



## SAFETY DATA SHEET

# 1,4-Benzoquinone Solution - Acidified

### 1. Identification

**Product identifier** 1,4-Benzoquinone Solution - Acidified

**Other means of identification** None.

#### Product application

This SDS provides health and safety information for any (unacidified) benzoquinone component of the following vials or kits

GE Analytical Instruments part number	Product name
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STD 74058	-
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**GE Analytical Instruments kit number**

STD 74403, 74503, 74513, 74515, 74613, 74615, 90022, 90025, 90037

**Recommended use** Reference Standard

**Recommended restrictions** None known.

#### Company/undertaking identification

GE Analytical Instruments Inc

6060 Spine Road

Boulder, CO 80301

T 303-444-2009

#### Emergency telephone

1-800-535-5053 INFOTRAC (North America)

Outside of N.A., call collect: 1-352-323-3500

GE (800) 877-1940

### 2. Hazard(s) identification

**Physical hazards** Not classified.

**Health hazards** Not classified.

**OSHA defined hazards** Not classified.

#### Label elements

**Hazard symbol** None.

**Signal word** None.

**Hazard statement** The mixture does not meet the criteria for classification.

#### Precautionary statement

**Prevention** Observe good industrial hygiene practices.

**Response** Wash hands after handling.

**Storage** Store away from incompatible materials.

**Disposal** Dispose of waste and residues in accordance with local authority requirements.

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information** None.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	Common name and synonyms	CAS number	%
Water		7732-18-5	> 99.99
Phosphoric Acid		7664-38-2	< 0.01
P-BENZOQUINONE		106-51-4	< 0.000075

**Composition comments** Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

### 4. First-aid measures

<b>Inhalation</b>	No treatment required.
<b>Skin contact</b>	Wash immediately with plenty of water.
<b>Eye contact</b>	Flush immediately with plenty of running water. If irritation persists, seek medical advice.
<b>Ingestion</b>	No treatment required.
<b>Most important symptoms/effects, acute and delayed</b>	Not available.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	This product does not represent a fire hazard since it contains a high amount of water.
<b>Unsuitable extinguishing media</b>	None.
<b>Specific hazards arising from the chemical</b>	None known.
<b>Special protective equipment and precautions for firefighters</b>	No special protective equipment required.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	See Section 8 of the SDS for Personal Protective Equipment.
<b>Methods and materials for containment and cleaning up</b>	Contain and recover by physical means. 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.
<b>Environmental precautions</b>	No special environmental precautions required.

### 7. Handling and storage

<b>Precautions for safe handling</b>	Handle in accordance with good industrial hygiene and safety procedures.
<b>Conditions for safe storage, including any incompatibilities</b>	Reasonable and safe chemical storage. Store in a closed container away from incompatible materials.

### 8. Exposure controls/personal protection

#### Occupational exposure limits

##### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
P-BENZOQUINONE (CAS 106-51-4)	PEL	0.4 mg/m <sup>3</sup>
Phosphoric Acid (CAS 7664-38-2)	PEL	0.1 ppm 1 mg/m <sup>3</sup>

##### US. ACGIH Threshold Limit Values

Components	Type	Value
P-BENZOQUINONE (CAS 106-51-4)	TWA	0.1 ppm
Phosphoric Acid (CAS 7664-38-2)	STEL	3 mg/m <sup>3</sup>

## US. ACGIH Threshold Limit Values

Components	Type	Value
	TWA	1 mg/m <sup>3</sup>

## US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
P-BENZOQUINONE (CAS 106-51-4)	TWA	0.4 mg/m <sup>3</sup>
		0.1 ppm
Phosphoric Acid (CAS 7664-38-2)	STEL	3 mg/m <sup>3</sup>
	TWA	1 mg/m <sup>3</sup>

**Biological limit values** No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls** Provide adequate ventilation.

### Individual protection measures, such as personal protective equipment

**Eye/face protection** Safety glasses.

#### Skin protection

**Hand protection** None required.

**Other** No special protective equipment required.

**Respiratory protection** Not required.

**Thermal hazards** Not applicable.

## 9. Physical and chemical properties

### Appearance

**Color** Colorless

**Physical state** Liquid

**Odor** Chlorine

**Odor threshold** Not available.

**pH (concentrated product)** 3

**Melting point/freezing point** 32 °F (0 °C)

**Initial boiling point and boiling range** 212 °F (100 °C)

**Flash point** > 212 °F (> 100 °C) Pensky Martens (CC)

**Evaporation rate** 1 (Water =1)

**Flammability (solid, gas)** Not available.

### Upper/lower flammability or explosive limits

**Flammability limit - lower (%)** Not available.

**Flammability limit - upper (%)** Not available.

**Explosive limit - lower (%)** Not available.

**Explosive limit - upper (%)** Not available.

**Vapor pressure** 18.7 mm Hg

**Vapor density** 1

**Relative density** 1

### Solubility(ies)

**Solubility (water)** Completely soluble

**Partition coefficient (n-octanol/water)** Not available.

**Auto-ignition temperature** Not available.

**Decomposition temperature** Not available.

**Viscosity** Not available.

## 10. Stability and reactivity

**Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.

<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	No special requirement.
<b>Incompatible materials</b>	None known.
<b>Hazardous decomposition products</b>	None known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	None known.
<b>Skin contact</b>	None known.
<b>Eye contact</b>	None known.
<b>Ingestion</b>	None known.

