

PERSONAL PROTECTION INFORMATION

Where air contaminants can exceed acceptable criteria, use NIOSH/MSHA approved full facepiece respiratory protection equipment. Respirators should be selected based on the form and concentration of contaminants in air in accordance with OSHA 29CFR 1910.1048(g) Respiratory Protection, OSHA 29CFR 1910.134 or other applicable standards or guidelines.

Wear chemical splash goggles or some other type of complete protection for the eye if contact is likely. Wear protective (impervious) gloves as required to prevent skin contact.

Where high concentrations of hazardous ingredients may be present, such as in an emergency, full body protection should be worn.

Other protective equipment: Eye wash fountain, safety shower. Reusable protective clothing should be cleaned and ventilated after any formaldehyde contamination.

See OSHA 29CFR 1910.1048(h) Protective Equipment and Clothing and OSHA 29CFR 1910.1048(i) Hygiene Protection for other specific requirements based on the form of formaldehyde, the conditions of use and the hazards to be prevented.

SPILL OR LEAK PROCEDURES

Eliminate all ignition sources.
Large quantities: Enclose with diking material to prevent seepage into natural bodies of water. Small quantities: Soak up with absorbent material and remove to a chemical disposal area.

WASTE DISPOSAL

Recover free liquid. Absorb residue and dispose of according to local, state/provincial, and federal requirements.
Empty container: May contain explosive vapors. DO NOT cut, puncture or weld on or nearby.

STORAGE PRECAUTIONS

Storage temperature depends on methanol content and should be controlled to avoid precipitation or vaporization. See technical bulletin for recommended storage temperatures. Remove plug slowly to relieve pressure.
Formaldehyde solutions will start to precipitate paraformaldehyde if stored below their recommended storage temperatures making the freezing point difficult to determine.

DOT CLASSIFICATION

FORMALDEHYDE SOLUTION, COMBUSTIBLE LIQUID,
UN 1198, RQ FORMALDEHYDE/METHANOL,
METHAFORM.

PREVIOUS ISSUE: 19-APR-91 CURRENT ISSUE: 11-FEB-92

While Columbus Chemical Industries, Inc. believes that the data contained herein are factual, they are not to be taken as a warranty or representation for which Columbus Chemical Industries, Inc. assumes legal responsibility. They are offered solely for your consideration, investigation. Any use of these data and information must be determined by the user to be in accordance with the applicable Federal, State, and Local laws and regulations.

**SARA TITLE III SECTION 313
AND 40 CFR PART 372
TOXIC CHEMICAL NOTIFICATION SHEET**

FORMALDEHYDE 37% M11%

This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C-Supplier Notification Requirement of 40 CFR Part 372.

CAS Registry Number	Chemical Name	Pct. By Weight
50-00-0	FORMALDEHYDE	37.00
67-56-1	METHANOL	11.00

This Toxic Chemical Notification Sheet must not be detached from the Material Safety Data Sheet (MSDS). Any copying and redistribution of the MSDS shall include copying and redistribution of this notification sheet attached to copies of the MSDS subsequently redistributed.

PRINT DATE: 24-JUN-92 05:00 PM

COLUMBUS CHEMICAL INDUSTRIES INC.

N4335 TEMKIN ROAD
COLUMBUS, WISCONSIN 53925
(414) 623-2140
FAX (414) 623-2577

MATERIAL SAFETY DATA SHEET

Hazards (NFPA)
4 = Extreme
3 = High
2 = Moderate
1 = Slight
0 = Least

Emergency Phones: CHEMTREC: 800-424-9300

June 20, 1991

SECTION 1 — MATERIAL IDENTIFICATION

PRODUCT NAME: Liquified Phenol — 90% **Formula:** C₆H₅OH + water
Other Designations: Carboic Acid, Hydroxybenzene, Phenylic acid

SECTION 2 — HAZARDOUS INGREDIENTS

CAS NO.	PERCENT	PEL/TWA	CARCINOGEN (OSHA, NTP, IARC)
Phenol 108-95-2	90%	5 ppm (skin)	no

SECTION 3 — CHEMICAL AND PHYSICAL PROPERTIES

Appearance: water white liquid
Odor: medicinal
pH: neutral
Water Solubility: n/av
Auto-ignition Temperature: n/av
Boiling Pt: >212°F
Freezing Point: 55°F (12.6°C)
Spec. Gravity (H₂O = 1): 1.065
Vapor Press, mm Hg, 50°C: n/av
Vapor Density (air = 1): 3.24 (phenol)

SECTION 4 — FIRE AND EXPLOSION HAZARDS

Flash Point (Op Cup): 165°F (74°C) **Explosive Limits (Phenol):** Lower 1.7% Upper 8.6%
Extinguishing Media: water fog, CO₂, foam (alcohol), halogens, dry chemicals
Special Fire Fighting Procedures and Hazards: Treat as combustible liquid. Vapors can be explosive if liquid is heated above its flash point. Keep unignited containers cool with water. Contaminated fire control waters may be corrosive, and should be diked or collected in ponds if possible, then disposed of properly. Use eye and skin protection and self-contained breathing apparatus.

