

# SAFETY DATA SHEET

RELYON VIRKON TABLETS

57804632

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

### 1.1 Product identifier

**Product name** : RELYON VIRKON TABLETS  
**Hazardous ingredients** : Contains: pentapotassium bis(peroxymonosulphate) bis(sulphate),dipotassium peroxodisulphate,dipotassium disulphate

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

**Suitable uses** : disinfectants, Cleaning agents

### 1.3 Details of the supplier of the safety data sheet

**Supplier** : Antec International Limited  
Windham Road  
Chilton Industrial Estate  
Sudbury / Suffolk - CO10 2XD  
United Kingdom

Telephone: +49 221 8885 2288  
E-mail: infosds@lanxess.com

### 1.4 Emergency telephone number

**Telephone number** : 0870 190 6777. National Chemical Emergency Centre

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

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

**Classification** : Skin Irrit. 2, H315  
Eye Dam. 1, H318  
Aquatic Chronic 3, H412

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

### 2.2 Label elements

#### Hazard pictograms



#### Signal word

: Danger

#### Hazard statements

: Contains: pentapotassium bis(peroxymonosulphate) bis(sulphate),dipotassium peroxodisulphate,dipotassium disulphate  
: H318 - Causes serious eye damage.  
: H315 - Causes skin irritation.  
: H412 - Harmful to aquatic life with long lasting effects.

#### Supplemental label elements

: Contains dipotassium peroxodisulphate. May produce an allergic reaction.

#### Precautionary statements

##### Prevention

: Wear protective gloves and eye/face protection. Avoid release to the environment. Wash hands thoroughly after handling.

##### Response

: IF IN EYES: Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

##### Storage

: Not applicable.

##### Disposal

: Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Date of issue** : 2017-01-25

**SECTION 2: Hazards identification****2.3 Other hazards**

**Other hazards which do not result in classification** : None known.

**SECTION 3: Composition/information on ingredients**

**Product definition (REACH)** : Mixture

Product/ingredient name	Identifiers	%	Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]	Type
pentapotassium bis (peroxymonosulphate) bis (sulphate)	REACH #: 01-2119485567-22 EC: 274-778-7 CAS: 70693-62-8	25 - 50	Acute Tox. 4, H302 Skin Corr. 1B, H314 Aquatic Chronic 3, H412	[1]
maleic acid	REACH #: 01-2119906954-31 EC: 230-022-8 CAS: 6915-15-7	10 - ≤25	Eye Irrit. 2, H319	[1]
sulphamic acid	EC: 226-218-8 CAS: 5329-14-6 Index: 016-026-00-0	≤5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Chronic 3, H412	[1]
alkylarylsulphonate	REACH #: 01-2119489428-22 EC: 270-115-0 CAS: 68411-30-3	≤5	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 3, H412	[1]
dipotassium disulphate	EC: 232-216-8 CAS: 7790-62-7	≤5	Acute Tox. 3, H331 Skin Corr. 1A, H314 EUH071	[1]
potassium hydrogensulphate	EC: 231-594-1 CAS: 7646-93-7 Index: 016-056-00-4	≤5	Skin Corr. 1B, H314 STOT SE 3, H335	[1]
dipotassium peroxodisulphate	REACH #: 01-2119495676-19 EC: 231-781-8 CAS: 7727-21-1 Index: 016-061-00-1	≤5	Ox. Sol. 3, H272 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 <b>See Section 16 for the full text of the H statements declared above.</b>	[1]

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

Type

- [1] Substance classified with a health or environmental hazard  
 [2] Substance with a workplace exposure limit  
 [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII  
 [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII  
 [5] Substance of equivalent concern

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- 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.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. 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.
- 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.

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

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

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

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

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : In case of fire, use water spray (fog), foam, dry chemical or CO<sub>2</sub>.
- Unsuitable extinguishing media** : None known.

