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

1.1. Product identifier

Product form: Mixture
Trade name: WB2 Buffer
Product code: 190493, 190589
Product group: Trade product

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

1.2.1. Relevant identified uses

Use of the substance/mixture: Scientific research and development

1.2.2. Uses advised against

Restrictions on use: None known

1.3. Details of the supplier of the safety data sheet

Covaris, LLC
14 Gill St., Unit H
01801 Woburn – MA
USA
T +1 (781) 932-3959

1.4. Emergency telephone number

Emergency number: Chemtrec (800) 424-9300

<table>
<thead>
<tr>
<th>Country</th>
<th>Organisation/Company</th>
<th>Address</th>
<th>Emergency number</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>NSW Poisons Information Centre</td>
<td>Locked Bag 4001 NSW 2145 Westmead</td>
<td>13 11 26</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The Children's Hospital at Westmead</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ireland</td>
<td>National Poisons Information Centre</td>
<td>PO Box 1297 Beaumont Road 9 Dublin</td>
<td>+353 1 809 2566  (Healthcare professionals-24/7)</td>
<td>Only for healthcare professionals</td>
</tr>
<tr>
<td></td>
<td>Beaumont Hospital</td>
<td></td>
<td>+353 1 809 2166 (public, 8am - 10pm, 7/7)</td>
<td></td>
</tr>
<tr>
<td>New Zealand</td>
<td>National Poisons Centre</td>
<td>PO Box 56 9054 Dunedin</td>
<td>0800 764 766</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>National Poisons Information Service</td>
<td>Dudley Road B18 7QH Birmingham</td>
<td>0344 892 0111</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Birmingham Centre)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>City Hospital</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Skin corrosion/irritation, Category 2: H315
Serious eye damage/eye irritation, Category 2: H319

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Causes skin irritation. Causes serious eye irritation.
2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP):

- GHS07

Signal word (CLP):
- Warning

Hazard statements (CLP):
- H315 - Causes skin irritation.
- H319 - Causes serious eye irritation.

Precautionary statements (CLP):
- P264 - Wash hands thoroughly after handling.
- P280 - Wear eye protection, protective gloves.
- P302+P352 - IF ON SKIN: Wash with plenty of water.
- P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P332+P313 - If skin irritation occurs: Get medical advice/attention.
- P337+P313 - If eye irritation persists: Get medical advice/attention.
- P362+P364 - Take off contaminated clothing and wash it before reuse.

2.3. Other hazards

Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII.

Component

Polyethylene glycol octylphenyl ether (9036-19-5)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII.
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII.

The mixture contains substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

Component

Polyethylene glycol octylphenyl ether(9036-19-5)

The substance is included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
</table>
| guanidinium chloride; guanidine hydrochloride | CAS-No.: 50-01-1  
EC-No.: 200-002-3  
EC Index-No.: 607-148-00-0 | 19.1 | Acute Tox. 4 (Oral), H302 (ATE=500 mg/kg bodyweight)  
Eye Irrit. 2, H319  
Skin Irrit. 2, H315 |
Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP]
---|---|---|---
Polyethylene glycol octylphenyl ether substance listed as REACH Candidate (4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated) substance listed in REACH Annex XIV (4-(1,1,3,3-Tetramethylbutyl) phenol, ethoxylated (covering well-defined substances and UVCB substances, polymers and homologues)) substance identified as having endocrine disrupting properties | CAS-No.: 9036-19-5 | 0.5 | Acute Tox. 4 (Oral), H302 (ATE=1900 mg/kg bodyweight) Aquatic Chronic 2, H411

Full text of H- and EUH-statements: see section 16

**SECTION 4: First aid measures**

4.1. Description of first aid measures

| First-aid measures after inhalation | Remove person to fresh air and keep comfortable for breathing. |
| First-aid measures after skin contact | Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention. |
| First-aid measures after eye contact | Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. |
| First-aid measures after ingestion | Call a poison center or a doctor if you feel unwell. |

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

<table>
<thead>
<tr>
<th>Symptoms/effects</th>
<th>Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td>Irritation.</td>
</tr>
<tr>
<td>Eyes</td>
<td>Eye irritation.</td>
</tr>
</tbody>
</table>

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

Treat symptomatically.

