

## Dual Dip

Revision: 2026-06-11

Version: 02.0

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

#### 1.1 Product identifier

Trade name: Dual Dip

#### 1.2 Recommended use and restrictions on use

See product label.

For professional use only.

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

SOLENIS VIETNAM COMPANY LIMITED

#### Contact details

4Th & 5Th Floors, M-Building, Lot C7B-02A, No.9 Street 8,  
Zone A, South City New Urban Area, Tan My Ward,  
Ho Chi Minh City, Vietnam  
Tel. 0314996293

#### 1.4 Emergency telephone number

In case of medical emergency, please seek professional medical advice.

### SECTION 2: Composition/information on ingredients

#### 2.1 Substances / Mixtures

| Ingredient(s)                 | CAS number | EC number | Classification                                                                                                                                                                                                      | Weight percent |
|-------------------------------|------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| disodium metasilicate         | 6834-92-0  | 229-912-9 | Skin corrosion, Category 1B (H314)<br>Specific target organ toxicity - Single exposure, Category 3 (H335)<br>Serious eye damage, Category 1 (H318)<br>Corrosive to metals, Category 1 (H290)                        | 20-30          |
| Perboric acid, sodium salt    | 11138-47-9 | 234-390-0 | Reproductive toxicity, Category 1B (H360)<br>Acute toxicity - Oral, Category 4 (H302)<br>Specific target organ toxicity - Single exposure, Category 3 (H335)<br>Serious eye damage, Category 1 (H318)               | 20-30          |
| sodium carbonate              | 497-19-8   | 207-838-8 | Acute toxicity - Oral, Category 5 (H303)<br>Eye irritation, Category 2A (H319)                                                                                                                                      | 20-30          |
| pentasodium triphosphate      | 7758-29-4  | 231-838-7 | Acute toxicity - Oral, Category 5 (H303)                                                                                                                                                                            | 3-10           |
| sodium alkylbenzenesulphonate | 68411-30-3 | 270-115-0 | Acute toxicity - Oral, Category 4 (H302)<br>Skin irritation, Category 2 (H315)<br>Serious eye damage, Category 1 (H318)<br>Acute aquatic toxicity, Category 2 (H401)<br>Chronic aquatic toxicity, Category 3 (H412) | 1-3            |

Workplace exposure limit(s), if available, are listed in subsection 8.1.  
ATE, if available, are listed in section 11.

### SECTION 3: Hazards identification

#### 3.1 Classification of the substance or mixture

Reproductive toxicity, Category 1B  
Skin corrosion, Category 1B  
Serious eye damage, Category 1  
Acute toxicity, oral, Category 4  
Specific target organ toxicity (single exposure), Category 3

#### 3.2 Label elements



Signal word: Danger.

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**Hazard statements:**

H302 - Harmful if swallowed.  
 H314 - Causes severe skin burns and eye damage.  
 H335 - May cause respiratory irritation.  
 H360 - May damage fertility or the unborn child.

**Precautionary statements:**

P201 - Obtain special instructions before use.  
 P260 - Do not breathe dust.  
 P261 - Avoid breathing vapours.  
 P280 - Wear protective gloves, protective clothing and eye or face protection.  
 P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or 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.  
 P308 + P313 - IF exposed or concerned: Get medical advice or attention.  
 P310 - Immediately call a POISON CENTRE, doctor or physician.

**3.3 Other hazards**

No other hazards known. Exposure and appropriate engineering controls are specified in subsection 8.2 exposure controls.

**3.4 Classification diluted product**

Recommended maximum concentration (% w/w): 1.5

Reproductive toxicity, Category 1B

Skin irritation, Category 3

**3.5 Label elements diluted product**

**Signal word:** Danger.

**Hazard statements:**

H360 - May damage fertility or the unborn child.  
 H316 - Causes mild skin irritation.

**Precautionary statements:**

P201 - Obtain special instructions before use.  
 P280 - Wear protective gloves, protective clothing and eye or face protection.  
 P308 + P313 - IF exposed or concerned: Get medical advice or attention.

## SECTION 4: First aid measures

**4.1 Description of first aid measures****General Information:**

Symptoms of intoxication may even occur after several hours. It is recommended to continue medical observation for at least 48 hours after the incident. If unconscious place in recovery position and seek medical advice. Provide fresh air. If breathing is irregular or stopped, administer artificial respiration. No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator. IF exposed or concerned: Get medical advice or attention.

**Inhalation:**

Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE, doctor or physician if you feel unwell.

**Skin contact:**

Wash skin with plenty of lukewarm, gently flowing water for at least 30 minutes. Take off immediately all contaminated clothing and wash it before reuse. Immediately call a POISON CENTRE, doctor or physician.

**Eye contact:**

Hold eyelids apart and flush eyes with plenty of lukewarm water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE, doctor or physician.

**Ingestion:**

Rinse mouth. Immediately drink 1 glass of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Keep at rest. Immediately call a POISON CENTRE, doctor or physician. Get medical attention or advice if you feel unwell.

**Self-protection of first aider:**

Consider personal protective equipment as indicated in subsection 8.2.

