

Safety Data Sheet

according to UK REACH Regulation

Hydroquinone solution

Revision date: 23.01.2024

Product code: 31748

Page 1 of 11

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Hydroquinone solution

UFI: JQWT-0218-A00K-S6WF

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

Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

| | | |
|-------------------------|----------------------------------|------------------------------|
| Company name: | AnalytiChem GmbH | |
| | ACD | |
| Street: | Stempelstraße 6 | |
| Place: | D-47167 Duisburg | |
| Telephone: | 0203/5194-0 | Telefax: 0203/5194-290 |
| E-mail: | info@analytichem.de | |
| Contact person: | Abteilung Produktsicherheit | Telephone: 0203/5194-107/117 |
| E-mail: | produktsicherheit@analytichem.de | |
| Internet: | www.analytichem.de | |
| Responsible Department: | Abteilung Produktsicherheit | |

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

Further Information

inapplicable, this product is a mixture REACH registration number see section 3

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Eye Irrit. 2; H319

Skin Sens. 1; H317

Muta. 2; H341

Carc. 2; H351

Full text of hazard statements: see SECTION 16.

2.2. Label elements

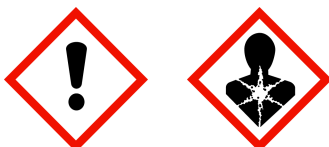
GB CLP Regulation

Hazard components for labelling

1,4-dihydroxybenzene

Signal word: Warning

Pictograms:



Safety Data Sheet

according to UK REACH Regulation

Hydroquinone solution

Revision date: 23.01.2024

Product code: 31748

Page 2 of 11

Hazard statements

| | |
|------|---------------------------------------|
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H341 | Suspected of causing genetic defects. |
| H351 | Suspected of causing cancer. |

Precautionary statements

| | |
|-----------|---|
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. |
| P302+P352 | IF ON SKIN: Wash with plenty of water. |
| P362+P364 | Take off contaminated clothing and wash it before reuse. |

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixtures in aqueous solution

Relevant ingredients

| CAS No | Chemical name | | | Quantity |
|----------|--|--------------|------------------|-----------|
| | EC No | Index No | REACH No | |
| | Classification (GB CLP Regulation) | | | |
| 123-31-9 | 1,4-dihydroxybenzene | | | 1 - < 5 % |
| | 204-617-8 | 604-005-00-4 | 01-2119486399-18 | |
| | Carc. 2, Muta. 2, Acute Tox. 4, Eye Dam. 1, Skin Sens. 1, Aquatic Acute 1; H351 H341 H302 H318 H317 H400 | | | |

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

| CAS No | EC No | Chemical name | Quantity |
|----------|---|----------------------|-----------|
| | Specific Conc. Limits, M-factors and ATE | | |
| 123-31-9 | 204-617-8 | 1,4-dihydroxybenzene | 1 - < 5 % |
| | dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 375 mg/kg Aquatic Acute 1; H400: M=10 | | |

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

No data available

After inhalation

Provide fresh air.
Call a physician immediately.

After contact with skin

Wash immediately with: Water
Take off immediately all contaminated clothing and wash it before reuse.
Call a physician immediately.

Safety Data Sheet

according to UK REACH Regulation

Hydroquinone solution

Revision date: 23.01.2024

Product code: 31748

Page 3 of 11

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.
Remove contact lenses, if present and easy to do. Continue rinsing.
Protect uninjured eye.

After ingestion

Rinse mouth immediately and drink plenty of water.
Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Irritant
Allergic reactions

4.3. Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Non-combustible liquids
Hazardous combustion products

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.
Avoid contact with skin, eyes and clothes.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Do not breathe vapour/aerosol.

For non-emergency personnel

Provide adequate ventilation.
Use personal protection equipment.
Avoid contact with skin, eyes and clothes.
Remove persons to safety.
Emergency procedures
Consult an expert
Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For containment

Cover drains.
Prevent spread over a wide area (e.g. by containment or oil barriers).

Safety Data Sheet

according to UK REACH Regulation

Hydroquinone solution

Revision date: 23.01.2024

Product code: 31748

Page 4 of 11

Collect in closed and suitable containers for disposal.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Read label before use. Handle and open container with care.

When using do not eat, drink, smoke, sniff. Use personal protection equipment.

Provide adequate ventilation. Avoid contact with skin, eyes and clothes.

Do not breathe vapour/aerosol. Use extractor hood (laboratory).

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs. Remove contaminated, saturated clothing immediately.

Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take

a shower if necessary. When using do not eat or drink. Avoid: aerosol or mist formation Do not breathe

vapour/aerosol.

Further information on handling

Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary.

Take off immediately all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed.

Hints on joint storage

national regulations

Further information on storage conditions

Store in a dry place.

