

Safety Data Sheet

acc. to OSHA HCS

Printing date 12/10/2019

Reviewed on 12/10/2019

1 Identification

- **Product identifier**
- **Trade name: RATIONAL Grill cleaner for RATIONAL CleanJet® and for manual cleaning**
- **Article number:** 9006.0153
- **Application of the substance / the mixture** Alkaline cleaner/ detergent
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
 RATIONAL AG Tel.: +49 8191 327-2563
 Siegfried-Meister-Straße 1 Fax: +49 8191 327-72 2563
 86899 Landsberg am Lech
 Germany
- **Information department:** Product management
- **Emergency telephone number:** Hotline: +49 (0) 6132-84463

2 Hazard(s) identification

- **Classification of the substance or mixture**



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.

- **Label elements**
- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05

- **Signal word** Danger
- **Hazard-determining components of labeling:**
 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**
 P260 Do not breathe mist/vapours/spray.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.

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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.

- **Classification system**

- **NFPA ratings (scale 0-4)**



Health = 3
Fire = 0
Reactivity = 0

- **HMIS**



HEALTH 3 Health = *3
FIRE 0 Fire = 0
REACTIVITY 0 Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Description:** aqueous solution

- **Dangerous components:**

1310-58-3	Potassium hydroxide ⚠ Met. Corr. 1, H290; Skin Corr. 1A, H314; ⚠ Acute Tox. 4, H302	≥5-≤10%
	Amines, C12-14 (even numbered)-alkyldimethyl, N-oxides ⚠ Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315	≥1-<2.5%
70592-80-2	Amines, C10-16-alkyldimethyl, N-oxides ⚠ Eye Dam. 1, H318; ⚠ Skin Irrit. 2, H315	≥0.25-<1%

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

4 First-aid measures

- **Description of first aid measures**

- **General information**

Personal protection for the First Aider.

Immediately remove any clothing contaminated by the product.

- **After inhalation**

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

In case of unconsciousness place patient stably in side position for transportation.

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- **After skin contact**
Immediately 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.
Protect unharmed eye.
Call a doctor immediately.
- **After swallowing**
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
Do not induce vomiting - danger of perforation!
- **Information for doctor**
- **Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents** None
- **Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Nitrogen oxides (NO_x)
Sulphur oxides (SO_x)
Carbon monoxide and carbon dioxide
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.
- **Additional information**
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Avoid contact with skin and eyes.
Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.

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Send for recovery or disposal in suitable receptacles.

Dispose of the collected material according to regulations.

· **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.

· **Protective Action Criteria for Chemicals**

· **PAC-1:**

1310-58-3	Potassium hydroxide	0.18 mg/m ³
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· **PAC-2:**

1310-58-3	Potassium hydroxide	2 mg/m ³
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· **PAC-3:**

1310-58-3	Potassium hydroxide	54 mg/m ³
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7 Handling and storage

· **Handling**

· **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Keep receptacles 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.

· **Conditions for safe storage, including any incompatibilities**

· **Storage**

· **Requirements to be met by storerooms and receptacles:**

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 receptacle tightly sealed.

Store under lock and key and out of the reach of children.

Store and transport upright.

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

8 Exposure controls/personal protection

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

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

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1310-58-3 Potassium hydroxide

REL Ceiling limit value: 2 mg/m³TLV Ceiling limit value: 2 mg/m³

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**
 - Keep away from foodstuffs, beverages and feed.
 - Immediately remove all soiled and contaminated clothing
 - Do not inhale gases / fumes / aerosols.
 - Avoid contact with the eyes and skin.
 - Use skin protection cream for skin protection.
 - Wash hands before breaks and at the end of work.
 - Do not eat, drink, smoke or sniff while working.
- **Breathing equipment:** Use suitable respiratory protective device only 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: ≥ 0.11 mm
 - e.g. KCL Dermatril® 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: ≥ 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 goggles.
- **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 sewers/ surface or ground water.

