

SAFETY DATA SHEET



RATIONAL Grill cleaner for RATIONAL CleanJet® and for manual cleaning

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

1.1 Product identifier

Product name : RATIONAL Grill cleaner for RATIONAL CleanJet® and for manual cleaning
Product code : 9006.0153
Other means of identification : Not available.

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

Product use : Cleaner. (Alkaline.) Professional use.

1.3 Details of the supplier of the safety data sheet

Supplier:

RATIONAL UK Ltd.
Titan Court, Unit 4
Laporte Way, Portenway Business Parks
Luton, Bedfordshire, LU 4 8EF
United Kingdom
Tel: +44 1582 480 388

Manufacturer:

RATIONAL AG
Siegfried-Meister-Straße 1
86899 Landsberg am Lech
Deutschland
Tel: +49 8191 327-2563
Fax: +49 8191 327-72 2563

e-mail address of person responsible for this SDS : reinigung@rational-online.com

1.4 Emergency telephone number

Supplier

Telephone number : +49 6132 844 63 (24h)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to UK CLP/GHS

Met. Corr. 1, H290
Acute Tox. 4, H302
Skin Corr. 1A, H314
Eye Dam. 1, H318
Aquatic Chronic 3, H412

The product is classified as hazardous according to UK CLP Regulation SI 2019/720 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

SECTION 2: Hazards identification

Hazard pictograms

:



Signal word

: Danger

Hazard statements

: H290 - May be corrosive to metals.
H302 - Harmful if swallowed.
H314 - Causes severe skin burns and eye damage.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

: P280 - Wear protective gloves, protective clothing and eye or face protection.
P273 - Avoid release to the environment.
P260 - Do not breathe vapour or spray.

Response

: P301 + P330 + P310 + P331 - IF SWALLOWED: Rinse mouth. Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
P303 + P361 + P353, P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a POISON CENTER or doctor.
P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

Storage

: Not applicable.

Disposal

: Not applicable.

Hazardous ingredients

: potassium hydroxide and Amines, C12-14-alkyldimethyl, N-oxides

Supplemental label elements

: Keep out of reach of children.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

: Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings

: Not applicable.

Tactile warning of danger

: Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification

: Toxic to aquatic life.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

: Mixture

SECTION 3: Composition/information on ingredients

Product/ingredient name	Identifiers	%	Classification	Type
potassium hydroxide	REACH #: 01-2119487136-33 EC: 215-181-3 CAS: 1310-58-3 Index: 019-002-00-8	≥10 - ≤25	Met. Corr. 1, H290 Acute Tox. 3, H301 Skin Corr. 1A, H314 Eye Dam. 1, H318	[1] [2]
Amines, C12-14-alkyldimethyl, N-oxides	REACH #: 01-2119490061-47 CAS: 308062-28-4	≤5	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 2, H411	[1]
propane-1,2-diol	REACH #: 01-2119456809-23 EC: 200-338-0 CAS: 57-55-6	≤3	Not classified.	[2]
Silicic acid, potassium salt	REACH #: 01-2119456888-17 EC: 215-199-1 CAS: 1312-76-1	≤3	Skin Irrit. 2, H315 Eye Irrit. 2, H319	[1]
hydrogen peroxide solution	EC: 231-765-0 CAS: 7722-84-1 Index: 008-003-00-9	≤0.1	Ox. Liq. 1, H271 Acute Tox. 4, H302 Acute Tox. 4, H332 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335 See Section 16 for the full text of the H statements declared above.	[1] [2]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: First aid measures**4.1 Description of first aid measures****Eye contact**

- : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Inhalation

- : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

SECTION 4: First aid measures

- Skin contact** : Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur
- Ingestion** : Adverse symptoms may include the following:
stomach pains

4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam. Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous combustion products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
metal oxide/oxides

SECTION 5: Firefighting measures

5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- 6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

6.3 Methods and material for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Absorb spillage to prevent material damage. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Absorb spillage to prevent material damage. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

- 6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not breathe dust or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residue and can be hazardous. Do not reuse container. Absorb spillage to prevent material damage.

