

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

1.1 Product identifier

Trade name: **RA-4 CD-MR SP108**

Article number: 104435

Index number:

None of the ingredients is listed.

UFI: MQ42-F041-Y00G-TTW4

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 1847 GmbH

Schützenwall 31-35

D-22844 Norderstedt /Germany

Tel.: +49 (0) 40 521 45-0; Fax: +49 (0)40-52145-296

www.tetenal.com; E-mail: info@tetenal.com

Further information obtainable from: Department product safety. E-Mail: sida@tetenal.com

1.4 Emergency telephone number:

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

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Dam. 1 H318 Causes serious eye damage.

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

Signal word Danger

Hazard-determining components of labelling:

diethylene glycol

N-[2-[(4-amino-m-tolyl)ethylamino]ethyl]methanesulphonamide (CD-3 base)

potassium hydroxide

Tetrasodium ethylenediaminetetraacetate

Hazard statements

H302 Harmful if swallowed.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H317 May cause an allergic skin reaction.

Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

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P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves / eye protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330	Rinse mouth.
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.
P362+P364	Take off contaminated clothing and wash it before reuse.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P391	Collect spillage.
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: 111-46-6	diethylene glycol	25-50%
EINECS: 203-872-2	⚠ Acute Tox. 4, H302	
Index number: 603-140-00-6		
CAS: 584-08-7	potassium carbonate	10-<25%
EINECS: 209-529-3	⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	
Reg.nr.: 01-2119532646-36		
CAS: 25646-71-3	N-(2-(4-amino-N-ethyl-m-toluidino)ethyl)methanesulphonamide	5-10%
EINECS: 247-161-5	sesquisulphate (CD-3)	
Index number: 612-134-00-2	⚠ Acute Tox. 3, H301; ⚠ Eye Dam. 1, H318; ⚠ Aquatic	
Reg.nr.: 01-2120794432-50-0001	Chronic 1, H410; ⚠ Skin Sens. 1, H317	
CAS: 3710-84-7	N,N-diethylhydroxylamine (DEHA)	1-5%
EINECS: 223-055-4	⚠ Flam. Liq. 3, H226; ⚠ Aquatic Chronic 2, H411; ⚠ Acute	
Reg.nr.: 01-2119962470-39	Tox. 4, H312; Acute Tox. 4, H332; STOT SE 3, H335	
CAS: 64-02-8	Tetrasodium ethylenediaminetetraacetate	1-5%
EINECS: 200-573-9	⚠ Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302	
Index number: 607-428-00-2		
Reg.nr.: 01-2119486762-27-xxxx		
CAS: 1310-58-3	potassium hydroxide	1-5%
EINECS: 215-181-3	⚠ Met. Corr.1, H290; Skin Corr. 1A, H314; ⚠ Acute Tox. 4,	
Index number: 019-002-00-8	H302	
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.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

After inhalation:

Supply fresh air and to be sure call for a doctor.

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- 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. If symptoms persist, 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:** Use fire extinguishing methods suitable to surrounding conditions.
- . **5.2 Special hazards arising from the substance or mixture**
Nitrogen oxides (NO_x)
Carbon monoxide (CO)
Sulphur dioxide (SO₂)
Under certain fire conditions, traces of other toxic gases cannot be excluded.
- . **5.3 Advice for firefighters**
- . **Protective equipment:**
Mouth respiratory protective device.
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.
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
- . **6.2 Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
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).
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.
- . **Information about fire - and explosion protection:** No special measures required.
- . **7.2 Conditions for safe storage, including any incompatibilities**
- . **Storage:**
- . **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- . **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from oxidising agents.

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Further information about storage conditions:

- Keep container tightly sealed.
- Store in cool, dry conditions in well sealed receptacles.
- Protect from heat and direct sunlight.
- Store under lock and key and out of the reach of children.
- 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

8.1 Control parameters
Additional information about design of technical facilities: No further data; see item 7.

Ingredients with limit values that require monitoring at the workplace:
111-46-6 diethylene glycol (50-90%)
WEL (Great Britain) Long-term value: 101 mg/m³, 23 ppmWEEL (USA) Long-term value: 10 mg/m³
3710-84-7 N,N-diethylhydroxylamine (DEHA) (1-5%)

TLV (USA) Long-term value: 2 ppm

1310-58-3 potassium hydroxide (<1%)
WEL (Great Britain) Short-term value: 2 mg/m³REL (USA) Ceiling limit: 2 mg/m³TLV (USA) Ceiling limit: 2 mg/m³
DNELs
3710-84-7 N,N-diethylhydroxylamine (DEHA)

Oral	Long-term - systemic effects	0.13 mg/kg bw/day (Consumer (Verbraucher))
Dermal	Long-term - systemic - effects	0.26 mg/kg bw/day (Worker (Arbeiter))
	Akute- systemic - effects	4.7 mg/kg bw/day (Worker (Arbeiter))
Inhalative	Akute /short-term exposure - local effects	45.6 mg/m ³ (Worker (Arbeiter))
	Long-term exposure-local effects	3.65 mg/m ³ (Worker (Arbeiter))
	Long-term - local effects	0.65 mg/m ³ (general population- Verbraucher)
	Akute - local systemic	2.92 mg/m ³ (Worker (Arbeiter))
	Long-term - systemic-effects	3.65 mg/m ³ (Worker (Arbeiter))

PNECs
3710-84-7 N,N-diethylhydroxylamine (DEHA)

Aquatic compartment - freshwater	0.0082 mg/l (-)
Aquatic compartment - marine water	0.00082 mg/l (-)
Aquatic compartment -water,intermittent releases	0.082 mg/l (-)
Aquatic compartment -sediment in freshwater	0.0652 mg/kg sed dw (-)
Aquatic compartment -sediment in marine water	0.00652 mg/kg sed dw (-)
Terrestrial compartment -soil	0.0082 mg/kg dw (-)
Sewage treatment plant (Abwasserreinigungsanlagen)	10 mg/l (-)

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.

