

Material Safety Data Sheet

Hydroquinone, p.a.

ACC# 00774

Section 1 - Chemical Product and Company Identification

MSDS Name: Hydroquinone, p.a.

Catalog Numbers: AC219930000, AC219930050, AC219930500

Synonyms: 1,4 Benzenediol; p-Hydroxybenzene; Hydroquinol; Quinol

Company Identification:

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
123-31-9	Hydroquinone	>98.0	204-617-8

Hazard Symbols: XN N

Risk Phrases: 22 40 41 43 50

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless, light tan, or light gray crystals. **Warning!** Harmful if swallowed. May cause allergic skin reaction. This substance has caused adverse reproductive and fetal effects in animals. May cause cancer based on animal studies. May cause digestive tract irritation with nausea, vomiting, and diarrhea. Light sensitive. Air sensitive. Causes eye and skin irritation. May cause respiratory tract irritation. May cause dermatitis. May cause methemoglobinemia.

Target Organs: Central nervous system, respiratory system, eyes, skin.

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. May cause dermatitis. Repeated exposure may cause hyperpigmentation of fair skin and depigmentation of dark skin.

Ingestion: May cause severe irritation of the digestive tract. May be harmful if swallowed. 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.

Inhalation: May cause respiratory tract irritation. Causes narcotic effects including headache, dizziness, weakness, unconsciousness, and possible death. Vapors may cause dizziness or suffocation. Inhalation of dust may cause respiratory tract irritation. Exposure to high concentration of vapor may cause irritation, photophobia, tearing, and corneal ulceration.

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 eyelids. Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed.

Skin: Get medical aid. Immediately flush skin with plenty of 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. 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.

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

Flash Point: 165 deg C (329.00 deg F)

Autoignition Temperature: 516 deg C (960.80 deg F)

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 1; Instability: 0

Section 6 - Accidental Release Measures

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

Spills/Leaks: Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions.

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: 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/m3 TWA	50 mg/m3 IDLH	2 mg/m3 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. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Crystals

Appearance: colorless, light tan, or light gray

Odor: None reported.

pH: Not available.

Vapor Pressure: 1 mm Hg @ 132C

Vapor Density: 3.8 (air=1)

Evaporation Rate: Negligible.

Viscosity: Not available.

Boiling Point: 285 deg C @ 760.00mm Hg

Freezing/Melting Point: 172.00 - 175.00 deg C

Decomposition Temperature: Not available.

Solubility: 70 G/L WATER (20°C)

Specific Gravity/Density: 1.3280g/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 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, 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

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.

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: 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	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	HYDROQUINONE				No information available.
Hazard Class:	6.1				
UN Number:	UN2662				
Packing Group:	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.

SARA

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 TPQ (lower threshold); 10000 lb TPQ (upper thres hold)

SARA Codes

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

Section 313

This material contains Hydroquinone (CAS# 123-31-9, 98 0%),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, 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 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

This product has a WHMIS classification of D1B, D2A.

Canadian Ingredient Disclosure List

CAS# 123-31-9 is listed on the Canadian 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 OE L-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: 6/16/1999

Revision #3 Date: 3/18/2003

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.