

SAFETY DATA SHEET
SECTION 1: Identification of the substance/mixture and of the company/undertaking
1.1. Product identifier
Trade name Ink Remover Shadow Product no.
REACH registration number Not applicable 1.2. Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses of the substance or mixture Graffiti Removal Uses advised against
The full text of any mentioned and identified use categories are given in section 16 <b>1.3. Details of the supplier of the safety data sheet</b>
Company and address         Blue & Green AB         Stenorsvägen 52         261 44 Landskrona         Sweden         Tfn: +46 418 399000         Fax: +46 418 13199         www.blueandgreen.se         E-mail         info@blueandgreen.se         SDS date         2020-10-01         SDS Version         1.0         1.4. Emergency telephone number         Contact The National Poisons Information Service (dial 111, 24 h service). See section 4 "First aid measures".         SECTION 2: Hazards identification
<ul> <li>2.1. Classification of the substance or mixture <ul> <li>Acute Tox. 4; H302 + H332</li> <li>Skin Irrit. 2; H315</li> <li>Eye Irrit. 2; H319</li> <li>See full text of H-phrases in section 2.2.</li> </ul> </li> <li>2.2. Label elements</li> </ul>
Hazard pictogram(s) View of the second statement of t

Blue & Green Quality chemicals

# According to EC-Regulation 2015/830

Precautionary state	monte		
General	If medical advice is needed, have product container or label at hand. (P101). Keep out of reach of children. (P102).		
Prevention	Use only outdoors or in a well-ventilated area. (P271). Wear eye protection/gloves. (P280).		
Response	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305+P351+P338).		
Storage	-		
Disposal	Dispose of contents/container to an approved waste disposal plant. (P501).		
	ances primarily responsible for the major health hazards I-butylpyrrolidin-2-one; benzyl alcohol; potassium hydroxide		
R8Q6-J352-F103-			
2.3. Other hazards			
Not applicable			
Additional warnings	i de la constante de la constan		
Tactile warning.			
VOC (volatile organi Not applicable	c compound)		
SECTION 3: Composition/inf	formation on ingradiants		
3.1/3.2. Substances/Mix	(tures		
NAME: IDENTIFICATION NOS.: CONTENT: CLP CLASSIFICATION:	25-40%		
NOTE:	O L		
NAME: IDENTIFICATION NOS.: CONTENT: CLP CLASSIFICATION:	1-butylpyrrolidin-2-one CAS-no: 3470-98-2 EC-no: 222-437-8 REACH-no: 01-2120062728-48 25-40% Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2 H302, H315, H319		
NAME: IDENTIFICATION NOS.: CONTENT: CLP CLASSIFICATION:	benzyl alcohol CAS-no: 100-51-6 EC-no: 202-859-9 REACH-no: 01-2119492630-38 Index-no: 603-057-00-5 25-40% Acute Tox. 4, Eye Irrit. 2 H302, H319, H332		
NAME: IDENTIFICATION NOS.: CONTENT: CLP CLASSIFICATION:	potassium hydroxide CAS-no: 1310-58-3 EC-no: 215-181-3 REACH-no: 01-2119487136-33 Index-no: 019-002-00-8 1 - <2.5% Met. Corr. 1, Acute Tox. 4, Skin Corr. 1A H290, H302, H314		
(*) O = Organic solvent L = are listed in section 8, if the Other information	European occupational exposure limit. See full text of H-phrases in section 16. Occupational exposure limits ese are available.		
	0		
Detergent:			
SECTION 4: First aid measure	res		

4.1. Description of first aid measures



# **General information**

In the case of accident: Contact a doctor or casualty department – take the label or this safety data sheet. The doctor can contact The National Poisons Information Service: Dial 0344 892 0111 (24 h service). Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

### Inhalation

Bring the injured person into fresh air. Make sure the injured person is continuously monitored. Prevent shock by keeping the injured person warm and calm. If breathing ceases, give mouth-to-mouth resuscitation. If unconscious, roll the injured person into recovery position. Call an ambulance.

#### Skin contact

Remove contaminated clothing and shoes immediately. Ensure to wash exposed skin thoroughly with soap and water.