**SECTION 5: Firefighting measures**

5.1. Extinguishing media


5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire | Toxic fumes may be released. |

5.3. Advice for firefighters

Protection during firefighting | Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. |

**SECTION 6: Accidental release measures**

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures | Ventilate spillage area. Avoid contact with skin and eyes. |

6.1.2. For emergency responders

Protective equipment | Do not attempt to take action without suitable protective equipment. For further information refer to section 8: “Exposure controls/personal protection” |
### 6.2. Environmental precautions

Avoid release to the environment.

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

<table>
<thead>
<tr>
<th>Methods for cleaning up</th>
<th>Other information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take up liquid spill into absorbent material.</td>
<td>Dispose of materials or solid residues at an authorized site.</td>
</tr>
</tbody>
</table>

### 6.4. Reference to other sections

For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

<table>
<thead>
<tr>
<th>Precautions for safe handling</th>
<th>Hygiene measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment.</td>
<td>Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Storage conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Store in a well-ventilated place. Keep cool.</td>
</tr>
</tbody>
</table>

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

1. **8.1.1 National occupational exposure and biological limit values**
   No additional information available

2. **8.1.2. Recommended monitoring procedures**
   No additional information available

3. **8.1.3. Air contaminants formed**
   No additional information available

4. **8.1.4. DNEL and PNEC**
   No additional information available

5. **8.1.5. Control banding**
   No additional information available

#### 8.2. Exposure controls

1. **8.2.1. Appropriate engineering controls**
   **Appropriate engineering controls:**
   Ensure good ventilation of the work station.

2. **8.2.2. Personal protection equipment**

3. **8.2.2.1. Eye and face protection**
   **Eye protection:**
   Safety glasses

4. **8.2.2.2. Skin protection**
   **Skin and body protection:**
   Wear suitable protective clothing
Hand protection:
Protective gloves

8.2.2.3. Respiratory protection

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment

8.2.2.4. Thermal hazards
No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Colourless.</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear, colourless liquid.</td>
</tr>
<tr>
<td>Odour</td>
<td>None.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>100 °C</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>Not available</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>7.6</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Not available</td>
</tr>
<tr>
<td>Partition coefficient n-octanol/water (Log Kow)</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapour pressure at 50 °C</td>
<td>Not available</td>
</tr>
<tr>
<td>Density</td>
<td>Not available</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available</td>
</tr>
<tr>
<td>Relative vapour density at 20 °C</td>
<td>Not available</td>
</tr>
<tr>
<td>Particle characteristics</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

9.2. Other information

9.2.1. Information with regard to physical hazard classes
No additional information available

9.2.2. Other safety characteristics
No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions
No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid
None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials
No additional information available

10.6. Hazardous decomposition products
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

| Acute toxicity (oral) | Not classified |
| Acute toxicity (dermal) | Not classified |
| Acute toxicity (inhalation) | Not classified |

**guanidinium chloride; guanadine hydrochloride (50-01-1)**

| LD50 dermal rabbit | > 2000 mg/kg bodyweight Animal: rabbit, Guideline: other: EPA TS-792 Acute exposure, dermal toxicity. Health effects test guidelines, EPA, August 1982; EPA 560/6-82-001, Guideline: OECD Guideline 402 (Acute Dermal Toxicity) |

**Polyethylene glycol octylphenyl ether (9036-19-5)**

| LD50 oral rat | 1900 mg/kg |
| LD50 dermal rabbit | > 3000 mg/kg |

Skin corrosion/irritation: Causes skin irritation. pH: 7.6
Serious eye damage/irritation: Causes serious eye irritation. pH: 7.6
Respiratory or skin sensitisation: Not classified
Germ cell mutagenicity: Not classified
Carcinogenicity: Not classified
Reproductive toxicity: Not classified
STOT-single exposure: Not classified
STOT-repeated exposure: Not classified
Aspiration hazard: Not classified

**Polyethylene glycol octylphenyl ether (9036-19-5)**

Viscosity, kinematic | 226 mm²/s |

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Component

Polyethylene glycol octylphenyl ether(9036-19-5) The substance is identified for having endocrine disrupting properties but there is no additional data available

11.2.2. Other information

No additional information available
SECTION 12: Ecological information

12.1. Toxicity

<table>
<thead>
<tr>
<th>Ecology - general</th>
<th>The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazardous to the aquatic environment, short–term (acute)</td>
<td>Not classified</td>
</tr>
<tr>
<td>Hazardous to the aquatic environment, long–term (chronic)</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

