# SAFETY DATA SHEET

**Creation Date** 26-September-2009 **Revision Date** 18-January-2018 **Revision Number** 4

## 1. Identification

**Product Name** **Hydroquinone**

**Cat No. :** **H329-500**

**CAS-No** 123-31-9
**Synonyms** 1,4-Dihydroxybenzene; 1,4-Benzenediol

**Recommended Use** Laboratory chemicals.
**Uses advised against** Not for food, drug, pesticide or biocidal product use

**Details of the supplier of the safety data sheet**

**Company**
**Importer/Distributor**
Fisher Scientific
112 Colonnade Road,
Ottawa, ON K2E 7L6,
Canada
Tel: 1-800-234-7437

**Manufacturer**
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

**Emergency Telephone Number**
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

## 2. Hazard(s) identification

**Classification**

**WHMIS 2015 Classification** Classified as hazardous under the Hazardous Products Regulations (SOR/2015-17)

| | |
|---|---|
| **Acute oral toxicity** | Category 4 |
| **Serious Eye Damage/Eye Irritation** | Category 1 |
| **Skin Sensitization** | Category 1 |
| **Germ Cell Mutagenicity** | Category 2 |
| **Carcinogenicity** | Category 2 |
| **Specific target organ toxicity (single exposure)** | Category 3 |
| Target Organs - Respiratory system, Central nervous system (CNS). | |
| **Combustible Dusts** | Category 1 |

**Label Elements**

**Signal Word**
Danger

**Hazard Statements**
May form combustible dust concentrations in air
Harmful if swallowed
May cause an allergic skin reaction
Causes serious eye damage

May cause respiratory irritation
Suspected of causing genetic defects
Suspected of causing cancer

**Precautionary Statements**
**Prevention**
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Keep container tightly closed
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Avoid breathing dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Contaminated work clothing should not be allowed out of the workplace
**Response**
In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion
IF ON SKIN: Wash with plenty of soap and water
IF INHALED: Remove person to fresh air and keep comfortable for breathing
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER/doctor
Rinse mouth
Wash contaminated clothing before reuse
**Storage**
Store locked up
Store in a well-ventilated place. Keep container tightly closed
**Disposal**
Dispose of contents/container to an approved waste disposal plant

**Other Hazards**
Very toxic to aquatic organisms

## 3. Composition/Information on Ingredients

| Component | CAS-No | Weight % |
|---|---|---|
| Hydroquinone | 123-31-9 | 99 |

## 4. First-aid measures

**General Advice** If symptoms persist, call a physician.

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.

**Inhalation** Move to fresh air. If breathing is difficult, give oxygen. Obtain medical attention.

**Ingestion** Clean mouth with water and drink afterwards plenty of water. Get medical attention if

symptoms occur.

**Most important symptoms/effects** Causes eye burns. May cause allergic skin reaction. . Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

**Notes to Physician** Treat symptomatically

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Unsuitable Extinguishing Media** No information available

**Flash Point** 165 °C / 329 °F

**Method -** No information available

**Autoignition Temperature** 520 °C / 968 °F

**Explosion Limits**

**Upper** No data available
**Lower** No data available
**Sensitivity to Mechanical Impact** No information available
**Sensitivity to Static Discharge** No information available

**Specific Hazards Arising from the Chemical**
Fine dust dispersed in air may ignite. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition. Do not allow run-off from fire fighting to enter drains or water courses.

**Hazardous Combustion Products**
Carbon monoxide (CO) Carbon dioxide ($CO_2$)
**Protective Equipment and Precautions for Firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

| Health | Flammability | Instability | Physical hazards |
|---|---|---|---|
| 2 | 1 | 1 | N/A |

## 6. Accidental release measures

**Personal Precautions** Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation.
**Environmental Precautions** Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. See Section 12 for additional ecological information. Avoid release to the environment. Collect spillage.

**Methods for Containment and Clean Up** Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep in suitable, closed containers for disposal.

## 7. Handling and storage

**Handling** Wear personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. Exposure controls / personal protection

**Exposure Guidelines**

| Component | Alberta | British | Ontario TWAEV | Quebec | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---|---|---|---|---|---|---|---|

| | | Columbia | | | | | |
|---|---|---|---|---|---|---|---|
| Hydroquinone | TWA: 2 mg/m³ | TWA: 1 mg/m³ | TWA: 1 mg/m³ | TWA: 2 mg/m³ | TWA: 1 mg/m³ | (Vacated) TWA: 2 mg/m³ TWA: 2 mg/m³ | IDLH: 50 mg/m³ Ceiling: 2 mg/m³ |

**Legend**

*ACGIH - American Conference of Governmental Industrial Hygienists*

*OSHA - Occupational Safety and Health Administration*

*NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health*

**Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

**Personal protective equipment**

**Eye Protection** Tightly fitting safety goggles Goggles

**Hand Protection** Protective gloves

| Glove material | Breakthrough time | Glove thickness | Glove comments |
|---|---|---|---|
| Nitrile rubber<br>Neoprene<br>Natural rubber<br>PVC | See manufacturers recommendations | - | Splash protection only |

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

**Respiratory Protection**

When workers are facing concentrations above the exposure limit they must use appropriate certified 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.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

