

**Safety data sheet**  
According to 1907/2006/EC, Article 31 REACH

Printing date 16.06.2017

Version: 6

Revision: 16.06.2017

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

· **1.1 Product identifier**

· Trade name: **TOWER 10 MARK**

· Article number: 93700004

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

· **Sector of Use**

SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites

SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

· **Product category** PC37 Water treatment chemicals

· **Application of the substance / the mixture** Water treatment

· **1.3 Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

ZEP UK Ltd  
Tanhouse Lane  
Widnes Cheshire, WA8 0RR  
United Kingdom  
Tel: +44 (0)151 422 1000  
Fax: +44 (0)151 422 1011  
@: info@zep.co.uk  
web: www.zep.co.uk

ZEP Industries BV  
Vierlinghweg 30  
4612 PN Bergen op Zoom  
The Netherlands  
Tel: (NL) + 31 164 250 100 (B) + 32 2 347 0117  
Fax:(NL) + 31 164 266 710 (B) + 32 2 347 1395  
@: sales@zепенelux.com

ZEP ITALIA SRL  
Via Netunese Km. 25.000  
04011 Aprilia (LT) - Italy  
Tel: +39.06.926691  
Fax: +39.06.92747061  
@: tecnico@zepeurope.com  
Sito: www.zep.it

· **Further information obtainable from:**

Customer Service

NL: Tel: + 31 164 250 100 Fax: + 31 164 266 710

B: Tel: +32 2 347 0117 Fax: +32 2 347 1395

IT: Tel: +39 069 266 91 Fax: +39 06.927 470 61

UK: Tel: +44 151 422 1000 Fax: +44 151 422 1011

· **1.4 Emergency telephone number:**

Customer Service

NL: Tel: + 31 164 250 100 Fax: + 31 164 266 710

B: Tel: +32 2 347 0117 Fax: +32 2 347 1395

IT: Tel: +39 069 266 91 Fax: +39 06.927 470 61

UK: Tel: +44 151 422 1000 Fax: +44 151 422 1011

**SECTION 2: Hazards identification**

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

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**Hazard pictograms**

GHS05

**Signal word** Danger**Hazard-determining components of labelling:**

1-Hydroxyethylene-1,1-diphosphonic acid

**Hazard statements**

H314 Causes severe skin burns and eye damage.

**Precautionary statements**

P260 Do not breathe vapours.

P280 Wear protective gloves.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**2.3 Other hazards** The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds.**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.

### SECTION 3: Composition/information on ingredients

**3.2 Chemical characterisation: Mixtures****Description:** Mixture of substances listed below with nonhazardous additions.**Dangerous components:**

CAS: 2809-21-4 EINECS: 239-931-4 Reg.nr.: 01-2119510391-53-xxxx	1-Hydroxyethylene-1,1-diphosphonic acid ☠ Met. Corr.1, H290; Eye Dam. 1, H318 ☠ Acute Tox. 4, H302	2.5-5%
CAS: 6419-19-8 EINECS: 229-146-5 Reg.nr.: 01-2119487988-08-0002	nitrilotrimethylenetrakis(phosphonic acid) ☠ Met. Corr.1, H290 ☠ Skin Irrit. 2, H315; Eye Irrit. 2, H319	1-2.5%

**Ingredients according to Detergents Regulation 648/2004/EC** For the wording of the listed hazard phrases refer to section 16.

### SECTION 4: First aid measures

**4.1 Description of first aid measures****General information:** Immediately remove any clothing soiled by the product.**After inhalation:** In case of unconsciousness place patient stably in side position for transportation.**After skin contact:**

If skin irritation continues, consult a doctor.

Immediately wash with water and soap and rinse thoroughly.

Immediately rinse with water.

**After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.**After swallowing:** Drink plenty of water and provide fresh air. Call for a doctor immediately.**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.**4.3 Indication of any immediate medical attention and special treatment needed** No further relevant information available.

### SECTION 5: Firefighting measures

**5.1 Extinguishing media****Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.**5.2 Special hazards arising from the substance or mixture** During heating or in case of fire poisonous gases are produced.**5.3 Advice for firefighters****Protective equipment:** Mount respiratory protective device.

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### SECTION 6: Accidental release measures

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

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

#### · 6.2 Environmental precautions: No special measures required.

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

Absorb with liquid-binding material (sand, diatomite, universal binders).

