Material Safety Data Sheet
Resorcinol

MSDS# 20100

Section 1 - Chemical Product and Company Identification

MSDS Name: Resorcinol
Catalog Numbers: R17-500, R254-500, S76796, S77938 REAG
Synonyms: 1,3-Benzenediol; m-Dihydroxybenzene; Resorcin; 1,3-Dihydroxybenzene; m-Benzenediol; m-Hydroxyphenol; 3-Hydroxyphenol.

Company Identification: Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410

For information in the US, call: 201-796-7100
Emergency Number US: 201-796-7100
CHEMTREC Phone Number, US: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#: 108-46-3
Chemical Name: Resorcinol
%
100
EINECS#: 203-585-2

Hazard Symbols: XN N
Risk Phrases: 22 36/38 50

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Danger! Causes eye burns. Causes respiratory tract irritation. Causes skin irritation. Dangerous for the environment. Hygroscopic (absorbs moisture from the air). Harmful if swallowed. May cause methemoglobinemia. May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). May be harmful if absorbed through skin or if inhaled. Target Organs: Blood, kidneys, liver, spleen, nerves.

Potential Health Effects

Eye: Contact with eyes may cause severe irritation, and possible eye burns. Contact of the eye with resorcinol has caused necrosis and corneal perforation.
Causes moderate skin irritation. May be absorbed through the skin in harmful amounts. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. If absorbed, may cause symptoms similar to those for ingestion. Resorcinol has been known to cause hyperemia (an excess of blood in a part), itch, dermatitis, edema, and corrosion.
May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns. May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, and death.

Skin: Inhalation: Dust is irritating to the respiratory tract. Causes irritation of the mucous membrane and upper respiratory tract.
Chronic: May cause liver and kidney damage. Repeated exposure may cause sensitization dermatitis. Repeated exposure may cause damage to the spleen.

Section 4 - First Aid Measures
Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

Skin: In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

Ingestion: If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Persons with skin problems or liver, kidney, lung, or blood diseases may be at increased risk from exposure to this substance. Absorption of this product into the body may cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). Moderate degrees of cyanosis need to be treated only by supportive measures: bed rest and oxygen inhalation. If cyanosis is severe, intravenous injection of Methylene Blue, 1mg/kg of body weight may be of value.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Water runoff can cause environmental damage. Dike and collect water used to fight fire. Dusts at sufficient concentrations can form explosive mixtures with air. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

Extinguishing Media: Water spray may cause frothing. Cool containers with flooding quantities of water until well after fire is out. In case of fire, use carbon dioxide, dry chemical powder or appropriate foam.

Autoignition Temperature: 608 deg C (1,126.40 deg F)
Flash Point: 127 deg C (260.60 deg F)
Explosion Limits: Lower: 1.4% @ 200deg C
Explosion Limits: Upper: Not available
NFPA Rating: health: 3; flammability: 1; instability: 0;

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Store protected from light. Store protected from air. Use only with adequate ventilation. Avoid breathing dust.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Do not expose to air. Store protected from light.

Section 8 - Exposure Controls, Personal Protection

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resorcinol</td>
<td>10 ppm; 20 ppm</td>
<td>10 ppm TWA; 45 mg/m3 TWA</td>
<td>none listed</td>
</tr>
<tr>
<td>STEL</td>
<td>mg/m3 TWA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OSHA Vacated PELs: Resorcinol: 10 ppm TWA; 45 mg/m3 TWA

Engineering Controls: Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Exposure Limits
Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective clothing to prevent skin exposure.

Clothing: Wear appropriate protective gloves to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA’s 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Powder

Color: white

Odor: pleasant odor

pH: 5.2 in solution

Vapor Pressure: 1 mm Hg @ 108.4 deg C

Vapor Density: 3.8 (air=1)

Evaporation Rate: Negligible

Viscosity: Not available

Boiling Point: 276 deg C (528.80°F)

Freezing/Melting Point: 110.7 deg C (231.26°F)

Decomposition Temperature: Not available

Solubility in water: Soluble

Specific Gravity/Density: 1.272

Molecular Formula: C6H6O2

Molecular Weight: 110.11

Section 10 - Stability and Reactivity

Chemical Stability: Stable at normal temperatures in tightly closed containers under an inert atmosphere. Substance undergoes color change upon exposure to light and air. May undergo auto-oxidation at 25°C.

Conditions to Avoid: Light, dust generation, exposure to air, excess heat.

Incompatibilities with Other Materials: Strong oxidizing agents, bases, nitric acid, albumin, iron salts, antipyrine, acetanilide, menthol, urethane, spirit nitrous ether, camphor.

Hazardous Decomposition Products: Carbon monoxide, carbon monoxide, carbon dioxide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#: CAS# 108-46-3: VG9625000

RTECS: CAS# 108-46-3: Draize test, rabbit, eye: 100 mg Severe; Draize test, rabbit, skin: 500 mg; Draize test, rabbit, skin: 20 mg/24H Moderate; Oral, mouse: LD50 = 200 mg/kg; Oral, rat: LD50 = 301 mg/kg; Oral, rat: LD50 = 301 mg/kg; Skin, rabbit: LD50 = 3360 mg/kg; Skin, rabbit: LD50 = 3360 mg/kg;

LD50/LC50: Other: Oral human LDLo: 29 mg/kg. Ihl rat LCLo: 160 mg/m3/1H. Skin mouse TDLo: 4800 mg/kg/12W intermittent - produced skin tumors.

Carcinogenicity: Resorcinol - IARC: Group 3 (not classifiable)

Other: Standard Draize Test(Skin, rabbit) = 20 mg/24H (Moderate) Standard Draize Test: Administration into the eye (rabbit) = 100 mg (Severe).

Section 12 - Ecological Information

Ecotoxicity: Fish: Fathead Minnow: LC50 = 88.6 mg/L; 24Hr; Unspecified

Fish: Fathead Minnow: LC50 = 72.6 mg/L; 48 Hr; Unspecified

Fish: Fathead Minnow: LC50 = 53.4 mg/L; 96 Hr; Unspecified
Other: Dangerous to aquatic life in high concentrations.

Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 - Transport Information

US DOT
Shipping Name: RESORCINOL
Hazard Class: 6.1
UN Number: UN2876
Packing Group: III
Canada TDG
Shipping Name: Not available
Hazard Class:
UN Number:
Packing Group:

USA RQ: CAS# 108-46-3: 5000 lb final RQ; 2270 kg final RQ

Section 15 - Regulatory Information

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols: XN N
Risk Phrases:
R 22 Harmful if swallowed.
R 36/38 Irritating to eyes and skin.
R 50 Very toxic to aquatic organisms.
Safety Phrases:
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)
CAS# 108-46-3: 1

Canada
CAS# 108-46-3 is listed on Canada's DSL List
Canadian WHMIS Classifications: D1B, D2B
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.
CAS# 108-46-3 is listed on Canada's Ingredient Disclosure List

US Federal
TSCA
CAS# 108-46-3 is listed on the TSCA Inventory.

Section 16 - Other Information
MSDS Creation Date: 6/30/1999
Revision #7 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantibility or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits.
or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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