

# 1,3-BENZENEDIOL

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## 1. Product Identification

**Synonyms:** Resorcin; 1-3 Dihydroxybenzene; m-Benzenediol; Resorcinol

**CAS No.:** 108-46-3

**Molecular Weight:** 110.11

**Chemical Formula:**  $C_6H_6O_2$

**Product Codes:** CHEM-163 and others

## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
1,3-Benzenediol	108-46-3	90-100	Yes

## 3. Hazards Identification

### Emergency Overview

**DANGER! MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE METHEMOGLOBINEMIA. AFFECTS CARDIOVASCULAR SYSTEM, CENTRAL NERVOUS SYSTEM, BLOOD, SPLEEN, LIVER AND KIDNEYS. CAUSES SEVERE IRRITATION TO SKIN AND EYES. CAUSES IRRITATION TO RESPIRATORY TRACT. MAY CAUSE ALLERGIC SKIN REACTION.**

### SAF-T-DATA<sup>(tm)</sup> Ratings

Health Rating: 2 - Moderate (Poison)

Flammability Rating: 1 - Slight

Reactivity Rating: 1 - Slight

Contact Rating: 3 - Severe (Life)

Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES

Storage Color Code: Blue (Health)

### Potential Health Effects

#### Inhalation:

Inhalation of dust causes irritation to respiratory tract. Toxic effects may follow and include methemoglobinemia, convulsions, and death.

#### Ingestion:

Toxic! A poison to blood and nerves. Causes gastrointestinal upset with severe diarrhea, sweating, weakness, headache, dizziness, cyanosis, spleen damage, kidney damage, cardiovascular effects, liver damage, and possibly convulsions and death.

**Skin Contact:**

Strong irritant to skin, causing severe dermatitis and loss of superficial layers of skin. Can be absorbed through skin with severe exposures producing symptoms paralleling ingestion and enlargement of local lymph glands. May cause allergic skin reactions.

**Eye Contact:**

Strong irritant. Can cause permanent damage.

**Chronic Exposure:**

Target organs include liver and kidneys.

**Aggravation of Pre-existing Conditions:**

Persons with pre-existing disorders of the blood, skin, liver, kidneys or lungs may be at an increased risk from exposure.

## 4. First Aid Measures

**Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

**Ingestion:**

If swallowed, give large quantities of water to drink and get medical attention immediately. Never give anything by mouth to an unconscious person.

**Skin Contact:**

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

**Eye Contact:**

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

## 5. Fire Fighting Measures

**Fire:**

Flash point: 127°C (261°F) CC

Autoignition temperature: 608°C (1126°F)

As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source.

**Explosion:**

Not considered to be an explosion hazard.

**Fire Extinguishing Media:**

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

**Special Information:**

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. Sealed containers may rupture when heated.

## 6. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

## 7. Handling and Storage

Keep in a tightly closed container. Store in a cool, dry, ventilated area away from sources of heat or ignition. Protect against physical damage. Store separately from reactive or combustible materials, and out of direct sunlight. Isolate from incompatible substances. Control ignition sources. Employ grounding, bonding, venting and explosion relief provisions in accord with accepted engineering practices in any process capable of generating an explosion due to static discharge. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

## 8. Exposure Controls/Personal Protection

### **Airborne Exposure Limits:**

-ACGIH Threshold Limit Value (TLV):

10 ppm (TWA), 20 ppm (STEL) A4 Not classifiable as a human carcinogen.

### **Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

### **Personal Respirators (NIOSH Approved):**

If the exposure limit is exceeded and engineering controls are not feasible, a full facepiece particulate respirator (NIOSH type N100 filters) may be worn for up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. If heat is involved, an organic vapor/particulate cartridge (NIOSH type N95 or better filter) may be necessary.

### **Skin Protection:**

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

### **Eye Protection:**

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

## 9. Physical and Chemical Properties

**Appearance:**

White powder or crystals. May have pinkish cast.

**Odor:**

Slight characteristic odor.

**Solubility:**

Completely soluble in water.

**Specific Gravity:**

1.27

**pH:**

5.2

**% Volatiles by volume @ 21°C (70°F):**

No information found.