SECTION 7: Handling and storage

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store in corrosive resistant container with a resistant inner liner. Store locked up. Separate from acids. Keep away from metals. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters**Occupational exposure limits**

Product/ingredient name	Exposure limit values
potassium hydroxide	EH40/2005 WELs (United Kingdom (UK), 1/2020). STEL: 2 mg/m ³ 15 minutes.
propane-1,2-diol	EH40/2005 WELs (United Kingdom (UK), 1/2020). TWA: 10 mg/m ³ 8 hours. Form: Particulate TWA: 474 mg/m ³ 8 hours. Form: total vapour and particulates TWA: 150 ppm 8 hours. Form: total vapour and particulates
hydrogen peroxide solution	EH40/2005 WELs (United Kingdom (UK), 1/2020). STEL: 2.8 mg/m ³ 15 minutes. STEL: 2 ppm 15 minutes. TWA: 1.4 mg/m ³ 8 hours. TWA: 1 ppm 8 hours.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

DNEL/DMEL Summary : Not applicable.

PNECs

PNEC Summary : Not applicable.

8.2 Exposure controls

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

SECTION 8: Exposure controls/personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. **Recommended:** Wear suitable gloves tested to EN374.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties**Appearance**

- Physical state** : Liquid.
- Colour** : Red.
- Odour** : Not available.
- Odour threshold** : Not available.
- Melting point/freezing point** : Not available.
- Initial boiling point and boiling range** : Not available.
- Flammability (solid, gas)** : Not available.
- Upper/lower flammability or explosive limits** : Not available.
- Flash point** :

Ingredient name	Closed cup			Open cup		
	°C	°F	Method	°C	°F	Method
propane-1,2-diol	99	210.2				

Auto-ignition temperature :

SECTION 9: Physical and chemical properties

Ingredient name	°C	°F	Method
propane-1,2-diol	371	699.8	

Decomposition temperature : Not available.**pH** : >13.5**Viscosity** : 13 Fsec**Solubility(ies)** :

Not available.

Solubility in water : Not available.**Partition coefficient: n-octanol/
water** : Not applicable.**Vapour pressure** :

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
propane-1,2-diol	0.15	0.02	EU A.4			

Relative density : Not available.**Density** : 1.13 g/cm³**Vapour density** : Not available.**Explosive properties** : Not available.**Oxidising properties** : Not available.**Particle characteristics****Median particle size** : Not applicable.**SECTION 10: Stability and reactivity****10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.**10.2 Chemical stability** : The product is stable.**10.3 Possibility of
hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.**10.4 Conditions to avoid** : Keep away from heat, sparks and flame.**10.5 Incompatible materials** : Reactive or incompatible with the following materials:
acids
metals**10.6 Hazardous
decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
Amines, C12-14-alkyldimethyl, N-oxides	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat - Male, Female	1064 mg/kg	-
Silicic acid, potassium salt	LC50 Inhalation Vapour	Rat	>2.06 mg/l	4 hours
	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat - Female	>5000 mg/kg	-

Conclusion/Summary : Harmful if swallowed. (Literature)

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
RATIONAL Grill cleaner for RATIONAL CleanJet® and for manual cleaning	748.7	N/A	N/A	N/A	N/A
potassium hydroxide	100	N/A	N/A	N/A	N/A
Amines, C12-14-alkyldimethyl, N-oxides	1064	N/A	N/A	N/A	N/A
hydrogen peroxide solution	500	N/A	N/A	11	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
potassium hydroxide	Eyes - Visible necrosis	Rabbit	-	24 hours	21 days
Amines, C12-14-alkyldimethyl, N-oxides	Eyes - Severe irritant	Rabbit	-	-	35 days
	Skin - Irritant	Rabbit	-	24 hours	72 hours
Silicic acid, potassium salt	Eyes - Non-irritating to the eyes.	Rabbit	-	4 hours	7 days
	Skin - Mild irritant	Rabbit	-	4 hours	5 days
	Skin - Non-irritating to the skin.	Rabbit	-	4 hours	7 days

Conclusion/Summary

Skin : Causes severe burns. (Literature)

Eyes : Causes serious eye damage. (Literature)

Respiratory : Not available.

