SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name	Hydroquinone
CAS number	123-31-9
Synonyms	1,4-Dihydroxybenzene; 1,4-Benzenediol

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Laboratory chemicals.

1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

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 Dust Yes

2.2 GHS Label elements, including precautionary statements

Pictogram

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. Use personal protective equipment as required. Wash face, hands, and any exposed skin thoroughly after handling. Do not eat, drink, or smoke when using this product. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves. Use only outdoors or in a well-ventilated area.

Response: IF exposed or concerned, get medical attention/advice.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs, get medical advice/attention. Wash contaminated clothing before reuse.

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 or doctor/physician.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

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.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Very toxic to aquatic life.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Hydroquinone	1,4-Dihydroxybenzene; 1,4-Benzenediol	123-31-9	>99%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled Remove to fresh air. If breathing is difficult, give oxygen. Get medical attention.

In case of skin contact Wash off immediately with plenty of water for at least 15 minutes. Get medical attention.

In case of eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

If swallowed Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

4.2 Most important symptoms and effects, both acute and delayed

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.

4.3 Indication of any immediate medical attention and special treatment needed

If symptoms persist, call a physician. Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Water spray, Carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

Unsuitable extinguishing media No information available.

5.2 Specific hazards arising from the substance or mixture

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 (CO2).

5.3 Special 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.

5.4 Further information

Flash Point 165 °C / 329 °F

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.

NFPA

Health	Flammability	Instability	Physical hazards
2	1	1	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation.

6.2 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.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel into suitable containers for disposal.

6.4 Reference to other sections

See Section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling
Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

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

Incompatibilities
Strong oxidizing agents. Strong bases. Alkaline.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Component	Type	Value
Hydroquinone	(Vacated) TWA	2 mg/m3
	TWA	2 mg/m3

US. ACGIH Threshold Limit Values

Component	Type	Value
Hydroquinone	TWA	1 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Component	Type	Value
Hydroquinone	IDLH	50 mg/m3
	Ceiling	2 mg/m3

Biological occupational exposure limits
No information available.

8.2 Exposure controls

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

Personal protective equipment

Eye/face protection
Tight sealing safety goggles.

Skin protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

Body Protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection
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.

Control of environmental exposure
No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic 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
Evaporation Rate	Not applicable
Flammability (solid)	No information available
Flammability or explosive limit	No data available
Upper	
Lower	
Vapor Pressure	1 mmHg @ 132 °C
Vapor Density	Not applicable
Density	1.32
Solubility	Soluble
Partition coefficient; n-octanol/water	No data available
Autoignition Temp	520 °C / 968 °F
Decomposition Temp	No information available
Viscosity	Not applicable
Molecular Formula	C6 H6 O2
Molecular Weight	110.11 g/mol
VOC Content(%)	No information available

Oxidizing properties	No information available

9.2 Other safety information
No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity
No information available.

10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
None under normal processing.

10.4 Conditions to avoid
Avoid dust formation. Incompatible products. Excess heat.

10.5 Incompatible materials
Strong oxidizing agents, Strong bases, Alkaline.

10.6 Hazardous decomposition products
Carbon monoxide (CO), Carbon dioxide (CO2).

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hydroquinone	298 mg/kg (Rat)	74800 mg/kg (Rabbit)	-

Skin corrosion/irritation
No information available.

Serious eye damage/eye irritation
Severe eye irritant.

Respiratory or skin sensitization
May cause sensitization by skin contact.

Germ cell mutagenicity
Mutagenic category 2.

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Hydroquinone	123-31-9	Not listed	Not listed	A3	Not listed	A3

Specific target organ toxicity - single exposure

Respiratory system, Central nervous system (CNS).

Specific target organ toxicity - repeated exposure

None known.

Reproductive toxicity

Experiments have shown reproductive toxicity effects on laboratory animals.

Chronic effects

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.

11.2 Additional Information

The toxicological properties have not been fully investigated.

SECTION 12: Ecological information

12.1 Toxicity

Very toxic to aquatic organisms.

Product		Species	Test Results
Hydroquinone	EC50	Pseudokirchneriella subcapitata	0.335 mg/L, 72h
	LC50	Brachydanio rerio	0.17 mg/L, 96h
	LC50	Oncorhynchus mykiss	0.044 mg/L, 96h flow-through
	LC50	Pimephales promelas	0.1-0.18 mg/L, 96h static 0.044 mg/L, 96h flow-through
	EC50	Microtox	0.038 mg/L, 15 min 0.0382 mg/L, 30 min 0.042 mg/L, 5 min 23.75 mg/L, 60 min
	EC50	Daphnia magna	0.29 mg/L, 48h

12.2 Persistence and degradability

Soluble in water. Persistence is unlikely based on information available.

12.3 Bio accumulative potential

No information available.

12.4 Mobility in soil

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

12.5 Results of PBT and vPvB assessment
No information available.

12.6 Endocrine disrupting properties
No information available.

12.7 Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1 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.

SECTION 14: Transport information

DOT (US)

UN-no	UN3077
Proper Shipping Name	Environmentally hazardous substances, solid, n.o.s.
Hazard Class	9
Packing Group	III
Technical Name	Hydroquinone

IMDG

UN-no	UN3077
Proper Shipping Name	Environmentally hazardous substances, solid, n.o.s.
Hazard Class	9
Packing Group	III
Technical Name	Hydroquinone

IATA

UN-no	UN3077
Proper Shipping Name	Environmentally hazardous substances, solid, n.o.s.
Hazard Class	9
Packing Group	III
Technical Name	Hydroquinone

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not applicable.

CERCLA Hazardous Substance List (40 CFR 302.4)

Listed, Hydroquinone (CAS #123-31-9), RQ: 100 lb.

SARA 304 Emergency release notification

Listed, Hydroquinone (CAS #123-31-9), RQ: 100 lb.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Listed, Hydroquinone (CAS #123-31-9), TPQ: 500/10000 lb.

SARA 311/312 Hazardous

See Section 2 for more information.

SARA 313 (TRI reporting)

Listed, Hydroquinone (CAS #123-31-9).

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Listed, Hydroquinone (CAS #123-31-9).

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act

Not regulated.

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Not listed.

US state regulations

US. Massachusetts RTK - Substance List

Listed, Hydroquinone (CAS #123-31-9).

US. New Jersey Worker and Community Right-to-Know Act

Listed, Hydroquinone (CAS #123-31-9).

US. Pennsylvania Worker and Community Right-to-Know Law

Listed, Hydroquinone (CAS #123-31-9).

California Proposition 65

Not listed.

SECTION 16: Other information

Issue date: 09/26/2009

SECTION 17: Disclaimer

The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.