**Symptoms related to the physical, chemical and toxicological characteristics** Not available.

### Information on toxicological effects

**Acute toxicity** Not classified.

Product	Species	Test Results
1,4-Benzoquinone Solution - Acidified (CAS Mixture)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)

Components	Species	Test Results
P-BENZOQUINONE (CAS 106-51-4)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	130 mg/kg
Phosphoric Acid (CAS 7664-38-2)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	2740 mg/kg

**Skin corrosion/irritation** Not classified.

**Serious eye damage/eye irritation** Not classified.

### Respiratory or skin sensitization

<b>Respiratory sensitization</b>	Not classified.
<b>Skin sensitization</b>	Not classified.

**Germ cell mutagenicity** Not classified.

**Carcinogenicity** Not classified.

### IARC Monographs. Overall Evaluation of Carcinogenicity

P-BENZOQUINONE (CAS 106-51-4) 3 Not classifiable as to carcinogenicity to humans.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

**Reproductive toxicity** Not classified.

**Specific target organ toxicity - single exposure** Not classified.

**Specific target organ toxicity - repeated exposure** Not classified.

Aspiration hazard Not classified.

## 12. Ecological information

Ecotoxicity No ecotoxicity data noted for the ingredient(s).

Bioaccumulative potential Not available.

Partition coefficient n-octanol / water (log Kow)  
P-BENZOQUINONE 0.2

Mobility in soil Not available.

Other adverse effects Not available.

Persistence and degradability  
No data available

## 13. Disposal considerations

Disposal instructions Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazardous waste code U197: p-Benzoquinone  
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied.

## 14. Transport information

DOT  
Not regulated as dangerous goods.

IATA  
Not regulated as dangerous goods.

IMDG  
Not regulated as dangerous goods.

## 15. Regulatory information

US federal regulations All components of this product are included on or are in compliance with the U.S. TSCA regulations.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)  
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)  
P-BENZOQUINONE (CAS 106-51-4) Listed.  
Phosphoric Acid (CAS 7664-38-2) Listed.

SARA 304 Emergency release notification  
Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)  
Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories  
Immediate Hazard - No  
Delayed Hazard - No  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

SARA 302 Extremely hazardous substance  
Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)  
Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List  
P-BENZOQUINONE (CAS 106-51-4)

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**Inventory status**

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)  
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**US state regulations**

**US - Massachusetts RTK - Substance List**

P-BENZOQUINONE (CAS 106-51-4)  
Phosphoric Acid (CAS 7664-38-2)

**US - Pennsylvania RTK - Hazardous Substances**

P-BENZOQUINONE (CAS 106-51-4)  
Phosphoric Acid (CAS 7664-38-2)

**US - Rhode Island RTK**

P-BENZOQUINONE (CAS 106-51-4)  
Phosphoric Acid (CAS 7664-38-2)

**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

**US. New Jersey Worker and Community Right-to-Know Act**

P-BENZOQUINONE (CAS 106-51-4)  
Phosphoric Acid (CAS 7664-38-2)

**US. Pennsylvania Worker and Community Right-to-Know Law**

P-BENZOQUINONE (CAS 106-51-4)  
Phosphoric Acid (CAS 7664-38-2)

**US. California Proposition 65**

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

No ingredient listed.

**US - California Proposition 65 - CRT: Listed date/Developmental toxin**

No ingredient listed.

**US - California Proposition 65 - CRT: Listed date/Female reproductive toxin**

No ingredient listed.

**US - California Proposition 65 - CRT: Listed date/Male reproductive toxin**

No ingredient listed.

**16. Other information, including date of preparation or last revision**

**Issue date** Mar-19-2015

**Revision date** Apr-16-2015

**Version #** 1.0

**List of abbreviations**

CAS: Chemical Abstract Service Registration Number  
NFPA: National Fire Protection Association  
ACGIH: American Conference of Governmental Industrial Hygienists  
TWA: Time Weighted Average  
STEL: Short Term Exposure Limit  
LD50: Lethal Dose, 50%  
LC50: Lethal Concentration, 50%  
EC50: Effect Concentration, 50%  
NOEL: No Observed Effect Level  
COD: Chemical Oxygen Demand  
BOD: Biochemical Oxygen Demand  
TOC: Total Organic Carbon  
TLV: Threshold Limit Value

IATA: International Air Transport Association  
IMDG: International Maritime Dangerous Goods Code

**References:**

No data available

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**Prepared by**

This SDS has been prepared by GE Water & Process Technologies Regulatory Department (1-215-355-3300).