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Revision Number 1

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

### 1.1. Product identifier

Product Identifier C-91894976-002\_PGP\_CLPR7\_EUR  
Product Name P&G Professional Viakal Disinfecting limescale & washroom cleaner  
Product Form Mixture

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

Recommended Use Intended for general public  
Uses advised against No information available  
Main user category SU 22 - Professional uses  
Product category Specialty Cleaners Spray  
Use category PC8 - Biocidal Products (e.g. disinfectants, pest control)

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

| Manufacturer  | Supplier   |
|---|--|
| Procter & Gamble UK Brooklands PGP,<br>Weybridge, Surrey, KT13 0XP, UK Tel:<br>01932 896000 Fax: 01932 896200 | P&G Gattatico Plant<br>Via dell'Industria 31, 42043 Gattatico, Italy<br>Tel: 39-0522-471-1<br>Fax: 39-0522-471-201 |

For further information, please contact

E-mail address customerservice@pgprof.com

### 1.4. Emergency telephone number

Emergency Telephone (UK) Emergency Tel: 0800 328 8304 (IRL) Emergency Tel: 1800 509 497

(IRL) Poisons information; for information or to report a poisoning incident contact The National Poisons Information Centre 01 8092166 (8.00 a.m. to 10.00 p.m. 7 days a week)

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

|                                   |                     |
|-----------------------------------|---------------------|
| Skin corrosion/irritation         | Category 2 - (H315) |
| Serious eye damage/eye irritation | Category 1 - (H318) |
| Corrosive to metals               | Category 1 - (H290) |

### 2.2. Label elements



Signal word

Danger

**Hazard statements**

H315 - Causes skin irritation  
H318 - Causes serious eye damage  
H290 - May be corrosive to metals

**Precautionary Statements - EU (§28, 1272/2008)**

P260 - Do not breathe spray  
P102 - Keep out of reach of children  
P101 - If medical advice is needed, have product container or label at hand  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a POISON CENTER or doctor  
P302 + P352 - IF ON SKIN: Wash with plenty of water and soap  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

**2.3. Other hazards**

No information available.

**Endocrine Disruptor Information** There are no substances contained at or above the regulated value for declaration of >0.1% that fall under the definition of confirmed endocrine disruptors of any EU regulation.

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

**3.1 Substances**

Not applicable

**3.2 Mixtures**

| Chemical name | CAS No     | weight-% | REACH registration number | EC No     | Classification according to Regulation (EC) No. 1272/2008 [CLP]   | Specific concentration limit (SCL)   | M-Factor | M-Factor (long-term) |
|---------------|------------|----------|---------------------------|-----------|---|--|----------|----------------------|
| Formic Acid   | 64-18-6    | 1 - 5    | 01-21194911<br>74-37      | 200-579-1 | Flam. Liq. 3(H226)<br>Acute Tox. 4 (Oral)(H302)<br>Acute Tox. 3 (Inhalation)(H331)<br>Skin Corr. 1A(H314)<br>Eye Dam. 1(H318) | Skin Corr. 1A :: 90%≤C<100%<br>Skin Corr. 1B :: 10%≤C<90%<br>Skin Irrit. 2 :: 2%≤C<10%<br>Eye Irrit. 2 :: 2%≤C<10% | -        | -                    |
| Deceth-n      | 26183-52-8 | 1 - 5    | No data available         | Polymer   | Acute Tox. 4 (Oral)(H302)<br>Eye Dam. 1(H318)   | -  | -        | -                    |

**Full text of H- and EUH-phrases: see section 16**

**Acute Toxicity Estimate**

**No information available**

This product does not contain candidate substances of very high concern at a concentration ≥0.1% (Regulation (EC) No. 1907/2006 (REACH), Article 59)

