

**Safety Data Sheet**  
according to 1907/2006/EC, Article 31

Version number 8

Revision: 01.07.2020

**SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking**

**1.1 Product Identifier:**

**Trade name: 1,4-Benzoquinone Solutions (Acid Preserved)**

**Product name/Description/Range:**

Total Organic Carbon (TOC) Calibration Standard,  
From 0.100mg/L C up to 1000mg/L C from 1,4 Benzoquinone.

**Synonyms:**

p-Benzoquinone 1,4-Benzoquinone; Quinone; Chinone; cyclohexadienedione;1,4-cyclohexadienedione; 1,4-Dioxybenzene

**Altus Science Individual Product Reference:** A-2222, A-2598, A-2822, A-7222

**Altus Science Kit Reference:** A-2020, A-2021, A-2024, A-2025, A-2820, A-2900, A-3411, A-3500, A-5020, A-5820, A-7630,A-7650

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

**Product category:** PC21 Laboratory chemicals

**Application of the substance / the mixture:** Laboratory chemicals

**1.3 Details of the supplier of the safety data sheet:**

**Manufacturer / Importer / Supplier:**

Altus Science Limited, Park House

Manor Park Avenue, Manor Park

Runcorn, Cheshire, WA7 1TL

United Kingdom

Telephone: +44 (0) 1928 238 000

Email address: info@altusscience.com

**Further information obtainable from:** Product safety department.

**1.4 Emergency telephone number:**

Tel. +44(0) 1928 238 000

This telephone number can be reached during office hours.

**SECTION 2: Hazards Identification**

**2.1 Classification of the substance or mixture:**

**Classification according to Regulation (EC) No 1272/2008:**

The product is not classified according to the CLP regulation.

**2.2 Label elements:**

**Labelling according to Regulation (EC) No 1272/2008:** Void

**Hazard pictograms:** Void

**Signal word:** Void

**Hazard statements:** Void

**2.3 Other hazards:**

**Results of PBT and vPvB assessment:**

**PBT:** Not applicable.

**vPvB:** Not applicable.

**SECTION 3: Composition/Information on Ingredients**

**3.2 Chemical characterisation: Mixtures:**

**Description:** P-Benzoquinone solution (Acid Preserved)

<b>Components:</b>		
CAS: 7732-18-5 EINECS: 231-791-2	Water, distilled, conductivity or of similar purity	≥99.65%
CAS: 106-51-4 EINECS: 203-405-2 Index number: 606-013-00-3	p-benzoquinone ☠ Acute Tox. 3, H301; Acute Tox. 3, H331; ☠ Aquatic Acute 1, H400 (M=10); ☠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	≤<0.15%
CAS: 7664-38-2 EINECS: 231-633-2 Index number: 015-011-00-6 Reg.nr.: 01-2119485924-24	Phosphoric acid ☠ Met. Corr.1, H290; Skin Corr. 1B, H314	≤<0.1%

**Additional information:** For the wording of the listed hazard phrases See section 16.

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**SECTION 4: First Aid Measures**

**4.1 Description of first aid measures:**

**General information:** No special measures required.

**After inhalation:** No special measures required.

**After skin contact:** Wash with (warm) water and soap.

**After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

**After ingestion:**

Rinse Mouth.

Small amounts are not harmful.

**4.2 Most important symptoms and effects, both acute and delayed:** No further relevant information available.

**4.3 Indication of any immediate medical attention and special treatment needed:**

No further relevant information available.

**SECTION 5: Firefighting Measures**

**5.1 Extinguishing media:**

**Suitable extinguishing agents:**

Use fire extinguishing methods suitable to surrounding conditions.

All extinguishing media are possible.

**5.2 Special hazards arising from the substance or mixture:** No further relevant information available.

**5.3 Advice for firefighters:**

**Protective equipment:** Wear self-contained respiratory protective device.

**Additional information:** Cool endangered tanks with water spray.

**SECTION 6: Accidental Release Measures**

**6.1 Personal precautions, protective equipment and emergency procedures:** Not required.

**6.2 Environmental precautions:** No special measures required.

**6.3 Methods and material for containment and cleaning up:**

Spills of the product could present a significant slip hazard depending on quantity and surface type.

