

Chemical Safety Technical Data Sheet

Product Name:Resorcinol

Developed in accordance with GB/T 16483 and GB/T 17519

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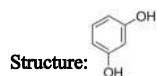
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Part I: Chemicals and Corporate

Identifiers Chinese names of chemicals:Resorcinol; 1,3-Benzenediol; 1,3-Dihydroxybenzene; Resorcinol

Chemical name in English:1,3-benzenediol; m-dihydroxybenzene; resorcinol

Molecular formula: $C_6H_6O_2$ **Relative molecular mass:**110.11



Recommended and restricted uses of chemicals:For the production of dyes, plastics, pharmaceuticals, synthetic fibers, etc.

Part II Overview of Hazards

Summary of emergency:Harmful to swallow.

GHS Hazard Category:

Acute toxicity – Oral:Category 4

Skin corrosion/irritation:Category 2

Severe eye injury/eye irritation:Category 2

Hazard to aquatic environment – Acute hazard:Category 1

Tag Elements:

Signative graph :



Warning phrase:Warning

Hazard Description:Harmful when ingested, causes skin irritation, severe eye irritation, and exhibits high toxicity to aquatic organisms.

Protection Explanation:

【 preventive measure 】

- Avoid contact with eyes and skin; thoroughly rinse after use.
- No eating, drinking, or smoking is permitted in the workplace.
- Wear protective gloves, protective goggles, and a protective face shield.
- Do not discharge into the environment.

[Accident Response]

- Administration: Swallow. If discomfort occurs, immediately contact the Poison Control Center or seek medical attention.
- Skin contact: Clean the affected area thoroughly with plenty of soap and water. If skin irritation occurs, seek medical attention. Remove contaminated clothing and wash it before reuse.
- In case of eye contact: Rinse carefully with water for several minutes. If contact lenses are worn and can be easily removed, remove them and continue rinsing. If eye irritation persists: Seek medical attention.
- Collect the spill.

【 safe storage 】

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[Disposal of Waste]

·This product, its contents, and the container shall be disposed of in accordance with national and local regulations.

Physical and chemical hazards:Flammable; its powder, when mixed with air, can form an explosive mixture.

Health Hazards:Acute poisoning is similar to that of phenol, causing headache, dizziness, irritability, drowsiness, cyanosis (due to methemoglobinemia), convulsions, tachycardia, dyspnea, decreased body temperature and blood pressure, and even death. Application of this product's 3%–25% aqueous solution or ointment to the skin can induce dermatological lesions; absorption may lead to fatal toxicity.

Chronic effects: Long-term exposure to low concentrations may induce respiratory irritation symptoms and skin lesions.

Environmental hazards:Highly toxic to aquatic organisms.

Part III: Composition/Composition Information

√matter		Mixture
Component	Concentration	CAS No.
Resorcin	≥98.0%	108-46-3

Part IV Emergency Management Measures

Inhalation:Immediately remove the individual from the area to fresh air. Keep the airway clear. If breathing is difficult, administer oxygen. In case of respiratory or cardiac arrest, perform cardiopulmonary resuscitation (CPR) immediately. Seek medical attention.

Skin contact:Immediately remove contaminated clothing and thoroughly rinse the affected area with plenty of running water. Use cotton balls soaked in polyethylene glycol (PEG400 or PEG300) or 30%–50% alcohol to clean the wound until no phenolic odor remains (avoid soaking the affected area in the cleaning solution). Continue applying a 4%–5% sodium bicarbonate solution as an adhesive dressing. Seek medical attention promptly.

Eye contact:Immediately open the eyelids and rinse thoroughly with plenty of running water or saline solution for 10–15 minutes. Seek medical attention.

Ingestion:Rinse the mouth and administer 15–30 ml of vegetable oil to induce vomiting. Avoid using vegetable oil in cases of prolonged ingestion; instead, provide oral milk or egg white. Seek medical attention immediately.

Advice for rescuers:Use personal protective equipment as needed.

Special note for physicians:Methemoglobinemia can be treated with methylene blue and vitamin C.

Part V Fire Safety Measures

Fire extinguishing agents:Use water mist, fire-resistant foam, dry powder, carbon dioxide, or sand to extinguish the fire.

Special hazards:Toxic gases are released during decomposition at high temperatures. Chemical reactions may occur upon contact with strong oxidizing agents. Combustion produces harmful carbon monoxide.