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

|   |  |
|---|--|
| <b>General advice</b>                     | Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.  |
| <b>Inhalation</b>                         | IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. (Call a physician if symptoms occur).  |
| <b>Eye contact</b>                        | 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. |
| <b>Skin contact</b>                       | IF ON SKIN: Wash with plenty of soap and water. Get medical attention if symptoms occur. Take off contaminated clothing and wash before reuse. Discontinue use of product.   |
| <b>Ingestion</b>                          | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a physician or poison control center immediately.  |
| <b>Self-protection of the first aider</b> | Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).  |

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

|                 |   |
|-----------------|---|
| <b>Symptoms</b> | Coughing and/or wheezing. Redness. Swelling of tissue. Itching. Dizziness. Sneezing. Blurred vision. Dryness. Pain. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Excessive secretion. Shortness of breath. Headache. |
|-----------------|---|

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

|                           |                        |
|---------------------------|------------------------|
| <b>Note to physicians</b> | Treat symptomatically. |
|---------------------------|------------------------|

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

|                                     |  |
|-------------------------------------|--|
| <b>Suitable Extinguishing Media</b> | Dry chemical. Alcohol resistant foam. Carbon dioxide (CO <sub>2</sub> ).   |
| <b>Large Fire media</b>             | CAUTION: Use of water spray when fighting fire may be inefficient. <b>Unsuitable extinguishing media</b> Do not scatter spilled material with high pressure water streams. |

### 5.2. Special hazards arising from the substance or mixture **Specific hazards arising from the chemical**

None in particular.

### 5.3. Advice for firefighters

|  |  |
|--|--|
| <b>Special protective equipment for firefighters</b> | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |
|--|--|

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

|                                 |  |
|---------------------------------|--|
| <b>Personal precautions</b>     | Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. |
| <b>For emergency responders</b> | Use personal protection recommended in Section 8.  |

### 6.2. Environmental precautions

|                                  |   |
|----------------------------------|---|
| <b>Environmental precautions</b> | See Section 12 for additional Ecological Information. |
|----------------------------------|---|

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

|  |  |
|--|--|
| <b>Methods for containment</b>         | Scoop absorbed substance into closing containers.  |
| <b>Methods for cleaning up</b>         | Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Small quantities of liquid spill: Large Spills: contain released substance, pump into suitable containers. This material and its container must be disposed of in a safe way, and as per local legislation. |
| <b>Prevention of secondary hazards</b> | Clean contaminated objects and areas thoroughly observing environmental regulations.   |

### 6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Advice on safe handling

Avoid contact with eyes. Avoid contact with skin. Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice.

**General hygiene considerations** Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Storage Conditions

Keep/store only in original container. Keep tightly closed in a dry and cool place.

### 7.3. Specific end use(s)

**Risk Management Methods (RMM)** The information required is contained in this Safety Data Sheet.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Exposure Limits