### Eye contact

Remove contact lenses. Flush eyes immediately with plenty of water or isotonic water (20-30°C) for at least 5 minutes and continue until irritation stops. Make sure to flush under the upper and lower eyelids. If irritation continues, contact a doctor. Continue flushing during transport.

#### Ingestion

In the case of ingestion, contact a doctor immediately and bring the safety data sheet or label. If the person is conscious, give them water. DO NOT try to induce vomiting, unless this is recommended by a doctor. Hold head facing down to prevent vomit returning to the mouth and throat. Prevent shock by keeping the injured person warm and calm. Initiate immediate resuscitation if breathing stops. If unconscious, roll the injured person into recovery position. Call an ambulance.

#### **Burns**

Not applicable

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

This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

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

IF exposed or concerned: Get immediate medical advice/attention.

### Information to medics

Bring this safety data sheet.

# **SECTION 5: Firefighting measures**

#### 5.1. Extinguishing media

Recommended: alcohol-resistant foam, carbonic acid, powder, water mist.

### 5.2. Special hazards arising from the substance or mixture

If the product is exposed to high temperatures, e.g. in the event of fire, dangerous catabolic substances are produced. These are: Nitrogen oxides. Carbon oxides. Some metal oxides. Fire will result in dense black smoke. Exposure to combustion products may harm your health. Fire fighters should wear appropriate protection equipment. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.

# 5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact The National Poisons Information Service (dial 111, 24 h service) in order to obtain further advice.

# **SECTION 6: Accidental release measures**

6.1. Personal precautions, protective equipment and emergency procedures

Avoid inhalation of vapours from spilled material.

# 6.2. Environmental precautions

No specific requirements.

### 6.3. Methods and material for containment and cleaning up

Use sand, sawdust, earth, vermiculite, diatomaceous earth to contain and collect non-combustible absorbent materials and place in container for disposal, according to local regulations.

# 6.4. Reference to other sections

See section on "Disposal considerations" in regard of handling of waste. See section on 'Exposure controls/personal protection' for protective measures.

# SECTION 7: Handling and storage

7.1. Precautions for safe handling



According to EC-Regulation 2015/830
Smoking, storage of tobacco, consumption and storage of food or liquids are not allowed in the workrooms.
See section on 'Exposure controls/personal protection' for information on personal protection.
7.2. Conditions for safe storage, including any incompatibilities
Always store in containers of the same material as the original container. Containers that have been
opened must be carefully resealed and kept upright to prevent leakage.
Storage temperature
Room temperature 18 to 23°C
7.3. Specific end use(s)
This product should only be used for applications quoted in section 1.2
SECTION 8: Exposure controls/personal protection
8.1. Control parameters
OEL
potassium hydroxide
Long-term exposure limit (8-hour TWA reference period): - ppm   - mg/m <sup>3</sup> Short-term exposure limit (15-minute reference period): - ppm   2 mg/m <sup>3</sup>
2-butoxyethanol
Long-term exposure limit (8-hour TWA reference period): 25 ppm   123 mg/m <sup>3</sup>
Short-term exposure limit (15-minute reference period): 50 ppm   - mg/m <sup>3</sup>
Comments: Sk;BMGV (Bmgv = Biological Monitoring Guidance Value. Sk = Can be absorbed through skin.)
DNEL / PNEC
DNEL (2-butoxyethanol): 3.2 mg/kg bw/day Exposure: Oral
Duration of Exposure: Long term – Systemic effects - General population
DNEL (2-butoxyethanol): 49 mg/m3
Exposure: Inhalation
Duration of Exposure: Long term – Systemic effects - General population
DNEL (2 hytowysthene)), 20 mg//g hw/dey
DNEL (2-butoxyethanol): 38 mg/kg bw/day Exposure: Dermal
Duration of Exposure: Long term – Systemic effects - General population
DNEL (2-butoxyethanol): 426 mg/m3
Exposure: Inhalation
Duration of Exposure: Short term – Systemic effects - General population
DNEL (2-butoxyethanol): 123 mg/m3
Exposure: Inhalation
Duration of Exposure: Short term – Local effects - General population
DNEL (2-butoxyethanol): 98 mg/m3, 20 ppm
Exposure: Inhalation
Duration of Exposure: Long term – Systemic effects - Workers
DNEL (2-butoxyethanol): 246 mg/m3, 50 ppm
Exposure: Inhalation Duration of Exposure: Short term – Local effects - Workers
DNEL (2-butoxyethanol): 663 mg/m3, 135 ppm
Exposure: Inhalation
Duration of Exposure: Short term – Systemic effects - Workers
DNEL (2-butoxyethanol): 89 mg/kg bw/day
Exposure: Dermal
Duration of Exposure: Short term – Systemic effects - Workers
DNEL (2-butoxyethanol): 13.4 mg/kg bw/day
Exposure: Oral Duration of Exposure: Short term – Systemic effects - General population
DNEL (2-butoxyethanol): 44.5 mg/kg bw/day
Exposure: Dermal
Duration of Exposure: Short term – Systemic effects - General population
DNEL (potassium hydroxide): 1mg/m3
Exposure: Inhalation
Duration of Exposure: Long term – Local effects - Workers