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
potassium hydroxide	skin	Guinea pig	Not sensitizing
Amines, C12-14-alkyldimethyl, N-oxides	skin	Guinea pig	Not sensitizing
Silicic acid, potassium salt	skin	Guinea pig	Not sensitizing

Conclusion/Summary

Skin : Based on available data, the classification criteria are not met. (Literature)

Respiratory : Not available.

SECTION 11: Toxicological information**Mutagenicity**

Product/ingredient name	Test	Experiment	Result
potassium hydroxide	-	Experiment: In vitro Subject: Bacteria	Negative
Amines, C12-14-alkyldimethyl, N-oxides	-	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic	Negative
	OECD 487	Experiment: In vitro Subject: Mammalian-Human Cell: Somatic	Negative
Silicic acid, potassium salt	OECD 473	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic	Negative
	OECD 476	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic	Negative

Conclusion/Summary : Based on available data, the classification criteria are not met. (Literature)

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Amines, C12-14-alkyldimethyl, N-oxides	Negative - Oral - TC	Rat - Male, Female	90 mg/kg NOEL	2 years; 24 hours per day

Conclusion/Summary : Based on available data, the classification criteria are not met. (Literature)

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
Amines, C12-14-alkyldimethyl, N-oxides	Negative	Negative	Negative	Rat - Male, Female	Oral: ≥37 mg/kg	24 hours per day
Silicic acid, potassium salt	Negative	Positive	Positive	Rat - Male, Female	Oral: >159 mg/kg NOEL	2.5 years; 7 days per week

Conclusion/Summary : Based on available data, the classification criteria are not met. (Literature)

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Amines, C12-14-alkyldimethyl, N-oxides	Negative - Oral	Rat - Female	100 mg/kg NOEL	10 days; 7 days per week
Silicic acid, potassium salt	Negative - Oral	Mouse - Female	>200 mg/kg NOEL	18 days; 7 days per week

Conclusion/Summary : Based on available data, the classification criteria are not met. (Literature)

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
hydrogen peroxide solution	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

SECTION 11: Toxicological information

Information on likely routes of exposure : Not available.

Potential acute health effects

Eye contact : Causes serious eye damage.
Inhalation : No known significant effects or critical hazards.
Skin contact : Causes severe burns.
Ingestion : Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
 pain
 watering
 redness
Inhalation : No specific data.
Skin contact : Adverse symptoms may include the following:
 pain or irritation
 redness
 blistering may occur
Ingestion : Adverse symptoms may include the following:
 stomach pains

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Short term exposure**

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.
Potential delayed effects : Not available.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
Amines, C12-14-alkyldimethyl, N-oxides	Sub-chronic NOAEL Dermal	Mouse - Male, Female	237.6 mg/kg	91 days; 5 days per week
	Sub-chronic NOAEL Oral	Rat - Male, Female	88 mg/kg	14 weeks; 7 days per week
Silicic acid, potassium salt	Sub-chronic NOAEL Oral	Rat - Male, Female	>159 mg/kg	197 days; 7 days per week
	Sub-chronic NOAEL Oral	Rat - Male, Female	227 to 237 mg/kg	3 months; 7 days per week

Conclusion/Summary : Based on available data, the classification criteria are not met. (Literature)
General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Reproductive toxicity : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information**12.1 Toxicity**