| Chemical name | European Union   | Austria  | Belgium  | Bulgaria   | Croatia  |
|---------------|--|--|--|--|--|
| Formic Acid   | TWA: 5 ppm<br>TWA: 9 mg/m <sup>3</sup>   | TWA: 5 ppm<br>TWA: 9 mg/m <sup>3</sup><br>STEL 5 ppm<br>STEL 9 mg/m <sup>3</sup><br>Ceiling: 5 ppm<br>Ceiling: 9 mg/m <sup>3</sup> | TWA: 5 ppm<br>TWA: 9.5 mg/m <sup>3</sup><br>STEL: 10 ppm<br>STEL: 19 mg/m <sup>3</sup>   | TWA: 5 ppm<br>TWA: 9.0 mg/m <sup>3</sup>   | TWA: 5 ppm<br>TWA: 9 mg/m <sup>3</sup>   |
| Chemical name | Cyprus   | Czech Republic   | Denmark  | Estonia  | Finland  |
| Formic Acid   | TWA: 5 ppm<br>TWA: 9 mg/m <sup>3</sup>   | TWA: 9 mg/m <sup>3</sup><br>Ceiling: 18 mg/m <sup>3</sup>  | TWA: 5 ppm<br>TWA: 9 mg/m <sup>3</sup>   | TWA: 5 ppm<br>TWA: 9 mg/m <sup>3</sup>   | TWA: 3 ppm<br>TWA: 5 mg/m <sup>3</sup><br>STEL: 10 ppm<br>STEL: 19 mg/m <sup>3</sup> |
| Chemical name | France   | Germany  | Germany MAK  | Greece   | Hungary  |
| Formic Acid   | TWA: 5 ppm<br>TWA: 9 mg/m <sup>3</sup>   | TWA: 5 ppm<br>TWA: 9.5 mg/m <sup>3</sup>   | TWA: 5 ppm<br>TWA: 9.5 mg/m <sup>3</sup><br>Peak: 10 ppm<br>Peak: 19 mg/m <sup>3</sup>   | TWA: 5 ppm<br>TWA: 9 mg/m <sup>3</sup>   | TWA: 9 mg/m <sup>3</sup>   |
| Chemical name | Ireland  | Italy  | Italy REL  | Latvia   | Lithuania  |
| Formic Acid   | TWA: 5 ppm<br>TWA: 9 mg/m <sup>3</sup><br>STEL: 15 ppm<br>STEL: 27 mg/m <sup>3</sup> | TWA: 5 ppm<br>TWA: 9 mg/m <sup>3</sup>   | TWA: 5 ppm<br>TWA: 9.4 mg/m <sup>3</sup><br>STEL: 10 ppm<br>STEL: 18.8 mg/m <sup>3</sup> | TWA: 5 ppm<br>TWA: 9 mg/m <sup>3</sup>   | TWA: 5 ppm<br>TWA: 9 mg/m <sup>3</sup>   |
| Chemical name | Luxembourg   | Malta  | Netherlands  | Norway   | Poland   |
| Formic Acid   | TWA: 5 ppm<br>TWA: 9 mg/m <sup>3</sup>   | TWA: 5 ppm<br>TWA: 9 mg/m <sup>3</sup>   | STEL: 5 mg/m <sup>3</sup>  | TWA: 5 ppm<br>TWA: 9 mg/m <sup>3</sup><br>STEL: 10 ppm<br>STEL: 18 mg/m <sup>3</sup>     | STEL: 15 mg/m <sup>3</sup><br>TWA: 5 mg/m <sup>3</sup>                               |
| Chemical name | Portugal   | Romania  | Slovakia   | Slovenia   | Spain  |
| Formic Acid   | TWA: 5 ppm<br>TWA: 9 mg/m <sup>3</sup><br>STEL: 10 ppm                               | TWA: 5 ppm<br>TWA: 9 mg/m <sup>3</sup>   | TWA: 5 ppm<br>TWA: 9.0 mg/m <sup>3</sup>   | TWA: 5 ppm<br>TWA: 9 mg/m <sup>3</sup><br>STEL: STEL ppm<br>STEL: STEL mg/m <sup>3</sup> | TWA: 5 ppm<br>TWA: 9 mg/m <sup>3</sup>   |
| Chemical name | Sweden   | Switzerland  | United Kingdom   | Israel -<br>Occupational<br>Exposure Limits -  | Turkey   |

|             |  |  |  | TWAs    |                                   |
|-------------|--|--|--|---------|-----------------------------------|
| Formic Acid | NGV: 3 ppm<br>NGV: 5 mg/m <sup>3</sup><br>Vägledande KGV: 5 ppm<br>Vägledande KGV: 9 mg/m <sup>3</sup> | TWA: 5 ppm<br>TWA: 9.5 mg/m <sup>3</sup><br>STEL: 10 ppm<br>STEL: 19 mg/m <sup>3</sup> | TWA: 5 ppm<br>TWA: 9.6 mg/m <sup>3</sup><br>STEL: 15 ppm<br>STEL: 28.8 mg/m <sup>3</sup> | 5ppmTWA | 5ppmTWA<br>9mg/m <sup>3</sup> TWA |

