

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

Printing date 16.02.2018

version no: 3

Revision: 16.02.2018

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

. **1.1 Product identifier**

. **Trade name: RA-4 CD-R RCY Part 3**
Colour Developer Regenerator

. **Article number:** 102402, 103440

. **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.

. **Application of the substance / the mixture** Developer for photographic use

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

. **Manufacturer/Supplier:**

TETENAL Europe GmbH
Schützenwall 31-35
D-22844 Norderstedt / Germany
Phone: +49 (0) 40 521 45-0; Fax: +49 (0) 40-52145-296
www.tetenal.com E-Mail: info@tetenal.com

TETENAL Ltd.,
2 Meridian West, Meridian Business Park, Leicester LE19 1WX
Phone: 0116 - 289 3644; E-Mail: uk@tetenal.com; www.tetenaluk.com

. **Further information obtainable from:** Department environment and safety. E-Mail: info@tetenal.com

. **1.4 Emergency telephone number:**

Poison Information Centre in Germany: +49 (0) 30 - 30686 700 (English 24 hours)

SECTION 2: Hazards identification

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

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

Met. Corr.1 H290 May be corrosive to metals.

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

. **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

. **Signal word** Danger

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

potassium hydroxide

. **Hazard statements**

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

. **Precautionary statements**

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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.

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- P501 Dispose of contents/container in accordance with local 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 Chemical characterisation: Mixtures

. **Description:** Mixture of substances listed below and with nonhazardous additions.

. **Dangerous components:**

CAS: 584-08-7	potassium carbonate	10-25%
EINECS: 209-529-3	⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319	
Reg.nr.: 01-2119532646-36		
CAS: 1310-58-3	potassium hydroxide	1-5%
EINECS: 215-181-3	⚠ Met. Corr.1, H290; Skin Corr. 1A, H314; ⚠ Acute Tox. 4, H302	
Index number: 019-002-00-8		
Reg.nr.: 01-2119487136-33		

. **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:** Immediately remove any clothing/shoes soiled by the product.
- . **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
- . **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- . **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- . **After swallowing:**
 - Do not induce vomiting; call for medical help immediately.
 - Drink plenty of water and provide fresh air. Call for a doctor immediately.
- . **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.

SECTION 5: Firefighting measures

. 5.1 Extinguishing media

. **Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

. 5.2 Special hazards arising from the substance or mixture

Under certain fire conditions, traces of other toxic gases cannot be excluded.

. 5.3 Advice for firefighters

. **Protective equipment:** Do not inhale explosion gases or combustion gases.

SECTION 6: Accidental release measures

. 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

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. 6.2 Environmental precautions:

- Dilute with plenty of water.
- Do not allow to enter sewers/ 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).
- Use neutralising agent.
- Dispose contaminated material as waste according to item 13.
- Ensure adequate ventilation.

. 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 disposal information.

* **SECTION 7: Handling and storage**

. 7.1 Precautions for safe handling

- Ensure good ventilation/exhaustion at the workplace.
- Prevent formation of aerosols.
- . Information about fire - and explosion protection:** Protect from heat.

. 7.2 Conditions for safe storage, including any incompatibilities**. Storage:****. Requirements to be met by storerooms and receptacles:**

- Store only in the original receptacle.
- Unsuitable material for receptacle: aluminium.

. Information about storage in one common storage facility:

- Store away from foodstuffs.
- Store away from oxidising agents.
- Do not store together with alkalis (caustic solutions).

. Further information about storage conditions:

- Keep container tightly sealed.
- Store in cool, dry conditions in well sealed receptacles.
- Protect from heat and direct sunlight.
- Recommended storage temperature: 5-30 °C
- Protect from exposure to the light.

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

* **SECTION 8: Exposure controls/personal protection**

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

. 8.1 Control parameters**. Ingredients with limit values that require monitoring at the workplace:****1310-58-3 potassium hydroxide (1-5%)**WEL (Great Britain) Short-term value: 2 mg/m³REL (USA) Ceiling limit: 2 mg/m³TLV (USA) Ceiling limit: 2 mg/m³**. DNELs****1310-58-3 potassium hydroxide**Inhalative Long-term - local - effects 1 mg/m³ (Worker (Arbeiter))Long-term - systemic effects 1 mg/m³ (general population)

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. **Additional information:** The lists valid during the making were used as basis.

