

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

Printing date 08.10.2019

Version 7

Revision: 08.10.2019

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

• **1.1 Product identifier**

• **Trade name: RA-4 CD-LR**

• **Article number:** 16615, 16616

• **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 mixture**

Photographic activities
 Consumer use
 Photochemicals
 Photographic developer
 Colour paper photographic processing solution

• **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)

SECTION 2: Hazards identification

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

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



GHS08 health hazard

STOT RE 2 H373 May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.
 Eye Dam. 1 H318 Causes serious eye damage.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

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GHS07

Acute Tox. 4

H302 Harmful if swallowed.

Skin Sens. 1

H317 May cause an allergic skin reaction.

• **2.2 Label elements**

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

The product is classified and labelled according to the CLP regulation.

• **Hazard pictograms**



GHS05 GHS07 GHS08 GHS09

• **Signal word** Danger

• **Hazard-determining components of labelling:**

2,2'-oxybisethanol

N-(2-(N-Ethyl-(4-Amino-3-methylphenyl)-amino)-ethyl)-methan-sulfonamidesquisulphate

• **Hazard statements**

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H373 May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.

H411 Toxic to aquatic life with long lasting effects.

• **Precautionary statements**

P260 Do not breathe mist/vapours/spray.

P273 Avoid release to the environment.

P280 Wear protective gloves / eye protection.

P302+P352 IF ON SKIN: Wash with plenty of water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

• **2.3 Other hazards**

• **Results of PBT and vPvB assessment**

• **PBT:** Not applicable.

• **vPvB:** Not applicable.

SECTION 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: 111-46-6 EINECS: 203-872-2 Index number: 603-140-00-6 Reg.nr.: 01-2119457857-21-xxxx	2,2'-oxybisethanol STOT RE 2, H373 Acute Tox. 4, H302	25-50%
CAS: 584-08-7 EINECS: 209-529-3 Reg.nr.: 01-2119532646-36-xxxx	potassium carbonate Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	10-15%
CAS: 25646-71-3 EINECS: 247-161-5 Index number: 612-134-00-2	N-(2-(N-Ethyl-(4-Amino-3-methylphenyl)-amino)-ethyl)-methan-sulfonamidsesquisulphate Aquatic Acute 1, H400; Aquatic Chronic 1, H410 Acute Tox. 4, H302; Skin Sens. 1, H317	≥2.5-<5%
CAS: 3710-84-7 EINECS: 223-055-4 Reg.nr.: 01-2119962470-39-xxxx	N,N-diethylhydroxylamine Flam. Liq. 3, H226 Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319	2-5%
CAS: 1310-73-2 EINECS: 215-185-5 Index number: 011-002-00-6 Reg.nr.: 01-2119457892-27-xxxx	sodium hydroxide Met. Corr. 1, H290; Skin Corr. 1A, H314 Acute Tox. 4, H302	≥0.5-<2%

• **Additional information** For the wording of the listed hazard phrases refer to section 16.

SECTION 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.

Personal protection for the First Aider.

• **After inhalation** Take affected persons into the open air and position comfortably

• 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 (at least 15 minutes).

Remove contact lenses, if present and easy to do.

Use eye protection.

Call a doctor immediately.

• After swallowing

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; instantly call for medical help.

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

No further relevant information available.

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- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents**
CO₂, extinguishing powder or water jet. Fight larger fires with water spray 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)
Nitrogen oxides (NO_x)
Carbon monoxide
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained breathing apparatus.
Do not inhale explosion gases or combustion gases.

SECTION 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 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Wear protective clothing.
Use only in well ventilated areas.
Do not inhale gases / fumes / aerosols.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:**
Store only in the original container.
Keep container tightly closed in a cool, well-ventilated place.

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- **Information about storage in one common storage facility:**
 Do not store together with acids.
 Keep away from foodstuffs, beverages and food.
- **Further information about storage conditions:**
 Keep container tightly sealed.
 Store in a cool place.
- **Recommended storage temperature:** 5-25°C
- **Storage class**
 LGK 8 B
 (German Technical Rule for Hazardous Substance – TRGS 510)
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 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.

111-46-6 2,2'-oxybisethanol

WEL	Long-term value: 101 mg/m ³ , 23 ppm
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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 contaminated clothing before reuse.
 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:** Use breathing protection only when aerosol or mist is formed.
 - **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 | Breakthrough time | |
| | (mm) | (min) |
| Nitril rubber | 0,38 | > 480 |
| Neoprene | 0,65 | > 240 |

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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:**

Tightly sealed safety glasses.

Safety glasses

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

SECTION 9: Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form: Fluid
Colour: Light orange

· **Odour:** Amine-like

· **Odour threshold:** Not determined.

· **pH-value at 20 °C:** 12.7

· **Change in condition**

Melting point/freezing point: Not determined

Initial boiling point and boiling range: < 100 °C

· **Flash point:** Not applicable

· **Inflammability (solid, gaseous)** Not applicable.

· **Decomposition temperature:** Not determined.

· **Self-inflammability:** Product is not selfigniting.

· **Explosive properties:** Product is not explosive.

· **Critical values for explosion:**

Lower: Not determined.

Upper: Not determined.

· **Oxidising properties** None

· **Density at 20 °C** 1.19 g/cm³

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

Water: miscible

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

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- | | |
|--------------------------------|--|
| · Viscosity: | |
| dynamic: | Not determined |
| kinematic: | Not determined |
| · Solvent content: | |
| Organic solvents: | ~ 43 % |
| · 9.2 Other information | No further relevant information available. |

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** Protect from heat and direct sunlight.
- **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:** No dangerous decomposition products known

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed.