**Biological occupational exposure limits**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

**Derived No Effect Level (DNEL) Long term.**

| Chemical name | Worker - dermal, long-term - systemic | Worker - inhalative, long-term - systemic | Worker - dermal, long-term - local | Worker - inhalative, long-term - local |
|---------------|---------------------------------------|---|------------------------------------|--|
| Formic Acid   | -                                     | 9.5 mg/m <sup>3</sup>                     | -                                  | 9.5 mg/m <sup>3</sup>                  |
| Acetic acid   | -                                     | 25 mg/m <sup>3</sup>                      | -                                  | 25 mg/m <sup>3</sup>                   |

  

| Chemical name | Consumer - oral, long-term - local | Consumer - inhalative, long-term - local | Consumer - dermal, long-term - local |
|---------------|------------------------------------|--|--------------------------------------|
| Formic Acid   | -                                  | 3 mg/m <sup>3</sup>                      | -                                    |
| Acetic acid   | -                                  | 25 mg/m <sup>3</sup>                     | -                                    |

  

| Chemical name | Consumer - oral, long-term - systemic | Consumer - inhalative, long-term - systemic | Consumer - dermal, long-term - systemic |
|---------------|---------------------------------------|---|---|
| Formic Acid   | -                                     | 3 mg/m <sup>3</sup>                         | -                                       |
| Acetic acid   | -                                     | 25 mg/m <sup>3</sup>                        | -                                       |

**Derived No Effect Level (DNEL) Short term.**

| Chemical name | Worker - dermal, short-term - systemic | Worker - inhalative, short-term - systemic | Worker - dermal, short-term - local | Worker - inhalative, short-term - local |
|---------------|--|--|-------------------------------------|---|
| Acetic acid   | -                                      | 25 mg/m <sup>3</sup>                       | -                                   | 25 mg/m <sup>3</sup>                    |

| Chemical name | Consumer - inhalative, short-term - local | Consumer - dermal, short-term - local |
|---------------|---|---------------------------------------|
| Acetic acid   | 25 mg/m <sup>3</sup>                      | -                                     |

| Chemical name | Consumer - oral, short-term - systemic | Consumer - inhalative, short-term - systemic | Consumer - dermal, short-term - systemic |
|---------------|--|--|--|
| Acetic acid   | -                                      | 25 mg/m <sup>3</sup>                         | -  |

**Predicted No Effect Concentration (PNEC)**

| Chemical name | Fresh Water | Marine water | Intermittent release |
|---------------|-------------|--------------|----------------------|
| Formic Acid   | 2 mg/L      | 0.2 mg/L     | 1 mg/L               |
| Acetic acid   | 3.058 mg/L  | 0.3058 mg/L  | 30.58 mg/L           |
| Citric Acid   | 0.44 mg/L   | 0.044 mg/L   | -                    |

  

| Chemical name | Freshwater sediment    | Marine sediment        | Sewage treatment plant | Soil               | Air | Oral |
|---------------|------------------------|------------------------|------------------------|--------------------|-----|------|
| Formic Acid   | 13.4 mg/kg sediment dw | 1.34 mg/kg sediment dw | 7.2 mg/L               | 1.5 mg/kg soil dw  | -   | -    |
| Acetic acid   | 11.36 mg/kg            | 1.136 mg/kg            | 85 mg/L                | 0.47 mg/kg         | -   | -    |
| Citric Acid   | 34.6 mg/kg sediment dw | 3.46 mg/kg sediment dw | 1 000 mg/L             | 33.1 mg/kg soil dw | -   | -    |

**8.2. Exposure controls**

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**Personal Protective Equipment**

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Hand protection** Wear suitable gloves.

**Skin and body protection** No special protective equipment required.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations** Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing.

