

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 05.03.2013

Version 1

Revision: 15.03.2011

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

• **1.1 Product identifier**

• **Trade name: A 17 R part 1**

• **Article number: 19710**

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

To this day we do not have any information about the identified use at the moment. These data are available we will add these to the safety data sheet.

• **Application of the substance / the preparation**

Photochemicals
Photographic developer
Reserved for industrial and professional use.

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

• **Manufacturer/Supplier:**

Calbe Chemie GmbH
Stadtfeld 31
D-39240 Calbe
Tel.: +49 (0)39291 425-0
Fax: +49 (0)39291 425-25
e-mail: info@calbe-chemie.de
www.calbe-chemie.de

• **Informing department:**

Tel.: +49 (0)39291 42515
E-Mail: kr@calbe-chemie.de

• **1.4 Emergency telephone number: Tel.: 0700-24112112 (CAL)**

2 Hazards identification

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

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



GHS08 health hazard

Muta. 2 H341 Suspected of causing genetic defects.
Carc. 2 H351 Suspected of causing cancer.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.
Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.03.2013


Version 1

Revision: 15.03.2011


Trade name: A 17 R part 1

(Contd. of page 1)


Skin Sens. 1 H317 May cause an allergic skin reaction.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC
 Xn; Harmful


R22-40-48/22-68: Harmful if swallowed. Limited evidence of a carcinogenic effect. Harmful: danger of serious damage to health by prolonged exposure if swallowed. Possible risk of irreversible effects.

 Xi; Irritant

R41: Risk of serious damage to eyes.

 Xi; Sensitising

R43: May cause sensitisation by skin contact.

 N; Dangerous for the environment

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

2.2 Label elements
Labelling according to EU guidelines:

The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

Code letter and hazard designation of product:

 Xn Harmful
 N Dangerous for the environment

Hazard-determining components of labelling:

 1,4-dihydroxybenzene (hydroquinone)
 4-(Methylamino)-phenolsulphate

Risk phrases:

 22 Harmful if swallowed.
 40 Limited evidence of a carcinogenic effect.
 41 Risk of serious damage to eyes.
 43 May cause sensitisation by skin contact.
 48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.
 68 Possible risk of irreversible effects.
 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases:

 22 Do not breathe dust.
 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.03.2013

Version 1

Revision: 15.03.2011

Trade name: A 17 R part 1















(Contd. of page 2)

- 60 This material and its container must be disposed of as hazardous waste.
 61 Avoid release to the environment. Refer to special instructions/safety data sheets.
- **2.3 Other hazards**
 - **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.

3 Composition/information on ingredients

- **3.2 Mixtures**
- **Description:** Mixture of the substances listed below with harmless additions.

- **Dangerous components:**

CAS: 123-31-9 EINECS: 204-617-8	1,4-dihydroxybenzene (hydroquinone)  Xn R22-40-68  Xi R41  Xi R43  N R50 Carc. Cat. 3, Muta. Cat. 3  Muta. 2, H341; Carc. 2, H351  Eye Dam. 1, H318  Aquatic Acute 1, H400  Acute Tox. 4, H302; Skin Sens. 1, H317	25-50%
CAS: 55-55-0 EINECS: 200-237-1	4-(Methylamino)-phenolsulphate  Xn R22-48/22  Xi R43  N R50/53  STOT RE 2, H373  Aquatic Chronic 1, H410  Acute Tox. 4, H302; Skin Sens. 1, H317	25-50%

- **Additional information** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

- **4.1 Description of first aid measures**
- **General information**
 Instantly remove any clothing soiled by the product.
 Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 24 hours after the accident.
- **After inhalation** Supply fresh air; consult doctor in case of symptoms.
- **After skin contact** Instantly wash with water and soap and rinse thoroughly.
- **After eye contact**
 Rinse opened eye for several minutes under running water (> 15 min). Then consult doctor.
- **After swallowing** Instantly call for doctor.
- **4.2 Most important symptoms and effects, both acute and delayed**
 No further relevant information available.