DNEL (potassium hydroxide): 1mg/m3 Exposure: Inhalation Duration of Exposure: Long term – Local effects - General population

DNEL (benzyl alcohol): 22 mg/m3 Exposure: Inhalation Duration of Exposure: Long term – Systemic effects - Workers Remarks: Registration dossier ECHA

DNEL (benzyl alcohol): 110 mg/m3 Exposure: Inhalation Duration of Exposure: Short term – Systemic effects - Workers Remarks: Registration dossier ECHA

DNEL (benzyl alcohol): 8 mg/kg bw/d Exposure: Dermal Duration of Exposure: Long term – Systemic effects - Workers Remarks: Registration dossier ECHA

DNEL (benzyl alcohol): 40 mg/kg bw/d Exposure: Dermal Duration of Exposure: Short term – Systemic effects - Workers Remarks: Registration dossier ECHA

DNEL (benzyl alcohol): 5.4 mg/m3 Exposure: Inhalation Duration of Exposure: Long term – Systemic effects - General population Remarks: Registration dossier ECHA

DNEL (benzyl alcohol): 27 mg/m3 Exposure: Inhalation Duration of Exposure: Short term – Systemic effects - General population Remarks: Registration dossier ECHA

DNEL (benzyl alcohol): 4 mg/kg bw/d Exposure: Dermal Duration of Exposure: Long term – Systemic effects - General population Remarks: Registration dossier ECHA

DNEL (benzyl alcohol): 20 mg/kg bw/d Exposure: Dermal Duration of Exposure: Short term – Systemic effects - General population Remarks: Registration dossier ECHA

DNEL (benzyl alcohol): 4 mg/kg bw/d Exposure: Oral Duration of Exposure: Long term – Systemic effects - General population Remarks: Registration dossier ECHA

DNEL (benzyl alcohol): 20 mg/kg bw/d Exposure: Oral Duration of Exposure: Short term – Systemic effects - General population Remarks: Registration dossier ECHA

DNEL (1-butylpyrrolidin-2-one): 4mg/kg Exposure: Oral Duration of Exposure: Short term – Systemic effects - General population

DNEL (1-butylpyrrolidin-2-one): 4mg/kg Exposure: Oral Duration of Exposure: Long term – Systemic effects - General population

DNEL (1-butylpyrrolidin-2-one): 5mg/kg Exposure: Dermal Duration of Exposure: Long term – Systemic effects - General population

DNEL (1-butylpyrrolidin-2-one): 4.29mg/m3 Exposure: Inhalation Duration of Exposure: Long term – Systemic effects - General population

DNEL (1-butylpyrrolidin-2-one): 10mg/kg Exposure: Dermal Duration of Exposure: Long term – Systemic effects - Workers



DNEL (1-butylpyrrolidin-2-one): 24.1mg/m3 Exposure: Inhalation Duration of Exposure: Long term – Systemic effects - Workers

PNEC (2-butoxyethanol): 8.8 mg/l Exposure: Freshwater

PNEC (2-butoxyethanol): 0.88 mg/l Exposure: Marine water

PNEC (2-butoxyethanol): 463 mg/l Exposure: Sewage Treatment Plant

PNEC (2-butoxyethanol): 34.6 mg/kg dw Exposure: Freshwater sediment

PNEC (2-butoxyethanol): 3.46 mg/kg dw Exposure: Marine water sediment

PNEC (2-butoxyethanol): 2.8 mg/kg dw Exposure: Soil

PNEC (2-butoxyethanol): 9.1 mg/l Exposure: Intermittent release

PNEC (benzyl alcohol): 1 mg/l Exposure: Freshwater Remarks: Registration dossier ECHA

