

## Safety data sheet

### according to 1907/2006/EC, Article 31

Printing date 20.11.2018

Version number 2

Revision: 20.11.2018

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

- **Date of compilation:** 10.03.2010
- **1.1 Product identifier**
- **Trade name:** Neutrasol®
- **Article number(s):** 9006.0503
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the preparation:** Alkaline cleaner / detergent
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer / Supplier:**  
RATIONAL AG  
Siegfried-Meister-Straße 1  
86899 Landsberg am Lech  
Germany  
Tel.: +49 8191 327-2365  
Fax: +49 8191 327-72 2365
- **E-mail address of the competent person responsible for the Safety Data Sheet:**  
reinigung@rational-online.com
- **Informing department:** Product management
- **1.4 Emergency telephone number:**  
Giftnotruf München "Klinikum rechts der Isar"  
Tel. +49 89 19 24 0

### 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 organs through prolonged or repeated exposure.



GHS05 corrosion

Met. Corr.1 H290 May be corrosive to metals.  
 Skin Corr. 1A 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 GHS08

- **Signal word** Danger
- **Hazard-determining components of labelling:**  
Tetrasodium ethylenediaminetetraacetate  
Sodium hydroxide

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- **Hazard statements**

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H373 May cause damage to organs through prolonged or repeated exposure.

- **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

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

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

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

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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.

P405 Store locked up.

- **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 the substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 64-02-8 EINECS: 200-573-9 Index number: 607-428-00-2	Tetrasodium ethylenediaminetetraacetate ⚠ STOT RE 2, H373; ⚠ Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H332	10 - 25%
CAS: 1310-73-2 EINECS: 215-185-5 Index number: 011-002-00-6	Sodium hydroxide ⚠ Met. Corr. 1, H290; Skin Corr. 1A, H314; ⚠ Acute Tox. 4, H302	5-<10%

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

- **Ingredients according to Regulation (EC) No 648/2004:**

EDTA and salts thereof	≥5 - <15%
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### SECTION 4: First aid measures

- **4.1 Description of first aid measures**

- **General information:**

Personal protection for the person providing first aid.

Immediately remove any clothing contaminated by the product.

- **After inhalation:**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor.

In case of unconsciousness bring patient into stable side position for transport.

- **After skin contact:**

Instantly wash with water and soap and rinse thoroughly.

Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.

- **After eye contact:**

Rinse opened eye for several minutes under running water.

Remove contact lenses, if present and easy to do.

Use eye protection.

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- Call a doctor immediately.
- **After swallowing:**  
 Drink copious amounts of water and provide fresh air. Instantly call for doctor.  
 Do not induce vomiting - Danger of perforation!
- **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 fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents** none
- **5.2 Special hazards arising from the substance or mixture**  
 Can be released in case of fire:  
 Nitrogen oxides (NO<sub>x</sub>)  
 Carbon monoxide (CO) and Carbon dioxide (CO<sub>2</sub>)  
 Sodium oxide (Na<sub>2</sub>O)
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained breathing apparatus.
- **Additional information**  
 Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
 Wear protective equipment. Keep unprotected persons away.  
 Ensure adequate ventilation.  
 Avoid contact with skin and eyes.  
 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.  
 Dilute with much water.
- **6.3 Methods and material for containment and cleaning up:**  
 Ensure adequate ventilation.  
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
 Use neutralising agent.  
 Send for recovery or disposal in suitable containers.  
 Dispose of the material collected according to regulations.
- **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**  
 Ensure good ventilation/exhaustion at the workplace.  
 Avoid skin and eye contact under any circumstances.  
 Do not breathe vapour/spray.  
 Keep containers tightly sealed.  
 Make sure that all applicable workplace limits are observed.
- **Information about protection against explosions and fires:** No special measures required.