(Contd. on page 4)

GB

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 05.03.2013

Version 1

Revision: 15.03.2011

Trade name: A 17 R part 1

- (Contd. of page 3)
- **4.3 Indication of any immediate medical attention and special treatment needed**
Symptomatic treatment

5 Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents**
CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **5.2 Special hazards arising from the substance or mixture**
Can be released in case of fire
Carbon monoxide
Nitrogen oxides (NO_x)
Sulphur oxides (SO_x)
- **5.3 Advice for firefighters**
- **Protective equipment:**
Do not inhale explosion gases or combustion gases.
At formation of toxic gases:
Put on breathing apparatus.

6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
Do not breathe dust.
Use breathing protection against the effects of fumes/dust/aerosol.
- **6.2 Environmental precautions:** Do not allow to enter drainage system, surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Collect mechanically.
Dispose of contaminated material as waste according to item 13.
- **6.4 Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

7 Handling and storage

- **7.1 Precautions for safe handling**
The usual precautionary measures should be adhered to general rules for handling chemicals.
Wear protective clothing.
Open and handle container with care.
Prevent formation of dust.
- **Information about protection against explosions and fires:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:**
Store in cool location.
Keep container tightly sealed.
- **Information about storage in one common storage facility:**
Keep away from foodstuffs, beverages and food.

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.03.2013

Version 1

Revision: 15.03.2011

Trade name: A 17 R part 1

(Contd. of page 4)

Store away from oxidizing agents.

Store away from water.

- **Further information about storage conditions:**

Store under dry conditions.

Store container in a well ventilated position.

Protect from heat and direct sunlight.

- **Storage class**

LGK 11

(German Technical Rule for Hazardous Substance – TRGS 510)

- **7.3 Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

- **8.1 Control parameters**

- **Components with limit values that require monitoring at the workplace:**

123-31-9 1,4-dihydroxybenzene (hydroquinone)

WEL	Long-term value: 0.5 mg/m ³
-----	--

- **Additional information:** The lists that were valid during the compilation were used as basis.

- **8.2 Exposure controls**

- **Personal protective equipment**

- **General protective and hygienic measures**

The usual precautionary measures should be adhered to general rules for handling chemicals.

Keep away from foodstuffs, beverages and food.

Take off immediately all contaminated clothing.

Wash hands during breaks and at the end of the work.

Avoid contact with the eyes and skin.

Do not eat, drink or smoke while working.

- **Breathing equipment:** Not necessary if room is well-ventilated.

- **Protection of hands:**

Protective gloves.

The protective gloves to be used must comply with the specifications of the EC directive 89/686/

EEC and the resultant standard EN 374.

This recommendation applies only to the product stated in the Safety Data Sheet and supplied by us as well as to the purpose specified by us.

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

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

	Thickness (mm)	Breakthrough time (min)
Nitril rubber	0,38	> 480
Neoprene	0,65	> 240
Butyl rubber	0,36	> 480

Avoid natural rubber gloves.

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

Synthetic gloves

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.03.2013

Version 1

Revision: 15.03.2011

Trade name: A 17 R part 1

(Contd. of page 5)

- **Eye protection:** Tightly sealed safety glasses.
- **Body protection:** Protective work clothing.

9 Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Solid.
Colour:	Whitish
· Odour:	Nearly odourless
· Odour threshold:	Not determined.

· pH-value (20 g/l) at 25 °C: 3-4

· Change in condition

Melting point/Melting range:	Not determined
Boiling point/Boiling range:	Not determined

· Flash point: Not applicable

· Inflammability (solid, gaseous) Not determined.

· Ignition temperature: 515 °C

· Decomposition temperature: Not determined.

· Self-inflammability: Product is not selfigniting.

· Danger of explosion: Product is not explosive.

· Critical values for explosion:

Lower:	Not determined.
Upper:	Not determined.

· Vapour pressure: Not applicable.

· Density	Not determined
· Relative density	Not determined.
· Vapour density	Not applicable.
· Evaporation rate	Not applicable.

· Solubility in / Miscibility with

Water at 20 °C: 30-40 g/l

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

dynamic:	Not applicable.
kinematic:	Not applicable.