**Environmental exposure controls** Prevent that the undiluted product reaches surface waters.

## **SECTION 9: Physical and chemical properties**

### **9.1. Information on basic physical and chemical properties**

**Physical state** Liquid

**Appearance** Liquid

**Color** green

**Odor** pleasant (perfume).

**Odor threshold** No information available

| <u>Property</u>                                | <u>Values</u>                | <u>Remarks • Method</u>  |
|--|------------------------------|--|
| <b>Melting Point / Freezing Point</b>          | No data available 93.2<br>°C | Not available. This property is not relevant for the safety and classification of this product |
| <b>Initial boiling point and boiling range</b> |                              | Not applicable. This property is not relevant for liquid product forms                         |
| <b>Flammability</b>                            |                              | Not available. This property is not relevant for the safety and classification of this product |
| <b>Flammability Limit in Air</b>               |                              |  |
| <b>Upper flammability or explosive limits</b>  | No data available            |  |
| <b>Lower flammability or explosive limits</b>  | No data available            |  |
| <b>flash point</b>                             | No Flash to Boiling (NFTB)   |  |
| <b>Autoignition temperature</b>                | No data available            | Not available. This property is not relevant for the safety and classification of this product |
| <b>Decomposition temperature</b>               | No Data Available            | Not available. This property is not relevant for the safety and classification of this product |
| <b>pH</b>                                      | 2.2                          |  |
| <b>Dynamic Viscosity</b>                       | No Data Available            | Not available. This property is not relevant for the safety and classification of this product |
| <b>Water solubility</b>                        | Soluble in water             |  |
| <b>Solubility(ies)</b>                         | No Data Available            | Not available. This property is not relevant for the safety and classification of this product |
| <b>Partition coefficient</b>                   | No Data Available            | Not available. This property is not relevant for the safety and classification of this product |
| <b>Vapor pressure</b>                          | No Data Available            | Not available. This property is not relevant for the safety and classification of this product |
| <b>Relative density</b>                        | 1.015                        |  |
| <b>Relative vapor density</b>                  | No data available            | Not available. This property is not relevant for the safety and classification of this product |
| <b>Particle characteristics</b>                |                              | Not available. This property is not relevant for the safety and classification of this product |
| <b>Particle Size</b>                           | No information available     |  |
| <b>Particle Size Distribution</b>              | No information available     |  |

## 9.2. Other information

**9.2.1. Information with regard to phy. classes** Not applicable

**9.2.2. Other safety characteristics**  
No information available

## **SECTION 10: Stability and reactivity**

### 10.1. Reactivity

**Reactivity** No information available.

### 10.2. Chemical stability

**Stability** Stable under normal conditions.

#### **Explosion data**

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

### 10.3. Possibility of hazardous reactions

**Possibility of hazardous reactions** None under normal processing.

### 10.4. Conditions to avoid

**Conditions to avoid** None known based on information supplied.

### 10.5. Incompatible materials

Incompatible materials None known based on information supplied.

**10.6. Hazardous decomposition products**

Hazardous Decomposition Products None known based on information supplied.

**SECTION 11: Toxicological information**

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

**Information on likely routes of exposure**

**Product Information**

**Inhalation** Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.

**Eye contact** Specific test data for the substance or mixture is not available. Causes serious eye damage. May cause irreversible damage to eyes.

**Skin contact** Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).

**Ingestion** Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Symptoms** Redness. Burning. May cause blindness. May cause redness and tearing of the eyes.