PNEC (benzyl alcohol): 0.1 mg/l Exposure: Marine water Remarks: Registration dossier ECHA

PNEC (benzyl alcohol): 2.3 mg/l Exposure: Intermittent release Remarks: Registration dossier ECHA

PNEC (benzyl alcohol): 0.456 mg/kg dw Exposure: Soil Remarks: Registration dossier ECHA

PNEC (benzyl alcohol): 0.527 mg/kg dw Exposure: Marine water sediment Remarks: Registration dossier ECHA

PNEC (benzyl alcohol): 5.27 mg/kg dw Exposure: Freshwater sediment Remarks: Registration dossier ECHA

PNEC (benzyl alcohol): 39 mg/l Exposure: Sewage Treatment Plant Remarks: Registration dossier ECHA

PNEC (1-butylpyrrolidin-2-one): 3.57mg/kg Exposure: Soil

PNEC (1-butylpyrrolidin-2-one): 2.96mg/kg Exposure: Marine water sediment

PNEC (1-butylpyrrolidin-2-one): 29.6mg/kg Exposure: Freshwater sediment

PNEC (1-butylpyrrolidin-2-one): 30,62 mg/L Exposure: Sewage Treatment Plant

PNEC (1-butylpyrrolidin-2-one): 0,4mg/L Exposure: Marine water

PNEC (1-butylpyrrolidin-2-one): 4mg/L Exposure: Freshwater

#### 8.2. Exposure controls

Compliance with the accepted occupational exposure limits values should be controlled on a regular basis.



General recommendations	
Observe general occupational hygiene standards.	
Exposure scenarios	
There is no appendix to this safety data sheet.	
Exposure limits	
	mum concentrations for accurational evacuum. Con
Professional users are subjected to the legally set maxi	mum concentrations for occupational exposure. See
occupational hygiene limit values above.	
Appropriate technical measures	
Ensure emergency eyewash and -showers are clearly r	narked.
Hygiene measures	
In between use of the product and at the end of the wor	king day all exposed areas of the body must be
washed thoroughly. Always wash hands, forearms and	face.
Measures to avoid environmental exposure	
No specific requirements.	
Individual protection measures, such as personal protect	ive equipment
	o oquipinon
Generally	
Use only CE marked protective equipment.	
Respiratory Equipment	
In case of spray application: Use mask with particle filte	er S/SL
Skin protection	
Wear appropriate protection clothing, e.g. coveralls in p	olypropylene approved type 6 and Category III.
Hand protection	
Nitrile rubber	
Breakthrough time: > 480 minutes (Class 6)	
Eye protection	
Wear safety glasses with side shields.	
SECTION 9: Physical and chemical properties	
SECTION 9. Physical and chemical properties	
9.1. Information on basic physical and chemical propertie	S
Form	Liquid
Colour	Brown
Odour	Characteristic
Odour threshold (ppm)	No data available.
pH	11,4
Viscosity (40°C)	No data available.
Density (g/cm <sup>3</sup> )	0.97
	0.31
Phase changes	No doto ovoilable
Melting point (°C)	No data available.
Boiling point (°C)	No data available.
Vapour pressure	No data available.
Decomposition temperature (°C)	No data available.
Evaporation rate (n-butylacetate = 100)	No data available.
Data on fire and explosion hazards	
Flash point (°C)	>100
	No data available.
Ignition (°C)	No data available.
Ignition (°C) Auto flammability (°C)	No data available.
Ignition (°C) Auto flammability (°C) Explosion limits (% v/v)	No data available. No data available.
Ignition (°C) Auto flammability (°C) Explosion limits (% v/v) Explosive properties	No data available.
Ignition (°C) Auto flammability (°C) Explosion limits (% v/v) Explosive properties <b>Solubility</b>	No data available. No data available. No data available.
Ignition (°C) Auto flammability (°C) Explosion limits (% v/v) Explosive properties <b>Solubility</b> Solubility in water	No data available. No data available. No data available. Soluble
Ignition (°C) Auto flammability (°C) Explosion limits (% v/v) Explosive properties <b>Solubility</b> Solubility in water n-octanol/water coefficient	No data available. No data available. No data available.
Ignition (°C) Auto flammability (°C) Explosion limits (% v/v) Explosive properties <b>Solubility</b> Solubility in water	No data available. No data available. No data available. Soluble