**4.2 Most important symptoms and effects, both acute and delayed****Inhalation:**

May cause respiratory irritation. May damage fertility or the unborn child.

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|                      |                                                                                                                                                                          |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Skin contact:</b> | Causes severe burns. May damage fertility or the unborn child.                                                                                                           |
| <b>Eye contact:</b>  | Causes severe or permanent damage.                                                                                                                                       |
| <b>Ingestion:</b>    | May damage fertility or the unborn child. Ingestion will lead to a strong caustic effect on mouth and throat and to the danger of perforation of oesophagus and stomach. |

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

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

Carbon dioxide. Dry powder. Water spray jet. Fight larger fires with water spray jet or alcohol-resistant foam.

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

No special hazards known.

**5.3 Advice for firefighters**

As in any fire, wear self contained breathing apparatus and suitable protective clothing including gloves and eye/face protection.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation. Do not breathe dust or vapour. Wear suitable protective clothing. Wear eye/face protection. Wear suitable gloves.

**6.2 Environmental precautions**

Do not allow to enter drainage system, surface or ground water.

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

Ensure adequate ventilation. Collect mechanically. Do not place spilled materials back into the original container. Collect in closed and suitable containers for disposal.

**6.4 Reference to other sections**

For personal protective equipment see subsection 8.2. For disposal considerations see section 13.

**SECTION 7: Handling and storage****7.1 Precautions for safe handling****Measures to prevent fire and explosions:**

No special precautions required.

**Measures required to protect the environment:**

For environmental exposure controls see subsection 8.2.

**Advice on general occupational hygiene:**

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not mix with other products unless advised by Diversey. Wash face, hands and any exposed skin thoroughly after handling. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Store used personal protective equipment separately. Obtain special instructions before use. Avoid contact with skin and eyes. Do not breathe dust. Do not breathe vapours. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. See chapter 8.2, Exposure controls / Personal protection.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in accordance with local and national regulations. Store in a closed container. Keep only in original packaging. For conditions to avoid see subsection 10.4. For incompatible materials see subsection 10.5.

**7.3 Specific end use(s)**

No specific advice for end use available.

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Workplace exposure limits**

Air limit values, if available:

| Ingredient(s)              | Long term value(s)    | Short term value(s) |
|----------------------------|-----------------------|---------------------|
| Perboric acid, sodium salt | 0.5 mg/m <sup>3</sup> | 1 mg/m <sup>3</sup> |

Biological limit values, if available:

**8.2 Exposure controls**

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The following information applies for the uses indicated in subsection 1.2 of the Safety Data Sheet.  
If available, please refer to the product information sheet for application and handling instructions.  
Normal use conditions are assumed for this section.

Recommended safety measures for handling the undiluted product:  
Covering activities such as filling and transfer of product to application equipment, flasks or buckets

**Appropriate engineering controls:** If the product is diluted by using specific dosing systems with no risk of splashes or direct skin contact, the personal protection equipment as described in this section is not required.

**Appropriate organisational controls:** Avoid direct contact and/or splashes where possible. Train personnel.

**Personal protective equipment****Eye / face protection:**

Safety glasses or goggles (EN 16321).

**Hand protection:**

Chemical-resistant protective gloves (EN 374). Verify instructions regarding permeability and breakthrough time, as provided by the gloves supplier. Consider specific local use conditions, such as risk of splashes, cuts, contact time and temperature.

Suggested gloves for prolonged contact: Material: butyl rubber Penetration time:  $\geq 480$  min Material thickness:  $\geq 0.7$  mm

Suggested gloves for protection against splashes: Material: nitrile rubber Penetration time:  $\geq 30$  min Material thickness:  $\geq 0.4$  mm

In consultation with the supplier of protective gloves a different type providing similar protection may be chosen.

**Body protection:**

Wear chemical-resistant clothing and boots in case direct dermal exposure and/or splashes may occur (EN ISO 13982-1).

**Respiratory protection:**

If exposure to dust cannot be avoided use: half mask (EN 140) with particle filter P2 (EN 143) or full-face mask (EN 136) with particle filter P1 (EN 143) Consider specific local use conditions. In consultation with the supplier of respiratory protection equipment a different type providing similar protection may be chosen.

**Environmental exposure controls:** Should not reach sewage water or drainage ditch undiluted or unneutralised.

Recommended safety measures for handling the diluted product:

**Recommended maximum concentration (% w/w):** 1.5

**Appropriate engineering controls:** No special requirements under normal use conditions.

**Appropriate organisational controls:** Avoid direct contact and/or splashes where possible. Train personnel.

**Personal protective equipment****Eye / face protection:**

Safety glasses or goggles (EN 16321).

**Hand protection:**

Chemical-resistant protective gloves (EN 374). Verify instructions regarding permeability and breakthrough time, as provided by the gloves supplier. Consider specific local use conditions, such as risk of splashes, cuts, contact time and temperature.

Suggested gloves for prolonged contact: Material: butyl rubber Penetration time:  $\geq 480$  min Material thickness:  $\geq 0.7$  mm

Suggested gloves for protection against splashes: Material: nitrile rubber Penetration time:  $\geq 30$  min Material thickness:  $\geq 0.4$  mm

In consultation with the supplier of protective gloves a different type providing similar protection may be chosen.