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

- Hazards from the substance or mixture** : 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 thermal decomposition products** : Decomposition products may include the following materials:  
 carbon dioxide  
 carbon monoxide  
 nitrogen oxides  
 sulfur oxides  
 phosphorus oxides  
 halogenated compounds  
 metal oxide/oxides

### 5.3 Advice for firefighters

## SECTION 5: Firefighting measures

- 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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## 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. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. 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.

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

- Small spill** : Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Approach the release from upwind. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.

### 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

### 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 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. Empty containers retain product residue and can be hazardous.
- 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

- 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 locked up. 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.

**SECTION 7: Handling and storage**

**7.3 Specific end use(s)**

- Recommendations** : Not available.
- Industrial sector specific solutions** : Not available.
- Remarks** : Protect from moisture.

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

- Exposure limit values** : Not available.

**Derived effect levels**

Ingredient name	Type	Exposure	Value	Population	Effects	Remarks
sulphamic acid	DNEL	Long term Dermal	10 mg/kg bw/day	Workers	Systemic	-
	DNEL	Long term Dermal	5 mg/kg bw/day	Human via the environment	Systemic	-
alkylarylsulphonate	DNEL	Long term Oral	12,95 mg/kg bw/day	Human via the environment	Systemic	-
	DNEL	Long term Inhalation	152,22 mg/m <sup>3</sup>	Workers	Systemic	-
	DNEL	Long term Dermal	2158,33 mg/kg bw/day	Workers	Systemic	-
	DNEL	Long term Dermal	1295 mg/kg bw/day	Human via the environment	Systemic	-

**Conclusion/Summary** : Not available.

**Predicted No Effect Concentration (PNEC)**

Ingredient name	Compartment Detail	Value	Method Detail	Remarks
sulphamic acid	soil	0,00638 mg/kg	-	-
	Sewage Treatment Plant	2 mg/l	-	-
	Marine water	0,0048 mg/l	-	-
	Fresh water sediment	0,173 mg/kg	-	-
	Fresh water	0,048 mg/l	-	-
alkylarylsulphonate	soil	0,0061 mg/kg	Equilibrium Partitioning	-
	Sewage Treatment Plant	4 mg/l	Assessment Factors	-
	Sediment	2,025 mg/kg	Equilibrium Partitioning	-
	Marine water sediment	0,2025 mg/kg	Assessment Factors	-
	Marine water	0,0042 mg/l	Assessment Factors	-
	Fresh water	0,042 mg/l	Assessment Factors	-

**Conclusion/Summary** : Not available.

- 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 monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for

## SECTION 8: Exposure controls/personal protection

the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

### 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

**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.  
Recommended: Tightly fitting safety goggles.

#### 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. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations  
Recommended: (< 1 hour) Butyl rubber - IIR

**Other skin 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.  
Recommended: Wear protective clothing.

**Respiratory protection** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.  
Recommended: Dust-protection mask if there is a risk of dust formation.

**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

### 9.1 Information on basic physical and chemical properties

#### Appearance

**Physical state** : Solid. [powder]  
**Colour** : Pink  
**Odour** : Odourless.  
**Odour threshold** : Not available.  
**pH** : 2,6 to 3,2 [Conc. (% w/w): 10%]  
**Melting point** : Not available.  
**Boiling point** : Not available.  
**Flash point** : Not available.

**SECTION 9: Physical and chemical properties**

<b>Burning time</b>	: Not available.
<b>Burning rate</b>	: Not available.
<b>Evaporation rate</b>	: Not available.
<b>Flammability (solid, gas)</b>	: Not available.
<b>Lower and upper explosive (flammable) limits</b>	: Not available.
<b>Vapour pressure</b>	: Not available.
<b>Vapour density</b>	: Not available.
<b>Relative density</b>	: Not available.
<b>Solubility in water</b>	: 65 g/l
<b>Partition coefficient: n-octanol/ water</b>	: Not available.
<b>Auto-ignition temperature</b>	: Not available.
<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Not available.
<b>Explosive properties</b>	: Not available.
<b>Oxidising properties</b>	: Not available.