Water contaminated with this product may be sent to a sanitary sewer treatment facility, or a permitted waste treatment facility, in accordance with any local agreements

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

**6.4 Reference to other sections:**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

**SECTION 7: Handling and Storage**

**7.1 Precautions for safe handling:** No special precautions are necessary if used correctly.

**Information about fire and explosion protection:** No special measures required.

**7.2 Conditions for safe storage, including any incompatibilities:**

Storage must comply with the local regulations.

Store in a closed container away from incompatible materials

Store in a well ventilated storage area.

**Storage:**

**Requirements to be met by storerooms and tanks:** No special requirements.

**Information about storage in one common storage facility:** Not required.

**Further information about storage conditions:** Keep container tightly sealed.

**7.3 Specific end use(s):** For professional and industrial users only

**SECTION 8: Exposure Controls/Personal Protection**

**Additional information about design of technical facilities:** No further data; see section 7.

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**8.1 Control parameters:**

**Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

**Additional information:** The lists valid during the making were used as basis.

**8.2 Exposure controls**

**Personal protective equipment:**

**General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

**Respiratory protection:** In case of insufficient ventilation, use a breathing mask with filter type ABEK

**Protection of hands:**



Protective gloves

Only use chemical-protective gloves with CE-labelling of category III.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

**Material of gloves:** Nitrile rubber, NBR

**Penetration time of glove material:**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**

Fluorocarbon rubber (Viton)

**Eye protection:** Goggles recommended during refilling

**Body protection:**

Not required.

Anti-static clothing

**Limitation and supervision of exposure into the environment:** Prevent spills from reaching surface waters or soil.

**SECTION 9: Physical and Chemical Properties**

**9.1 Information on basic physical and chemical properties:**

**General Information:**

**Appearance:**

<b>Form:</b>	Liquid.
<b>Colour:</b>	Colourless.
<b>Odour:</b>	Odourless.
<b>Odour threshold:</b>	Not determined.

**pH-value:** 3

**Change in condition**

<b>Melting point/Melting range:</b>	0 °C
<b>Boiling point/Boiling range:</b>	100 °C

**Flash point:** Not applicable.

**Flammability (solid, gaseous):** Not applicable.

**Ignition temperature:**

**Decomposition temperature:** Not determined.

**Self-igniting:** Product is not self-igniting.

**Danger of explosion:** Product does not present an explosion hazard.

**Explosion limits:**

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.

**Vapour pressure at 20 °C:** 25 hPa

**Density at 20 °C:** 1.01 g/cm<sup>3</sup>

**Relative density:** Not determined.

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<b>Vapour density:</b>	Not determined.
<b>Evaporation rate:</b>	Not determined.
<b>Solubility in / Miscibility with:</b>	
<b>Water:</b>	Fully miscible.
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>Solvent content:</b>	
<b>Oxidizing properties:</b>	Does not contain oxidizing properties.
<b>9.2 Other information:</b>	No further relevant information available.

**SECTION 10: Stability and Reactivity**

**10.1 Reactivity:** No further relevant information available.

**10.2 Chemical stability:**

**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**10.3 Possibility of hazardous reactions:** No dangerous reactions known.

**10.4 Conditions to avoid:** No further relevant information available.

**10.5 Incompatible materials:** No further relevant information available.

**10.6 Hazardous decomposition products:** No dangerous decomposition products known.

**SECTION 11: Toxicological Information**

**11.1 Information on toxicological effects:**

**Acute toxicity:** Based on available data, the classification criteria are not met.

<b>LD/LC50 values relevant for classification:</b>		
<b>ATE (Acute Toxicity Estimates)</b>		
Oral	LD50	82021 mg/kg
Dermal	LD50	16667 mg/kg (Rat)
Inhalative	LC50/4 h	2000 mg/l
<b>106-51-4 p-benzoquinone</b>		
Oral	LD50	130 mg/kg (Rat)
Dermal	LD50	25 mg/kg (Rat)
Inhalative	LC50/4 h	3 mg/l (ATE)
<b>7664-38-2 Phosphoric acid</b>		
Oral	LD50	1530 mg/kg (Rat)
Dermal	LD50	2740 mg/kg (Rabbit)