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

111-46-6 2,2'-oxybisethanol

Oral	LD50	12565 mg/kg (rat)
Dermal	LD50	11890 mg/kg (rabbit)

584-08-7 potassium carbonate

Oral	LD50	> 2000 mg/kg (rat)
------	------	--------------------

24567-76-8 N-(2-(4-Amino-N-ethyl-m-toluidino)ethyl)methansulfon-amidsesquisulphate, Monohydrate

Oral	LD50	680 mg/kg (rat)
------	------	-----------------

3710-84-7 N,N-diethylhydroxylamine

Oral	LD50	1600 mg/kg (rat)
Dermal	LD50	1300 mg/kg (rab)
Inhalative	LC50/4 h	3140 mg/l (rat)

1310-73-2 sodium hydroxide

Oral	LD50	2000 mg/kg (rat)
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- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes severe skin burns and eye damage.

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- **Serious eye damage/irritation**
Causes serious eye damage.
- **Respiratory or skin sensitisation**
May cause an allergic skin reaction.
- **Subacute to chronic toxicity:** No known symptoms to date.
- **Additional toxicological information:**
At present there are no animal experimental data.
This statement was deduced from the properties of the single components.
The pH is used as classification criteria in accordance with Regulation (EC) no. 1272/2008.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **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**
May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure:
Oral.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

• 12.1 Toxicity

• Aquatic toxicity:

111-46-6 2,2'-oxybisethanol

EC50/48 h > 10000 mg/l (Daphnia magna)

LC50/96 h 75200 mg/l (Pimephales promelas)

584-08-7 potassium carbonate

EC50/48 h 380-820 mg/l (Daphnia magna)

LC50/96 h 310-750 mg/l (Pimephales promelas)

24567-76-8 N-(2-(4-Amino-N-ethyl-m-toluidino)ethyl)methansulfon-amidsesquisulphate, Monohydrate

EC50/48 h 0.3 mg/l (fish)

3710-84-7 N,N-diethylhydroxylamine

EC50/48 h 130.1 mg/l (Daphnia magna)

LC50/96 h 150 mg/l (Poecilia reticulata)

1310-73-2 sodium hydroxide

LC50/96 h 125 mg/l (Gambusia affinis)

- **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.
- **Other information** Not determined
- **Ecotoxic effects:** No further relevant information available.

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- **Remark:** Toxic for fish
- **Behaviour in sewage processing plants:** Not determined
- **Additional ecological information:**
- **General notes:**
 This statement was deduced from the properties of the single components.
 The product contains materials that are harmful to the environment.
 Water hazard class 3 (German Regulation) (Self-assessment): highly water-endangering.
 Toxic for aquatic organisms
 Also poisonous for fish and plankton in water bodies.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
 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:**
 Packagings that cannot be cleaned are to be disposed of in the same manner as the product.
 EAK-No. 15 01 10
 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.

SECTION 14: Transport information

- | | |
|---------------------------------------|---|
| · 14.1 UN-Number | |
| · ADR/RID, IMDG, IATA | UN 1824 |
| · 14.2 UN proper shipping name | |
| · ADR/RID | SODIUM HYDROXIDE SOLUTION,
ENVIRONMENTALLY HAZARDOUS |
| · IMDG, IATA | SODIUM HYDROXIDE SOLUTION, mixture |

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· **14.3 Transport hazard class(es)**

· **ADR/RID, IMDG**



· **Class** 8 Corrosive substances.
 · **Label** 8

· **IATA**



· **Class** 8 Corrosive substances.
 · **Label** 8

· **14.4 Packing group**
 · **ADR/RID, IMDG, IATA**

III

· **14.5 Environmental hazards:**

· **Marine pollutant:** Yes
 Symbol (fish and tree)
 · **Special marking (ADR/RID):** Symbol (fish and tree)

· **14.6 Special precautions for user** Warning: Corrosive substances.
 · **Keimeler Number:** 80
 · **EMS Number:** F-A,S-B
 · **Segregation groups** 18 - Alkalis

· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **ADR/RID**
 · **Limited quantities (LQ)** 5 l
 · **Transport category** 3
 · **Tunnel restriction code** E
 · **Remarks:** "Limited quantity" according to chapter 3.4 ADR (Art. No. 16615)

· **IMDG**
 · **Limited quantities (LQ)** 5 l
 · **Remarks:** "Limited quantity" according to chapter 3.4 IMDG (Art. No. 16615)

· **IATA**
 · **Remarks:** Packing Instruction PAX 852, CAO 856

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- | | |
|--------------------------|--|
| · UN "Model Regulation": | UN 1824 SODIUM HYDROXIDE SOLUTION, 8, III, ENVIRONMENTALLY HAZARDOUS |
|--------------------------|--|

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category E2** Hazardous to the Aquatic Environment
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 200 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 500 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **National regulations**
- **Information about limitation of use:**
Employment restrictions concerning pregnant and lactating women must be observed.

Class	Share in %
NK	42.8

- **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.

SECTION 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**
H226 Flammable liquid and vapour.
H290 May be corrosive to metals.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H373 May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
- **Department issuing data specification sheet:**
Laboratory
Tel.: +49 (0)39291 425-15

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· **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 Organisation

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 Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 3: Flammable liquids – Category 3

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

Acute Tox. 4: Acute toxicity – Category 4

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

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

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

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

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

Skin Sens. 1: Skin sensitisation – Category 1

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

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

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

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

· **Sources**

applicable EEC directives:

- 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.**