**9.2 Other information**

No additional information.

**SECTION 10: Stability and reactivity**

<b>10.1 Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: Protect from moisture.
<b>10.5 Incompatible materials</b>	: strong alkalis, combustible materials
<b>10.6 Hazardous decomposition products</b>	: chlorine, sulphur oxides (SO <sub>2</sub> , SO <sub>3</sub> , etc.), hypochlorites

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

Product/ingredient name	Result	Species	Dose	Exposure	Test
RELYON VIRKON TABLETS	LD50 Oral	Rat - Male, Female	4123 mg/kg	-	OECD 401 Acute Oral Toxicity
RELYON VIRKON TABLETS	LD50 Dermal	Rat - Male, Female	>5000 mg/kg Extrapolation according to Regulation (EC) No. 440/2008	-	-

**SECTION 11: Toxicological information**

RELYON VIRKON TABLETS	LC50 Inhalation Dusts and mists	Rat - Male, Female	>3,7 mg/l the particle size measurements of the product indicate that it is not respirable and therefore not bioavailable by the inhalation route.	4 hours	-
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**Acute toxicity estimates**

Route	ATE value
Inhalation (dusts and mists)	21,29 mg/l

**Irritation/Corrosion**

Product/ingredient name	Result	Species	Score	Exposure	Test	Reversibility
sulphamic acid	Eyes - Cornea opacity	Rabbit	2	-	-	Fully reversible
	Eyes - Redness of the conjunctivae	Rabbit	1,5	-	-	Fully reversible
	Eyes - Oedema of the conjunctivae	Rabbit	1,5	-	-	Fully reversible in more than 7 days

**Conclusion/Summary**

- Skin** : OECD 404: irritant (Rabbit)
- Eyes** : pentapotassium bis(peroxymonosulphate) bis(sulphate):OECD405: Risk of serious damage to eyes. (Rabbit)  
maleic acid:OECD 405: irritant (Rabbit)  
sulphamic acid:Moderate irritant , OECD 405 Acute Eye Irritation/Corrosion  
alkylarylsulphonate:Causes serious eye damage. (Rabbit) OECD 405 Acute Eye Irritation/Corrosion  
dipotassium disulphate:Risk of serious damage to eyes.  
dipotassium peroxodisulphate:Irritating to eyes.

**Sensitisation**

Product/ingredient name	Route of exposure	Species	Result	Test description
RELYON VIRKON TABLETS	skin	Guinea pig	Not sensitizing	OECD 406 Skin Sensitization
	Respiratory	Mammal - species unspecified	Not sensitizing	Expert judgement

**Mutagenicity**

Product/ingredient name	Test	Experiment	Result
pentapotassium bis (peroxymonosulphate) bis(sulphate)	OECD 476 In vitro Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal Cell: Somatic Metabolic activation: +/-	Positive
	OECD 473 In vitro Mammalian Chromosomal Aberration Test	Experiment: In vitro Subject: Mammalian-Human Cell: Somatic Metabolic activation: +/-	Positive



**SECTION 11: Toxicological information**

sulphamic acid	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: +/-	Negative
	OECD 474 Mammalian Erythrocyte Micronucleus Test	Experiment: In vivo Subject: Mammalian-Animal	Negative
	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: With and Without	Negative
	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Metabolic activation: With and Without	Negative
	OECD 476 In vitro Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal Metabolic activation: With and Without	Negative
	OECD 476 In vitro Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal Metabolic activation: With and Without	Negative
alkylarylsulphonate	OECD 487 In vitro Micronucleus Test	Experiment: In vitro Subject: Mammalian-Human Metabolic activation: with and without	Negative
	Ames test	Experiment: In vitro Subject: Bacteria Metabolic activation: +/-	Negative
	Cytogenetic assay	Experiment: In vivo Subject: Mammalian-Animal	Negative