**Numerical measures of toxicity**

**Acute toxicity**

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 16,964.10 mg/kg  
ATEmix (inhalation-dust/mist) 573.40 mg/l

**Component Information**

| Chemical name  | Oral LD50               |         | Dermal LD50  |         |                        | Inhalation LC50          |              |         |
|--|-------------------------|---------|--------------|---------|------------------------|--------------------------|--------------|---------|
| Formic acid  | 730 mg/kg bw (OECD 401) |         | -            |         |                        | 7.85 mg/L air (OECD 403) |              |         |
| Poly(oxy-1,2-ethanediyl), alpha-decyl-omega-hydroxy- | 300 mg/kg               |         | >2000 mg/kg  |         |                        | -                        |              |         |
| Chemical name  | Carcinogenicity         | Species | Eye Damage   | Species | Developmental toxicity | Species                  | Mutagenicity | Species |
| Deceth-n   | -                       | -       | Y            | -       | -                      | -                        | -            | -       |
| Citric Acid  | -                       | -       | Y (OECD 405) | -       | -                      | -                        | -            | -       |

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

**Skin corrosion/irritation** Irritating to skin.

**Serious eye damage/eye irritation** Risk of serious damage to eyes.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.



**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

**11.2. Information on other hazards**

**11.2.1. Endocrine disrupting properties**

**Endocrine disrupting properties** This product does not contain any known or suspected endocrine disruptors.

**11.2.2. Other information**

**Other adverse effects** No information available.

**SECTION 12: Ecological information**

**12.1. Toxicity**

**Ecotoxicity** Not considered to be harmful to aquatic life. No known adverse effects on the functioning of water treatment plants under normal use conditions as recommended.

Contains 0.28688 % of components with unknown hazards to the aquatic environment.

**Unknown aquatic toxicity**

| Chemical name  | Algae/aquatic plants                                    | Fish  | Toxicity to microorganisms  | Crustacea                                     |
|--|---|---|-----------------------------|---|
| Formic acid  | 1240 mg/L (OECD 201;                                    | 130 mg/L (OECD 203;                             | -                           | 365 mg/L (OECD 202;                           |
|  | Pseudokirchneriella subcapitata; 72 h)                  | Danio rerio; 96 h)                              |                             | Daphnia magna; 48 h)                          |
| Poly(oxy-1,2-ethanediyl), alpha-decyl-omega-hydroxy- | 10 - 100 mg/L (OECD 201; Desmodesmus subspicatus; 72 h) | 10 - 100 mg/L (OECD 203; Cyprinus carpio; 96 h) | 140 mg/L (activated sludge) | 10 - 100 mg/L (OECD 202; Daphnia magna; 48 h) |

**Chronic Toxicity**

| Chemical name | Toxicity to algae (NOEC or ECx)*                                 | Toxicity to fish (NOEC or ECx)*                        | Toxicity to daphnia and other aquatic invertebrates (NOEC or ECx)* | Toxicity to Microorganisms (NOEC or ECx)* | Toxicity to other organisms  |
|---------------|--|--|--|---|--|
| Formic Acid   | <76.8 mg/L (OECD 201; Pseudokirchneriella subcapitata; 3 d)      | 90 mg/L (OECD 203; Danio rerio; 4 d)                   | >100 mg/L (OECD 211; Daphnia magna; 21 d)                          | 72 mg/L (activated sludge; 13d)           | -  |
| Acetic acid   | 300.82 mg/L (Similar to ISO 10253; Skeletonema costatum; static) | 34.3 mg/L (OECD 204; Oncorhynchus mykiss; semi-static) | 31.4 mg/L (OECD 202-II; Daphnia magna; semi-static)                | 1150 mg/L (Pseudomonas putida; static)    | -  |
| Citric Acid   | 425 mg/L (Scenedesmus quadricauda; 8 d)                          | -  | -  | -   | > 4000 mg/kg bw (Guideline not indicated; Gallus domesticus; 14 d) |

