



American International Chemical, Inc.

Corporate Offices: (800) 238-0001

Internet: www.aicma.com Email: info@aicma.com

MATERIAL SAFETY DATA SHEET

PHENOL 90% REAGENT SOLUTION

SECTION 1 - CHEMICAL PRODUCT AND COMPANY INFORMATION

American International Chemical, Inc. 135 Newbury Street Framingham, MA 01701	Emergency Number: Chemtrec Information Number:	800-424-9300 703-527-3887 800-238-0001
---	---	--

Date: August 2007

Synonyms: Carboic acid; Phenic acid; Phenylic acid; Hydroxybenzene

CAS #: 108-95-2

DOT Hazard Class: Phenol Solutions
Hazard Class 6.1, UN2821, PGII
Poison

SECTION 2 - COMPOSITION AND INFORMATION ON INGREDIENTS

Component	CAS #	%
Phenol	108-95-2	90%
Water	7732-18-5	10%

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: A clear, colorless liquid that is a poison. May be fatal if swallowed, inhaled or absorbed through the skin. Can cause burns to any point of contact. Material is combustible. Contact with strong oxidizers may cause fire.

POTENTIAL HEALTH EFFECTS:

Skin: Will cause skin irritation or burning.

Eyes: Will cause irritation or burning.

Inhalation: Will cause irritation and possibly burns to the respiratory tract. Will result in digestive disturbances (vomiting, difficulty in swallowing, diarrhea, loss of appetite).

Ingestion: Poison. Symptoms may include burning pain in mouth and throat, abdominal pain, nausea, vomiting, headache, dizziness, muscular weakness, central nervous system effects, increase in heart rate, irregular breathing, coma, and possibly death. Acute exposure is also associated with kidney and liver damage. Ingestion of 1 gram has been lethal to humans.

CARCINOGENICITY: IARC Category 3

SECTION 4 - FIRST AID MEASURES

Skin: In case of skin contact, immediately flush skin with large amounts of water while removing contaminated clothing and shoes. As soon as possible, repeatedly apply polyethylene glycol to affected area. Destroy contaminated clothing and shoes. Flush skin with water for at least 30 minutes. It is very important to avoid rubbing or wiping affected parts, which would aggravate irritation and cause product dispersion. Continue treatment until the burned area changes color from white to pink. Expect that this can take a long period of time (20 minutes or more). The polyethylene glycol application should be done during transportation to the hospital. If polyethylene glycol is not available, flush with water for at least 30 minutes prior to going to hospital.

Eyes: Immediately flush with plenty of water for at least 15 minutes, holding eyelids apart.

Inhalation: Remove to the fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion: If swallowed, immediately administer castor oil or other vegetable oil. Never give anything by mouth to an unconscious person. Be ready to induce vomiting at the advice of physician or poison control center. Castor oil (or vegetable oil) dosage should be between 15 and 30 cc.

On All Of The Above: Get medical attention immediately.

IN CASE OF PHENOL POISONING, start first aid treatment immediately, then get medical attention. People administering first aid should take precautions to avoid contact with phenol. **A phenol antidote kit (castor oil or other vegetable oil, polyethylene glycol 300) should be available in any phenol work area.** Actions to be taken in case of phenol poisoning should be planned and practiced before beginning work with phenol. A first responder can give castor oil and or polyethylene glycol before medical help arrives.

SECTION 5 - FIRE FIGHTING MEASURES

Flash Point: 79 °C

Flammable Limits: lel: 1.3%; uel: 8.6%

Extinguishing Media: Water spray, dry chemical, alcohol foam, or carbon dioxide. Water spray may be used to keep fire-exposed containers cool.

Special Fire Fighting Procedures: 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. Structural firefighter's protective clothing is ineffective for fires involving this material. Stay away from sealed containers.

Unusual Fire Explosion Hazard: Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Sealed containers may rupture when heated.

Auto Ignition Temperature: 715 °C

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Isolate hazard area and deny entry to unnecessary or unprotected personnel. Contain spilled liquid with sand or earth. Place in a disposal container. Avoid runoff into storm sewers and ditches that lead to waterways.