· Solvent content:

Organic solvents: 0.0 %

Solids content: 100.0 %

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.03.2013

Version 1

Revision: 15.03.2011

Trade name: A 17 R part 1

(Contd. of page 6)

· **9.2 Other information** No further relevant information available.

10 Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** Reacts with acids, alkalis and oxidizing agents
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
Formation of poisonous gases during heating or in fires.

11 Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

123-31-9 1,4-dihydroxybenzene (hydroquinone)

Oral	LD50	320 mg/kg (rat)
Dermal	LD50	>900 mg/kg (rat)

55-55-0 4-(Methylamino)-phenolsulphate

Oral	LD50	237 mg/kg (rat)
Dermal	LD50	> 1000 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:
Harmful
Irritant
This statement was deduced from the properties of the single components.

Hydroquinone has been included in the German "TRGS 905" (Technical Rules for Dangerous Substances/Index of carcinogen and mutagen substances or substances dangerous to reproductive systems), and has been classified as "Category 3" of carcinogen and mutagen substances (3 = category of lowest dangerousness). The according EU committees have not yet evaluated this classification.
- **Sensitisation** May cause sensitisation by skin contact.

12 Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.

(Contd. on page 8)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 05.03.2013

Version 1

Revision: 15.03.2011

Trade name: A 17 R part 1

(Contd. of page 7)

- **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.
- **Ecotoxicological effects:**
HYDROQUINONE
toxicity to fish (LC50): 0,044 mg/l/96 h (Pimephales promelas)
toxicity to daphnia (EC50): 0,29 mg/l/48 h (Daphnia magna)
toxicity to algae (IC50) 0,335 mg/l/72 h (Selenastrum capricornutum)
4-(Methylamino)-phenolsulphate
toxicity to fish (LC50): 0,25 mg/l/96 h (Pimephales promelas)
toxicity to daphnia (EC50): 19 mg/l/48 h (Daphnia magna)
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (German Regulation) (Self-assessment): highly water-endangering.
Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.
At present there are no ecotoxicological assessments.
This statement was deduced from the properties of the single components.
The product does not contain organically bounded halogens (AOX-free).
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

13 Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Must be specially treated under adherence to official regulations.
- **Uncleaned packagings:**
- **Recommendation:**
Non contaminated packagings can be used for recycling.
Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.
Packagings that cannot be cleaned are to be disposed of in the same manner as the product.
EAK-No. 15 01 10
- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

14 Transport information

- | | |
|---------------------------------------|---|
| · 14.1 UN-Number | UN 3077 |
| · ADR, IMDG, IATA | |
| · 14.2 UN proper shipping name | ENVIRONMENTALLY HAZARDOUS |
| · ADR, IMDG, IATA | SUBSTANCE, SOLID, N.O.S. (1,4-dihydroxybenzene (hydroquinone), 4- |

(Contd. on page 9)

Safety data sheet
according to 1907/2006/EC, Article 31


Printing date 05.03.2013

Version 1

Revision: 15.03.2011

Trade name: A 17 R part 1

(Contd. of page 8)

· (Methylamino)-phenolsulphate	
<ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR, IMDG, IATA 	
	
<ul style="list-style-type: none"> · Class · Label 	<p>9 Miscellaneous dangerous substances and articles. 9</p>
<ul style="list-style-type: none"> · 14.4 Packing group · ADR, IMDG, IATA 	III
<ul style="list-style-type: none"> · 14.5 Environmental hazards: · Marine pollutant: · Special marking (ADR): · Special marking (IATA): 	<p>Product contains environmentally hazardous substances: 1,4-dihydroxybenzene (hydroquinone), 4-(Methylamino)-phenolsulphate</p> <p>Yes Symbol (fish and tree)</p> <p>Symbol (fish and tree) Symbol (fish and tree)</p>
<ul style="list-style-type: none"> · 14.6 Special precautions for user · Kemler Number: · EMS Number: 	<p>Warning: Miscellaneous dangerous substances and articles. 90 F-A,S-F</p>
<ul style="list-style-type: none"> · 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	Not applicable.
· Transport/Additional information:	
<ul style="list-style-type: none"> · ADR · Limited quantities (LQ) · Transport category · Tunnel restriction code · Remarks: 	<p>LQ27 3 E "Limited quantity" according to chapter 3.4 ADR</p>
<ul style="list-style-type: none"> · IMDG · Remarks: 	"Limited quantity" according to chapter 3.4 IMDG
<ul style="list-style-type: none"> · IATA · Remarks: 	Packing Instruction PAX/CAO 956
<ul style="list-style-type: none"> · UN "Model Regulation": 	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III