**Body protection:**

Wear chemical-resistant clothing and boots in case direct dermal exposure and/or splashes may occur (EN 14605)

**Respiratory protection:**

No special requirements under normal use conditions.

**Environmental exposure controls:** No special requirements under normal use conditions.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

**Physical state:** Solid

**Appearance:** Powder

**Colour:** White

**Odour:** Product specific

**Odour threshold:** Not applicable

**pH:** Not measured

**Melting point/freezing point (°C):** Not determined

**Initial boiling point and boiling range (°C):** Not determined

**Method / remark**

Not relevant to classification of this product

Not applicable to solids or gases

**Flammability (liquid):** Not applicable.

**Flash point (°C):** Not applicable.

**Sustained combustion:** Not applicable.

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( UN Manual of Tests and Criteria, section 32, L.2 )

**Evaporation rate:** Not determined  
**Flammability (solid, gas):** Not determined  
**Lower and upper explosion limit/flammability limit (%):** Not determined  
**Vapour pressure:** Not determined  
**Relative density:**  $\approx 0.95$  (20 °C)  
**Relative vapour density:** No data available.  
**Particle characteristics:** Not determined.  
**Solubility in / Miscibility with water:** Soluble  
**Partition coefficient: n-octanol/water** No information available.

Not relevant to classification of this product

OECD 109 (EU A.3)  
 Not applicable to solids  
 Not relevant to classification of this product.

Substance data, partition coefficient n-octanol/water (log Kow): see subsection 12.3

**Autoignition temperature:** Not determined  
**Decomposition temperature:** Not applicable.  
**Kinematic viscosity:** Not applicable to solids or gases  
**Explosive properties:** Not explosive.  
**Oxidising properties:** Not oxidising.

Not applicable to solids or gases

**9.2 Other information**

**Surface tension (N/m):** Not determined  
**Corrosion to metals:** Not determined

Not applicable to solids or gases

**SECTION 10: Stability and reactivity****10.1 Reactivity**

No reactivity hazards known under normal storage and use conditions.

**10.2 Chemical stability**

Stable under normal storage and use conditions.

**10.3 Possibility of hazardous reactions**

No hazardous reactions known under normal storage and use conditions.

**10.4 Conditions to avoid**

None known under normal storage and use conditions.

**10.5 Incompatible materials**

None known under normal use conditions.

**10.6 Hazardous decomposition products**

None known under normal storage and use conditions.

**SECTION 11: Toxicological information****11.1 Information on toxicological effects**Mixture data:**Relevant calculated ATE(s):**

ATE - Oral (mg/kg): 2000

Substance data, where relevant and available, are listed below:**Acute toxicity**

Acute oral toxicity

| Ingredient(s)                 | Endpoint         | Value (mg/kg) | Species | Method            | Exposure time (h) |
|-------------------------------|------------------|---------------|---------|-------------------|-------------------|
| disodium metasilicate         | LD <sub>50</sub> | 770 - 820     | Mouse   | Method not given  | ECHA Dossier 2020 |
| Perboric acid, sodium salt    | LD <sub>50</sub> | 890           |         |                   |                   |
| sodium carbonate              | LD <sub>50</sub> | 2800          | Rat     | OECD 401 (EU B.1) |                   |
| pentasodium triphosphate      | LD <sub>50</sub> | > 2000        | Rat     | OECD 401 (EU B.1) |                   |
| sodium alkylbenzenesulphonate | LD <sub>50</sub> | 1080          | Rat     | OECD 401 (EU B.1) |                   |

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## Acute dermal toxicity

| Ingredient(s)                 | Endpoint         | Value (mg/kg)     | Species        | Method            | Exposure time (h) |
|-------------------------------|------------------|-------------------|----------------|-------------------|-------------------|
| disodium metasilicate         | LD <sub>50</sub> | > 5000            | Rat Guinea pig | Method not given  |                   |
| Perboric acid, sodium salt    |                  | No data available |                |                   |                   |
| sodium carbonate              | LD <sub>50</sub> | > 2000            | Rabbit         | Method not given  |                   |
| pentasodium triphosphate      | LD <sub>50</sub> | > 4640            | Rabbit         | Method not given  |                   |
| sodium alkylbenzenesulphonate | LD <sub>50</sub> | > 2000            | Rat            | OECD 402 (EU B.3) |                   |

## Acute inhalative toxicity

| Ingredient(s)                 | Endpoint         | Value (mg/l)       | Species | Method             | Exposure time (h) |
|-------------------------------|------------------|--------------------|---------|--------------------|-------------------|
| disodium metasilicate         | LC <sub>50</sub> | > 2.06             | Rat     | Method not given   |                   |
| Perboric acid, sodium salt    | LC <sub>50</sub> | 0.75 (dust) (mist) |         |                    |                   |
| sodium carbonate              | LC <sub>50</sub> | > 2.3 (dust)       |         | Weight of evidence | 2                 |
| pentasodium triphosphate      | LC <sub>50</sub> | 0.39 (dust)        | Rat     | EPA OPP 81-3       | 4                 |
| sodium alkylbenzenesulphonate |                  | No data available  |         |                    |                   |