**12.2. Persistence and degradability**

**Persistence and degradability**

| Chemical name | Ready Biodegradation Test (OECD 301)     | Abiotic Degradation Hydrolysis | Abiotic Degradation Photolysis | Biodegradation Other Tests  |
|---------------|--|--------------------------------|--------------------------------|---|
| Formic Acid   | 92% O <sub>2</sub> (OECD 301D; 28 d)     | -                              | -                              | 95 % (O <sub>2</sub> consumption; 20 d; wastewater, seed bacteria, and growth factors; aerobic) |
| Deceth-n      | >60 %; OECD 301B; 28 d                   | -                              | -                              | -   |
| Acetic acid   | 96% (biooxidation; aerobic)              | -                              | -                              | T1/2: 2 d (soil; aerobic)   |
| Citric Acid   | 97% ; CO <sub>2</sub> ; 28 d; OECD 301 B | -                              | -                              | 93 % (OECD 303 A; aerobic; sludge from a communal sewage treatment plant; COD removal)          |

**12.3. Bioaccumulative potential**

**Bioaccumulation**

There is no data for this product.

**Component Information**

| Chemical name |                                     | Partition coefficient         |  |
|---------------|-------------------------------------|-------------------------------|--|
| Formic Acid   |                                     | -1.9                          |  |
| Chemical name | Octanol/water partition coefficient | Bioconcentration factor (BCF) |  |
| Formic Acid   | -2.1                                | -                             |  |
| Acetic acid   | -0.17                               | 3.16                          |  |
| Citric Acid   | -1.55                               | 3.2 L/kg                      |  |

**12.4. Mobility in soil**

**Mobility in soil**

No information available.

| Chemical name | log Koc                              |
|---------------|--------------------------------------|
| Formic Acid   | <17.8 (OECD 121)                     |
| Deceth-n      | 2000 - 5000                          |
| Acetic acid   | Koc: 1.153 L/Kg (calculated by QSAR) |

**12.5. Results of PBT and vPvB assessment**

**PBT and vPvB assessment**

No information available.

| Chemical name | PBT and vPvB assessment         |
|---------------|---------------------------------|
| Formic Acid   | The substance is not PBT / vPvB |
| Deceth-n      | The substance is not PBT / vPvB |

**12.6. Endocrine disrupting properties**

**Endocrine disrupting properties**

No information available.

**12.7. Other adverse effects**

No information available.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

**Waste from residues/unused products**

The waste codes/waste designations below are in accordance with EWC. Waste must be delivered to an approved waste disposal company. Waste is to be kept separate from other types of waste until its disposal. Do not throw waste product into the sewer. Where possible recycling is preferred to disposal or incineration. Empty, uncleaned packaging need the same disposal considerations as filled packaging. For handling waste, see measures described in section 8. Dispose of in accordance with local regulations.

**Contaminated packaging**

Do not reuse empty containers.

Waste codes / waste designations according to EWC / AVV 20 01 29\* - detergents containing dangerous substances  
15 01 10\* - packaging containing residues of or contaminated by dangerous substances

## SECTION 14: Transport information

### IATA

14.1 UN number or ID number UN1903  
14.2 UN proper shipping name DISINFECTANT, LIQUID, CORROSIVE, N.O.S.(Formic acid)  
14.3 Transport hazard class(es) 8  
14.4 Packing group III  
Description UN1903, DISINFECTANT, LIQUID, CORROSIVE, N.O.S.(Formic acid), 8, III  
14.5 Environmental hazards Not applicable  
14.6 Special precautions for user  
Special Provisions A3, A803  
Note: The shipper is responsible for identifying any exemptions, including Limited Quantity, that may apply based on package size.

### IMDG

14.1 UN number or ID number UN1903  
14.2 UN proper shipping name DISINFECTANT, LIQUID, CORROSIVE, N.O.S.(Formic acid)  
14.3 Transport hazard class(es) 8  
14.4 Packing group III  
Description UN1903, DISINFECTANT, LIQUID, CORROSIVE, N.O.S.(Formic acid), 8, III  
14.5 Environmental hazards Not applicable  
14.6 Special precautions for user  
Special Provisions 223, 274  
EmS-No F-A, S-B  
14.7 Maritime transport in bulk according to IMO instruments No information available  
Note: The shipper is responsible for identifying any exemptions, including Limited Quantity, that may apply based on package size.