GB

(Contd. on page 10)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.03.2013

Version 1

Revision: 15.03.2011

Trade name: A 17 R part 1

(Contd. of page 9)

15 Regulatory information

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

- **Designation according to EC guidelines:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

- **National regulations**

Class	Share in %
I	50.0

- **Water hazard class:** Water danger class 3 (Self-assessment): highly water-endangering.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

- **Relevant phrases**

H302 Harmful if swallowed.
 H317 May cause an allergic skin reaction.
 H318 Causes serious eye damage.
 H341 Suspected of causing genetic defects.
 H351 Suspected of causing cancer.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.

R22 Harmful if swallowed.
 R40 Limited evidence of a carcinogenic effect.
 R41 Risk of serious damage to eyes.
 R43 May cause sensitisation by skin contact.
 R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.
 R50 Very toxic to aquatic organisms.
 R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R68 Possible risk of irreversible effects.

- **Department issuing data specification sheet:**

Laboratory
 Tel.: +49 (0)39291 425-15

- **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 ICAO: International Civil Aviation Organization
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent

(Contd. on page 11)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 05.03.2013

Version 1

Revision: 15.03.2011

Trade name: A 17 R part 1

(Contd. of page 10)

· **Sources**

Internal physical tests, MSDS of the ingredients,
Information system on hazardous substances of the German Social Accident Insurance
(GESTIS-database on hazardous substances), <http://www.dguv.de/ifa/en/gestis/stoffdb/index.jsp>
applicable EEC directives:

- 1999/45
- 1907/2006
- 1272/2008

GB

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 05.03.2013

Version 1

Revision: 15.03.2011

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

• **1.1 Product identifier**

• **Trade name: A 17 R Part 2**

• **Article number: 19710**

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

To this day we do not have any information about the identified use at the moment. These data are available we will add these to the safety data sheet.

• **Application of the substance / the preparation**

Photochemicals
Photographic developer
Reserved for industrial and professional use.

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

• **Manufacturer/Supplier:**

Calbe Chemie GmbH
Stadtfeld 31
D-39240 Calbe
Tel.: +49 (0)39291 425-0
Fax: +49 (0)39291 425-25
e-mail: info@calbe-chemie.de
www.calbe-chemie.de

• **Informing department:**

Tel.: +49 (0)39291 42515
E-Mail: kr@calbe-chemie.de

• **1.4 Emergency telephone number:** Tel.: 0700-24112112 (CAL)

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.

• **Classification according to Directive 67/548/EEC or Directive 1999/45/EC Void**

• **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

• **Classification system:**

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

• **2.2 Label elements**

• **Labelling according to EU guidelines:**

The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

• **Special labelling of certain preparations:**

Safety data sheet available for professional user on request.

• **2.3 Other hazards**

• **Results of PBT and vPvB assessment**

• **PBT:** Not applicable.

• **vPvB:** Not applicable.

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.03.2013

Version 1

Revision: 15.03.2011





Trade name: A 17 R Part 2

(Contd. of page 1)

3 Composition/information on ingredients

- **3.2 Mixtures**
- **Description:** Mixture of the substances listed below with harmless additions.