Use neutralising agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

#### · 6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

### SECTION 7: Handling and storage

#### · 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

#### · Information about fire - and explosion protection: Keep respiratory protective device available.

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

##### · Storage:

##### · Requirements to be met by storerooms and receptacles: No special requirements.

##### · Information about storage in one common storage facility: Not required.

##### · Further information about storage conditions: Keep receptacle tightly sealed.

#### · 7.3 Specific end use(s) No further relevant information available.

### SECTION 8: Exposure controls/personal protection

#### · Additional information about design of technical facilities: No further data; see item 7.

#### · 8.1 Control parameters

##### · Ingredients with limit values that require monitoring at the workplace:

##### 7664-38-2 phosphoric acid (0.1-1%)

WEL (Great Britain)	Short-term value: 2 mg/m <sup>3</sup> Long-term value: 1 mg/m <sup>3</sup>
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IOELV (European Union)	Short-term value: 2 mg/m <sup>3</sup> Long-term value: 1 mg/m <sup>3</sup>
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##### · DNELs

##### 6419-19-8 nitrilotrimethylenetris(phosphonic acid)

Oral	DNEL acute-systemic	1.38 mg/kg human/day (consumer)
	DNEL Long term-systemic	1.38 mg/kg human/day (consumer)
Dermal	DNEL Long term-local	1.38 mg/kg human/day (consumer)
	DNEL Acute-systemic	1.38 mg/kg human/day (consumer)
Inhalative		2.75 mg/kg human/day (worker)
	DNEL Long term-systemic	2.75 mg/kg human/day (worker)
	DNEL Long term-systemic mg/m <sup>3</sup>	2.39 mg/m <sup>3</sup> (consumer)
		9.7 mg/m <sup>3</sup> (worker)
	DNEL Acute-systemic mg/m <sup>3</sup>	2.39 mg/m <sup>3</sup> (consumer)
		9.7 mg/m <sup>3</sup> (worker)

##### · PNECs

##### 6419-19-8 nitrilotrimethylenetris(phosphonic acid)

PNEC Freshwater mg/L	0.46 mg/L (-)
PNEC Marinewater mg/L	0.046 mg/L (-)
PNEC Freshwater sediment	150 mg/Kg (-)
PNEC Marine water sediment	15 mg/Kg (-)

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PNEC Soil 244 mg/Kg (-)

PNEC Sewage treatment Plant mg/L 20 mg/L (-)

· **Additional information:** The lists valid during the making were used as basis.· **8.2 Exposure controls**· **Personal protective equipment:**· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Respiratory protection:** Not required.· **Protection of hands:**

Protective gloves

Rubber gloves

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Rubber gloves

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

The determined penetration times according to EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

· **Not suitable are gloves made of the following materials:** Strong material gloves· **Eye protection:**

Tightly sealed goggles

## SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**· **General Information**· **Appearance:**

· <b>Form:</b>	Liquid
· <b>Colour:</b>	Colourless
· <b>Odour:</b>	Characteristic
· <b>Odour threshold:</b>	Not determined.

· **pH-value at 20 °C:** 1.5· **Change in condition**

· <b>Melting point/freezing point:</b>	Undetermined.
· <b>Initial boiling point and boiling range:</b>	105 °C

· **Flash point:** Not applicable.· **Flammability (solid, gas):** Not applicable.· **Ignition temperature:**· **Decomposition temperature:** Not determined.· **Auto-ignition temperature:** Product is not selfigniting.· **Explosive properties:** Product does not present an explosion hazard.· **Explosion limits:**· **Lower:** Not determined.

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<b>Upper:</b>	Not determined.
· <b>Vapour pressure at 20 °C:</b>	23 hPa
· <b>Density at 20 °C:</b>	1.04 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with water:</b>	Fully miscible.
· <b>Partition coefficient: n-octanol/water:</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Organic solvents:</b>	0.0 %
<b>Swiss VOC:</b>	0.00 %
· <b>9.2 Other information</b>	No further relevant information available.