**Recommended Filter type:** Particulates filter conforming to EN 143

When RPE is used a face piece Fit Test should be conducted

**Environmental exposure controls**

Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

| | |
|---|---|
| **Physical State** | Solid |
| **Appearance** | Off-white |
| **Odor** | Odorless |
| **Odor Threshold** | No information available |
| **pH** | 3.75 70 g/l aq.sol |
| **Melting Point/Range** | 170 - 174 °C / 338 - 345.2 °F |
| **Boiling Point/Range** | 285 - 287 °C / 545 - 548.6 °F @ 760 mmHg |
| **Flash Point** | 165 °C / 329 °F |
| **Evaporation Rate** | Not applicable |
| **Flammability (solid,gas)** | No information available |

| | |
|---|---|
| **Flammability or explosive limits** | |
| **Upper** | No data available |
| **Lower** | No data available |
| **Vapor Pressure** | 1 mmHg @ 132 °C |
| **Vapor Density** | Not applicable |
| **Specific Gravity** | 1.320 |
| **Solubility** | soluble |
| **Partition coefficient; n-octanol/water** | No data available |
| **Autoignition Temperature** | 520 °C / 968 °F |
| **Decomposition Temperature** | No information available |
| **Viscosity** | Not applicable |
| **Molecular Formula** | C6 H6 O2 |
| **Molecular Weight** | 110.11 |

## 10. Stability and reactivity

**Reactive Hazard** None known, based on information available

**Stability** Stable under normal conditions.

**Conditions to Avoid** Avoid dust formation. Incompatible products. Excess heat.

**Incompatible Materials** Strong oxidizing agents, Strong bases, Alkaline

**Hazardous Decomposition Products** Carbon monoxide (CO), Carbon dioxide ($CO_2$)

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** None under normal processing.

## 11. Toxicological information

**Acute Toxicity**

**Product Information**

**Component Information**

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Hydroquinone | LD50 = 298 mg/kg ( Rat ) | LD50 = 74800 mg/kg ( Rabbit ) | Not listed |

**Toxicologically Synergistic Products** No information available

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Irritation** Severe eye irritant

**Sensitization** May cause sensitization by skin contact

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|---|---|---|---|---|---|---|
| Hydroquinone | 123-31-9 | Not listed | Not listed | A3 | Not listed | Not listed |

*ACGIH: (American Conference of Governmental Industrial Hygienists)*

*A1 - Known Human Carcinogen*
*A2 - Suspected Human Carcinogen*
*A3 - Animal Carcinogen*
*ACGIH: (American Conference of Governmental Industrial Hygienists)*

**Mutagenic Effects** Mutagenic Category 2

**Reproductive Effects** Experiments have shown reproductive toxicity effects on laboratory animals.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** Respiratory system Central nervous system (CNS)
**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects,both acute and delayed** Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

**Ecotoxicity**

Very toxic to aquatic organisms. The product contains following substances which are hazardous for the environment.

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|---|---|---|---|---|
| Hydroquinone | EC50: = 13.5 mg/L, 120h (Desmodesmus subspicatus)<br>EC50: = 0.335 mg/L, 72h (Pseudokirchneriella subcapitata) | LC50: 0.1 - 0.18 mg/L, 96h static (Pimephales promelas)<br>LC50: = 0.17 mg/L, 96h (Brachydanio rerio)<br>LC50: = 0.044 mg/L, 96h flow-through (Pimephales promelas)<br>LC50: = 0.044 mg/L, 96h flow-through (Oncorhynchus mykiss) | EC50 = 0.038 mg/L 15 min<br>EC50 = 0.0382 mg/L 30 min<br>EC50 = 0.042 mg/L 5 min<br>EC50 = 23.75 mg/L 60 min | EC50: = 0.29 mg/L, 48h (Daphnia magna) |

**Persistence and Degradability** Soluble in water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** . Will likely be mobile in the environment due to its water solubility.

| Component | log Pow |
|---|---|
| Hydroquinone | 0.5 |

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

**DOT**

**UN-No** UN3077
**Proper Shipping Name** Environmentally hazardous substance, solid, n.o.s.
**Proper technical name** HYDROQUINONE
**Hazard Class** 9
**Packing Group** III

**TDG**

**UN-No** UN3077
**Proper Shipping Name** Environmentally hazardous substance, solid, n.o.s.
**Hazard Class** 9
**Packing Group** III

**IATA**

**UN-No** UN3077
**Proper Shipping Name** Environmentally hazardous substance, solid, n.o.s.

**Hazard Class** 9
**Packing Group** III

**IMDG/IMO**

**UN-No** UN3077
**Proper Shipping Name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
**Hazard Class** 9
**Packing Group** III

## 15. Regulatory information

**All of the components in the product are on the following Inventory lists:** X = listed

**International Inventories**

| Component | DSL | NDSL | TSCA | EINECS | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Hydroquinone | X | - | X | 204-617-8 | - | | X | X | X | X | X |

**Canada**

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

| Component | Canada - National Pollutant Release Inventory (NPRI) | Canadian Environmental Protection Agency (CEPA) - List of Toxic Substances | Canada's Chemicals Management Plan (CEPA) |
|---|---|---|---|
| Hydroquinone | Part 1, Group A Substance | Schedule I | Subject to Monitoring and Surveillance Activities |

## 16. Other information

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**Creation Date** 26-September-2009
**Revision Date** 18-January-2018
**Print Date** 18-January-2018
**Revision Summary** This document has been updated to comply with the requirements of WHMIS 2015 to align with the Globally Harmonised System (GHS) for the Classification and Labelling of Chemicals.

**Disclaimer**
**The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text**

**End of SDS**