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- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:**
  - Store in the original container.
  - Observe all local and national regulations for storage of water polluting products.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:**
  - Keep container tightly sealed.
  - Protect from frost.
  - Store in a locked cabinet and out of the reach of children.
  - Store and transport upright.
- **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 item 7.
- **8.1 Control parameters**

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

#### 1310-73-2 Sodium hydroxide

WEL (Great Britain) Short-term value: 2 mg/m<sup>3</sup>

- **DNELs**

#### 64-02-8 Tetrasodium ethylenediaminetetraacetate

Oral	DNEL long-term exposure - systemic effects	25 mg/kg bw/d (general population)
Inhalative	DNEL acute / short-term exposure - systemic effect	1.5 mg/m <sup>3</sup> (general population)
	DNEL long-term exposure - systemic effects	2.5 mg/m <sup>3</sup> (worker) 1.5 mg/m <sup>3</sup> (general population) 2.5 mg/m <sup>3</sup> (worker)

#### 1310-73-2 Sodium hydroxide

Inhalative	DNEL long-term exposure - local effects	1 mg/m <sup>3</sup> (general population) 1 mg/m <sup>3</sup> (worker)
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- **PNECs**

#### 64-02-8 Tetrasodium ethylenediaminetetraacetate

PNEC aqua (freshwater)	2.2 mg/l (.)
PNEC aqua (marine water)	0.22 mg/l (.)
PNEC STP	43 mg/l (.)
PNEC soil	0.72 mg/kg (.)

- **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**
  - Keep away from foodstuffs, beverages and food.
  - Instantly remove any contaminated garments.
  - Wash hands during breaks and at the end of the work.
  - Use skin protection cream for preventive skin protection.
  - Do not inhale gases / fumes / aerosols.
  - Avoid contact with the eyes and skin.
  - Do not eat, drink or smoke while working.

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- **Breathing equipment:**  
Not necessary if room is well-ventilated.  
If all workplace limits are observed and good ventilation is ensured, no special precautions necessary.
- **Protection of hands:**  
Protective gloves  
To avoid skin problems reduce the wearing of gloves to the required minimum.  
Check the permeability prior to each renewed use of the glove.  
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**  
e.g. KCL Dermatril® 740  
Recommended thickness of the material:  $\geq 0.11$  mm  
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.
- **Penetration time of glove material**  
Penetration time:  $\geq 8$  hours  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Tightly sealed safety glasses
- **Body protection:**  
Protective work clothing  
Body protection must be chosen depending on activity and possible exposure.

### SECTION 9: Physical and chemical properties

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

##### · General Information

##### · Appearance:

Form:	liquid
Colour:	light blue
Smell:	characteristic
Odour threshold:	not determined

· pH-value at 20 °C: > 13

##### · 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 not classified as oxidising

· Vapor pressure at 20 °C: 23 hPa

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· <b>Density at 20 °C:</b>	1.205 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density (AIR = 1):</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	fully miscible
· <b>Partition coefficient: n-octanol/water:</b>	Not determined.
· <b>Viscosity:</b>	
dynamic:	not determined
kinematic:	not determined
· <b>9.2 Other information</b>	Further informations please refer to technical data sheet.

### SECTION 10: Stability and reactivity

- **10.1 Reactivity**  
No further relevant information available.  
No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** Corrosive action on metals
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** Strong acids
- **10.6 Hazardous decomposition products:**  
Nitrogen oxides (NO<sub>x</sub>)  
Carbon monoxide (CO) and Carbon dioxide (CO<sub>2</sub>)  
Sodium oxide (Na<sub>2</sub>O)

### 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 that are relevant for classification:**

#### 64-02-8 Tetrasodium ethylenediaminetetraacetate

Oral	LD50	1780 - 2000 mg/kg (rat) (BASF-Test)
Inhalative	LC50/6 h	1000 - 5000 ppm (rat) (OECD 403)

#### 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.
- **Serious eye damage/irritation**  
Causes serious eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of Regulation (EC) No. 1272/2008 (CLP/GHS):  
Skin corr. 1A  
Eye Dam. 1  
STOT RE 2

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- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
According to present knowledge no CMR-effects known.
- **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 organs through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

### SECTION 12: Ecological information

#### · 12.1 Toxicity

##### · Aquatic toxicity:

##### **64-02-8 Tetrasodium ethylenediaminetetraacetate**

LC50	156 mg/l (Eisenia foetida) (LC50 (14 d) mg/kg - OECD 207)
LC50/96 h (static)	> 100 mg/l (bluegill (Iepomis macrochirus)) (OPP 72-1 / EPA-RL)
EC50/48 h (static)	> 100 mg/l (water flea (daphnia magna)) (DIN 38412 Part 11)
EC50/72 h (static)	> 100 mg/l (algae) (RL 88/302/EWG, Part C, S. 89)
NOEC	≥ 36.9 mg/l (zebra fish (danio rerio)) (35 d - OECD 210)
NOEC/21 d	25 mg/l (water flea (daphnia magna)) (OECD 211, semistatic)

##### **1310-73-2 Sodium hydroxide**

LC50/96 h	99 mg/l (bluegill (Iepomis macrochirus)) 45.4 mg/l (rainbow trout (oncorhynchus mykiss))
LC50/48 h	133 - 189 mg/l (leuciscus idus)

- **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 bodies or sewage system.  
Must not reach sewage water or drainage ditch undiluted or unneutralised.  
Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.  
Water hazard class 2 (Self-assessment): hazardous for water
- **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.  
Disposal must be made according to official regulations.
- **European waste catalogue:**  
Waste disposal key numbers from EWC have to be assigned depending on origin and processing.