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9 Physical and chemical properties

- Information on basic physical and chemical properties

- General Information

- Appearance:

Form: fluid

Color: Red

- Odor: characteristic

- Odor threshold: Not determined.

- pH-value (10 g/l) at 20 °C (68 °F): 11.9

- Change in condition

Melting point/Melting range: undetermined

Boiling point/Boiling range: ~ 100 °C (~212 °F)

- Flash point: Not applicable

- Flammability (solid, gaseous) Not applicable.

- Ignition temperature: Not applicable

- Decomposition temperature: Not determined.

- Auto igniting: Product is not selfigniting.

- Danger of explosion: Product does not present an explosion hazard.

- Explosion limits:

Lower: Not determined.

Upper: Not determined.

- Oxidizing properties not classified as oxidising

- Vapor pressure: Not determined.

- Density at 20 °C (68 °F): 1.11 g/cm³ (9.263 lbs/gal)

- 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 %

- Other information No further relevant information available.

10 Stability and reactivity

- Reactivity No further relevant information available.

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- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions**
Corrosive action on metals
Strong exothermic reaction with acids
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**
Strong oxidizing agents
Strong acids
- **Hazardous decomposition products:**
Nitrogen oxides (NO_x)
Sulfur oxides (SO_x)
Carbon monoxide and carbon dioxide

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **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:**
- **on the skin:** Strong corrosive effect on skin and mucous membranes.
- **on the eye:** Strong corrosive effect.
- **Sensitization:** No sensitizing effects known.
- **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
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.

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- **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.

12 Ecological information

- **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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- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**

Must not reach bodies of water or drainage ditch undiluted or unneutralized.
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) (German regulation): slightly hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

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13 Disposal considerations

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

14 Transport information

- | | |
|---|--|
| <ul style="list-style-type: none"> · UN-Number · DOT, ADR, IMDG, IATA | UN1814 |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT · ADR · IMDG, IATA | Potassium hydroxide, solution
UN1814 POTASSIUM HYDROXIDE SOLUTION
POTASSIUM HYDROXIDE SOLUTION |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT | <div style="text-align: center;">  </div> |
| <ul style="list-style-type: none"> · Class · Label | 8 Corrosive substances
8 |
| <ul style="list-style-type: none"> · ADR | <div style="text-align: center;">  </div> |
| <ul style="list-style-type: none"> · Class · Label | 8 (C5) Corrosive substances
8 |
| <ul style="list-style-type: none"> · IMDG, IATA | <div style="text-align: center;">  </div> |
| <ul style="list-style-type: none"> · Class · Label | 8 Corrosive substances
8 |
| <ul style="list-style-type: none"> · Packing group · DOT, ADR, IMDG, IATA | II |

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· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Corrosive substances
· Danger code (Kemler):	80
· EMS Number:	F-A,S-B
· Segregation groups	Alkalis
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 1 L On cargo aircraft only: 30 L
· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· 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

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **SARA Section 355 (extremely hazardous substances)**

None of the ingredients is listed.

· **SARA Section 313 (specific toxic chemical listings)**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act)**

7732-18-5	Water
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1310-58-3	Potassium hydroxide
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· **Prop 65 - Chemicals known to cause cancer**

None of the ingredients is listed.

· **Prop 65 - Chemicals known to cause developmental toxicity**

None of the ingredients is listed.

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- **Carcinogenicity categories**

- **MAK (German Maximum Workplace Concentration)**

None of the ingredients is listed.

- **National regulations**

- **Information about limitation of use:**

Employment restrictions concerning young persons must be observed.

- **Water hazard class:**

Water hazard class 1 (Self-assessment) (German regulation): 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.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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.

- **Department issuing SDS:**

Chemical Regulatory Compliance Company Telephone: +1 (630) 410-1660
Chicago, IL e-Mail: GHS@crc-us.com
USA Website: www.crc-us.com

- **Date of preparation / last revision 12/10/2019 / 1**

- **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
DOT: US Department of Transportation
IATA: International Air Transport Association
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)
NFPA: National Fire Protection Association (USA)
HMS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
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

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