## Irritation and corrosivity

## Skin irritation and corrosivity

| Ingredient(s)                 | Result        | Species | Method            | Exposure time |
|-------------------------------|---------------|---------|-------------------|---------------|
| disodium metasilicate         | Corrosive     |         | Method not given  |               |
| Perboric acid, sodium salt    | Mild irritant | Rabbit  | OECD 404 (EU B.4) |               |
| sodium carbonate              | Not irritant  | Rabbit  | OECD 404 (EU B.4) |               |
| pentasodium triphosphate      | Not irritant  | Rabbit  | OECD 404 (EU B.4) |               |
| sodium alkylbenzenesulphonate | Irritant      | Rabbit  | OECD 404 (EU B.4) |               |

## Eye irritation and corrosivity

| Ingredient(s)                 | Result                    | Species | Method            | Exposure time |
|-------------------------------|---------------------------|---------|-------------------|---------------|
| disodium metasilicate         | Corrosive                 |         | Method not given  |               |
| Perboric acid, sodium salt    | Severe damage             | Rabbit  | OECD 405 (EU B.5) |               |
| sodium carbonate              | Irritant                  | Rabbit  | OECD 405 (EU B.5) |               |
| pentasodium triphosphate      | Not corrosive or irritant | Rabbit  | OECD 405 (EU B.5) |               |
| sodium alkylbenzenesulphonate | Corrosive                 | Rabbit  | OECD 405 (EU B.5) |               |

## Respiratory tract irritation and corrosivity

| Ingredient(s)                 | Result                              | Species | Method           | Exposure time |
|-------------------------------|-------------------------------------|---------|------------------|---------------|
| disodium metasilicate         | Irritating to respiratory tract     |         | Method not given |               |
| Perboric acid, sodium salt    | Irritating to respiratory tract     |         | Method not given |               |
| sodium carbonate              | No data available                   |         |                  |               |
| pentasodium triphosphate      | No data available                   |         |                  |               |
| sodium alkylbenzenesulphonate | Not irritating to respiratory tract |         |                  |               |

## Sensitisation

## Sensitisation by skin contact

| Ingredient(s)                 | Result            | Species    | Method                   | Exposure time (h) |
|-------------------------------|-------------------|------------|--------------------------|-------------------|
| disodium metasilicate         | Not sensitising   | Mouse      | OECD 429 (EU B.42)       |                   |
| Perboric acid, sodium salt    | No data available |            |                          |                   |
| sodium carbonate              | Not sensitising   |            | Method not given         |                   |
| pentasodium triphosphate      | Not sensitising   | Mouse      | OECD 429 (EU B.42)       |                   |
| sodium alkylbenzenesulphonate | Not sensitising   | Guinea pig | OECD 406 (EU B.6) / GPMT |                   |

## Sensitisation by inhalation

| Ingredient(s)              | Result            | Species | Method | Exposure time |
|----------------------------|-------------------|---------|--------|---------------|
| disodium metasilicate      | No data available |         |        |               |
| Perboric acid, sodium salt | No data available |         |        |               |
| sodium carbonate           | No data available |         |        |               |
| pentasodium triphosphate   | No data available |         |        |               |

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|                               |                   |  |  |  |
|-------------------------------|-------------------|--|--|--|
| sodium alkylbenzenesulphonate | No data available |  |  |  |
|-------------------------------|-------------------|--|--|--|

**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

## Mutagenicity

| Ingredient(s)                 | Result (in-vitro)                                   | Method (in-vitro)                       | Result (in-vivo)                                   | Method (in-vivo)   |
|-------------------------------|-----------------------------------------------------|-----------------------------------------|----------------------------------------------------|--------------------|
| disodium metasilicate         | No data available                                   |                                         | No data available                                  |                    |
| Perboric acid, sodium salt    | No data available                                   |                                         | No data available                                  |                    |
| sodium carbonate              | No data available                                   |                                         | No data available                                  |                    |
| pentasodium triphosphate      | No evidence for mutagenicity, negative test results | OECD 471 (EU B.12/13)                   | No evidence of genotoxicity, negative test results | OECD 475 (EU B.11) |
| sodium alkylbenzenesulphonate | No evidence for mutagenicity, negative test results | OECD 471 (EU B.12/13) OECD 476 OECD 473 | No data available                                  |                    |

## Carcinogenicity

| Ingredient(s)                 | Effect                                                 |
|-------------------------------|--------------------------------------------------------|
| disodium metasilicate         | No data available                                      |
| Perboric acid, sodium salt    | No data available                                      |
| sodium carbonate              | No evidence for carcinogenicity, weight-of-evidence    |
| pentasodium triphosphate      | No evidence for carcinogenicity, negative test results |
| sodium alkylbenzenesulphonate | No data available                                      |

