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## Material Safety Data Sheet Hydroquinone

ACC# 11230

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Hydroquinone

**Catalog Numbers:** S80041, H329 500, H329-500, H329500

**Synonyms:** 1,4-Benzenediol; p-Dihydroxybenzene; p-Hydroquinone; Quinol; 1,4-Dihydroxybenzene.

**Company Identification:**

Fisher Scientific  
1 Reagent Lane  
Fairlawn, NJ 07410

**For information, call:** 201-796-7100

**Emergency Number:** 201-796-7100

**For CHEMTREC assistance, call:** 800-424-9300

**For International CHEMTREC assistance, call:** 703-527-3887

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/EL
123-31-9	HYDROQUINONE	>98	204-617-

**Hazard Symbols:** XN

**Risk Phrases:** 20/22

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: white to off-white. **Warning!** May cause allergic skin reaction. This substance has caused adverse reproductive and fetal effects in animals. Harmful if swallowed. May cause methemoglobinemia. Eye contact may result permanent eye damage. May cause digestive tract irritation with nausea, vomit

and diarrhea. May cause cancer based on animal studies.  
**Target Organs:** Central nervous system, respiratory system.

#### Potential Health Effects

**Eye:** May cause eye irritation. Repeated exposure may cause corneal abnormalities including structural changes and brownish discoloration which can lead to decreased visual acuity and blindness.

**Skin:** Causes severe skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Repeated exposure may cause hyperpigmentation of fair skin and depigmentation of dark skin.

**Ingestion:** May cause respiratory failure. May cause methemoglobinemia, cyanosis, convulsions and death. May cause severe irritation of the digestive tract. May cause ringing ears, muscle tremors, and breathing difficulty.

**Inhalation:** May cause respiratory tract irritation.

**Chronic:** Prolonged or repeated skin contact may cause sensitization dermatitis and possible destruction and/or ulceration.

#### Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid immediately. Do NOT allow victim to rub or keep eyes closed.

**Skin:** Get medical aid. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

**Ingestion:** If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.

**Inhalation:** Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** Treat symptomatically and supportively.

**Antidote:** No specific antidote exists.

#### Section 5 - Firefighting 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. Dusts at sufficient concentrations can form explosive mixtures with air.

**Extinguishing Media:** For small fires, use water spray, dry chemical, carbon dioxide or chemical foam.

**Autoignition Temperature:** 960 deg F (515.56 deg C)

**Flash Point:** 329 deg F (165.00 deg C)

**NFPA Rating:** flammability-1; reactivity-0; \*See list description Explosion Limits, Lower: Not available. Upper: Not available.

#### Section 6 - Accidental Release Measures

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

**Spills/Leaks:** Wear a self-contained breathing apparatus and appropriate Personal Protection (Exposure Controls, Personal Protection section). Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions.

#### Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with skin, and clothing. Keep container tightly closed. Do not ingest or inhale.

**Storage:** Keep away from sources of ignition. Do not store in direct sunlight. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances.

### Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

**Exposure Limits**

Chemical Name	ACGIH	NIOSH	OSHA - Final
HYDROQUINONE	2 mg/m <sup>3</sup>	50 mg/m <sup>3</sup> IDLH	2 mg/m <sup>3</sup> T

**OSHA Vacated PELs:** HYDROQUINONE: 2 mg/m<sup>3</sup> TWA

**Personal Protective Equipment**

**Eyes:** Wear safety glasses with side shields.

**Skin:** Wear appropriate gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

### Section 9 - Physical and Chemical Properties

**Physical State:** Solid

**Appearance:** white to off-white

**Odor:** None reported

**pH:** Not available.

**Vapor Pressure:** 1 mm Hg @ 132C

**Vapor Density:** 3.8 (air=1)

**Evaporation Rate:**

**Viscosity:** Not available.

**Boiling Point:** 545 deg F

**Freezing/Melting Point:** 342 deg F

**Decomposition Temperature:** Not available.

**Solubility:** 7% @ 20C in water.

**Specific Gravity/Density:** 1.33 (water=1)

**Molecular Formula:** C<sub>6</sub>H<sub>6</sub>O<sub>2</sub>

**Molecular Weight:**

### Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures. Substance undergoes change upon exposure to light and air.

**Conditions to Avoid:** Incompatible materials, ignition sources, dust generation.

**Incompatibilities with Other Materials:** Strong oxidizers, alkalis. Undergoes violent reaction with sodium hydroxide.

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

**Hazardous Polymerization:** Has not been reported.

### Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 123-31-9: MX3500000

**LD50/LC50:**

**CAS#** 123-31-9:

Oral, mouse: LD50 = 245 mg/kg;

Oral, rabbit: LD50 = 200 mg/kg;

Oral, rat: LD50 = 320 mg/kg;

**Carcinogenicity:**

CAS# 123-31-9:

**ACGIH:** A3 - Animal Carcinogen

**IARC:** Group 3 carcinogen

**Epidemiology:** Substance may be involved in cancer-forming processes.

**Teratogenicity:** No information available.

**Reproductive Effects:** Fertility: Male index, subcutaneous(sct)-rat TDLo=5100 mg/kg; Post-implantation mortality, oral-rat TDLo=2500 mg/kg. Maternal Effects: Menstrual cycle abnormalities, sct-rat TDLo=550mg/kg; Ovaries/fallopian tubes, sct-rat TDLo=5mg/kg. Patern Effects: Prostate/seminal vesicle/Cowpers gland/urethra and Testes/sperm duct/epididymis, s TDLo=5100mg/kg.