- **Dangerous components:**

CAS: 12179-04-3 EINECS: 215-540-4	disodium tetraborate pentahydrate  T Repr. Cat. 2 R60-61  Repr. 1B, H360	2.0-5.0%
CAS: 1310-73-2 EINECS: 215-185-5	sodium hydroxide  C R35  Skin Corr. 1A, H314	0.5-2.0%

- **SVHC**

12179-04-3	disodium tetraborate pentahydrate
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- **Additional information** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

- **4.1 Description of first aid measures**
- **General information** Instantly remove any clothing soiled by the product.
- **After inhalation** Supply fresh air; consult doctor in case of symptoms.
- **After skin contact** Instantly wash with water and soap and rinse thoroughly.
- **After eye contact**
Rinse opened eye for several minutes under running water (> 15 min). Then consult doctor.
- **After swallowing** In case of persistent symptoms consult doctor.
- **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.

5 Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents**
CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam. Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **5.2 Special hazards arising from the substance or mixture**
Can be released in case of fire
Sulphur oxides (SO_x)
- **5.3 Advice for firefighters**
- **Protective equipment:**
At formation of toxic gases:
Do not inhale explosion gases or combustion gases.

GB

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.03.2013

Version 1

Revision: 15.03.2011

Trade name: A 17 R Part 2

(Contd. of page 2)

6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**

Do not breathe dust.

Use breathing protection against the effects of fumes/dust/aerosol.

- **6.2 Environmental precautions:** Do not allow to enter drainage system, surface or ground water.

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

Collect mechanically.

Dispose of contaminated material as waste according to item 13.

- **6.4 Reference to other sections**

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

7 Handling and storage

- **7.1 Precautions for safe handling**

The usual precautionary measures should be adhered to general rules for handling chemicals.

Wear protective clothing.

- **Information about protection against explosions and fires:** No special measures required.

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

- **Storage**

- **Requirements to be met by storerooms and containers:** Keep container tightly sealed.

- **Information about storage in one common storage facility:**

Store away from oxidizing agents.

Store away from water.

Keep away from foodstuffs, beverages and food.

- **Further information about storage conditions:**

Store under dry conditions.

Store container in a well ventilated position.

Keep container tightly sealed.

- **Recommended storage temperature:** 5-25 °C

- **Storage class**

LGK 13

(German Technical Rule for Hazardous Substance – TRGS 510)

- **7.3 Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

- **8.1 Control parameters**

- **Components 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.

1310-73-2 sodium hydroxide	
WEL	Short-term value: 2 mg/m ³

- **Additional information:** The lists that were valid during the compilation were used as basis.

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.03.2013

Version 1

Revision: 15.03.2011

Trade name: A 17 R Part 2

(Contd. of page 3)

- **8.2 Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**
 The usual precautionary measures should be adhered to general rules for handling chemicals.
 Keep away from foodstuffs, beverages and food.
 Take off immediately all contaminated clothing.
 Wash hands during breaks and at the end of the work.
 Avoid contact with the eyes and skin.
 Do not eat, drink or smoke while working.
- **Breathing equipment:** Not necessary if room is well-ventilated.
- **Protection of hands:**
 Protective gloves.
 The protective gloves to be used must comply with the specifications of the EC directive 89/686/EEC and the resultant standard EN 374.
 This recommendation applies only to the product stated in the Safety Data Sheet and supplied by us as well as to the purpose specified by us.
 Only use chemical-protective gloves with CE-labelling of category III.
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**

	Thickness (mm)	Breakthrough time (min)
Nitril rubber	0,38	> 480
Neoprene	0,65	> 240
Butyl rubber	0,36	> 480
- **For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:**
 Synthetic gloves
- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing.

9 Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
 - **General Information**
 - **Appearance:**

Form:	Solid.
Colour:	Whitish
 - **Odour:** Nearly odourless
 - **Odour threshold:** Not determined.
- | | |
|-------------------------------------|-----|
| pH-value (100 g/l) at 25 °C: | 8-9 |
|-------------------------------------|-----|
- **Change in condition**

Melting point/Melting range:	Not determined
Boiling point/Boiling range:	Not determined
 - **Flash point:** Not applicable
 - **Inflammability (solid, gaseous)** Not determined.