## Toxicity for reproduction

| Ingredient(s)                 | Endpoint | Specific effect        | Value (mg/kg bw/d) | Species | Method             | Exposure time | Remarks and other effects reported               |
|-------------------------------|----------|------------------------|--------------------|---------|--------------------|---------------|--------------------------------------------------|
| disodium metasilicate         |          |                        | No data available  |         |                    |               |                                                  |
| Perboric acid, sodium salt    |          |                        | No data available  |         |                    |               |                                                  |
| sodium carbonate              |          |                        | No data available  |         |                    |               |                                                  |
| pentasodium triphosphate      | NOAEL    | Developmental toxicity | 141                | Rat     | Not known          |               | No evidence for reproductive toxicity            |
| sodium alkylbenzenesulphonate | NOAEL    | Teratogenic effects    | 300                | Rat     | Non guideline test |               | No known significant effects or critical hazards |

**Repeated dose toxicity**

## Sub-acute or sub-chronic oral toxicity

| Ingredient(s)                 | Endpoint | Value (mg/kg bw/d) | Species | Method           | Exposure time (days) | Specific effects and organs affected |
|-------------------------------|----------|--------------------|---------|------------------|----------------------|--------------------------------------|
| disodium metasilicate         | NOAEL    | > 227 - 237        | Rat     | Method not given |                      |                                      |
| Perboric acid, sodium salt    |          | No data available  |         |                  |                      |                                      |
| sodium carbonate              |          | No data available  |         |                  |                      |                                      |
| pentasodium triphosphate      |          | No data available  |         |                  |                      |                                      |
| sodium alkylbenzenesulphonate |          | No data available  |         |                  |                      |                                      |

## Sub-chronic dermal toxicity

| Ingredient(s)                 | Endpoint | Value (mg/kg bw/d) | Species | Method | Exposure time (days) | Specific effects and organs affected |
|-------------------------------|----------|--------------------|---------|--------|----------------------|--------------------------------------|
| disodium metasilicate         |          | No data available  |         |        |                      |                                      |
| Perboric acid, sodium salt    |          | No data available  |         |        |                      |                                      |
| sodium carbonate              |          | No data available  |         |        |                      |                                      |
| pentasodium triphosphate      |          | No data available  |         |        |                      |                                      |
| sodium alkylbenzenesulphonate |          | No data available  |         |        |                      |                                      |

## Sub-chronic inhalation toxicity

| Ingredient(s)              | Endpoint | Value (mg/kg bw/d) | Species | Method | Exposure time (days) | Specific effects and organs affected |
|----------------------------|----------|--------------------|---------|--------|----------------------|--------------------------------------|
| disodium metasilicate      |          | No data available  |         |        |                      |                                      |
| Perboric acid, sodium salt |          | No data available  |         |        |                      |                                      |
| sodium carbonate           |          | No data            |         |        |                      |                                      |

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|                               |  |                   |  |  |  |  |
|-------------------------------|--|-------------------|--|--|--|--|
|                               |  | available         |  |  |  |  |
| pentasodium triphosphate      |  | No data available |  |  |  |  |
| sodium alkylbenzenesulphonate |  | No data available |  |  |  |  |

## Chronic toxicity

| Ingredient(s)                 | Exposure route | Endpoint | Value (mg/kg bw/d) | Species | Method                          | Exposure time | Specific effects and organs affected | Remark |
|-------------------------------|----------------|----------|--------------------|---------|---------------------------------|---------------|--------------------------------------|--------|
| disodium metasilicate         |                |          | No data available  |         |                                 |               |                                      |        |
| Perboric acid, sodium salt    |                |          | No data available  |         |                                 |               |                                      |        |
| sodium carbonate              |                |          | No data available  |         |                                 |               |                                      |        |
| pentasodium triphosphate      | Oral           | NOAEL    | 225                | Rat     | Equivalent of OECD 412 (EU B.8) | 24 month(s)   |                                      |        |
| sodium alkylbenzenesulphonate |                |          | No data available  |         |                                 |               |                                      |        |

## STOT-single exposure

| Ingredient(s)                 | Affected organ(s) |
|-------------------------------|-------------------|
| disodium metasilicate         | Respiratory tract |
| Perboric acid, sodium salt    | Respiratory tract |
| sodium carbonate              | Not applicable    |
| pentasodium triphosphate      | Not applicable    |
| sodium alkylbenzenesulphonate | Not applicable    |

## STOT-repeated exposure

| Ingredient(s)                 | Affected organ(s) |
|-------------------------------|-------------------|
| disodium metasilicate         | Not applicable    |
| Perboric acid, sodium salt    | Not applicable    |
| sodium carbonate              | Not applicable    |
| pentasodium triphosphate      | Not applicable    |
| sodium alkylbenzenesulphonate | Not applicable    |

## Aspiration hazard

Substances with an aspiration hazard (H304), if any, are listed in section 3.

## Potential adverse health effects and symptoms

Effects and symptoms related to the product, if any, are listed in subsection 4.2.

## SECTION 12: Ecological information

## 12.1 Toxicity

No data is available on the mixture.