Species: Guinea pig

# According to EC-Regulation 2015/830 **SECTION 10: Stability and reactivity** 10.1. Reactivity No data available 10.2. Chemical stability The product is stable under the conditions, noted in the section "Handling and storage". 10.3. Possibility of hazardous reactions Nothing special 10.4. Conditions to avoid Do not expose to any forms of heat (e.g. solar radiation). May lead to excess pressure. **10.5.** Incompatible materials Strong acids, strong bases, strong oxidizing agents, and strong reducing agents. 10.6. Hazardous decomposition products The product is not degraded when used as specified in section 1. **SECTION 11: Toxicological information** 11.1. Information on toxicological effects Acute toxicity Substance: potassium hydroxide Species: Rat Test: LD50 Route of exposure: Oral Result: 333.0 Substance: benzyl alcohol Species: Rat Test: LD50 Route of exposure: Oral Result: 1620 mg/kg Substance: benzyl alcohol Species: Rat Test: LC50 Route of exposure: Inhalation Result: >4178 mg/l/4h Substance: benzyl alcohol Species: Rabbit Test: LD50 Route of exposure: Dermal Result: >2000 mg/kg Substance: 1-butylpyrrolidin-2-one Species: Rat Test: LD50 Route of exposure: Oral Result: 300-2000mg/kg Substance: 1-butylpyrrolidin-2-one Species: Rabbit Test: LD50 Route of exposure: Dermal Result: >2000mg/kg Substance: 2-butoxyethanol Species: Guinea pig Test: LD50 Route of exposure: Oral Result: 1414 mg/kg Substance: 2-butoxyethanol Species: Rat Test: LC50 Route of exposure: Inhalation Result: 2.56 mg/l/4h Substance: 2-butoxyethanol