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.03.2013

Version 1

Revision: 15.03.2011

Trade name: A 17 R Part 2

(Contd. of page 4)

· Ignition temperature:	
Decomposition temperature: Not determined.	
· Self-inflammability:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive.
· Critical values for explosion:	
Lower:	Not determined.
Upper:	Not determined.
· Solubility in / Miscibility with	
Water at 20 °C:	~ 100 g/l
· Viscosity:	
dynamic:	Not applicable.
kinematic:	Not applicable.
· Solvent content:	
Organic solvents:	0.0 %
Solids content: 100.0 %	
· 9.2 Other information	No further relevant information available.

10 Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** Reacts with strong acids
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
Formation of poisonous gases during heating or in fires.

11 Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritant effect.
- **Sensitization:** No sensitizing effect known.
- **Additional toxicological information:**
Hydroquinone has been included in the German "TRGS 905" (Technical Rules for Dangerous Substances/Index of carcinogen and mutagen substances or substances dangerous to reproductive systems), and has been classified as "Category 3" of carcinogen and mutagen substances (3 = category of lowest dangerousness). The according EU committees have not yet evaluated this classification.

(Contd. on page 6)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 05.03.2013

Version 1

Revision: 15.03.2011

Trade name: A 17 R Part 2

(Contd. of page 5)

The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:

Irritant

This statement was deduced from the properties of the single components.

12 Ecological information

· 12.1 Toxicity

- **Aquatic toxicity:** No further relevant information available.
- **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.

· **Ecotoxicological effects:**

HYDROQUINONE

toxicity to fish (LC50): 0,044 mg/l/96 h (Pimephales promelas)

toxicity to daphnia (EC50): 0,29 mg/l/48 h (Daphnia magna)

toxicity to algae (IC50) 0,335 mg/l/72 h (Selenastrum capricornutum)

4-(Methylamino)-phenolsulphate

toxicity to fish (LC50): 0,25 mg/l/96 h (Pimephales promelas)

toxicity to daphnia (EC50): 19 mg/l/48 h (Daphnia magna)

· **Additional ecological information:**

· **General notes:**

This statement was deduced from the properties of the single components.

Water hazard class 1 (German Regulation) (Self-assessment): Weakly water-endangering.

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

At present there are no ecotoxicological assessments.

The product does not contain organically bounded halogens (AOX-free).

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

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

13 Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Must be specially treated under adherence to official regulations.

· **Uncleaned packagings:**

· **Recommendation:**

Non contaminated packagings can be used for recycling.

Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.

Packagings that cannot be cleaned are to be disposed of in the same manner as the product.

EAK-No. 15 01 10

(Contd. on page 7)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 05.03.2013

Version 1

Revision: 15.03.2011

Trade name: A 17 R Part 2

(Contd. of page 6)

- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

14 Transport information

- | | |
|---|--|
| · 14.1 UN-Number
· ADR, ADN, IMDG, IATA | Void |
| · 14.2 UN proper shipping name
· ADR, ADN, IMDG, IATA | Void |
| · 14.3 Transport hazard class(es)
· ADR, ADN, IMDG, IATA
· Class | Void |
| · 14.4 Packing group
· ADR, IMDG, IATA | Void |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | Not dangerous according to the above specifications. |
| · UN "Model Regulation": | - |

15 Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Designation according to EC guidelines:**
The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
- **National regulations**
- **Water hazard class:** Water hazard class 1 (Self-assessment): weakly water-endangering.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

- **Relevant phrases**
H314 Causes severe skin burns and eye damage.
H360 May damage fertility or the unborn child.
R35 Causes severe burns.
R60 May impair fertility.
R61 May cause harm to the unborn child.
- **Department issuing data specification sheet:**
Laboratory
Tel.: +49 (0)39291 425-15

(Contd. on page 8)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 05.03.2013

Version 1

Revision: 15.03.2011

Trade name: A 17 R Part 2

(Contd. of page 7)

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals

· **Sources**

Internal physical tests, MSDS of the ingredients,
Information system on hazardous substances of the German Social Accident Insurance
(GESTIS-database on hazardous substances), <http://www.dguv.de/ifa/en/gestis/stoffdb/index.jsp>
applicable EEC directives:
- 1999/45
- 1907/2006
- 1272/2008

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