

Material Safety Data Sheet

p-Benzoquinone

MSDS# 96461

## Section 1 - Chemical Product and Company Identification

MSDS Name: p-Benzoquinone

Catalog AC105630000, AC105630010, AC105630050, AC105630051, AC105635000, AC219690000

Numbers: AC219690000, AC219695000, 21969-1000, Q36-500

Synonyms: p-Benzoquinone; 2,5-Cyclohexadiene-1,4-dione; Quinone; 1,4-Benzoquinone; aromatic cyclic diketone.

Company Identification:

Acros Organics BVBA  
Janssen Pharmaceuticaaan 3a  
2440 Geel, Belgium

Company Identification: (USA)

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

For information in the US, call:

800-ACROS-01

For information in Europe, call:

+32 14 57 52 11

Emergency Number, Europe:

+32 14 57 52 99

Emergency Number US:

201-796-7100

CHEMTREC Phone Number, US:

800-424-9300

CHEMTREC Phone Number, Europe:

703-527-3887

## Section 2 - Composition, Information on Ingredients

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CAS#: 106-51-4  
Chemical Name: Quinone  
%: > 98  
EINECS#: 203-405-2

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Hazard Symbols:



Risk Phrases:

T N



23/25 36/37/38 50

## Section 3 - Hazards Identification

## EMERGENCY OVERVIEW

Danger! May be fatal if swallowed. Harmful if inhaled. Causes eye, skin, and respiratory tract irritation. Target Organs:  
Respiratory system, eyes, skin.

## Potential Health Effects

Eye: Contact may cause discoloration, redness, swelling, and formation of eye lesions.

Skin: Causes skin irritation. Depigmentation and skin lesions may occur. May cause discoloration, erythema (redness), swelling, and the formation of papules and vesicles (blisters). Prolonged contact may lead to necrosis.

Ingestion: May be fatal if swallowed.

Inhalation: Harmful if inhaled. Causes respiratory tract irritation. May cause adverse central nervous system effects including headache, convulsions, and possible death. May produce asphyxia due to pulmonary damage and effects on the hemoglobin. May produce clonic convulsions, respiratory difficulties, decreased blood pressure and death due to medullary centers.

Chronic: Prolonged or repeated exposure may cause permanent eye damage. Prolonged or repeated contact may cause skin necrosis and/or ulceration of the skin.

#### Section 4 - First Aid Measures

Eyes: 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. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

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. Use water spray to keep fire-exposed containers cool. This material in sufficient quantity and reduced particle size is capable of creating a dust explosion. Violently decomposes when heated under confinement. Water-wet material can decompose violently above 50-70° C (122-158°F).

Extinguishing Media: Use water spray or dry chemical.

Autoignition Temperature: 560 deg C ( 1,040.00 deg F)

Flash Point: 77 deg C ( 170.60 deg F)

Explosion Limits: Lower: Not available

Explosion Limits: Upper: Not available

NFPA Rating: health: 3; flammability: 2; instability: 1;

#### Section 6 - Accidental Release Measures

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

Spills/Leaks: Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Remove all sources of ignition. Provide ventilation. Use only non-sparking tools and equipment. Prevent runoff from entering drains, sewers, or streams.

#### Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Keep container tightly closed. Use only with adequate ventilation. Avoid breathing dust. Avoid breathing vapor. Keep away from heat and flame. Do not get in eyes. Avoid contact with skin and clothing. Exercise caution in heating, especially in a closed container.

Storage: Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances.

#### Section 8 - Exposure Controls, Personal Protection

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Quinone	0.1 ppm	0.1 ppm TWA; 0.4 mg/m3 TWA 100 mg/m3 IDLH	0.1 ppm TWA; 0.4 mg/m3 TWA

OSHA Vacated PELs: Quinone: 0.1 ppm TWA; 0.4 mg/m3 TWA

Engineering Controls:

Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility

and a safety shower.

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: Crystals

Color: yellow-green

Odor: irritating odor - pungent odor

pH: Not applicable

Vapor Pressure: 0.9 mm Hg @ 20 deg C

Vapor Density: 3.7 (air=1)

Evaporation Rate: Not available

Viscosity: Not available

Boiling Point: sublimes

Freezing/Melting Point: 115.7 deg C ( 240.26°F)

Decomposition Temperature: Not available

Solubility in water: 1.5% @ 25°C

Specific Gravity/Density: 1.31 g/cm<sup>3</sup>

Molecular Formula: C<sub>6</sub>H<sub>4</sub>O<sub>2</sub>

Molecular Weight: 108.1

#### Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Water-wet material can decompose violently above 50-70°C (122-158°F).

Conditions to Avoid: High temperatures, dust generation, moisture.

Incompatibilities with Other Materials: Strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.

Hazardous Polymerization: Will not occur.

#### Section 11 - Toxicological Information

RTECS#: CAS# 106-51-4: DK2625000

RTECS:

LD50/LC50: **CAS# 106-51-4:** Oral, mouse: LD50 = 25 mg/kg;  
Oral, rat: LD50 = 130 mg/kg;

Carcinogenicity: Quinone - IARC: Group 3 (not classifiable)

Other: See actual entry in RTECS for complete information.

#### Section 12 - Ecological Information

Ecotoxicity: Fish: Rainbow trout: LC50 = 0.125 mg/L; 96 Hr.; Unspecified  
Fish: Fathead Minnow: LC50 = 0.045 mg/L; 96 Hr.; Unspecified  
Bacteria: *Phytobacterium phosphoreum*: EC50 = 2.09 mg/L; 5-30 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: BENZOQUINONE  
Hazard Class: 6.1  
UN Number: UN2587  
Packing Group: II  
Canada TDG  
Shipping Name: BENZOQUINONE  
Hazard Class: 6.1  
UN Number: UN2587  
Packing Group: II

USA RQ: CAS# 106-51-4: 10 lb final RQ; 4.54 kg final RQ

#### Section 15 - Regulatory Information

##### European/International Regulations

###### European Labeling in Accordance with EC Directives

Hazard Symbols: T N

Risk Phrases:

- R 23/25 Toxic by inhalation and if swallowed.
- R 36/37/38 Irritating to eyes, respiratory system and skin.
- R 50 Very toxic to aquatic organisms.

Safety Phrases:

- S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S 28A After contact with skin, wash immediately with plenty of water.
- S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

##### WGK (Water Danger/Protection)

CAS# 106-51-4: 2

##### Canada

CAS# 106-51-4 is listed on Canada's DSL List

Canadian WHMIS Classifications: D1A, D2B, B3

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# 106-51-4 is listed on Canada's Ingredient Disclosure List

##### US Federal

###### TSCA

CAS# 106-51-4 is listed on the TSCA Inventory.

**REVIEWED**

DATE: April 17/2012

*Chutterford*

##### Section 16 - Other Information

MSDS Creation Date: 5/07/1999

Revision #6 Date 7/20/2009

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 the company 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 the company has been advised of the possibility of such damages.