**Carcinogenicity**

Product/ingredient name	Result	Species	Dose	Exposure
alkylarylsulphonate	Negative - Oral -	Rat	-	2 years; daily

**Teratogenicity**

Product/ingredient name	Result	Species	Dose	Exposure
alkylarylsulphonate	Positive - Oral	Rat - Female	600 mg/kg NOAEL	15 days Gestation; daily

**Specific target organ toxicity (single exposure)**

Product/ingredient name	Category	Route of exposure	Target organs
potassium hydrogensulphate	Category 3	Not applicable.	Respiratory tract irritation
dipotassium peroxodisulphate	Category 3	Not applicable.	Respiratory tract irritation

**Potential acute health effects**

- Eye contact** : Causes serious eye damage.
- Inhalation** : May give off gas, vapour or dust that is very irritating or corrosive to the respiratory system.
- Skin contact** : Causes skin irritation.
- Ingestion** : No known significant effects or critical hazards.

**SECTION 11: Toxicological information**

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
pentapotassium bis (peroxymonosulphate) bis (sulphate)	Sub-acute NOEL Oral	Rat - Male, Female	>1000 mg/kg bw/day	28 days
	Sub-chronic LOAEL Oral	Rat - Male, Female	600 mg/kg bw/day	90 days; 7 days per week daily
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts	Sub-chronic NOAEL Oral	Rat - Male, Female	50 mg/kg	12 weeks; daily

**Conclusion/Summary** : maleic acid:No known significant effects or critical hazards.

**Other information** : Not available.

**Remarks** : dipotassium peroxodisulphate : Not mutagenic in a standard battery of genetic toxicological tests.

**SECTION 12: Ecological information**

**12.1 Toxicity**

Product/ingredient name	Test	Result	Species	Exposure
RELYON VIRKON TABLETS	EU Method C.1 (Acute Toxicity for Fish)	Acute LC50 24,6 mg/l Fresh water	Fish - Salmo salar	96 hours
	OECD 201 Alga, Growth Inhibition Test	Acute LC50 20 mg/l Fresh water	Algae - Scenedesmus subspicatus	72 hours
	OECD 202 <i>Daphnia</i> sp. Acute Immobilization Test	Acute LC50 6,5 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
RELYON VIRKON TABLETS	OECD 201 Alga, Growth Inhibition Test	Chronic NOEC 6,25 mg/l Fresh water	Algae - Scenedesmus subspicatus	72 hours
pentapotassium bis (peroxymonosulphate) bis (sulphate)	OECD 201 Alga, Growth Inhibition Test	Chronic NOEC 0,5 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	maleic acid	OECD 201 Alga, Growth Inhibition Test	Algae - Daphnia magna	72 hours
sulphamic acid	OECD 201 Alga, Growth Inhibition Test	Chronic EC10 29,5 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	OECD 201 Alga, Growth Inhibition Test	Chronic NOEC 18 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
alkylarylsulphonate	OECD 204 Fish, Prolonged Toxicity Test: 14-Day Study	Chronic NOEC 1 mg/l Fresh water	Fish - Lepomis macrochirus	28 days

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dipotassium disulphate	OECD 211 Daphnia Magna Reproduction Test EPA 600/9-78-018	Chronic NOEC 1,18 mg/l Fresh water	Daphnia - Daphnia magna	21 days
	-	Chronic NOEC 3,1 mg/l	Algae - Chlorella vulgaris	15 days
	-	Chronic NOEC >595 mg/l Read- across from CAS no. 7757-82-6 Fresh water	Fish - Pimephales promelas	7 days
	-	Chronic NOEC 790 mg/l Read- across from CAS no. 7757-82-6 Fresh water	Daphnia - Daphnia dubia (water flea)	7 days