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

#### · **LD/LC50 values relevant for classification:**

##### **2809-21-4 1-Hydroxyethylene-1,1-diphosphonic acid**

LC50 / 96 h	368 mg/ltr (fish)
EC50 / 24 h	527 mg/ltr (Daphnia magna (water flea))

##### **6419-19-8 nitrilotrimethylenetris(phosphonic acid)**

Oral	LD50	2910 mg/kg (Rat)
Dermal	LD50	>6310 mg/kg (Rabbit)
	LC50	160 mg/l (fish) (14 day)
	LC50 / 48 h	297 mg/ltr (Daphnia magna (water flea))
	EC 50 / 48 h	>1000 mg/ltr (Daphnia magna (water flea))

- **Primary irritant effect:**
- **Skin corrosion/irritation**  
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**  
Causes serious eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

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### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **Other information:** The product is biodegradable.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.  
Must not reach sewage water or drainage ditch undiluted or unneutralised.  
In accordance with the requirements of the RVO in the Act on Detergents and Cleansing Agents, tensides are biodegradable up to at least 90 %.  
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation** Disposal must be made according to official regulations
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

### SECTION 14: Transport information

- |  |   |                                   |
|--|---|-----------------------------------|
| <ul style="list-style-type: none"> <li>· <b>14.1 UN-Number</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>                                | UN3265  |                                   |
| <ul style="list-style-type: none"> <li>· <b>14.2 UN proper shipping name</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG, IATA</b></li> </ul> | 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (1-Hydroxyethylene-1,1-diphosphonicacid, nitrilotrimethylenetris(phosphonic acid))<br>CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (1-Hydroxyethylene-1,1-diphosphonicacid, BUTYL ACID PHOSPHATE) |                                   |
| <ul style="list-style-type: none"> <li>· <b>14.3 Transport hazard class(es)</b></li> <li>· <b>ADR</b></li> </ul>                           | <div style="text-align: center;">  </div> <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>                         | 8 (C3) Corrosive substances.<br>8 |
| <ul style="list-style-type: none"> <li>· <b>IMDG, IATA</b></li> </ul>  | <div style="text-align: center;">  </div> <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>                         | 8 Corrosive substances.<br>8      |
| <ul style="list-style-type: none"> <li>· <b>14.4 Packing group</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>                            | III   |                                   |

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· <b>14.5 Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>14.6 Special precautions for user</b>	Warning: Corrosive substances.
· <b>Danger code (Kemler):</b>	80
· <b>EMS Number:</b>	F-A,S-B
· <b>Segregation groups</b>	Acids
· <b>Stowage Category</b>	A
· <b>Stowage Code</b>	SW2 Clear of living quarters.
· <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>Transport category</b>	3
· <b>Tunnel restriction code</b>	E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (1-HYDROXYETHYLENE-1,1-DIPHOSPHONICACID, NITRILOTRIMETHYLENETRIS(PHOSPHONIC ACID)), 8, III

### SECTION 15: Regulatory information

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

Reg. (EC) n. 1272/2008 - CLP;  
 Reg. (EC) n. 1907/2006 – Reach;  
 Reg. (EC) n. 2015/830 annex II of REACH;  
 Reg. (EC) n. 648/04 (Detergents);  
 Reg. (EC) n. 528/12 (Biocides BPR);  
 Reg. (EC) n. 1223/2009 (Cosmetics);  
 Dir. 06/08 ADR – RID - IMDG - IATA;  
 Dir. 47/08 (Aerosols); Dir. 12/18 (Seveso III);  
 Dir. 2008/98/CE and Reg. (EC) n.1357/2014 (Waste management)

#### · Directive 2012/18/EU

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.  
 · **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

#### · National regulations:

· **Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.  
 · **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

#### · Relevant phrases

H290 May be corrosive to metals.  
 H302 Harmful if swallowed.  
 H315 Causes skin irritation.  
 H318 Causes serious eye damage.  
 H319 Causes serious eye irritation.

#### · Department issuing SDS:

Customer Service  
 NL: Tel: + 31 164 250 100 Fax: + 31 164 266 710

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· **Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*IATA: International Air Transport Association*

*GHS: Globally Harmonised System of Classification and Labelling of Chemicals*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

*CAS: Chemical Abstracts Service (division of the American Chemical Society)*

*DNEL: Derived No-Effect Level (REACH)*

*PNEC: Predicted No-Effect Concentration (REACH)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*Met. Corr. 1: Corrosive to metals – Category 1*

*Acute Tox. 4: Acute toxicity – Category 4*

*Skin Corr. 1A: Skin corrosion/irritation – Category 1A*

*Skin Irrit. 2: Skin corrosion/irritation – Category 2*

*Eye Dam. 1: Serious eye damage/eye irritation – Category 1*

*Eye Irrit. 2: Serious eye damage/eye irritation – Category 2*

· **\* Data compared to the previous version altered.**

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