Substance data, where relevant and available, are listed below:

## Aquatic short-term toxicity

Aquatic short-term toxicity - fish

| Ingredient(s)                 | Endpoint         | Value (mg/l) | Species                    | Method                | Exposure time (h) |
|-------------------------------|------------------|--------------|----------------------------|-----------------------|-------------------|
| disodium metasilicate         | LC <sub>50</sub> | 210          | <i>Brachydanio rerio</i>   | Method not given      | 96                |
| Perboric acid, sodium salt    | LC <sub>50</sub> | 51           | <i>Pimephales promelas</i> | OECD 203, semi-static | 96                |
| sodium carbonate              | LC <sub>50</sub> | 300          | <i>Lepomis macrochirus</i> | Method not given      | 96                |
| pentasodium triphosphate      | LC <sub>50</sub> | 1850         | <i>Brachydanio rerio</i>   | Method not given      | 24                |
| sodium alkylbenzenesulphonate | LC <sub>50</sub> | 1.67         | <i>Fish</i>                | EPA-OPPTS 850.1075    | 96                |

Aquatic short-term toxicity - crustacea

| Ingredient(s)              | Endpoint         | Value (mg/l) | Species        | Method                | Exposure time (h) |
|----------------------------|------------------|--------------|----------------|-----------------------|-------------------|
| disodium metasilicate      | EC <sub>50</sub> | 1700         | <i>Daphnia</i> | Method not given      | 48                |
| Perboric acid, sodium salt | EC <sub>50</sub> | 11           | <i>Daphnia</i> | OECD 202, semi-static | 48                |

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|                               |                  |         |                             |                   |    |
|-------------------------------|------------------|---------|-----------------------------|-------------------|----|
| sodium carbonate              | EC <sub>50</sub> | 200-227 | <i>Ceriodaphnia dubia</i>   | Method not given  | 96 |
| pentasodium triphosphate      | EC <sub>50</sub> | > 100   | <i>Daphnia magna</i> Straus | 40 CFR 797.1930   | 48 |
| sodium alkylbenzenesulphonate | LC <sub>50</sub> | 2.9     | <i>Daphnia</i>              | OECD 202 (EU C.2) | 48 |

## Aquatic short-term toxicity - algae

| Ingredient(s)                 | Endpoint                       | Value (mg/l) | Species                                | Method                | Exposure time (h) |
|-------------------------------|--------------------------------|--------------|----------------------------------------|-----------------------|-------------------|
| disodium metasilicate         | EC <sub>50</sub>               | 207          | <i>Chlorella pyrenoidosa</i>           | Method not given      | 72                |
| Perboric acid, sodium salt    | EC <sub>50</sub>               | 3.3          | <i>Pseudokirchneriella subcapitata</i> | OECD 201, static      | 72                |
| sodium carbonate              | EC <sub>50</sub>               | > 800        | <i>Selenastrum capricornutum</i>       |                       | 72                |
| pentasodium triphosphate      | EC <sub>50</sub>               | 160          | <i>Desmodesmus subspicatus</i>         | ISO/TC147/SC5/WG5 N84 | 96                |
| sodium alkylbenzenesulphonate | E <sub>b</sub> C <sub>50</sub> | 47.3         | Not specified                          | Non guideline test    | 72                |

## Aquatic short-term toxicity - marine species

| Ingredient(s)                 | Endpoint | Value (mg/l)      | Species | Method | Exposure time (days) |
|-------------------------------|----------|-------------------|---------|--------|----------------------|
| disodium metasilicate         |          | No data available |         |        |                      |
| Perboric acid, sodium salt    |          | No data available |         |        |                      |
| sodium carbonate              |          | No data available |         |        |                      |
| pentasodium triphosphate      |          | No data available |         |        |                      |
| sodium alkylbenzenesulphonate |          | No data available |         |        |                      |

## Impact on sewage plants - toxicity to bacteria

| Ingredient(s)                 | Endpoint         | Value (mg/l)      | Inoculum         | Method           | Exposure time |
|-------------------------------|------------------|-------------------|------------------|------------------|---------------|
| disodium metasilicate         | EC <sub>50</sub> | > 100             | Activated sludge | Method not given | 3 hour(s)     |
| Perboric acid, sodium salt    |                  | No data available |                  |                  |               |
| sodium carbonate              |                  | No data available |                  |                  |               |
| pentasodium triphosphate      |                  | No data available |                  |                  |               |
| sodium alkylbenzenesulphonate | EC <sub>50</sub> | 550               | Bacteria         | OECD 209         | 3 hour(s)     |

## Aquatic long-term toxicity

## Aquatic long-term toxicity - fish

| Ingredient(s)                 | Endpoint | Value (mg/l)      | Species                    | Method           | Exposure time | Effects observed |
|-------------------------------|----------|-------------------|----------------------------|------------------|---------------|------------------|
| disodium metasilicate         |          | No data available |                            |                  |               |                  |
| Perboric acid, sodium salt    |          | No data available |                            |                  |               |                  |
| sodium carbonate              |          | No data available |                            |                  |               |                  |
| pentasodium triphosphate      | LOEC     | 5                 | Not specified              | OECD 212         | 96 hour(s)    |                  |
| sodium alkylbenzenesulphonate | NOEC     | 0.23              | <i>Oncorhynchus mykiss</i> | Method not given | 72 day(s)     |                  |

