

Material Safety Data Sheet

Hydroquinone

ACC# 11230

Section 1 - Chemical Product and Company Identification

MSDS Name: Hydroquinone**Catalog Numbers:** AC120910000, AC120910020, AC120910050, AC120915000, AC219930000, AC219930050, AC219930500, S75134, S80041, H329-500**Synonyms:** 1,4-Benzenediol; p-Dihydroxybenzene; Hydroquinol; Quinol; 1,4-Dihydroxybenzene; p-Hydroxyphenol; HQ.**Company Identification:**Fisher Scientific
1 Reagent Lane
Fair Lawn, 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/ELINCS
123-31-9	Hydroquinone	99	204-617-8

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white to off-white solid.

Warning! Eye contact may result in permanent eye damage. Possible risks of irreversible effects. Harmful if swallowed. May cause allergic skin reaction. Causes eye and skin irritation. May cause respiratory tract irritation. May cause methemoglobinemia. Light sensitive. Air sensitive. May cause dermatitis. May cause reproductive and fetal effects.

Target Organs: Central nervous system, eyes, skin.

Potential Health Effects

Eye: May result in corneal injury. May cause conjunctivitis and keratitis. Causes eye irritation and possible burns. May cause redness, pain, blurred vision and possible eye damage.

Skin: May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May cause dermatitis. Causes redness and pain. May be harmful if absorbed through the skin. Repeated exposure may cause hyperpigmentation of fair skin and depigmentation of dark skin. Causes skin irritation and possible burns. Substance is readily absorbed through the skin.

Ingestion: Harmful if swallowed. May cause severe irritation of the digestive tract. May cause dizziness, nausea, sense of suffocation, increased respiratory rate, vomiting, pallor, muscle twitching, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), delirium, collapse. May cause green or brownish green urine which continues to darken upon standing. May cause liver damage leading to jaundice. May cause harmful nervous system effects, including tremors and convulsions.

Inhalation: Causes cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). May cause respiratory tract irritation. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Central nervous system effects may include confusion, ataxia (failure of muscular coordination), vertigo, tinnitus, weakness, disorientation, lethargy, drowsiness, and finally coma. May be harmful if inhaled. May cause burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Pure hydroquinone does not readily form a vapor at room temperature. The dust may cause irritation of the nose, throat and upper respiratory tract. In the presence of air and moisture, hydroquinone dust may react to form irritating quinone which forms a vapor at room temperature. The rate of this reaction depends on the pH of the medium, with alkaline solutions reacting more readily. Therefore, exposures to hydroquinone dust may involve exposure to quinone vapor which is a respiratory irritant. The degree of irritation depends on how much quinone is formed.

Chronic: Prolonged or repeated skin contact may cause sensitization dermatitis and possible destruction and/or ulceration. May cause methemoglobinemia, which is characterized by chocolate-brown colored blood, headache, weakness, dizziness, breath shortness, cyanosis (bluish skin due to deficient oxygenation of blood), rapid heart rate, unconsciousness and possible death. May cause reproductive and fetal effects. Possible risk of irreversible effects.

Section 4 - First Aid Measures

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

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

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Remove from exposure and move 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.

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. Dusts at sufficient concentrations can form explosive mixtures with air. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Use foam, dry chemical, or carbon dioxide.

Flash Point: 165 deg C (329.00 deg F)

Autoignition Temperature: 550 deg C (1,022.00 deg F)

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 1; Instability: 1

Section 6 - Accidental Release Measures

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

Spills/Leaks: Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Use only in a well-ventilated area. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

Storage: Store in a cool, dry place. Do not store in direct sunlight.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Hydroquinone	2 mg/m ³ TWA	50 mg/m ³ IDLH	2 mg/m ³ TWA

OSHA Vacated PELs: Hydroquinone: 2 mg/m³ TWA

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Solid

Appearance: white to off-white

Odor: odorless

pH: 3.75 (70g/l aq. soln)

Vapor Pressure: 0.00067 mm Hg @ 25 deg C

Vapor Density: 3.8 (air=1)

Evaporation Rate: Negligible.

Viscosity: Not available.

Boiling Point: 285 - 287 deg C @ 760 mmHg

Freezing/Melting Point:170 - 174 deg C
Decomposition Temperature:Not available.
Solubility: 70 g/l @ 20°C
Specific Gravity/Density:1.320 g/cm3
Molecular Formula:C6H6O2
Molecular Weight:110.11

Section 10 - Stability and Reactivity

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

Conditions to Avoid: Light, dust generation, moisture.

Incompatibilities with Other Materials: Strong oxidizing agents, strong bases, caustics (e.g. ammonia, ammonium hydroxide, calcium hydroxide, potassium hydroxide, sodium hydroxide), alkalies.

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

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, mouse: LD50 = 350 mg/kg;

Oral, rabbit: LD50 = 200 mg/kg;

Oral, rat: LD50 = 302 mg/kg;

Oral, rat: LD50 = 320 mg/kg;

Carcinogenicity:

CAS# 123-31-9:

- **ACGIH:** A3 - Confirmed animal carcinogen with unknown relevance to humans
- **California:** Not listed.
- **NTP:** Not listed.
- **IARC:** Not listed.

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. Paternal Effects: Prostate/seminal vesicle/Cowpers gland/urethra and Testes/sperm duct/epididymis, sct-rat TDLo=5100mg/kg.

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.

Neurotoxicity: No information available.

Other Studies:

Section 12 - Ecological Information
--

Ecotoxicity: Fish: Rainbow trout: LC50 = 0.097 mg/L; 96 Hr.; UnspecifiedFish: Fathead Minnow: LC50 = 0.1-0.18 mg/L; 96 Hr.; UnspecifiedBacteria: Phytobacterium phosphoreum: EC50 =0.77-3.97 mg/L; 5,15,30 minutes; Microtox test No data available.

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

Physical: No information available.

Other: None.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	HYDROQUINONE	TOXIC SOLIDS, ORGANIC, N.O.S. (HYDROQUINONE)
Hazard Class:	6.1	6.1
UN Number:	UN2662	UN2811
Packing Group:	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 10/4/84, Sunset 10/4/94

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

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.

CERCLA Hazardous Substances and corresponding RQs

CAS# 123-31-9: 100 lb final RQ; 45.4 kg final RQ

SARA Section 302 Extremely Hazardous Substances

CAS# 123-31-9: 500 lb lower threshold TPQ; 10000 lb upper threshold TP Q

SARA Codes

CAS # 123-31-9: immediate, delayed.

Section 313

This material contains Hydroquinone (CAS# 123-31-9, 99%), 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 depletors.

This material does not contain any Class 2 Ozone depletors.

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, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

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 N

Risk Phrases:

R 22 Harmful if swallowed.

R 40 Limited evidence of a carcinogenic effect.

R 41 Risk of serious damage to eyes.

R 43 May cause sensitization by skin contact.

R 50 Very toxic to aquatic organisms.

R 68 Possible risk of irreversible effects.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

WGK (Water Danger/Protection)

CAS# 123-31-9: 2

Canada - DSL/NDSL

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

Canada - WHMIS

not available.

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.

Canadian Ingredient Disclosure List

CAS# 123-31-9 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information
--

MSDS Creation Date: 6/16/1999

Revision #8 Date: 1/25/2008

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability 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 Fisher 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 Fisher has been advised of the possibility of such damages.