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

| CAS No | Substance | ppm | mg/m ³ | fibres/ml | Category | Origin |
|----------|--------------|-----|-------------------|-----------|-----------|--------|
| 123-31-9 | Hydroquinone | - | 0.5 | | TWA (8 h) | WEL |

Safety Data Sheet

according to UK REACH Regulation

Hydroquinone solution

Revision date: 23.01.2024

Product code: 31748

Page 5 of 11

DNEL/DMEL values

| CAS No | Substance | | |
|--------------------------|----------------------|----------|------------------------|
| DNEL type | Exposure route | Effect | Value |
| 123-31-9 | 1,4-dihydroxybenzene | | |
| Worker DNEL, long-term | inhalation | systemic | 2,1 mg/m ³ |
| Worker DNEL, long-term | dermal | systemic | 3,33 mg/kg bw/day |
| Consumer DNEL, long-term | inhalation | systemic | 1,05 mg/m ³ |
| Consumer DNEL, long-term | dermal | systemic | 1,66 mg/kg bw/day |
| Consumer DNEL, long-term | oral | systemic | 0,6 mg/kg bw/day |

PNEC values

| CAS No | Substance | |
|--|----------------------|--|
| Environmental compartment | Value | |
| 123-31-9 | 1,4-dihydroxybenzene | |
| Freshwater | 0,00057 mg/l | |
| Freshwater (intermittent releases) | 0,00134 mg/l | |
| Marine water | 0,000057 mg/l | |
| Freshwater sediment | 0,0049 mg/kg | |
| Marine sediment | 0,00049 mg/kg | |
| Micro-organisms in sewage treatment plants (STP) | 0,71 mg/l | |
| Soil | 0,00064 mg/kg | |

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Individual protection measures, such as personal protective equipment

Eye/face protection

goggles

Wear eye/face protection.

Hand protection

Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: vertrieb@kcl.de with the following specification (test according to EN 374):

By long-term hand contact

Recommended glove articles: KCL 741 Dermatrill® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Recommended glove articles: KCL 741 Dermatrill® L

Recommended material: NBR (Nitrile rubber) 0,11mm

Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet supplied by us and for the designated use. When dissolving in or mixing with other substances and

Safety Data Sheet

according to UK REACH Regulation

Hydroquinone solution

Revision date: 23.01.2024

Product code: 31748

Page 6 of 11

under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Wear suitable protective clothing. Take off immediately all contaminated clothing.
Wash hands before breaks and after work.

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | | |
|---|-------------------|--------------------------|
| Physical state: | Liquid | |
| Colour: | colourless | |
| Odour: | characteristic | |
| Odour threshold: | No data available | |
| Melting point/freezing point: | | No data available |
| Boiling point or initial boiling point and boiling range: | | No data available |
| Flammability: | | No data available |
| Lower explosion limits: | | No data available |
| Upper explosion limits: | | No data available |
| Flash point: | | No data available |
| Auto-ignition temperature: | | No data available |
| Decomposition temperature: | | No data available |
| pH-Value (at 20 °C): | | 4,5 |
| Viscosity / kinematic: | | No data available |
| Water solubility: | | completely miscible |
| Solubility in other solvents | | No data available |
| No data available | | |
| Dissolution rate: | | No data available |
| Partition coefficient n-octanol/water: | | No data available |
| Dispersion stability: | | No data available |
| Vapour pressure: | | No data available |
| Vapour pressure: | | No data available |
| Density: | | 1,0002 g/cm ³ |
| Relative density: | | No data available |
| Bulk density: | | No data available |
| Relative vapour density: | | No data available |
| Particle characteristics: | | No data available |

9.2. Other information

Information with regard to physical hazard classes

| | |
|---------------------------|-------------------|
| Explosive properties | |
| No data available | |
| Sustaining combustion: | No data available |
| Self-ignition temperature | |
| Solid: | No data available |
| Gas: | No data available |
| Oxidizing properties | |
| No data available | |

Other safety characteristics

Safety Data Sheet

according to UK REACH Regulation

Hydroquinone solution

Revision date: 23.01.2024

Product code: 31748

Page 7 of 11

| | |
|--------------------------|-------------------|
| Evaporation rate: | No data available |
| Solvent separation test: | No data available |
| Solvent content: | No data available |
| Solid content: | 0 |
| Sublimation point: | No data available |
| Softening point: | No data available |
| Pour point: | No data available |
| No data available: | |
| Viscosity / dynamic: | No data available |
| Flow time: | No data available |

Further Information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No data available

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

No data available

10.6. Hazardous decomposition products

No data available

Further information

No data available

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Toxicokinetics, metabolism and distribution

There are no data available on the preparation/mixture itself.

Acute toxicity

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

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

| CAS No | Chemical name | | | | |
|----------|----------------------|-------------------|---------|--------------------------------------|--------------------|
| | Exposure route | Dose | Species | Source | Method |
| 123-31-9 | 1,4-dihydroxybenzene | | | | |
| | oral | LD50 > 375 mg/kg | Rat | Food Chem Toxicol 45, 70 - 78 (2007) | OECD Guideline 401 |
| | dermal | LD50 > 2000 mg/kg | Rabbit | Food Chem Toxicol 45, 70 - 78 (2007) | OECD Guideline 402 |

Irritation and corrosivity

Safety Data Sheet

according to UK REACH Regulation

Hydroquinone solution

Revision date: 23.01.2024

Product code: 31748

Page 8 of 11

Causes serious eye irritation.