Test: LD0	
Route of exposure: Dermal Result: >2000 mg/kg	
Result. >2000 mg/kg	
Substance: 2-butoxyethanol	
Species: Rat	
Test: LD50	
Route of exposure: Oral	
Result: 1300 mg/kg	
Skin corrosion/irritation	
Causes skin irritation.	
Serious eye damage/irritation	
Causes serious eye irritation.	
Respiratory or skin sensitisation	
No data available.	
Germ cell mutagenicity	
No data available.	
Carcinogenicity	
No data available.	
Reproductive toxicity	
No data available.	
STOT-single exposure	
No data available.	
STOT-repeated exposure	
No data available.	
Aspiration hazard	
No data available.	
Long term effects	
This product contains substances, which may cause irritation upon exposure to	skin, eves or lungs. Exposure may result in an
increased absorption potential of other hazardous substances at the area of exp	
TION 12: Ecological information	
12.1. Toxicity	
Substance: potassium hydroxide	
Substance: potassium hydroxide Species: Fish	
Substance: potassium hydroxide Species: Fish Test: LC50	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h	
Substance: potassium hydroxide Species: Fish Test: LC50	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/I Substance: potassium hydroxide	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/I Substance: potassium hydroxide Species: Daphnia	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol Species: Fish	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol Species: Fish Test: LC50	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol Species: Fish Test: LC50 Duration: 96h	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol Species: Fish Test: LC50	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol Species: Fish Test: LC50 Duration: 96h Result: 460 mg/l	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol Species: Fish Test: LC50 Duration: 96h Result: 460 mg/l Substance: benzyl alcohol	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol Species: Fish Test: LC50 Duration: 96h Result: 460 mg/l Substance: benzyl alcohol Species: Daphnia	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol Species: Fish Test: LC50 Duration: 96h Result: 460 mg/l Substance: benzyl alcohol Species: Daphnia Test: EC50	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol Species: Fish Test: LC50 Duration: 96h Result: 460 mg/l Substance: benzyl alcohol Species: Daphnia Test: EC50 Duration: 48h	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol Species: Fish Test: LC50 Duration: 96h Result: 460 mg/l Substance: benzyl alcohol Species: Daphnia Test: EC50	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol Species: Fish Test: LC50 Duration: 96h Result: 460 mg/l Substance: benzyl alcohol Species: Daphnia Test: EC50 Duration: 48h Result: 230 mg/l	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol Species: Fish Test: LC50 Duration: 96h Result: 460 mg/l Substance: benzyl alcohol Species: Daphnia Test: EC50 Duration: 48h Result: 230 mg/l Substance: benzyl alcohol	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol Species: Fish Test: LC50 Duration: 96h Result: 460 mg/l Substance: benzyl alcohol Species: Daphnia Test: EC50 Duration: 48h Result: 230 mg/l Substance: benzyl alcohol Species: Algae	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol Species: Fish Test: LC50 Duration: 96h Result: 460 mg/l Substance: benzyl alcohol Species: Daphnia Test: EC50 Duration: 48h Result: 230 mg/l Substance: benzyl alcohol Species: Algae Test: IC100	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol Species: Fish Test: LC50 Duration: 96h Result: 460 mg/l Substance: benzyl alcohol Species: Daphnia Test: EC50 Duration: 48h Result: 230 mg/l Substance: benzyl alcohol Species: Daphnia Test: EC50 Duration: 48h Result: 230 mg/l	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol Species: Fish Test: LC50 Duration: 96h Result: 460 mg/l Substance: benzyl alcohol Species: Daphnia Test: EC50 Duration: 48h Result: 230 mg/l Substance: benzyl alcohol Species: Daphnia Test: EC50 Duration: 48h Result: 230 mg/l	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol Species: Fish Test: LC50 Duration: 96h Result: 460 mg/l Substance: benzyl alcohol Species: Daphnia Test: EC50 Duration: 48h Result: 230 mg/l Substance: benzyl alcohol Species: Algae Test: IC100 Duration: 72h Result: 770 mg/l	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol Species: Fish Test: LC50 Duration: 96h Result: 460 mg/l Substance: benzyl alcohol Species: Daphnia Test: EC50 Duration: 48h Result: 230 mg/l Substance: benzyl alcohol Species: Daphnia Test: EC50 Duration: 48h Result: 230 mg/l Substance: benzyl alcohol Species: Algae Test: IC100 Duration: 72h Result: 770 mg/l Substance: 1-butylpyrrolidin-2-one	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol Species: Fish Test: LC50 Duration: 96h Result: 460 mg/l Substance: benzyl alcohol Species: Daphnia Test: EC50 Duration: 48h Result: 230 mg/l Substance: benzyl alcohol Species: Algae Test: IC100 Duration: 72h Result: 770 mg/l Substance: 1-butylpyrrolidin-2-one Species: Fish	
Substance: potassium hydroxide         Species: Fish         Test: LC50         Duration: 96h         Result: 80mg/l         Substance: potassium hydroxide         Species: Daphnia         Test: EC50         Duration: 48h         Result: 40-240mg/l         Substance: benzyl alcohol         Species: Fish         Test: LC50         Duration: 96h         Result: 460 mg/l         Substance: benzyl alcohol         Species: Daphnia         Test: EC50         Duration: 96h         Result: 460 mg/l         Substance: benzyl alcohol         Species: Daphnia         Test: EC50         Duration: 48h         Result: 230 mg/l         Substance: benzyl alcohol         Species: Algae         Test: IC100         Duration: 72h         Result: 770 mg/l         Substance: 1-butylpyrrolidin-2-one         Species: Fish         Test: LC50	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol Species: Fish Test: LC50 Duration: 96h Result: 460 mg/l Substance: benzyl alcohol Species: Daphnia Test: EC50 Duration: 48h Result: 230 mg/l Substance: benzyl alcohol Species: Algae Test: IC100 Duration: 72h Result: 770 mg/l Substance: 1-butylpyrrolidin-2-one Species: Fish Test: LC50	
Substance: potassium hydroxide         Species: Fish         Test: LC50         Duration: 96h         Result: 80mg/l         Substance: potassium hydroxide         Species: Daphnia         Test: EC50         Duration: 48h         Result: 40-240mg/l         Substance: benzyl alcohol         Species: Fish         Test: LC50         Duration: 96h         Result: 460 mg/l         Substance: benzyl alcohol         Species: Fish         Test: LC50         Duration: 96h         Result: 460 mg/l         Substance: benzyl alcohol         Species: Daphnia         Test: EC50         Duration: 48h         Result: 230 mg/l         Substance: benzyl alcohol         Species: Algae         Test: IC100         Duration: 72h         Result: 770 mg/l         Substance: 1-butylpyrrolidin-2-one         Species: Fish         Test: LC50	
Substance: potassium hydroxide Species: Fish Test: LC50 Duration: 96h Result: 80mg/l Substance: potassium hydroxide Species: Daphnia Test: EC50 Duration: 48h Result: 40-240mg/l Substance: benzyl alcohol Species: Fish Test: LC50 Duration: 96h Result: 460 mg/l Substance: benzyl alcohol Species: Daphnia Test: EC50 Duration: 48h Result: 230 mg/l Substance: benzyl alcohol Species: Algae Test: IC100 Duration: 72h Result: 770 mg/l Substance: 1-buty/pyrrolidin-2-one Species: Fish Test: LC50 Duration: 96h Result: >100mg/l	
Substance: potassium hydroxide         Species: Fish         Test: LC50         Duration: 96h         Result: 80mg/l         Substance: potassium hydroxide         Species: Daphnia         Test: EC50         Duration: 48h         Result: 40-240mg/l         Substance: benzyl alcohol         Species: Fish         Test: LC50         Duration: 96h         Result: 460 mg/l         Substance: benzyl alcohol         Species: Fish         Test: LC50         Duration: 96h         Result: 460 mg/l         Substance: benzyl alcohol         Species: Daphnia         Test: LC50         Duration: 48h         Result: 230 mg/l         Substance: benzyl alcohol         Species: Algae         Test: IC50         Duration: 72h         Result: 230 mg/l         Substance: 1-butylpyrrolidin-2-one         Species: Fish         Test: LC50         Duration: 96h         Result: >100mg/l         Substance: 1-butylpyrrolidin-2-one	
Substance: potassium hydroxide         Species: Fish         Test: LC50         Duration: 96h         Result: 80mg/l         Substance: potassium hydroxide         Species: Daphnia         Test: EC50         Duration: 48h         Result: 40-240mg/l         Substance: benzyl alcohol         Species: Fish         Test: LC50         Duration: 96h         Result: 460 mg/l         Substance: benzyl alcohol         Species: Daphnia         Test: LC50         Duration: 96h         Result: 460 mg/l         Substance: benzyl alcohol         Species: Daphnia         Test: LC50         Duration: 96h         Result: 230 mg/l         Substance: benzyl alcohol         Species: Algae         Test: IC100         Duration: 72h         Result: 770 mg/l         Substance: 1-butylpyrrolidin-2-one         Species: Fish         Test: LC50         Duration: 96h         Result: >100mg/l         Substance: 1-butylpyrrolidin-2-one         Species: Rigae	
Substance: potassium hydroxide         Species: Fish         Test: LC50         Duration: 96h         Result: 80mg/l         Substance: potassium hydroxide         Species: Daphnia         Test: EC50         Duration: 48h         Result: 40-240mg/l         Substance: benzyl alcohol         Species: Fish         Test: LC50         Duration: 96h         Result: 460 mg/l         Substance: benzyl alcohol         Species: Daphnia         Test: LC50         Duration: 96h         Result: 460 mg/l         Substance: benzyl alcohol         Species: Daphnia         Test: EC50         Duration: 96h         Result: 230 mg/l         Substance: benzyl alcohol         Species: Algae         Test: IC100         Duration: 72h         Result: 770 mg/l         Substance: 1-butylpyrrolidin-2-one         Species: Fish         Test: LC50         Duration: 96h         Result: >100mg/l         Substance: 1-butylpyrrolidin-2-one         Species: Fish         Test: LC50         Duration: 96h         Result: >10	



