbon dioxide and carbon monoxide may form when heated to decomposition. Toxic gases and vapors may be released if involved in a fire.

### **Hazardous Polymerization**

Will not occur

### **Incompatibles**

PHENOL:

Oxidizers, aluminum chloride and nitrobenzene, calcium hypochlorite, butadiene, halogens, formaldehyde, mineral oxidizing acids, isocyanates, sodium nitrite and many other materials. Hot liquid phenol will attack aluminum, magnesium, lead, and zinc metals.

## **11. Toxicological Information**

### **Product LD50 Values**

Phenol	Oral Rat LD50 (mg/kg):	317
Phenol	Dermal Rabbit LD50 (mg/kg):	630

### **Component Cancer List Status**

	NTP Carcinogen		IARC Category
	Known	Anticipated	
PHENOL	No	No	3

## **12. Ecological Information**

### **PHENOL**

When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material is not expected to leach into groundwater. When released into the soil, this material may evaporate to a moderate extent. When released into the soil, this material is expected to have a half-life between 1 and 10 days. When released into water, this material is expected to readily biodegrade. When released into water, this material is not expected to evaporate significantly. When released into the water, this material is expected to half a half-life between 10 and 30 days. This material has an estimated bioconcentration factor of less than 100. This material is not expected to significantly bioaccumulate. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material may be moderately degraded by photolysis. When released into the air, this material is expected to have a half-life of less than 1 day. This material is expected to be toxic to aquatic life. The LC50/96-hour values for fish are between 10 and 100 mg/l.

## **13. Disposal Considerations**

Observe all national, state, and local regulations regarding disposal.

## **14. Transport Information**

### **D.O.T.**

Proper Shipping Name: Phenol, Solid

Hazard Class: 6.1

UN Number: UN1671

Packing Group: II

**I.A.T.A.**

Proper Shipping Name: Phenol, Solid

Hazard Class: 6.1

UN Number: UN1671

Packing Group: II

**I.M.O.**

Proper Shipping Name: Phenol, Solid

Hazard Class: 6.1

UN Number: UN1671

Packing Group: II

## 15. Regulatory Information

### United States

#### TSCA Regulatory Statement

All intentional ingredients are listed on the TSCA Inventory.

#### SARA 311/312 Hazard Categories

Component	Fire	Pressure	Reactivity	Acute	Chronic
PHENOL	Yes	No	No	Yes	Yes

### Europe

#### EEC Regulatory

All intentional ingredients are listed on the European EINECS Inventory.

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## 16. Other Information

**NFPA Codes: Health 3 Flammability 2 Reactivity 1**

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