**Conclusion/Summary** : Not available.

**12.2 Persistence and degradability**

Product/ingredient name	Test	Result	Dose	Inoculum
malic acid	OECD 301B Ready Biodegradability - CO <sub>2</sub> Evolution Test	67,5 % - Readily - 28 days	-	-
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts	OECD 301B Ready Biodegradability - CO <sub>2</sub> Evolution Test	83 % - Readily - 28 days	34,3 mg/l	Activated sludge

**Conclusion/Summary** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
malic acid	-	-	Readily
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts	-	-	Readily

**12.3 Bioaccumulative potential**

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
pentapotassium bis (peroxymonosulphate) bis (sulphate)	<0.3	-	low
malic acid	-1,26	-	low
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts	1,4	-	low

**12.4 Mobility in soil**

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

**12.5 Results of PBT and vPvB assessment**

**PBT** : Not applicable.

**vPvB** : Not applicable.

**12.6 Other adverse effects**

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

**SECTION 12: Ecological information**

**AOX** : Not available.

**SECTION 13: Disposal considerations**

**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.

**Packaging**

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**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 spilt material and runoff and contact with soil, waterways, drains and sewers.

**SECTION 14: Transport information**

	<b>ADR/RID</b>	<b>ADN</b>	<b>IMDG</b>	<b>IATA</b>
<b>14.1 UN number</b>	-	-	-	-
<b>14.2 UN proper shipping name</b>	-	-	-	-
<b>14.3 Transport hazard class(es)/ Marks</b>	- -	- -	- -	- -
<b>14.4 Packing group</b>	-	-	-	-
<b>14.5 Environmental hazards</b>	No.	No.	No	No
<b>14.6 Special precautions for user/Additional information</b>	Not regulated.	Not regulated.	Not regulated.	Not regulated.

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** : Not available.

**Hazard notes:**

Not dangerous cargo.  
Keep dry.  
Risk of serious damage to eyes.  
Keep away from foodstuffs, acids and alkalis.

**SECTION 15: Regulatory information**

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

EU Regulation (EC) No. 1907/2006 (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.

Other EU regulations

Seveso Directive

This product is not controlled under the Seveso III Directive.

**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** :
- ATE = Acute Toxicity Estimate
  - CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
  - DMEL = Derived Minimal Effect Level
  - DNEL = Derived No Effect Level
  - EUH statement = CLP-specific Hazard statement
  - PBT = Persistent, Bioaccumulative and Toxic
  - PNEC = Predicted No Effect Concentration
  - RRN = REACH Registration Number
  - vPvB = Very Persistent and Very Bioaccumulative

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

Classification	Justification
Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 3, H412	Expert judgement Calculation method Calculation method

Full text of abbreviated H statements

H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

Acute Tox. 3, H331 Acute Tox. 4, H302 Aquatic Chronic 3, H412 EUH071 Eye Dam. 1, H318 Eye Irrit. 2, H319 Ox. Sol. 3, H272 Resp. Sens. 1, H334 Skin Corr. 1A, H314 Skin Corr. 1B, H314 Skin Irrit. 2, H315 Skin Sens. 1, H317 STOT SE 3, H335	ACUTE TOXICITY (inhalation) - Category 3 ACUTE TOXICITY (oral) - Category 4 LONG-TERM AQUATIC HAZARD - Category 3 Corrosive to the respiratory tract. SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2 OXIDIZING SOLIDS - Category 3 RESPIRATORY SENSITIZATION - Category 1 SKIN CORROSION/IRRITATION - Category 1A SKIN CORROSION/IRRITATION - Category 1B SKIN CORROSION/IRRITATION - Category 2 SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)
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**Date of issue** : 2017-01-25

**SECTION 16: Other information**

(Respiratory tract irritation) - Category 3

**History****Date of issue** : 2017-01-25**Date of previous issue** : 2016-12-21**Version** : 2**Notice to reader**

*The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet and its Annex [if required according to Regulation (EC) 1907/2006 (REACH)] is to describe the products in terms of their safety requirements. The given details do not imply any guarantee concerning the composition, properties or performance.*