## Aquatic long-term toxicity - crustacea

| Ingredient(s)                 | Endpoint | Value (mg/l)      | Species              | Method   | Exposure time | Effects observed |
|-------------------------------|----------|-------------------|----------------------|----------|---------------|------------------|
| disodium metasilicate         |          | No data available |                      |          |               |                  |
| Perboric acid, sodium salt    |          | No data available |                      |          |               |                  |
| sodium carbonate              |          | No data available |                      |          |               |                  |
| pentasodium triphosphate      |          | No data available |                      |          |               |                  |
| sodium alkylbenzenesulphonate | NOEC     | 1.41              | <i>Daphnia magna</i> | OECD 211 |               |                  |

Aquatic toxicity to other aquatic benthic organisms, including sediment-dwelling organisms, if available:

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| Ingredient(s)    | Endpoint | Value (mg/kg dw sediment) | Species | Method | Exposure time (days) | Effects observed |
|------------------|----------|---------------------------|---------|--------|----------------------|------------------|
| sodium carbonate |          | No data available         |         |        |                      |                  |

**Terrestrial toxicity**

Terrestrial toxicity - soil invertebrates, including earthworms, if available:

| Ingredient(s)    | Endpoint | Value (mg/kg dw soil) | Species | Method | Exposure time (days) | Effects observed |
|------------------|----------|-----------------------|---------|--------|----------------------|------------------|
| sodium carbonate |          | No data available     |         |        |                      |                  |

Terrestrial toxicity - plants, if available:

| Ingredient(s)    | Endpoint | Value (mg/kg dw soil) | Species | Method | Exposure time (days) | Effects observed |
|------------------|----------|-----------------------|---------|--------|----------------------|------------------|
| sodium carbonate |          | No data available     |         |        |                      |                  |

Terrestrial toxicity - birds, if available:

| Ingredient(s)    | Endpoint | Value             | Species | Method | Exposure time (days) | Effects observed |
|------------------|----------|-------------------|---------|--------|----------------------|------------------|
| sodium carbonate |          | No data available |         |        |                      |                  |

Terrestrial toxicity - beneficial insects, if available:

| Ingredient(s)    | Endpoint | Value (mg/kg dw soil) | Species | Method | Exposure time (days) | Effects observed |
|------------------|----------|-----------------------|---------|--------|----------------------|------------------|
| sodium carbonate |          | No data available     |         |        |                      |                  |

Terrestrial toxicity - soil bacteria, if available:

| Ingredient(s)    | Endpoint | Value (mg/kg dw soil) | Species | Method | Exposure time (days) | Effects observed |
|------------------|----------|-----------------------|---------|--------|----------------------|------------------|
| sodium carbonate |          | No data available     |         |        |                      |                  |

**12.2 Persistence and degradability****Abiotic degradation**

Abiotic degradation - photodegradation in air, if available:

| Ingredient(s)    | Half-life time    | Method | Evaluation | Remark |
|------------------|-------------------|--------|------------|--------|
| sodium carbonate | No data available |        |            |        |

Abiotic degradation - hydrolysis, if available:

| Ingredient(s)    | Half-life time in fresh water | Method | Evaluation           | Remark |
|------------------|-------------------------------|--------|----------------------|--------|
| sodium carbonate | No data available             |        | Rapidly hydrolysible |        |

Abiotic degradation - other processes, if available:

| Ingredient(s)    | Type | Half-life time    | Method | Evaluation | Remark |
|------------------|------|-------------------|--------|------------|--------|
| sodium carbonate |      | No data available |        |            |        |

**Biodegradation**

Ready biodegradability - aerobic conditions

| Ingredient(s)                 | Inoculum                 | Analytical method          | DT <sub>50</sub>  | Method    | Evaluation                           |
|-------------------------------|--------------------------|----------------------------|-------------------|-----------|--------------------------------------|
| disodium metasilicate         |                          |                            |                   |           | Not applicable (inorganic substance) |
| Perboric acid, sodium salt    | Activated sludge, aerobe |                            | 86% in 2 day(s)   | OECD 301D | Readily biodegradable                |
| sodium carbonate              |                          |                            |                   |           | Not applicable (inorganic substance) |
| pentasodium triphosphate      |                          |                            |                   |           | Not applicable (inorganic substance) |
| sodium alkylbenzenesulphonate | Activated sludge, aerobe | CO <sub>2</sub> production | 85 % in 28 day(s) | OECD 301B | Readily biodegradable                |

Ready biodegradability - anaerobic and marine conditions, if available:

| Ingredient(s) | Medium & Type | Analytical method | DT <sub>50</sub> | Method | Evaluation |
|---------------|---------------|-------------------|------------------|--------|------------|
|---------------|---------------|-------------------|------------------|--------|------------|

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|                  |  |  |  |  |                   |
|------------------|--|--|--|--|-------------------|
| sodium carbonate |  |  |  |  | No data available |
|------------------|--|--|--|--|-------------------|

