



RATIONAL Grill cleaner for RATIONAL CleanJet® and for manual cleaning

Safety Data Sheet

according to Regulation (EU) 2020/878

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

1.1. Product identifier

Product form : Mixture
Product name : 9006.0153 RATIONAL Grill cleaner for RATIONAL CleanJet® and for manual cleaning
UFI : -

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Use of the substance/mixture : Alkaline cleaner / detergent

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier

RATIONAL AG
Siegfried-Meister-Straße 1
86899 Landsberg am Lech - Germany
T +49 8191 327-387
reinigung@rational-online.com - www.rational-online.com

1.4. Emergency telephone number

GBK GmbH : +49 (0)6132-84463 (24 h)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]

Corrosive to metals, Category 1 H290
Skin corrosion/irritation, Category 1A H314
Serious eye damage/eye irritation, Category 1 H318

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

May be corrosive to metals. Causes severe skin burns and eye damage.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS05

Signal word (CLP) : Danger
Hazardous ingredients : Potassium hydroxide; Amines, C12-14 (even numbered)-alkyldimethyl, N-oxides
Hazard statements (CLP) : H290 - May be corrosive to metals
H314 - Causes severe skin burns and eye damage
Precautionary statements (CLP) : 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 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

Ingredients according to Regulation (EC) No 648/2004

Non-ionic surfactants, amphoteric surfactants < 5%

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2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No 1272/2008 [CLP]
Potassium hydroxide	(CAS-No.) 1310-58-3 (EC-No.) 215-181-3 (EC Index-No.) 019-002-00-8 (REACH-No.) 01-2119487136-33-xxxx	≥ 5 - ≤ 10	Met. Corr. 1, H290 Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314
Amines, C12-14 (even numbered)-alkyldimethyl, N-oxides	(CAS-No.) 308062-28-4 (EC-No.) 931-292-6 (REACH-No.) 01-2119490061-47-xxxx	≥ 1 - < 2,5	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 2, H411
Amines, C12-16-alkyldimethyl, N-oxid	(CAS-No.) 70592-80-2 (EC-No.) 274-687-2	≥ 0,25 - < 1	Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 1, H400

Name	Product identifier	Specific concentration limits according to Regulation (EC) No. 1272/2008 [CLP]
Potassium hydroxide	(CAS-No.) 1310-58-3 (EC-No.) 215-181-3 (EC Index-No.) 019-002-00-8 (REACH-No.) 01-2119487136-33-xxxx	(0,5 ≤ C < 2) Skin Irrit. 2, H315 (0,5 ≤ C < 2) Eye Irrit. 2, H319 (2 ≤ C < 5) Skin Corr. 1B, H314 (5 ≤ C ≤ 100) Skin Corr. 1A, H314

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Get medical advice/attention if you feel unwell. If possible show him this sheet. Failing this, show him the packaging or label. Never give anything by mouth to an unconscious person. Place the affected person in the recovery position.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Make the affected person rest and keep at warm.
First-aid measures after skin contact	: Wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Get immediate medical advice/attention.
First-aid measures after eye contact	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after skin contact	: Causes severe skin burns.
Symptoms/effects after eye contact	: Causes serious eye damage.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Use extinguishing agents that suit the environment. Carbon dioxide. Dry extinguishing powder. For a significant fire: Water spray, alcohol resistant foam.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Nitrogen oxides, Sulphur oxides, Carbon monoxide and Carbon dioxide
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5.3. Advice for firefighters

Precautionary measures fire	: In case of fire and/or explosion do not breathe fumes. Move containers away from the fire area if this can be done without risk.
Firefighting instructions	: Use water spray or fog for cooling exposed containers. Prevent fire-fighting water from entering environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Provide adequate ventilation. Avoid contact with skin and eyes. Do not breathe gas/vapour/aerosol.

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Wear personal protective equipment. Use self-contained breathing apparatus.

6.2. Environmental precautions

Avoid sub-soil penetration. Prevent soil and water pollution. Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Use appropriate ventilation. Absorb spillage to prevent material damage. Wipe up with absorbent material (for example cloth). Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Keep in suitable, closed containers for disposal. Dispose of in accordance with relevant local regulations.

6.4. Reference to other sections

Concerning personal protective equipment to use, see section 8. Concerning disposal elimination after cleaning, see section 13. Recommended handling and storage conditions, see section 7.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : May be corrosive to metals.

Precautions for safe handling : Avoid contact with skin and eyes. Do not breathe gas/vapour/aerosol. Provide adequate ventilation. Handle and open container with care. Protect from sunlight. Keep away from sources of ignition - No smoking. Avoid letting the product become dry. Keep away from strong acids.