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

Sensitising effects

May cause an allergic skin reaction. (1,4-dihydroxybenzene)

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of causing genetic defects. (1,4-dihydroxybenzene)

Suspected of causing cancer. (1,4-dihydroxybenzene)

Reproductive toxicity: 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.

Information on likely routes of exposure

There are no data available on the preparation/mixture itself.

Specific effects in experiment on an animal

There are no data available on the preparation/mixture itself.

Additional information on tests

There are no data available on the preparation/mixture itself.

Practical experience

There are no data available on the preparation/mixture itself.

11.2. Information on other hazards

Endocrine disrupting properties

There are no data available on the preparation/mixture itself.

Other information

There are no data available on the preparation/mixture itself.

Further information

There are no data available on the preparation/mixture itself.

SECTION 12: Ecological information

12.1. Toxicity

There are no data available on the mixture itself.

| CAS No | Chemical name | | | | | | |
|----------|--------------------------|---------------|-----------|---------|------------------------------------|--|-----------------------|
| | Aquatic toxicity | Dose | [h] [d] | Species | Source | Method | |
| 123-31-9 | 1,4-dihydroxybenzene | | | | | | |
| | Acute fish toxicity | LC50 mg/l | 0,638 | 96 h | Oncorhynchus mykiss | Environ Toxicol Chem 3: 243-254 (1984) | OECD Guideline 203 |
| | Acute algae toxicity | ErC50 mg/l | 0,33 | 72 h | Pseudokirchneriella subcapitata | Study report (2008) | OECD Guideline 201 |
| | Acute crustacea toxicity | EC50 mg/l | 0,134 | 48 h | Daphnia magna | Study report (2008) | OECD Guideline 202 |
| | Fish toxicity | NOEC mg/l | >= 0,1 | 32 d | Pimephales promelas | Study report (2016) | OECD Guideline 210 |
| | Crustacea toxicity | NOEC mg/l | 0,006 | 21 d | Daphnia magna | Study report (2008) | OECD Guideline 211 |

12.2. Persistence and degradability

There are no data available on the mixture itself.

Safety Data Sheet

according to UK REACH Regulation

Hydroquinone solution

Revision date: 23.01.2024

Product code: 31748

Page 9 of 11

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

Partition coefficient n-octanol/water

| CAS No | Chemical name | Log Pow |
|----------|----------------------|---------|
| 123-31-9 | 1,4-dihydroxybenzene | 0,59 |

BCF

| CAS No | Chemical name | BCF | Species | Source |
|----------|----------------------|-------|---------|---------------------|
| 123-31-9 | 1,4-dihydroxybenzene | 3,162 | | Study report (2010) |

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

There are no data available on the mixture itself.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

Discharge into the environment must be avoided.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not empty into drains.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number or ID number:

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number or ID number:

No dangerous good in sense of this transport regulation.

14.2. UN proper shipping name:

No dangerous good in sense of this transport regulation.

14.3. Transport hazard class(es):

No dangerous good in sense of this transport regulation.

14.4. Packing group:

No dangerous good in sense of this transport regulation.

Safety Data Sheet

according to UK REACH Regulation

Hydroquinone solution

Revision date: 23.01.2024

Product code: 31748

Page 10 of 11

Air transport (ICAO-TI/IATA-DGR)

- 14.1. UN number or ID number:** No dangerous good in sense of this transport regulation.
- 14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.
- 14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.
- 14.4. Packing group:** No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):
Entry 3, Entry 75

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D): 3 - highly hazardous to water

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 1,9.

Abbreviations and acronyms

- Acute Tox: Acute toxicity
- Eye Dam: Eye damage
- Eye Irrit: Eye irritation
- Skin Sens: Skin sensitisation
- Muta: Germ cell mutagenicity
- Carc: Carcinogenicity
- Aquatic Acute: Acute aquatic hazard

Classification for mixtures and used evaluation method according to GB CLP Regulation

| Classification | Classification procedure |
|--------------------|--------------------------|
| Eye Irrit. 2; H319 | Calculation method |
| Skin Sens. 1; H317 | Calculation method |
| Muta. 2; H341 | Calculation method |
| Carc. 2; H351 | Calculation method |

Relevant H and EUH statements (number and full text)

- H302 Harmful if swallowed.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H341 Suspected of causing genetic defects.
- H351 Suspected of causing cancer.
- H400 Very toxic to aquatic life.

Safety Data Sheet

according to UK REACH Regulation

Hydroquinone solution

Revision date: 23.01.2024

Product code: 31748

Page 11 of 11

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)