### RID

14.1 UN number or ID number UN1903  
14.2 UN proper shipping name DISINFECTANT, LIQUID, CORROSIVE, N.O.S.(Formic acid)  
14.3 Transport hazard class(es) 8  
14.4 Packing group III  
Description UN1903, DISINFECTANT, LIQUID, CORROSIVE, N.O.S.(Formic acid), 8, III  
14.5 Environmental hazards Not applicable  
14.6 Special precautions for user  
Special Provisions 274  
Classification code C9

### ADR

14.1 UN number or ID number UN1903  
14.2 UN proper shipping name DISINFECTANT, LIQUID, CORROSIVE, N.O.S.(Formic acid)  
14.3 Transport hazard class(es) 8  
14.4 Packing group III  
Description UN1903, DISINFECTANT, LIQUID, CORROSIVE, N.O.S.(Formic acid), 8, III  
14.5 Environmental hazards Not applicable  
14.6 Special precautions for user  
Special Provisions 274  
Classification code C9  
Tunnel restriction code (E)

### ADN

14.1 UN number or ID number UN1903

|   |  |
|---|--|
| <b>14.2 Extended proper shipping name</b> | DISINFECTANT, LIQUID, CORROSIVE, N.O.S.(Formic acid)                 |
| <b>Description</b>                        | UN1903, DISINFECTANT, LIQUID, CORROSIVE, N.O.S.(Formic acid), 8, III |
| <b>14.3 Transport hazard class(es)</b>    | 8  |
| <b>14.4 Packing group</b>                 | III  |
| <b>14.5 Marine pollutant</b>              | Not regulated  |
| <b>Classification code</b>                | C9   |
| <b>Hazard label(s)</b>                    | 8  |
| <b>Limited quantity (LQ)</b>              | 5 L  |
| <b>Equipment Requirements</b>             | PP, EP   |

**SECTION 15: Regulatory information**

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

**National regulations**

**Germany**

**Water hazard class (WGK)** slightly hazardous to water (WGK 1)

**European Union**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

**Authorizations and/or restrictions on use:**

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII) Regulation (EC) No. 648/2004 (Detergents regulation) Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP] Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH) Regulation (EC 1907/2006) Biocidal Products Regulation (EU) No 528/2012 (BPR)

| Chemical name | Restricted substance per REACH Annex XVII | Substance subject to authorization per REACH Annex XIV |
|---------------|---|--|
| Formic Acid   | 75.                                       | -  |

**Persistent Organic Pollutants**

Not applicable

**Ozone-depleting substances (ODS) regulation (EC) 1005/2009**

Not applicable

**Plant protection products directive (91/414/EEC)**

**EU - Biocides**

**CESIO Recommendations**

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

**15.2. Chemical safety assessment**

**Chemical Safety Report**

No chemical safety assessment has been carried out for this mixture per REACH regulation

**SECTION 16: Other information**

Key or legend to abbreviations and acronyms used in the safety data sheet

**Full text of H-Statements referred to under section 3**

- H226 - Flammable liquid and vapor
- H302 - Harmful if swallowed
- H314 - Causes severe skin burns and eye damage
- H318 - Causes serious eye damage
- H331 - Toxic if inhaled

**Legend** SVHC: Substances of Very High Concern for Authorization:

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA                      TWA (time-weighted average)                      STEL                      STEL (Short Term Exposure Limit)  
 Ceiling                      Maximum limit value                      \*                      Skin designation

|   |                    |
|---|--------------------|
| Classification procedure  |                    |
| Classification according to Regulation (EC) No. 1272/2008 [CLP] | Method Used        |
| Skin corrosion/irritation                                       | Calculation method |
| Serious eye damage/eye irritation                               | Calculation method |
| Corrosive to metals   | Calculation method |

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**Further information** Salts listed in Section 3 without a REACH Registration number are exempt, based on Annex V

**This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006 Disclaimer**  
 The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**