Product/ingredient name	Result	Species	Exposure
Amines, C12-14-alkyldimethyl, N-oxides	EC10 80 mg/l Fresh water	Micro-organism - Pseudomonas putida	18 hours
	Acute EC50 0.66 mg/l Fresh water	Algae - Raphidocelis subcapitata	72 hours
	Acute LC50 10.4 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 3.41 mg/l pH 9.0 Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 0.7 mg/l Fresh water	Daphnia - Daphnia magna	21 days
Silicic acid, potassium salt	Chronic NOEC 0.42 mg/l Fresh water	Fish - Pimephales promelas	302 days
	Acute EC50 207 mg/l	Algae - Desmodesmus subspicatus	72 hours
	Acute LC50 >146 mg/l	Daphnia - Daphnia magna	24 hours
	Acute LC50 >146 mg/l	Fish - Leuciscus idus	48 hours

Conclusion/Summary : Harmful to aquatic life with long lasting effects. (Literature)

12.2 Persistence and degradability

Conclusion/Summary : There are no data available on the mixture itself.

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
propane-1,2-diol	-1.07	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance.

13.1 Waste treatment methods**Product**

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

SECTION 13: Disposal considerations**Packaging**

- Methods of disposal** : The generation of waste should be avoided or minimised wherever possible.
- Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN1814	UN1814	UN1814	UN1814
14.2 UN proper shipping name	POTASSIUM HYDROXIDE SOLUTION	POTASSIUM HYDROXIDE SOLUTION	POTASSIUM HYDROXIDE SOLUTION	Potassium hydroxide solution
14.3 Transport hazard class(es)	8	8	8	8
Label				
14.4 Packing group	II	II	II	II
14.5 Environmental hazards	No.	Yes.	Marine Pollutant: No	No.

Additional information

- ADR/RID** : **Hazard identification number** 80
Limited quantity 1 L
Tunnel code (E)
- ADN** : The product is only regulated as an environmentally hazardous substance when transported in tank vessels.
- IMDG** : **Emergency schedules** F-A, S-B
- IATA** : **Quantity limitation** Passenger and Cargo Aircraft: 1 L. Packaging instructions: 851. Cargo Aircraft Only: 30 L. Packaging instructions: 855. Limited Quantities - Passenger Aircraft: 0.5 L. Packaging instructions: Y840.
Special provisions A3, A803

- 14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

- 14.7 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****UK (GB) /REACH****Annex XIV - List of substances subject to authorisation****Annex XIV**

None of the components are listed.

Substances of very high concern

None of the components are listed.

Ozone depleting substances

SECTION 15: Regulatory information

Not listed.

Prior Informed Consent (PIC)

Not listed.

Persistent Organic Pollutants

Not listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Label: Not applicable.

Seveso Directive

This product is not controlled under the Seveso Directive.

Hazchem code : 2R

EU regulations

**Industrial emissions
(integrated pollution
prevention and control) -
Air** : Not listed

**Industrial emissions
(integrated pollution
prevention and control) -
Water** : Not listed

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

New Zealand : All components are listed or exempted.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

🔍 Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level

SECTION 16: Other information

EUH statement = CLP-specific Hazard statement
 EWC = European Waste Catalogue
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 N/A = Not available
 PBT = Persistent, Bioaccumulative and Toxic
 PNEC = Predicted No Effect Concentration
 RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
 RRN = REACH Registration Number
 SGG = Segregation Group
 vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Met. Corr. 1, H290 Acute Tox. 4, H302 Skin Corr. 1A, H314 Eye Dam. 1, H318 Aquatic Chronic 3, H412	Expert judgment Calculation method Calculation method On basis of test data Calculation method

Full text of abbreviated H statements

H271	May cause fire or explosion; strong oxidiser.
H290	May be corrosive to metals.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
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
Ox. Liq. 1	OXIDISING LIQUIDS - Category 1
Skin Corr. 1A	SKIN CORROSION/IRRITATION - Category 1A
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

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Notice to reader

SECTION 16: Other information

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.