Fire suppression precautions and protective measures:Firefighters must wear respirators and full-body fire-resistant and chemical-proof suits, approaching the fire from upwind. Move containers to an open area whenever possible. Spray water to keep containers cool until the fire is fully extinguished.

Part VI: Emergency Response to Leaks

Protective measures, protective equipment, and emergency response procedures for personnel:Isolate the contaminated leakage area and restrict access. Eliminate all ignition sources. Emergency responders are advised to wear dust masks, standard work clothing, and rubber gloves. Cut off the leakage source whenever possible. Cover the leaked material with plastic sheeting to minimize dispersion. Prevent water from entering the packaging container.

Environmental protection measures:No information available.

Methods for containing and removing leaked chemicals, as well as the disposal materials used:Collect the leaked substance using a clean shovel, place it in a dry, clean container with a loose lid, and move the container away from the spill area.

Part VII: Handling, Storage and Disposal

Operating Precautions:Perform operations in a sealed environment with adequate local exhaust ventilation. Where possible, conduct isolated operations. Operators must receive specialized training and strictly adhere to operating procedures. It is recommended that operators wear self-suction filtering dust masks, safety goggles, protective clothing resistant to chemical penetration, and rubber gloves. Keep away from sources of ignition and heat; smoking is strictly prohibited in the workplace. Use explosion-proof ventilation systems and equipment. Prevent dust generation. Avoid contact with oxidizers, acids, or alkalis. Handle with care during transportation to prevent damage to packaging and containers. Equip with appropriate types and quantities of fire extinguishers and leakage emergency response equipment. Empty containers may contain residual hazardous substances.

Storage Precautions:Store in a cool, well-ventilated warehouse. Keep away from sources of ignition and heat. Maintain warehouse temperature below 35°C and relative humidity below 80%. Package tightly to prevent air contact. Store separately from oxidizers, acids, alkalis, and food-grade chemicals; avoid mixing. Equip with appropriate firefighting equipment in adequate quantities. The storage area should have suitable materials for containing leaks.

Part VIII Contact Control/Personal Protection

Occupational exposure limits:China: PC-TWA: 20 mg/m³.

United States (ACGIH): TLV-TWA: 10 ppm; TLV-STEL: 20 ppm.

Biological contact limit:No standard established.

Monitoring Methods:Determination of toxic substances in air: Sodium carbonate spectrophotometry. Biological monitoring testing methods: No established standards.

Process Control:Maintain strict containment with adequate local exhaust ventilation. Perform isolated operations whenever possible. Provide safe shower and eye-wash facilities.

Personal Protective Equipment:

Respiratory protection:Wear a filtered respirator when airborne dust concentrations exceed safe limits. During emergency rescue or evacuation operations, use an air respirator.

Eye protection:Wear safety goggles.

Skin and body protection:Wear protective clothing resistant to toxic substance penetration.

Hand protection:Wear rubber gloves.

Part IX: Physical and Chemical Properties

Appearance and characteristics:White needle-like crystals with an unpleasant odor that gradually turn red when exposed to air.

pH:5.2

Melting point (°C):110.7

Boiling point (°C):276.5

Relative density (water = 1):1.27

Relative vapor density (air = 1):3.79

Saturation vapor pressure (kPa):0.13 (108.4°C)

Combustion heat (kJ/mol): -2847.8

Critical temperature (°C):No data

Critical pressure (MPa):7.49

Octanol/water partition coefficient:0.8

Flash point (°C):127

Self-ignition temperature (°C):608

Lower explosive limit (%):1.4

Explosion limit (%):9.8

Decomposition temperature (°C):No data available

Viscosity (mPa·s):No data available

Dissolution:Easily soluble in water, ethanol, and ether; slightly soluble in chloroform.

Part 10: Stability and Reactivity

Stability:Stable.

Hazardous reaction:Reaction with incompatible substances such as strong oxidizing agents.

Conditions to avoid exposure:heat and light.

Incompatible substances:acyl chlorides, anhydrides, bases, strong oxidizing agents, strong acids.

Hazardous decomposition products:No data available.

Part XI Toxicological Information

Acute toxicity:LD₅₀:301 mg/kg (oral administration in rats); 3360 mg/kg (percutaneous administration in rabbits).

Skin irritation or corrosion:In rabbits via dermal route: 20 mg (over 24 hours) – moderate irritation.

Eye irritation or corrosion:In rabbits administered orally: 100 mg, severe irritation.