Result: 13	Ulation 2015/830			
Result. 15	ong/i			
	e: 1-butylpyrrolidin-2-one			
Species: I Test: EC5				
Duration:	-			
Result: >1				
Substance Species: A	e: 2-butoxyethanol			
Test: EC5				
Duration:				
Result: 18	40 mg/l			
Substance Species: F	e: 2-butoxyethanol			
Test: LC5				
Duration:				
Result: 14	74 mg/l			
Substance Species: I	e: 2-butoxyethanol Daphnia			
Test: EC5	0			
Duration:				
Result: 15	50 mg/l			
	e: 2-butoxyethanol			
Species: F Test: NOE				
Duration:				
Result: 10	0 mg/l			
	e: 2-butoxyethanol			
Species: I Test: NOE				
Duration:				
Result: 10				
12.2. Persiste	nce and degradability			
Substan		Biodegradability	Test	Result
benzyl alc		Yes	Closed Bottle Test	>90%
1-butyipyr 2-butoxye	rolidin-2-one thanol	Yes Yes	No data available CO2 Evolution Test	No data available 90,4
				, -
	mulative potential	Detertial his secure dation	LeeDeur	DOF
Substan		Potential bioaccumulation	LogPow 1.1	BCF No data available
benzyl alc 1-butylovr	rolidin-2-one	No	1.265	No data available
2-butoxye		No	0.81	No data available
12.4. Mobility	in soil			
benzyl alc	ohol: Log Koc= 0.94949, Calculated fro			
1-butylpyr	rolidin-2-one: Log Koc= 1.0801535, Ca	Iculated from LogPow (High mobility p	ootential.).	
12.5. Results	thanol: Log Koc= 0.719839, Calculated of PBT and vPvB assessment			
12.6. Other ad	re/product does not contain any substa	inces considered to meet the criteria o	classifying them as PB1 and	OF VPVB.
Nothing sp				
SECTION 13: Dispo	osal considerations			
	eatment methods			
	is covered by the regulations o	n nazardous waste.		
Waste	da			
EWC co	ue			
Specific la	abelling			
Not app	licable			
	ited packing			
	inated packaging must be dispo	osed of similarly to the product		
SECTION 14: Trans	sport information			