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Avoid contact with the eyes and skin.

. **Respiratory protection:** 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
Butyl rubber:	≥480 min	≥0,4mm
Nitrile rubber:	≥480 min	≥0,38mm
Neoprene:	≥240 min	≥0,65mm

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:	Light orange colour
Odour:	Fruit-like
Odour threshold:	Not determined.

. **pH-value at 20 °C:** ~13. **Change in condition**

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	Undetermined.

. **Flash point:** Not applicable.. **Flammability (solid, gas):** Not applicable.. **Decomposition temperature:** Not determined.. **Auto-ignition temperature:** Product is not selfigniting.. **Explosive properties:** Product does not present an explosion hazard.

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Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapour pressure:	Not determined.
Density at 20 °C:	1.22 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:	43.9 %
Water:	25-50 %
VOC (EC)	39.88 %
Solids content:	0.0 %
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 releasing sulphur dioxide.
Reacts with acids, alkalis and oxidising agents.
- . **10.4 Conditions to avoid** No further relevant information available.
- . **10.5 Incompatible materials:** Under certain fire conditions, traces of other toxic gases cannot be excluded.
- . **10.6 Hazardous decomposition products:**
Irritant gases/vapours
Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

- . **11.1 Information on toxicological effects**
- . **Acute toxicity**
Harmful if swallowed.
- . **LD/LC50 values relevant for classification:**
- 92-09-1 N-[2-[(4-amino-m-tolyl)ethylamino]ethyl]methanesulphonamide (CD-3 base)**
Oral LD50 <300 mg/kg /bw (rat) (OECD guideline 401)
- 3710-84-7 N,N-diethylhydroxylamine (DEHA)**
Oral LD50 2,190 mg/kg (rat)
Dermal LD50 1,300 mg/kg (rabbit)
Inhalative LC50 4 mg/l (rat)
- . **Primary irritant effect:**
- . **Skin corrosion/irritation**
Causes skin irritation.

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- . **Serious eye damage/irritation**
Causes serious eye damage.
- . **Respiratory or skin sensitisation**
May cause an allergic skin reaction.
- . **Additional toxicological information:**
The preparation is "irritant". J.R. Young, M.J. How, A.P. Walker and W.M.H. Worth (1988): Classification as corrosive or irritant to skin of preparations containing acidic or alkaline substances, without testing on animals. Toxic. in Vitro, Bd.2, Nr.1, 1988, S.19-26].
- . **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:
Harmful
Irritant
- . **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:**
- 92-09-1 N-[2-[(4-amino-m-tolyl)ethylamino]ethyl]methanesulphonamide (CD-3 base)**
EC50 >4 mg/l /7 d (fresh water)
3.2 mg/l /48 h (Invertebrates) (OECD test guideline 202)
- 3710-84-7 N,N-diethylhydroxylamine (DEHA)**
EC50 48 mg/l (daphnia magna (Water flea))
96 mg/l (fish: Pimephales promelas) (OECD 203)
LC50 96 mg/l (fish: Pimephales promelas)
- . **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:**
- . **Remark:** Toxic for fish
- . **Additional ecological information:**
- . **General notes:**
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
Do not allow product to reach ground water, water course or sewage system.
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Danger to drinking water if even 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.

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.

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. European waste catalogue

09 00 00 WASTES FROM THE PHOTOGRAPHIC INDUSTRY

09 01 00 wastes from the photographic industry

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

POTASSIUM HYDROXIDE SOLUTION, MARINE POLLUTANT

. 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**

III

. 14.5 Environmental hazards:Product contains environmentally hazardous substances:
N-[2-[(4-amino-m-tolyl)ethylamino]ethyl]methanesulphonamide**. Marine pollutant:**Yes
Symbol (fish and tree)**. 14.6 Special precautions for user**

Warning: Corrosive substances.

. Hazard identification number (Kemler code):

80

. EMS Number:

F-A,S-B

. Segregation groups

Alkalis

. Stowage Category

A

. Segregation CodeSG22 Stow "away from" ammonium salts
SG35 Stow "separated from" SGG1-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)**

5L

. Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

. Transport category

3

. Tunnel restriction code

E

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. IMDG	
. Limited quantities (LQ)	5L
. Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
. UN "Model Regulation":	UN 1814 POTASSIUM HYDROXIDE SOLUTION, 8, III

. 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

. Directive 2012/18/EU
. 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:
. Regulation (EC) No 648/2004 on detergents / Labelling for contents

d-limonene

<5%

. 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

H226 Flammable liquid and vapour.
 H290 May be corrosive to metals.
 H301 Toxic if swallowed.
 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.
 H318 Causes serious eye damage.
 H319 Causes serious eye irritation.
 H332 Harmful if inhaled.
 H335 May cause respiratory irritation.
 H410 Very toxic to aquatic life with long lasting effects.
 H411 Toxic to aquatic life with long lasting effects.

. Contact: E: sida@tetenal.com

. 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 relatif au transport international 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)
 PNEC: Predicted No-Effect Concentration (REACH)
 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

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Met. Corr. 1: Corrosive to metals – Category 1
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
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
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
* **Data compared to the previous version altered.**

-EN-