**Neurotoxicity:** No information available.

**Mutagenicity:** DNA Inhibition: human Hela cell 100umol/L mouse lymphocyte 10umol/L Unscheduled DNA Synthesis: rat oral 8g/kg. Sister Chromatid Exchange: human lymphocyte 5umol/L.

**Other Studies:** Please refer to RTECS MX3500000 for additional information.

### Section 12 - Ecological Information

**Ecotoxicity:** Goldfish LC50 = 0.287 mg/L/48H Golden minnow LC50 = 0.15 mg/L/48H Rainbo trout LC50 = 0.097 mg/L/96H

**Environmental Fate:** Substance has a high biological oxygen demand, and a high potential t aquatic organisms. Substance readily biodegrades, and is not likely to bioconcentrate.

**Physical/Chemical:** No information available.

**Other:** None.

### Section 13 - Disposal Considerations

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

**RCRA D-Series Maximum Concentration of Contaminants:** None listed.

**RCRA D-Series Chronic Toxicity Reference Levels:** None listed.

**RCRA F-Series:** None listed.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

### Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO
<b>Shipping Name:</b>	HYDROQUINONE	No information available.	No information available.	No information available.HYDROQUINO
<b>Hazard Class:</b>	6.1			6.1
<b>UN Number:</b>	UN2662			UN2662
<b>Packing Group:</b>	III			III

### Section 15 - Regulatory Information

#### US FEDERAL

**TSCA**

CAS# 123-31-9 is listed on the TSCA inventory.

**Health & Safety Reporting List**

CAS# 123-31-9: Effective Date: October 4, 1984; Sunset Date: October 4, 1994

**Chemical Test Rules**

CAS# 123-31-9: Testing required by: manufacturers; processors (40 CFR 799.2)

**Section 12b**

None of the chemicals are listed under TSCA Section 12b.

**TSCA Significant New Use Rule**

None of the chemicals in this material have a SNUR under TSCA.

**SARA****Section 302 (RQ)**

None of the chemicals in this material have an RQ.

**Section 302 (TPQ)**

CAS# 123-31-9: TPQ = 500/10,000 pounds; RQ = 100 pounds (does not meet toxicity criteria cause of high production volume and recognized toxicity is considered a chemical of concern)

**SARA Codes**

CAS # 123-31-9: acute, chronic.

**Section 313**

This material contains HYDROQUINONE (CAS# 123-31-9, 98%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

**Clean Air Act:**

CAS# 123-31-9 is listed as a hazardous air pollutant (HAP). This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

**Clean Water Act:**

None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**OSHA:**

None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE**

CAS# 123-31-9 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

California No Significant Risk Level: None of the chemicals in this product are listed.

**European/International Regulations****European Labeling in Accordance with EC Directives****Hazard Symbols:**

XN

**Risk Phrases:**

R 20/22 Harmful by inhalation and if swallowed.

**Safety Phrases:**

S 24/25 Avoid contact with skin and eyes. S 39 Wear eye/face protection.

**WGK (Water Danger/Protection)**

CAS# 123-31-9: 2

**Canada**

CAS# 123-31-9 is listed on Canada's DSL/NDSL List.

This product has a WHMIS classification of D1B, D2B.

CAS# 123-31-9 is not listed on Canada's Ingredient Disclosure List.

**Exposure Limits**

CAS# 123-31-9: OEL-AUSTRALIA:TWA 2 mg/m3 OEL-BELGIUM:TWA 2 mg/m3 OEL-DENMARK:STEL 2 mg/m3 OEL-FINLAND:TWA 2 mg/m3;STEL 4 mg/m3;Skin OEL-FRANCE:TWA 2 mg/m3 OEL-GERMANY:TWA 2 mg/m3 OEL-THE NETHERLANDS:TWA 2 mg/m3 OEL-THE PHILIPPINES:TWA 2 mg/m3 OEL-POLAND:TWA 2 mg/m3 OEL-SWEDEN:TWA 0.5 mg/m3;STEL 1.5 mg/m3 OEL-SWITZERLAND:TWA 2 mg/m3;STEL 4 mg/m3 OEL-TURKEY:TWA 2 mg/m3 OEL-UNITED KINGDOM:TWA 2 mg/m3;STEL 4 mg/m3 OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

## Section 16 - Additional Information

**MSDS Creation Date:** 4/21/1995

**Revision #7 Date:** 12/12/1997

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