

p-BENZOQUINONE**0779**

October 1997

CAS No: 106-51-4
 RTECS No: DK2625000
 UN No: 2587
 EC No: 606-013-00-3

2,5-Cyclohexadiene-1,4-dione
 Quinone
 1,4-Benzoquinone
 p-Quinone
 $C_6H_4O_2$
 Molecular mass: 108.1

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Flammable. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames, NO sparks, and NO smoking.	Water spray, powder, carbon dioxide.
EXPLOSION	Above 38/C explosive vapour/air mixtures may be formed. Finely dispersed particles form explosive mixtures in air.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting. Prevent build-up of electrostatic charges (e.g., by grounding).	In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		PREVENT DISPERSION OF DUST! STRICT HYGIENE!	IN ALL CASES CONSULT A DOCTOR!
Inhalation	Burning sensation. Cough. Laboured breathing. Shortness of breath. Sore throat.	Local exhaust or breathing protection.	Fresh air, rest. Half-upright position. Refer for medical attention.
Skin	Redness. Pain. Discolouration. Blisters.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
Eyes	Redness. Pain. Blurred vision. Brown staining.	Safety spectacles face shield or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Ingestion	Abdominal pain. Burning sensation. Diarrhoea. Vomiting.	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Give a slurry of activated charcoal in water to drink. Do NOT induce vomiting. Refer for medical attention.

SPILLAGE DISPOSAL

Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment. Personal protection: P3 filter respirator for toxic particles.

PACKAGING & LABELLING

T Symbol
 N Symbol
 R: 23/25-36/37/38-50
 S: (1/2-)26-28-45-61
 UN Hazard Class: 6.1
 UN Pack Group: II

Do not transport with food and feedstuffs.

EMERGENCY RESPONSE

Transport Emergency Card: TEC (R)-61GT2-II
 NFPA Code: H1; F2; R1

SAFE STORAGE

Fireproof. Separated from combustible and reducing substances, food and feedstuffs. Cool. Dry.

IPCS

International
 Programme on
 Chemical Safety



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SEE IMPORTANT INFORMATION ON THE BACK.

IMPORTANT DATA

Physical State; Appearance

YELLOW CRYSTALS, WITH PUNGENT ODOUR. CAN SUBLIME EVEN AT ROOM TEMPERATURE.

Physical dangers

Dust explosion possible if in powder or granular form, mixed with air. If dry, it can be charged electrostatically by swirling, pneumatic transport, pouring, etc.

Chemical dangers

The substance decomposes on warming above 60/C, when moist, producing carbon monoxide. Reacts as a weak oxidant violently with some combustible substances, reducing agents and strong bases.

Occupational exposure limits

TLV: 0.1 ppm as TWA (ACGIH 2004).
MAK: Sh Carcinogen category: 3B; Germ cell mutagen group: 3B; (DFG 2004).

Routes of exposure

The substance can be absorbed into the body by inhalation, by ingestion.

Inhalation risk

A harmful contamination of the air can be reached rather quickly on evaporation of this substance at 20/C.

Effects of short-term exposure

The substance irritates the eyes, the skin and the respiratory tract. The substance may cause effects on the eyes. Exposure far above the OEL may result in respiratory failure and death.

Effects of long-term or repeated exposure

Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the skin and eyes, resulting in discolouration, inflammation and injury of the corneal epithelium.

PHYSICAL PROPERTIES

Boiling point: ca. 180/C
Melting point: 116/C
Solubility in water: poor
Vapour pressure, Pa at 20/C: 12
Relative vapour density (air = 1): 3.7

Relative density of the vapour/air-mixture at 20/C (air = 1): 1.0
Flash point: (see Notes) 38-93/C
Auto-ignition temperature: 560/C
Octanol/water partition coefficient as log Pow: 0.2

ENVIRONMENTAL DATA

The substance is very toxic to aquatic organisms.

NOTES

Physical properties (e.g. flash point) depend largely on humidity.
The odour warning when the exposure limit value is exceeded is insufficient.
Card has been partly updated in October 2004. See sections Occupational Exposure Limits, EU classification, Emergency Response.

ADDITIONAL INFORMATION

LEGAL NOTICE

Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible for the use which might be made of this information