. **8.2 Exposure controls**

. **Personal protective equipment:**

. **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

. **Respiratory protection:**

required at the appearance from fumes/vapours/aerosol. Filter ABEK

Ensure adequate ventilation

. **Protection of hands:**



Protective gloves

Impervious gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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

. **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Butyl rubber, BR

Nitrile rubber, NBR

Neoprene gloves

. **Penetration time of glove material**

Glove material	breakthrough-time	layer thickness
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Butyl rubber:	≥480 min	≥0,4mm
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Nitrile rubber:	≥480 min	≥0,38mm
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Neoprene:	≥240 min	≥0,65mm
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The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

. **Eye protection:**



Tightly sealed goggles

. **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: Red-brown

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. Odour:	Recognisable
. Odour threshold:	Not determined.
. pH-value at 20 °C:	>14
. Change in condition	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	Undetermined.
. Flash point:	Not applicable.
. Flammability (solid, gas):	Not applicable.
. Ignition temperature:	
Decomposition temperature:	Not determined.
. Auto-ignition temperature:	Product is not selfigniting.
. Explosive properties:	Product does not present an explosion hazard.
. Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
. Vapour pressure:	Not determined.
. Density at 20 °C:	~1.36 g/cm ³
. Relative density	Not determined.
. Vapour density	Not determined.
. Evaporation rate	Not determined.
. Solubility in / Miscibility with water:	Fully miscible.
. Partition coefficient: n-octanol/water:	Not determined.
. Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
. Solvent content:	
Organic solvents:	0.0 %
VOC (EC)	0.00 %
. 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: Stable at environment temperature.
- . 10.3 Possibility of hazardous reactions Reacts with acids, alkalis and oxidising agents.
- . 10.4 Conditions to avoid No further relevant information available.
- . 10.5 Incompatible materials: Store away from metals.
- . 10.6 Hazardous decomposition products: Corrosive gases/vapours

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SECTION 11: Toxicological information

- . **11.1 Information on toxicological effects**
- . **Acute toxicity** Based on available data, the classification criteria are not met.
- . **LD/LC50 values relevant for classification:**
- 584-08-7 potassium carbonate**
- Oral LD50 >2000 mg/kg (rat)
- 1310-58-3 potassium hydroxide**
- Oral LD50 333 mg/kg (rat)
- . **Primary irritant effect:**
- . **Skin corrosion/irritation**
- Causes severe skin burns and eye damage.
- . **Serious eye damage/irritation**
- Causes serious eye damage.
- . **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- . **Acute effects (acute toxicity, irritation and corrosivity)**
- The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
- Corrosive
- Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- . **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** Based on available data, the classification criteria are not met.
- . **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- . **12.1 Toxicity**
- . **Aquatic toxicity:**
- 1310-58-3 potassium hydroxide**
- LC50 96h: 80 mg/l (fish: *Gambusia affinis*)
- 24h. 165 mg/l (fish: *Poecilia reticulata*)
- . **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.
- . **Additional ecological information:**
- . **General notes:**
- Do not allow product to reach ground water, water course or sewage system.
- Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water
- Danger to drinking water if even extremely small quantities leak into the ground.
- . **12.5 Results of PBT and vPvB assessment**
- . **PBT:** Not applicable.
- . **vPvB:** Not applicable.
- . **12.6 Other adverse effects** No further relevant information available.

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SECTION 13: Disposal considerations

. 13.1 Waste treatment methods

. Recommendation

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

. European waste catalogue

09 01 01* water-based developer and activator solutions

. Uncleaned packaging:

. Recommendation: Disposal must be made according to official regulations.

. Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport information

. 14.1 UN-Number

. ADR, IMDG, IATA UN1814

. 14.2 UN proper shipping name

. ADR 1814 POTASSIUM HYDROXIDE SOLUTION
. IMDG, IATA POTASSIUM HYDROXIDE SOLUTION

. 14.3 Transport hazard class(es)

. ADR

. Class 8 (C5) Corrosive substances.

. Label 8

. IMDG, IATA

. Class 8 Corrosive substances.

. Label 8

. 14.4 Packing group

. ADR, IMDG, IATA II

. 14.5 Environmental hazards:

. Marine pollutant: No

. 14.6 Special precautions for user

. Warning: Corrosive substances.

. Danger code (Kemler): 80

. EMS Number: F-A,S-B

. Segregation groups Alkalis

. Stowage Category A

. Segregation Code SG35 Stow "separated from" acids.

. 14.7 Transport in bulk according to Annex II of

Marpol and the IBC Code Not applicable.

. Transport/Additional information:

. ADR

. Limited quantities (LQ) 1L

. Excepted quantities (EQ) Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

. Transport category 2

. Tunnel restriction code E

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. IMDG	
. Limited quantities (LQ)	1L
. Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
. UN "Model Regulation":	UN 1814 POTASSIUM HYDROXIDE SOLUTION, 8, II

SECTION 15: Regulatory information

- . **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- . **Labelling according to Regulation (EC) No 1272/2008** GHS label elements
- . **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- . **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

. Relevant phrases

- H290 May be corrosive to metals.
- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.

. **Contact:** E: sida@tetenal.com

. 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 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)
- VOC: Volatile Organic Compounds (USA, EU)
- DNEL: Derived No-Effect Level (REACH)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- 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

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