Material Safety Data Sheet

Hydroquinone

MSDS# 11230

Section 1 - Chemical Product and Company Identification

MSDS Name:	Hydroquinone
Catalog Numbers:	AC120910000, AC120910020, AC120910050, AC120915000, AC219930000, AC219930050 AC219930050, AC219930500, H329-500
Synonyms:	1,4-Benzenediol; p-Dihydroxybenzene; Hydroquinol; Quinol; 1,4-Dihydroxybenzene; p-Hydroxyphenol; HQ.

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#:	123-31-9
Chemical Name:	Hydroquinone
%:	99
EINECS#:	204-617-8

Hazard Symbols: XN N

Risk Phrases: 22 40 41 43 50 68

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

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

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:

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.

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

Flash Point: 165 deg C (329.00 deg F)

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

NFPA Rating: 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

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Hydroquinone	1 mg/m3	50 mg/m3 IDLH	2 mg/m3 TWA

OSHA Vacated PELs: Hydroquinone: 2 mg/m3 TWA

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

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
Color:	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 in water:	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:
RTECS:
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: Hydroquinone - ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans IARC: Group 3 (not classifiable)

Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity:
Fish: Rainbow trout: LC50 = 0.097 mg/L; 96 Hr.; Unspecified
Fish: Fathead Minnow: LC50 = 0.1-0.18 mg/L; 96 Hr.; Unspecified

Bacteria: Phytobacterium phosphoreum: EC50 =0.77-3.97 mg/L; 5,15,30 minutes; Microtox test

Section 13 - Disposal Considerations

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

Section 14 - Transport Information

US DOT
Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.
Hazard Class: 9
UN Number: UN3077
Packing Group: III
Canada TDG
Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SO (HYDROQUINONE)
Hazard Class: 9
UN Number: UN3077
Packing Group: III

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

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

Canadian WHMIS Classifications: D1B, D2B, D2A

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# 123-31-9 is listed on Canada's Ingredient Disclosure List

US Federal

TSCA

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

Section 16 - Other Information

MSDS Creation Date: 6/16/1999

Revision #9 Date 7/20/2009

The information above is believed to be accurate and represents the best information currently available

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