

Saturated quinhydrone buffer solution pH 7,00 1002754

Instructions for use

11/15 Hh



1. Safety instructions

Authorised for use in school experiments at secondary levels I and II (S I / S II).

Risk statements R22 and 50 apply:

Harmful if swallowed.

Very toxic to aquatic organisms.

Safety statements S24/25 and 61 apply:

Avoid contact with skin and eyes.

Avoid release to the environment. Refer to special instructions/safety data sheet

Protective goggles and gloves must be worn.

Adequate ventilation is essential.

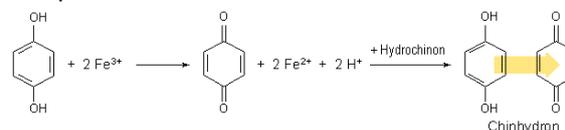
Substance sensitive to light and heat.

- Keep away from direct sunlight.
- Keep the container tight closed when in storage.

2. Description

Quinhydrone $C_{12}H_{10}O_4$ is created by the oxidation of hydroquinone. It is an organic union and its name *quinhydrone* dates from 1844, when Friedrich Wöhler described its composition from *quinone* and *hydroquinone*.

Fe^{3+} ions oxidise half of the hydroquinone molecules to p-benzoquinone. Benzoquinone forms an addition compound with the non-oxidised hydroquinone:



Benzoquinone is not an aromatic compound. The double-bonded oxygen atoms, which are very highly electro-negative, cause the electron density of the π -system to be shifted in the direction of the oxygen atoms. Hydroquinone, by contrast, does possess an aromatic π -system with a much higher electron density. When hydroquinone and benzoquinone are mixed, electrons can be transferred between them in a reversible reaction giving rise to a *charge-transfer (CT) complex*.

3. Scope of delivery

- 1 Storage bottle 250 ml
- 1 Instructions for use of 1002754

4. Product information

Hill formula:	$C_{12}H_{10}O_4$
Structural formula:	$C_6H_4O_2 * C_6H_6O_2$
Hazard symbols:	 Xn  N
EC number:	203-387-6
CAS number:	106-34-3
Solubility in water:	4 g/l (20°C)
Density:	1.40 g/cm ³ (20°C)
Molar mass:	218.21 g/mol
Risk statements:	R22 - 50
Safety statements:	S24/25 - 61
DFG cancer risk:	A2
DFG risk of inheritable genetic damage:	3
Storage class (VCI):	10 - 13 (other liquids and solids)
Storage:	0 (cupboard/preparation room)
Transport information:	UN 2811 TOXIC SOLID, ORGANIC, N.O.S. (QUINHYDRONE), 6.1, III
Classes:	S I / S II