**Boiling Point:**

280°C (536°F)

**Melting Point:**

110°C (230°F)

**Vapor Density (Air=1):**

3.8

**Vapor Pressure (mm Hg):**

1 @ 42C (108F)

**Evaporation Rate (BuAc=1):**

No information found.

## 10. Stability and Reactivity

**Stability:**

Stable under ordinary conditions of use and storage. Discolors on exposure to air and light (turns pink).

**Hazardous Decomposition Products:**

Carbon dioxide and carbon monoxide may form when heated to decomposition.

**Hazardous Polymerization:**

Will not occur.

**Incompatibilities:**

Oxidizers, alkalis, ferric salts, acetanilide, albumin, alkalis, antipyrine, ferric salts, camphor, menthol, spirit nitrous ether, and urethane.

**Conditions to Avoid:**

Heat, flames, ignition sources and incompatibles.

## 11. Toxicological Information

Eye rabbit, standard Draize: 100 mg severe; oral rat LD50: 301 mg/kg; skin rabbit LD50: 3360 mg/kg. Investigated as a tumorigen and mutagen.

Ingredient	Known	Cancer Lists	
		NTP Carcinogen	IARC Category
Resorcinol (108-46-3)	No	No	3

## 12. Ecological Information

### Environmental Fate:

When released into the soil, this material is expected to readily biodegrade. When released into the soil, this material may leach into groundwater. When released into water, this material is expected to readily biodegrade. 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 is expected to have a half-life of less than 1 day.

### Environmental Toxicity:

96 Hr LC50 fathead minnow: 53.4 mg/L;

96 Hr LC50 rainbow trout: >100 mg/L;

48 Hr LC50 goldfish: 57.4 mg/L

This material is expected to be slightly toxic to aquatic life.

## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transport Information

### Domestic (Land, D.O.T.)

**Proper Shipping Name:** RESORCINOL

**Hazard Class:** 6.1

**UN/NA:** UN2876

**Packing Group:** III

**Information reported for product/size:** 12KG

### International (Water, I.M.O.)

**Proper Shipping Name:** RESORCINOL

**Hazard Class:** 6.1

**UN/NA:** UN2876

**Packing Group:** III

**Information reported for product/size:** 12KG

## 15. Regulatory Information

### Chemical Inventory Status - Part 1

Ingredient	TSCA	EC	Japan	Australia
Resorcinol (108-46-3)	Yes	Yes	Yes	Yes

### Chemical Inventory Status - Part 2

#### Canada

Ingredient	Korea	DSL	NDSL	Phil.
Resorcinol (108-46-3)	Yes	Yes	No	Yes

Federal, State & International Regulations - Part 1

SARA 302 SARA 313

Ingredient	RQ	TPQ	List	Chemical Catg.
Resorcinol (108-46-3)	No	No	No	No

Federal, State & International Regulations - Part 2

RCRA TSCA

Ingredient	CERCLA	261.33	8(d)
Resorcinol (108-46-3)	5000	U201	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No  
SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No  
Reactivity: No (Pure / Solid)

**Australian Hazchem Code:** 2X

**Poison Schedule:** None allocated.

**WHMIS:**

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

## 16. Other Information

**NFPA Ratings:** Health: 3 Flammability: 1 Reactivity: 0

**Label Hazard Warning:**

DANGER! MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. MAY CAUSE METHEMOGLOBINEMIA. AFFECTS CARDIOVASCULAR SYSTEM, CENTRAL NERVOUS SYSTEM, BLOOD, SPLEEN, LIVER AND KIDNEYS. CAUSES SEVERE IRRITATION TO SKIN AND EYES. CAUSES IRRITATION TO RESPIRATORY TRACT. MAY CAUSE ALLERGIC SKIN REACTION.

**Label Precautions:**

Do not get in eyes.

Do not breathe dust.

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

**Label First Aid:**

If swallowed, give large amounts of water to drink. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. In all cases get medical attention immediately.

**Product Use:**

Laboratory Reagent and Consumer Hobby

**Revision Information:**

No Changes.

**Disclaimer:**

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