SECTION 5 — REACTIVITY INFORMATION

Stable: X **Unstable:** Precautions: n/a
Incompatibility: Alkyl benzene sulfonic acids, calcium hypochlorite.
Hazardous Decomposition Products: CO₂, CO, hydrocarbons (when burned)
Hazardous Polymerization Occurs: Does Not occur: X

SECTION 6 — HEALTH HAZARDS — PROTECTIVE MEASURES — FIRST AID

Inhalation: Excessive or repeated inhalation of concentrations over the PEL can cause irritation, other symptoms, and death (see other medical information below).
Wear NIOSH approved respirator or SCBA appropriate for concentration of phenol vapors or mist. Remove to fresh air. Use artificial respiration if needed.
Skin: Corrosive. Pain numbness, whitening, and burns occur unless promptly removed. Readily absorbed. See Other Medical Information.
Wear protective phenol-resistant gloves, clothing, boots, and/or head covering as needed to prevent exposure. Have convenient safety showers.
Wash affected skin for 15 minutes with soap and water while removing contaminated clothing. Treat any burns.
Eyes: Causes severe eye irritation, with possible damage and blindness.
Wear splash- and dust-proof goggles. Have convenient eye-wash stations.
Flush with water for 15 minutes. Get prompt medical attention.
Ingestion: Irritating and corrosive to mouth and throat. Also see Other Medical Information.
Avoid swallowing. Wear face shield if face contact is likely.
Rinse mouth immediately. Drink large amounts of water. Do not induce vomiting, but if vomiting occurs drink more water. Do not give liquids to a very drowsy, convulsive, or unconscious person. Get medical attention immediately. See Other Medical Information.
Other Medical Information: Phenol is readily absorbed into body through inhalation, skin contact, and ingestion, particularly when in liquid solutions. When sufficient amounts are absorbed, the effects can be increased and irregular heart rate, low blood pressure, difficult breathing, cough, and skin discoloration. Death can occur in minutes, usually due to respiratory failure. Effects may be aggravated for persons with kidney or hepatic diseases.
IN ALL CASES: GET PROMPT MEDICAL ATTENTION IF EFFECTS OCCUR.
Most likely routes of entry: skin, eyes, inhalation.

SECTION 7 — PRECAUTIONS FOR SAFE HANDLING AND USE

Spills and Leaks: Remove all sources of ignition, and provide ventilation. Small spills: take up with absorbent and put in closed container. Large spills: dike around flow. Stop leak if possible. Do not flush residual liquid to ground if there is potential for surface or ground water pollution (use absorbents or remove soil to proper disposal). Do not flush to sewers. Personnel should wear eye, skin, and respiratory protection. RQ Phenol = 1000 lb. (= 1111 lb. of product).
Storage and Handling: Store in closed containers in a cool, well-ventilated area away from heat or ignition sources. Do not heat above 140°F (60°C). Prohibit eating or smoking where phenol is being used or handled. Wear impervious clothing as needed to prevent exposure when transferring material from drum or bulk containers.
Waste Disposal: In selecting the method of disposal, applicable local, state, and federal regulations should be consulted.
Empty Containers: Do not cut or weld on empty containers, or expose them to ignition sources before thorough cleaning. Clean before disposal.

SECTION 8 — REGULATORY INFORMATION

DOT (HM-181) (USA and Int'l) — Class & Label: 6.1, Poison

— Shipping Name: Phenol solutions, 6.1, UN2821, PGII, RQ

SARA, Title III — This product contains a toxic chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40CFR Part 372: Phenol, CAS No. 108-95-2, 90%.

While Columbus Chemical Industries, Inc. believes that the data contained herein are factual, they are not to be taken as a warranty or representation for which Columbus Chemical Industries, Inc. assumes legal responsibility. They are offered solely for your consideration, investigation. Any use of this data and information must be determined by the user to be in accordance with the applicable Federal, State, and Local laws and regulations.