Hygiene measures : Handle in accordance with good industrial hygiene and safety procedures. When using do not eat, drink or smoke. Take off contaminated clothing and wash it before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in corrosive resistant container with a resistant inner liner. Store in original container. Store in a cool, well-ventilated place. Keep container tightly closed. Protect from heat and direct sunlight. Store locked.

Information on mixed storage : Keep away from food, drink and animal feedingstuffs.

Packaging materials : Metals.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Potassium hydroxide (1310-58-3)		
United Kingdom	Local name	Potassium hydroxide
United Kingdom	WEL STEL (mg/m ³)	2 mg/m ³
Ireland	Local name	Potassium hydroxide
Ireland	OEL (15 min ref) (mg/m ³)	2 mg/m ³

Potassium hydroxide (1310-58-3)	
DNEL/DMEL (Workers)	
Long-term - local effects, inhalation	1 mg/m ³
DNEL/DMEL (General population)	
Long-term - local effects, inhalation	1 mg/m ³

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Amines, C12-14 (even numbered)-alkyldimethyl, N-oxides (308062-28-4)	
DNEL/DMEL (Arbeitnehmer)	
Long-term - systemic effects, dermal	11 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	6.2 mg/m ³
DNEL/DMEL (General population)	
Long-term - systemic effects, oral	0,44 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	1.53 mg/m ³
Long-term - systemic effects, dermal	5.5 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.034 mg/l
PNEC aqua (marine water)	0.003 mg/l
PNEC aqua (intermittent, freshwater)	0.034 mg/l
PNEC (Sedimente)	
PNEC sediment (freshwater)	5.24 mg/kg dry weight
PNEC sediment (marine water)	0.524 mg/kg dry weight
PNEC (Soil)	
PNEC Soil	1.02 mg/kg dry weight
PNEC (Oral)	
PNEC oral (secondary poisoning)	11.1 mg/kg food
PNEC (STP)	
PNEC Sewage treatment plant	24 mg/l

8.2. Exposure controls

Appropriate engineering controls:

Provide local exhaust or general room ventilation to minimize vapour concentrations.

Hand protection:

Wear suitable gloves. (EN 374). Nitrile rubber – NBR, Recommended thickness of the material: ≥ 0.11 mm, e.g. KCL Dermatril® 740. The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection:

Chemical goggles or safety glasses (EN 166).

Skin and body protection:

Wear suitable protective clothing.

Respiratory protection:

Breathing apparatus needed only when vapour or mist is formed. Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Respirator with combination filter for vapour/particles. A2 (EN 14387).

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Red
Odour	: Characteristic
Melting point/freezing point	: No data available
Boiling point or initial boiling point and boiling range	: ~100 °C
Flammability	: No data available
Lower and upper explosion limit	: No data available
Flash point	: No data available

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Auto-ignition temperature	: Product is not selfigniting.
Decomposition temperature	: No data available
pH	: 11.9 (10 g/l, 20°C)
Kinematic viscosity	: No data available
Solubility	: Water: completely miscible
Partition coefficient n-octanol/water (log value)	: Not applicable
Vapour pressure	: No data available
Density and/or relative density	: 1.11 g/cm³ (20 °C)
Relative vapour density	: No data available
Particle characteristics	: Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Oxidative properties	: Not classified as oxidising.
Explosive properties	: Product is not explosive.

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under use and storage conditions as recommended in section 7.

10.3. Possibility of hazardous reactions

May be corrosive to metals. Strong exothermic reaction with acids.

10.4. Conditions to avoid

Direct sunlight. High temperature. Overheating.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids. Metals and metallic salts.

10.6. Hazardous decomposition products

Nitrogen oxides, Sulphur oxides, Carbon monoxide and Carbon dioxide

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity	: Not classified
	Based on available data, the classification criteria are not met

Potassium hydroxide (1310-58-3)	
LD50 oral rat	284 mg/kg
Amines, C12-14 (even numbered)-alkyldimethyl, N-oxides (308062-28-4)	
LD50 oral rat	1064 mg/kg
LD50 dermal rat	> 2000 mg/kg

Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Serious eye damage, category 1, implicit
Respiratory or skin sensitisation	: Not classified
	Based on available data, the classification criteria are not met
Germ cell mutagenicity	: Not classified
	Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
	Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified
	Based on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	: Not classified
	Based on available data, the classification criteria are not met

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Specific target organ toxicity (repeated exposure)	: Not classified Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified Based on available data, the classification criteria are not met