SECTION 7 - HANDLING AND STORAGE

Avoid contact with skin, eyes and clothing. Use with adequate ventilation. Avoid breathing vapor. Use normal personal hygiene and housekeeping. Store in cool dry area away from other incompatible materials. All phenol workers should be properly trained on its hazards and the proper protective measures required. This training should also include emergency actions. All phenol operations should be enclosed to eliminate any potential exposure routes. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product.

SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION

RESPIRATORY PROTECTION: Use NIOSH/MSHA approved respirators.

VENTILATION REQUIREMENTS: Ventilate as necessary to eliminate vapor from the work area and maintain concentrations below the limit.

SKIN AND EYE PROTECTION: Use rubber or neoprene gloves, chemical goggles and clothing sufficient to protect skin and eyes from contact.

WORK, HYGIENIC PRACTICES:

As required to protect skin and eyes from contact, safety showers and/or eyewash should be available. Do not leave food or smoke in work area. Immediately remove and destroy any contaminated clothing.

EXPOSURE LIMITS:

Phenol:

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

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

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: Not Available

Vapor Pressure (MM Hg): 0.4 @ 20 °C

Vapor Density (AIR=1): 3.2

Specific Gravity (H₂O=1): 1.06 @ 20 °C

Percent Volatile by Volume (%): 100%

SECTION 9 Continued - PHYSICAL AND CHEMICAL PROPERTIES

Melting Point: Not Available

Evaporation Rate (Butyl Acetate=1): Less than 0.01

Solubility in Water: 1g / 15 ml of water

pH: 3.5 – 4.2

SECTION 10 - STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable under normal temperatures and pressures.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

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

KEEP AWAY FROM: 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.

SECTION 11 - TOXICOLOGICAL INFORMATION

Oral rat LD50: 317 mg/Kg

Skin rabbit LD50: 630 mg/kg

Inhalation rat LC50: 316 mg/m³

Irritation data: skin rabbit, standard Draize, 500 mg/24H severe

Eye rabbit, standard Draize 5 mg/30S rinse, mild.

Investigated as a tumorigen, mutagen, and reproductive effector.

SECTION 12 - ECOLOGICAL INFORMATION

Not Available

SECTION 13 - DISPOSAL CONSIDERATIONS

Dispose of in accordance with all federal, state and local regulations.

Environmental Fate:

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 water, this material is expected to have a half-life between 10 and 30 days. This material has an estimated bioconcentration factor (BCF) 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.

SECTION 13 Continued - DISPOSAL CONSIDERATIONS

Environmental Toxicity:

This material is expected to be toxic to aquatic life. The LC50/96-hour values for fish are between 10 and 100 mg/l.

RCRA WASTE #: U188

SECTION 14 - TRANSPORTATION INFORMATION

D.O.T. SHIPPING NAME: Phenol Solutions

TECHNICAL SHIPPING NAME: Same

U.N./NUMBER: UN2821

D.O.T. HAZARD CLASS AND GROUP NUMBER: Hazard Class 6.1, PG II

D.O.T. PLACARD: Poison

PRODUCT LABEL: Same as above

SECTION 15 - REGULATORY INFORMATION

OSHA STATUS: Not listed

TSCA STATUS: This product is a mixture. The CAS numbers of all components are listed on the TSCA inventory

CERCLA REPORTABLE REQUIREMENTS: (RQ):

Phenol: 1000 lbs

SARA TITLE III INFORMATION:

Section 302 Extremely Hazardous Substances: Phenol

Section 313 Toxic Chemicals: Phenol

Section 311/312 Hazard Category:

Fire Hazard: (Phenol)

Acute Health Hazard: Immediate (Phenol)

Chronic Health Hazard: Delayed (Phenol)

SECTION 16 - OTHER INFORMATION

NFPA Ratings: Health: 4 Flammability: 2 Reactivity: 0

Reason for Issue: Changed Date

This information is given without any warranty or representation. It is believed to be correct but does not claim to be all-inclusive and shall be used only as a guide. American International Chemical, Inc., shall not be held liable for any damage resulting from handling or contact with the above product. It is offered solely for your consideration, investigation and verification.