Respiratory or skin allergy:No data

Mutagenicity of germ cells:Microbial mutagenicity: Salmonella typhimurium at 20 μmol per plate; cytogenetic analysis; human lymphocytes at 80 mg/L.

Carcinogenicity:IARC's carcinogenicity assessment: Group 3 – current evidence does not allow classification of human carcinogenicity; insufficient evidence for carcinogenicity in humans and animals.

Reproductive toxicity:No data available.

Specific target organ system toxicity – single exposure:No data available.

Specific target organ system toxicity – repeated exposure:Rabbits and guinea pigs exposed to 34 mg/m³ for 6 hours daily over 2 weeks exhibited pathological changes in the liver, kidneys, myocardium, spleen, and lungs.

Inhalation hazards:No data available.

Part XII: Ecological Information

Ecotoxicity:LC₅₀:88.6 mg/L (24 h), 72.6 mg/L (48 h), 53.4 mg/L (96 h) (Black-headed catfish); 170 mg/L (24 h), 78 mg/L (48 h), 42 mg/L (96 h) (Grass shrimp).

EC₅₀:0.8 mg/L (48 h) (water flea).

Durability and Degradability:

Biodegradability: According to the MITI-I test at an initial concentration of 100 ppm and sludge concentration of 30 ppm, degradation reached 66.7% after two weeks.

Non-biodegradability: In air, the degradation half-life is 2 hours (theoretical) at a hydroxyl radical concentration of 5.00×10⁻⁶ per cm³.

Potential bioaccumulation:Based on the K_{ow} value, the bioaccumulation potential of this substance is likely to be weak.

Migration in soil:According to the K_{oc} value, this substance is likely prone to migration.

Part 13: Waste Disposal

Waste chemicals:Dispose by incineration. After thorough contact with sodium bicarbonate or solid flammable materials, incinerate.

Contaminated packaging:Return the container to the manufacturer or dispose of it in accordance with national and local regulations.

Disposal precautions:Return empty containers to the manufacturer or dispose of them at designated sites.

Part 14: Transportation Information

United Nations Dangerous Goods Number (UN Number):2876

United Nations Transport Name:Resorcinol

United Nations Hazard Classification:6.1

Packaging category:Class III packaging

packing mark :



Marine pollutants:No

Transportation Precautions:Before transportation, verify that the packaging container is intact and properly sealed. During transit, ensure the container remains leak-proof, stable, free from collapse or damage. Strictly prohibit mixing with acids, oxidizers, food products, or food additives. Transport vehicles must be equipped with appropriate types and quantities of firefighting equipment and leakage emergency response devices. During transport, protect the container from direct sunlight, rain, and high temperatures.

Part 15: Regulatory Information

The following laws, regulations, rules, and standards contain corresponding provisions for the management of this chemical substance.

Law of the People's Republic of China on the Prevention and Treatment of Occupational Diseases:Classification and catalog of occupational diseases: Not listed.

Regulations on the Safety Management of Hazardous Chemicals:List of hazardous chemicals: Included. List of explosive-prone hazardous chemicals: Not included. List of key hazardous chemicals under supervision:Not included. GB18218-2018 "Identification of Major Hazard Sources for Hazardous Chemicals" (Table 1):Not included.

Regulations on Labor Protection in Workplaces Where Toxic Substances Are Used:List of highly toxic substances: Not included.

Regulations on the Management of Chemicals Susceptible to Drug Manufacturing:Classification and list of types of chemicals susceptible to drug manufacturing: Not included.

International Conventions:Stockholm Convention: Not included; Rotterdam Convention: Not included; Montreal Protocol: Not included.

Part 16: Other Information

Writing and Revision Information:

Changes in this version:Compared to the previous version, new sections on molecular formulas, relative molecular masses, and structural formulas have been added; corresponding content has been incorporated in accordance with the "Comprehensive Book of Safety Technology for Hazardous Chemicals"; and the order of certain sections has been adjusted.

Revision notes:Updated every 5 years or when new relevant national laws and regulations are enacted.

References:Safety Culture Network

Disclaimer:The information in this SDS applies solely to the specified product. Unless otherwise stated, it does not apply to mixtures of this product with other substances. This SDS provides safety information only for properly trained users of the product. Users must independently assess the suitability of this SDS under specific usage conditions. The authors of this SDS shall not be liable for any injuries resulting from its use in exceptional circumstances.