11.2. Information on other hazards

Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met
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SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

Potassium hydroxide (1310-58-3)	
LC50 fish	80 mg/l 96 h, Gambusia affinis
Amines, C12-14 (even numbered)-alkyldimethyl, N-oxides (308062-28-4)	
LC50 fish	3,46 mg/l 96 h
EC50 daphnia	3,1 mg/l
IC50 seagrass	0,143 mg/l
EC50 algae	0,266 mg/l 72 h
NOEC seagrass	0,067 mg/l
Amines, C10-16-alkyldimethyl, N-oxides (70592-80-2)	
EC50 daphnia	1,01 mg/l 96 h

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	: Dispose in a safe manner in accordance with local/national regulations.
Waste treatment methods	: Do not dispose of with domestic waste. Do not empty into drains.
Waste code number	: The valid EWC waste code numbers are source related. The manufacturer is therefore unable to specify EWC waste codes for the articles or products used in the various sectors. The EWC codes listed are intended as a recommendation for users.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

14.1. UN number or ID number

UN-No. (ADR)	: UN 1814
UN-No. (IMDG)	: UN 1814
UN-No. (IATA)	: UN 1814

14.2. UN proper shipping name

Proper Shipping Name (ADR)	: POTASSIUM HYDROXIDE SOLUTION
Proper Shipping Name (IMDG)	: POTASSIUM HYDROXIDE SOLUTION
Proper Shipping Name (IATA)	: Potassium hydroxide solution
Transport document description (ADR)	: UN 1814 POTASSIUM HYDROXIDE SOLUTION, 8, II, (E)
Transport document description (IMDG)	: UN 1814 POTASSIUM HYDROXIDE SOLUTION, 8, II
Transport document description (IATA)	: UN 1814 Potassium hydroxide solution, 8, II

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14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 8

Danger labels (ADR) : 8

:



IMDG

Transport hazard class(es) (IMDG) : 8

Danger labels (IMDG) : 8

:



IATA

Transport hazard class(es) (IATA) : 8

Hazard labels (IATA) : 8

:



14.4. Packing group

Packing group (ADR) : II

Packing group (IMDG) : II

Packing group (IATA) : II

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : C5

Limited quantities (ADR) : 1I

Excepted quantities (ADR) : E2

Packing instructions (ADR) : P001, IBC02

Mixed packing provisions (ADR) : MP15

Portable tank and bulk container instructions (ADR) : T7

Portable tank and bulk container special provisions (ADR) : TP2

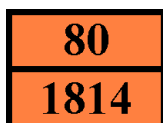
Tank code (ADR) : L4BN

Vehicle for tank carriage : AT

Transport category (ADR) : 2

Hazard identification number (Kemler No.) : 80

Orange plates :



Tunnel restriction code (ADR) : E

EAC code : 2R

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- Transport by sea

Limited quantities (IMDG)	: 1 L
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC02
Tank instructions (IMDG)	: T7
Tank special provisions (IMDG)	: TP2
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-B
Stowage category (IMDG)	: A
Segregation (IMDG)	: SG18, SG35
Properties and observations (IMDG)	: Reacts violently with acids. Causes burns to skin, eyes and mucous membranes.

- Air transport

PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y840
PCA limited quantity max net quantity (IATA)	: 0.5L
PCA packing instructions (IATA)	: 851
PCA max net quantity (IATA)	: 1L
CAO packing instructions (IATA)	: 855
CAO max net quantity (IATA)	: 30L
Special provisions (IATA)	: A3, A803
ERG code (IATA)	: 8L

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Data sources	: REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
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Changes compared to the previous version	: Revised according to Regulation (EU) 2020/878
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Abbreviations and acronyms:

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EC50	The effective concentration of substance that causes 50% of the maximum response (Median Effective Concentration)
IATA	International Air Transport Association
IMDG	"International Maritime Dangerous Goods Code" for the transport of dangerous goods by sea
LC50	Lethal Concentration to 50 % of a test population (Median Lethal Concentration)
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
NOEC/L	No Observed Effect Concentration/Level
OECD	Organisation for Economic Cooperation and Development
PBT	Persistent, Bioaccumulative and Toxic substance
PNEC	Predicted No-Effect Concentration
REACH	Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

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SDS	Safety Data Sheet
STP	Sewage Treatment Plant
UFI	Unique Formula Identifier
vPvB	Very Persistent and Very Bioaccumulative

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Met. Corr. 1	Corrosive to metals, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H290	May be corrosive to metals
H302	Harmful if swallowed
H310	Fatal in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H400	Very toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.