	rding to ADR, IATA and I
ADR/RID	
14.1. UN number	-
14.2. UN proper shipping name	-
14.3. Transport hazard	_
class(es)	
14.4. Packing group	-
Notes	-
Tunnel restriction code	-
IMDG	
UN-no.	-
Proper Shipping Name	-
Class	-
PG*	-
EmS	-
MP**	-
Hazardous constituent	-
ΙΑΤΑ/ΙCΑΟ	
UN-no.	-
Proper Shipping Name	-
Class	-
PG*	-

# 14.6. Special precautions for user

# 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

No data available (\*) Packing group (\*\*) Marine pollutant

# **SECTION 15: Regulatory information**

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

### **Restrictions for application**

People under the age of 18 shall not be exposed to this product cf. Council Directive 94/33/EC of 22 June 1994 on the protection of young people at work.

Pregnant women and women breastfeeding must not be exposed to this product. The risk, and possible technical precautions or design of the workplace needed to eliminate exposure, must be considered. Demands for specific education

### Additional information

The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No.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.

#### Seveso

# Biocidal reg. no.

### Not applicable

#### Sources

Council Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding. Council Directive 94/33/EC of 22 June 1994 on the protection of young people at work.

The Control of Substances Hazardous to Health Regulations 2002. SI 2002/2677. The Stationery Office, 2002.

Regulation (EC) No 648/2004 of the European Parliament and of the Council of 31 March 2004 on detergents.

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 (CLP). Regulation (EC) 1907/2006 (REACH).

15.2. Chemical safety assessment

No

# **SECTION 16: Other information**

## Full text of H-phrases as mentioned in section 3

- H290 May be corrosive to metals.
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.

### The full text of identified uses as mentioned in section 1

### Additional label elements

Not applicable

#### Other

In accordance with Regulation (EC) No. 1272/2008 (CLP) the evaluation of the classification of the mixture is based on:

The classification of the mixture in regard of health hazards are in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP)

It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety data sheet cannot be used as a product specification.

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a blue triangle.

#### The safety data sheet is validated by David Löwenstein Date of last essential change

(First cipher in SDS version)

Date of last minor change (Last cipher in SDS version)

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