

## 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:** 26.10.2009
- **1.1 Product identifier**
- **Trade name:** RATIONAL Grill cleaner for RATIONAL CleanJet® and for manual cleaning
- **Article number(s):** 9006.0153
- **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**
-  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
- **Signal word** Danger
- **Hazard-determining components of labelling:**  
Potassium hydroxide  
Amines, C12-14 (even numbered)-alkyldimethyl, N-oxides
- **Hazard statements**  
H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**  
P101 If medical advice is needed, have product container or label at hand.

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- P102 Keep out of reach of children.  
 P103 Read label before use.  
 P260 Do not breathe 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:** Aqueous solution

- **Dangerous components:**

CAS: 1310-58-3 EINECS: 215-181-3 Index number: 019-002-00-8	Potassium hydroxide ⚠ Met. Corr. 1, H290; Skin Corr. 1A, H314; ⚠ Acute Tox. 4, H302	5-<10%
EC number: 931-292-6	Amines, C12-14 (even numbered)-alkyldimethyl, N-oxides ⚠ Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 2, H411; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315	≤ 2.5%
CAS: 70592-80-2 EINECS: 274-687-2	Amines, C10-16-alkyldimethyl, N-oxides ⚠ Eye Dam. 1, H318; ⚠ Aquatic Acute 1, H400; ⚠ Skin Irrit. 2, H315	≤ 2.5%

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

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

non-ionic surfactants, amphoteric surfactants	<5%
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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 and call for doctor for safety reasons.  
 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.  
 Call a doctor immediately.
- **After swallowing:**  
 Drink copious amounts of water and provide fresh air. Instantly call for doctor.

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- 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**  
Carbon dioxide (CO<sub>2</sub>), extinguishing powder or water spray/fog. Fight larger fires with water spray/fog or alcohol-resistant foam.
- **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>)  
Sulphur oxides (SO<sub>x</sub>)  
Carbon monoxide (CO) and Carbon dioxide (CO<sub>2</sub>)
- **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.  
Keep containers tightly sealed.  
Prevent formation of aerosols.  
Do not inhale aerosols.  
Avoid skin and eye contact under any circumstances.
- **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.
  - 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:**

#### 1310-58-3 Potassium hydroxide

WEL (Great Britain)	Short-term value: 2 mg/m <sup>3</sup>
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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**
  - Keep away from foodstuffs, beverages and food.
  - Instantly remove any contaminated garments.
  - Do not inhale gases / fumes / aerosols.
  - Avoid contact with the eyes and skin.
  - Use skin protection cream for preventive skin protection.
  - Wash hands during breaks and at the end of the work.
  - Do not eat, drink or smoke while working.
- **Breathing equipment:** Use breathing protection when aerosol or mist is formed.
- **Recommended filter device for short term use:** Filter type: A2
- **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**
  - Nitrile rubber - NBR
  - Recommended thickness of the material:  $\geq 0.11$  mm
  - e.g. KCL Dermatriil® 740
  - 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

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- **Body protection:**  
Protective work clothing  
Body protection must be chosen depending on activity and possible exposure.
- **Limitation and supervision of exposure into the environment**  
Do not allow to enter drainage system, surface or ground water.

### SECTION 9: Physical and chemical properties

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

##### · General Information

##### · Appearance:

Form:	liquid
Colour:	red
Smell:	characteristic
Odour threshold:	not determined

· pH-value (10 g/l) at 20 °C: 11.9

##### · 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.

· Ignition temperature: 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: Not determined.

· Density at 20 °C: 1.11 g/cm<sup>3</sup>

· Relative density Not determined.

· Vapour density (AIR = 1): 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

Organic solvents: 0 %

· 9.2 Other information No further relevant information available.

### SECTION 10: Stability and reactivity

#### · 10.1 Reactivity

No further relevant information available.

No further relevant information available.

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- **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  
Strong exothermic reaction with acids.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**  
Strong oxidizing agents  
Strong acids
- **10.6 Hazardous decomposition products:**  
Nitrogen oxides (NO<sub>x</sub>)  
Sulphur oxides (SO<sub>x</sub>)  
Carbon monoxide (CO) and Carbon dioxide (CO<sub>2</sub>)

### 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:**

#### 1310-58-3 Potassium hydroxide

Oral	LD50	284 mg/kg (rat)
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#### Amines, C12-14 (even numbered)-alkyldimethyl, N-oxides

Oral	LD50	1064 mg/kg (rat)
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Dermal	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.
- **Subacute to chronic toxicity:** no data available
- **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
- **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** 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

LC50/96 h	80 mg/l (gambusia affinis)
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### **Amines, C12-14 (even numbered)-alkyldimethyl, N-oxides**

LC50/96 h	3.46 mg/l (fis)
EC50	3.1 mg/l (daphnia)
IC50	0.143 mg/l (seagrass)
EC50/72 h	0.266 mg/l (algae)
NOEC	0.067 mg/l (seagrass)

### **70592-80-2 Amines, C10-16-alkyldimethyl, N-oxides**

LC50/96 h	1.01 mg/l (daphnia)
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- **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:**  
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.  
The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) N° 648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.  
Water hazard class 1 (Self-assessment): slightly 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.
- **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>· <b>14.1 UN-Number</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>                                | <p>UN1814</p>                                                                |
| <ul style="list-style-type: none"> <li>· <b>14.2 UN proper shipping name</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG, IATA</b></li> </ul> | <p>UN 1814 POTASSIUM HYDROXIDE SOLUTION<br/>POTASSIUM HYDROXIDE SOLUTION</p> |

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· **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.  
 · **Kemler Number:** 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

· **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":**

UN1814, POTASSIUM HYDROXIDE SOLUTION, 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

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- **National regulations**
- **Information about limitation of use:**  
Employment restrictions concerning young persons 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 1 (Self-assessment): slightly 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-phrase(s) 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.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H400 Very toxic to aquatic life.  
H411 Toxic to aquatic life with long lasting effects.
- **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  
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  
Met. Corr. 1: Corrosive to metals – Category 1  
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  
Aquatic Acute 1: Hazardous to the aquatic environment - acute 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.**