

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 30.03.2012

Version 3

Revision: 30.03.2012

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

• **1.1 Product identifier**

• **Trade name: A 27 R liquid**

• **Article number:** 19727, 19729

• **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.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

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

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



Xn; Harmful

R40-68: Limited evidence of a carcinogenic effect. Possible risk of irreversible effects.



Xi; Irritant

R36/38: Irritating to eyes and skin.

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 Xi; Sensitising

R43: May cause sensitisation by skin contact.



N; Dangerous for the environment

R50: Very toxic to aquatic organisms.

· **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)

· **Risk phrases:**

36/38 Irritating to eyes and skin.
40 Limited evidence of a carcinogenic effect.
43 May cause sensitisation by skin contact.
68 Possible risk of irreversible effects.
50 Very toxic to aquatic organisms.

· **Safety phrases:**

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.
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.

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· Dangerous components:		
CAS: 497-19-8 EINECS: 207-838-8	sodium carbonate  Xi R36  Eye Irrit. 2, H319	5.0-10%
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	2.0-5.0%
CAS: 1310-73-2 EINECS: 215-185-5	sodium hydroxide  C R35  Skin Corr. 1A, H314	0.5-2.0%
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	< 0.5%

· **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.

· **After skin contact**

Instantly wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

· **After eye contact**

Rinse opened eye for several minutes under running water (> 15 min). Then consult doctor.

· **After swallowing**

Rinse out mouth and then drink plenty of water.

In case of persistent symptoms consult doctor.

· **4.2 Most important symptoms and effects, both acute and delayed**

No known symptoms to date.

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

No further relevant information available.

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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 dioxide (SO₂)
Carbon monoxide (CO)
- **5.3 Advice for firefighters**
- **Protective equipment:**
Do not inhale explosion gases or combustion gases.
At formation of toxic gases:
Put on breathing apparatus.
- **Additional information** The product is not flammable

6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
- **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:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
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**
Keep containers tightly sealed.
Wear protective clothing.
- **Information about protection against explosions and fires:**
No special measures required.
The product is not flammable
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:** No special requirements.
- **Information about storage in one common storage facility:**
Keep away from foodstuffs, beverages and food.
- **Further information about storage conditions:** Protect from frost.
- **Recommended storage temperature:** 5-25 °C
- **Storage class**
LGK 12
(German Technical Rule for Hazardous Substance – TRGS 510)

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- **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
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- **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 required.

- **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.

- **As protection from splashes gloves made of the following materials are suitable:**

Synthetic gloves

Value for permeation: Level:

≥ 3 (60 min)

- **Eye protection:** Safety glasses

- **Body protection:** Protective work clothing.

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9 Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Fluid
Colour:	Pink
Odour:	Not characteristic

· pH-value at 25 °C: 12.35

· Change in condition

Melting point/Melting range: Not determined
Boiling point/Boiling range: > 100 °C

· Flash point: Not applicable

· Ignition temperature: 515 °C

· Self-inflammability: Product is not selfigniting.

· Danger of explosion: Product is not explosive.

· Critical values for explosion:

Oxidizing properties: None

· Vapour pressure at 20 °C: 23 hPa

· Density at 20 °C: 1.13 g/cm³

· Solubility in / Miscibility with

Water: miscible

· Viscosity:

dynamic: Not determined
kinematic: Not determined

· Solvent content:

Organic solvents: 0.0 %

· 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 acids releasing sulphur dioxide

· 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

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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)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritant effect.
- **Additional toxicological information:**
This statement was deduced from the properties of the single components.
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

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.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Limited evidence of a carcinogenic effect.
Possible risk of irreversible effects.

12 Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** Not determined
- **12.2 Persistence and degradability** Not determined
- **12.3 Bioaccumulative potential** Not determined
- **Behaviour in environmental systems:** Not determined
- **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)
- **Behaviour in sewage processing plants:** Not determined
- **Additional ecological information:**
- **General notes:**
At present there are no ecotoxicological assessments.
Water hazard class 2 (German Regulation) (Self-assessment): Water-endangering.

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Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

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.

- **European waste catalogue**

09 01 01*	water-based developer and activator solutions
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- **Uncleaned packagings:**

- **Recommendation:**

Non contaminated packagings can be used for recycling.

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

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

14 Transport information

- **14.1 UN-Number**

- **ADR, IMDG, IATA**

UN 3082

- **14.2 UN proper shipping name**

- **ADR, IMDG, IATA**

ENVIRONMENTALLY HAZARDOUS
SUBSTANCE, LIQUID, N.O.S. (hydroquinone)

- **14.3 Transport hazard class(es)**

- **ADR, IMDG, IATA**



- **Class**

9 Miscellaneous dangerous substances and articles.

- **Label**

9

- **14.4 Packing group**

- **ADR, IMDG, IATA**

III

- **14.5 Environmental hazards:**

- **Marine pollutant:**

Symbol (fish and tree)

- **Special marking (ADR):**

Symbol (fish and tree)

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· Special marking (IATA):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Miscellaneous dangerous substances and articles.
· EMS Number:	F-A,S-F
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Tunnel restriction code	E
· IATA	
· Remarks:	Packing Instruction PAX / CAO 964
· UN "Model Regulation":	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (1,4-dihydroxybenzene (hydroquinone)), 9, III

15 Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations**
- **Information about limitation of use:**
Employment restrictions concerning pregnant and lactating women must be observed.

Class	Share in %
I	2.9

- **Water hazard class:** Water hazard class 2 (Self-assessment): water-endangering.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
 - H302 Harmful if swallowed.
 - H314 Causes severe skin burns and eye damage.
 - 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.
 - 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.
- R35 Causes severe burns.

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- R36 Irritating to eyes.
- 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.

• **Recommended restriction of use** No public product, only for commercial use

• **Department issuing data specification sheet:**

Laboratory

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

• **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)

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

ICAO: International Civil Aviation Organization

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

• **Sources**

applicable EEC directives:

- 1999/45

- 1907/2006

- 1272/2008

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>

• * **Data compared to the previous version altered.**