Degradation in relevant environmental compartments, if available:

| Ingredient(s)    | Medium & Type | Analytical method | DT <sub>50</sub> | Method | Evaluation        |
|------------------|---------------|-------------------|------------------|--------|-------------------|
| sodium carbonate |               |                   |                  |        | No data available |

### 12.3 Bioaccumulative potential

Partition coefficient n-octanol/water (log K<sub>ow</sub>)

| Ingredient(s)                 | Value             | Method           | Evaluation                        | Remark |
|-------------------------------|-------------------|------------------|-----------------------------------|--------|
| disodium metasilicate         | No data available |                  |                                   |        |
| Perboric acid, sodium salt    | No data available |                  |                                   |        |
| sodium carbonate              | No data available |                  | No bioaccumulation expected       |        |
| pentasodium triphosphate      | No data available |                  |                                   |        |
| sodium alkylbenzenesulphonate | 3.32              | Method not given | Low potential for bioaccumulation |        |

Bioconcentration factor (BCF)

| Ingredient(s)                 | Value             | Species | Method           | Evaluation                         | Remark |
|-------------------------------|-------------------|---------|------------------|------------------------------------|--------|
| disodium metasilicate         | No data available |         |                  |                                    |        |
| Perboric acid, sodium salt    | No data available |         |                  |                                    |        |
| sodium carbonate              | No data available |         |                  | No bioaccumulation expected        |        |
| pentasodium triphosphate      | No data available |         |                  | No bioaccumulation expected        |        |
| sodium alkylbenzenesulphonate | 2-1000            |         | Method not given | High potential for bioaccumulation |        |

### 12.4 Mobility in soil

Adsorption/Desorption to soil or sediment

| Ingredient(s)                 | Adsorption coefficient Log K <sub>oc</sub> | Desorption coefficient Log K <sub>oc</sub> (des) | Method | Soil/sediment type | Evaluation                                       |
|-------------------------------|--------------------------------------------|--------------------------------------------------|--------|--------------------|--------------------------------------------------|
| disodium metasilicate         | No data available                          |                                                  |        |                    |                                                  |
| Perboric acid, sodium salt    | No data available                          |                                                  |        |                    |                                                  |
| sodium carbonate              | No data available                          |                                                  |        |                    | Potential for mobility in soil, soluble in water |
| pentasodium triphosphate      | No data available                          |                                                  |        |                    |                                                  |
| sodium alkylbenzenesulphonate | No data available                          |                                                  |        |                    |                                                  |

### 12.5 Other adverse effects

No other adverse effects known.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Waste from residues / unused products:

The concentrated contents or contaminated packaging should be disposed of by a certified handler or according to the site permit. Release of waste to sewers is discouraged. The cleaned packaging material is suitable for energy recovery or recycling in line with local legislation.

Empty packaging

Recommendation:

Dispose of observing national or local regulations.

## SECTION 14: Transport information



Land transport, Sea transport (IMDG), Air transport (ICAO-TI / IATA-DGR)

14.1 UN number: 3253

14.2 UN proper shipping name:

Disodium trioxosilicate, mixture

14.3 Transport hazard class(es):

Transport hazard class (and subsidiary risks): 8

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**14.4 Packing group:** III**14.5 Environmental hazards:**

Environmentally hazardous: No

Marine pollutant: No

**14.6 Special precautions for user:** None known.**14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code:** The product is not transported in bulk tankers.**Other relevant information:****IMO/IMDG**

EmS: F-A, S-B

Transport regulations include special provisions for certain classes of dangerous goods packed in limited quantities.

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations**

- Decree 108/2008/NP-CP Circular No.: 04/2012/TT-BCT Regulations on the Classification and Labeling of Chemicals

**SECTION 16: Other information**

*The information in this document is based on our best present knowledge. However, it does not constitute a guarantee for any specific product features and does not establish a legally binding contract*

**SDS code:** MS4800061**Version:** 02.0**Revision:** 2026-06-11**Reason for revision:**

This data sheet contains changes from the previous version in section(s): 1, 2, 4, 6, 7, 8, 9, 10, 14, 16

**Abbreviations and acronyms:**

- ATE - Acute Toxicity Estimate
- DNEL - Derived No Effect Limit
- EC50 - effective concentration, 50%
- LC50 - Lethal Concentration, 50% / Median Lethal Concentration
- LD50 - Lethal Dose, 50% / Median Lethal dose
- NOAEL - No observed adverse effect level
- NOEL - No observed effect level
- OECD - Organisation for Economic Cooperation and Development
- PNEC - Predicted No Effect Concentration
- STOT-RE - Specific target organ toxicity (repeated exposure)
- STOT-SE - Specific target organ toxicity (single exposure)
- H290 - May be corrosive to metals.
- H302 - Harmful if swallowed.
- H303 - May be harmful if swallowed.
- H314 - Causes severe skin burns and eye damage.
- H315 - Causes skin irritation.
- H318 - Causes serious eye damage.
- H319 - Causes serious eye irritation.
- H335 - May cause respiratory irritation.
- H360 - May damage fertility or the unborn child.
- H412 - Harmful to aquatic life with long lasting effects.

**End of Safety Data Sheet**