**Primary irritant effect:**

**Skin corrosion/irritation:** Based on available data, the classification criteria are not met.

**Serious eye damage/irritation:** Based on available data, the classification criteria are not met.

**Respiratory or skin sensitization:** Based on available data, the classification criteria are not met.

**CMR effects (carcinogenic, mutagenic and reprotoxic):**

**Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

**Carcinogenicity:** Based on available data, the classification criteria are not met.

**Reprotoxicity:** Based on available data, the classification criteria are not met.

**STOT-single exposure:** Based on available data, the classification criteria are not met.

**STOT-repeated exposure:** Based on available data, the classification criteria are not met.

**Aspiration hazard:** Based on available data, the classification criteria are not met.

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**SECTION 12: Ecological Information**

**12.1 Toxicity:**

The product components are not classified as dangerous for the environment or the quantities are not relevant. Not harmful due to concentration.

<b>Aquatic toxicity:</b>	
<b>7664-38-2 Phosphoric acid</b>	
LC50/96h	3 - 3.5 mg/l (Fish)

**12.2 Persistence and degradability:** No further relevant information available.

**12.3 Bioaccumulative potential:** No further relevant information available.

**12.4 Mobility in soil:** No further relevant information available.

**12.5 Results of PBT and vPvB assessment:**

**PBT:** Not applicable.

**vPvB:** Not applicable.

**12.6 Other adverse effects:** No further relevant information available.

**SECTION 13: Disposal Considerations**

**13.1 Waste treatment methods:**

**Recommendation:** Can be disposed in sewage system.

**European waste catalogue:**

16 03 03

16 Waste not otherwise specified in the list

16 03 Off-specification batches and unused products

16 03 03 Inorganic waste containing dangerous substances

Depending on the origin and state of waste, other EWC numbers may be applicable too

15 01 02

15 Waste packaging, absorbents, wiping cloths, filter materials and protective clothing not otherwise specified

15 01 Packaging (including separately collected municipal packaging waste)

15 01 02 Plastic packaging

**Contaminated packaging:**

**Recommendation:** Disposal must be made according to official regulations.

**SECTION 14: Transport Information**

<b>14.1 UN-Number:</b> ADR,RID,ADN, IMDG, IATA	Void
<b>14.2 UN proper shipping name:</b> ADR,RID,ADN, IMDG, IATA	Void
<b>14.3 Transport hazard class(es):</b> ADR,RID,ADN, IMDG, IATA Class:	Void
<b>14.4 Packing group:</b> ADR,RID,ADN, IMDG, IATA	Void
<b>14.5 Environmental hazards:</b> Marine pollutant:	No
<b>14.6 Special precautions for user:</b> Stowage Category	Not applicable. A
<b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:</b>	Not applicable.
<b>UN "Model Regulation":</b>	Void

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**SECTION 15: Regulatory Information**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:**

**Directive 2012/18/EU:**

**Named dangerous substances - ANNEX I:** None of the ingredients is listed.

**Seveso category:** E1 Hazardous to the Aquatic Environment

**Qualifying quantity (tonnes) for the application of lower-tier requirements:** 100 t

**Qualifying quantity (tonnes) for the application of upper-tier requirements:** 200 t

**National regulations:** Not applicable

**Water hazard class:** Generally not hazardous for water.

**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**SECTION 16: Other Information**

**Relevant phrases:**

H290 May be corrosive to metals.

H301 Toxic if swallowed.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

H335 May cause respiratory irritation.

H400 Very toxic to aquatic life.

**Training hints:** Provide training on safe handling considering the type of application and exposure scenarios.

**Department issuing SDS:** Environment protection department.

**Abbreviations and acronyms:**

ADN: Accord Européen relatif au Transport International des Marchandises Dangereuses par voie de Navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (Division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

EC50: Effective Concentration, 50 percent

IOELVS: Indicative Occupational Exposure Limit Values

mPa.s: milliPascal per second

Met. Corr.1: Corrosive to metals – Category 1

Acute Tox. 3: Acute toxicity – Category 3

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

**References:**

This information is based on the current available data (suppliers of raw materials, chemistry maps, Annex VI)

See also the internet site: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

**Revisions were made in sections marked with \*.**

**Disclaimer:**

The information believed to be accurate within this document and is intended only as a guide to the appropriate precautionary handling of this substance by a properly trained person using this product. The information relates only to the specific material designated and does not relate to its use in combination with other materials. The user is responsible for determining whether Altus Science products are fit for a particular purpose and suitable to the users method of use or application.

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