**guanidinium chloride; guanadine hydrochloride (50-01-1)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 - Crustacea [1]</td>
<td>70.2 mg/l Test organisms (species): Daphnia magna</td>
</tr>
<tr>
<td>EC50 72h - Algae [1]</td>
<td>11.8 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)</td>
</tr>
<tr>
<td>EC50 72h - Algae [2]</td>
<td>33.5 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)</td>
</tr>
<tr>
<td>NOEC (chronic)</td>
<td>2.9 mg/l Test organisms (species): Daphnia magna Duration: '21 d'</td>
</tr>
<tr>
<td>NOEC chronic fish</td>
<td>≥ 181 mg/l Test organisms (species): Pimephales promelas Duration: '35 d'</td>
</tr>
</tbody>
</table>

**Polyethylene glycol octylphenyl ether (9036-19-5)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 - Fish [1]</td>
<td>4 – 8.9 mg/l Pimephales promelas (Fathead minnow)</td>
</tr>
<tr>
<td>EC50 - Crustacea [1]</td>
<td>18 – 26 mg/l Daphnia magna (Water flea)</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

**Polyethylene glycol octylphenyl ether (9036-19-5)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>Readily biodegradable.</td>
</tr>
<tr>
<td>Biodegradation</td>
<td>&gt; 60 % (28 days)</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

**Polyethylene glycol octylphenyl ether (9036-19-5)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioconcentration factor (BCF REACH)</td>
<td>15</td>
</tr>
<tr>
<td>Partition coefficient n-octanol/water (Log Pow)</td>
<td>2.7 (estimated value)</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

**Component**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyethylene glycol octylphenyl ether(9036-19-5)</td>
<td>The substance is identified for having endocrine disrupting properties but there is no additional data available</td>
</tr>
</tbody>
</table>

12.7. Other adverse effects

No additional information available
SECTION 13: Disposal considerations

13.1. Waste treatment methods
Waste treatment methods: Dispose of contents/container in accordance with licensed collector’s sorting instructions.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

<table>
<thead>
<tr>
<th>ADR</th>
<th>IMDG</th>
<th>IATA</th>
<th>ADN</th>
<th>RID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

14.1. UN number or ID number
Not applicable

14.2. UN proper shipping name
Not applicable

14.3. Transport hazard class(es)
Not applicable

14.4. Packing group
Not applicable

14.5. Environmental hazards
Not applicable

No supplementary information available

14.6. Special precautions for user

Overland transport
Not applicable

Transport by sea
Not applicable

Air transport
Not applicable

Inland waterway transport
Not applicable

Rail transport
Not applicable

14.7. Maritime transport in bulk according to IMO instruments
Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)
Contains no REACH substances with Annex XVII restrictions
REACH Annex XIV (Authorisation List)
Contains REACH Annex XIV substances: 4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated (CAS 9036-19-5)

REACH Candidate List (SVHC)
Contains a substance on the REACH candidate list: 4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated (CAS 9036-19-5)

PIC Regulation (Prior Informed Consent)

POP Regulation (Persistent Organic Pollutants)

Ozone Regulation (1005/2009)

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on drug precursors)

15.1.2. National regulations
All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory

Germany
Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG).
Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG).

Water hazard class (WGK) : WGK 2, Significantly hazardous to water (Classification according to AwSV, Annex 1).


Netherlands
SZW-lijst van kankerverwekkende stoffen : None of the components are listed
SZW-lijst van mutagene stoffen : None of the components are listed
SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : None of the components are listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling : None of the components are listed

Switzerland
Storage class (LK) : LK 10/12 - Liquids

15.2. Chemical safety assessment
No chemical safety assessment has been carried out

SECTION 16: Other information

Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>Full text of H- and EUH-statements:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 4 (Oral)</td>
</tr>
<tr>
<td>Aquatic Chronic 2</td>
</tr>
<tr>
<td>Eye Irrit. 2</td>
</tr>
<tr>
<td>H302</td>
</tr>
<tr>
<td>H315</td>
</tr>
<tr>
<td>H319</td>
</tr>
</tbody>
</table>
Full text of H- and EUH-statements:

<table>
<thead>
<tr>
<th>H411</th>
<th>Toxic to aquatic life with long lasting effects.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation, Category 2</td>
</tr>
</tbody>
</table>

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

<table>
<thead>
<tr>
<th>Skin Irrit. 2</th>
<th>H315</th>
<th>Calculation method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye Irrit. 2</td>
<td>H319</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.