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- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

### SECTION 14: Transport information

<ul style="list-style-type: none"> <li>· 14.1 UN-Number</li> <li>· ADR, IMDG, IATA</li> </ul>	UN1719	
<ul style="list-style-type: none"> <li>· 14.2 UN proper shipping name</li> <li>· ADR</li> <li>· IMDG, IATA</li> </ul>	UN 1719 CAUSTIC ALKALI LIQUID, N.O.S. (SODIUM HYDROXIDE, TETRASODIUM ETHYLENEDIAMINETETRAACETATE) CAUSTIC ALKALI LIQUID, N.O.S. (SODIUM HYDROXIDE, Tetrasodium ethylenediaminetetraacetate)	
<ul style="list-style-type: none"> <li>· 14.3 Transport hazard class(es)</li> <li>· ADR</li> </ul>	<div style="text-align: center;">  </div> <ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul>	8 (C5) Corrosive substances. 8
<ul style="list-style-type: none"> <li>· IMDG, IATA</li> </ul>	<div style="text-align: center;">  </div> <ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul>	8 Corrosive substances. 8
<ul style="list-style-type: none"> <li>· 14.4 Packing group</li> <li>· ADR, IMDG, IATA</li> </ul>	II	
<ul style="list-style-type: none"> <li>· 14.5 Environmental hazards:</li> <li>· Marine pollutant:</li> </ul>	NO	
<ul style="list-style-type: none"> <li>· 14.6 Special precautions for user</li> <li>· Kemler Number:</li> <li>· EMS Number:</li> <li>· Segregation groups</li> <li>· Stowage Category</li> <li>· Segregation Code</li> </ul>	Warning: Corrosive substances. 80 F-A,S-B Alkalis A SG22 Stow "away from" ammonium salts SG35 Stow "separated from" acids.	
<ul style="list-style-type: none"> <li>· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</li> </ul>	Not applicable.	
<ul style="list-style-type: none"> <li>· Transport/Additional information:</li> </ul>	Not applicable.	
<ul style="list-style-type: none"> <li>· ADR</li> <li>· Limited quantities (LQ):</li> <li>· Excepted quantities (EQ)</li> </ul>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml	

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· <b>Transport category:</b>	2
· <b>Tunnel restriction code:</b>	E
<hr style="border-top: 1px dashed black;"/>	
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN1719, CAUSTIC ALKALI LIQUID, N.O.S. (SODIUM HYDROXIDE, Tetrasodium ethylenediaminetetraacetate), 8, II

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **National regulations**
- **Information about limitation of use:**  
Employment restrictions concerning young persons must be observed.  
Employment restrictions concerning women of child-bearing age must be observed.
- **Decree to be applied in case of technical fault:** Directive 2012/18/EU does not apply.
- **Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water
- **Other regulations, limitations and prohibitive regulations**  
Observe restrictions on the marketing and use according to Annex XVII of Regulation (EC) No 1907/2006.
- **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.

- **Reasons for changes:**  
The Material Safety Data Sheet has been revised. Changes in the respective chapters are characterized in the left side edge by \*.
- **Relevant phrases**  
The(se) H-phrases are those of the ingredient(s) and do(es) not necessarily represent the classification of the product.  
H290 May be corrosive to metals.  
H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.  
H332 Harmful if inhaled.  
H373 May cause damage to organs through prolonged or repeated exposure.
- **Department issuing SDS:**  
C.S.B. GmbH                      Phone: +49 - 2151 - 652086-0  
Düsseldorfer Str. 113        Fax: +49 - 2151 - 652086-9  
47809 Krefeld / Germany
- **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

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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)  
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  
Met. Corr. 1: Corrosive to metals – Category 1  
Acute Tox. 4: Acute toxicity – Category 4  
Skin Corr. 1A: Skin corrosion/irritation – Category 1A  
Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

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

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