SECTION 1: Identification

1.1 Product identifier
   Name 0.01M PBS with 0.01% Tween-80, pH 7.5
   Product number P0212, P0213

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

1.3 Details of the supplier of the safety data sheet
   Teknova
   2290 Bert Dr.
   Hollister California 95023
   United States
   Telephone: 831-637-1100
   Telefax: 831-637-2355
   e-mail: info@teknova.com
   Website: www.teknova.com

1.4 Emergency telephone number
   CHEM TREC Emergency Phone Number (800)-424-9300

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture
   Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)
   This mixture does not meet the criteria for classification.

2.2 Label elements
   Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)
   not required

2.3 Other hazards
   Results of PBT and vPvB assessment
   This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances
   Not relevant (mixture)

3.2 Mixtures
Description of the mixture

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>CAS No</th>
<th>Wt%</th>
</tr>
</thead>
<tbody>
<tr>
<td>DI Water</td>
<td>7732-18-5</td>
<td>99</td>
</tr>
<tr>
<td>Sodium Chloride</td>
<td>7647-14-5</td>
<td>0.85</td>
</tr>
<tr>
<td>Sodium Phosphate Dibasic Anhydrous</td>
<td>7558-79-4</td>
<td>0.12</td>
</tr>
<tr>
<td>Sodium Phosphate Monobasic Anhydrous</td>
<td>7558-80-7</td>
<td>0.022</td>
</tr>
<tr>
<td>Tween 80 (polysorbate 80)</td>
<td>9005-65-6</td>
<td>0.012</td>
</tr>
<tr>
<td>Sodium Hydroxide ACS Grade Pellets</td>
<td>1310-73-2</td>
<td>0.0012</td>
</tr>
</tbody>
</table>

For full text of abbreviations: see SECTION 16.

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes
In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation
If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact
Wash with plenty of soap and water.

Following eye contact
Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion
Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed
Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed
none

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media
- Water spray, BC-powder, Carbon dioxide (CO2)

Unsuitable extinguishing media
- Water jet
5.2 Special hazards arising from the substance or mixture

Hazardous combustion products
Nitrogen oxides (NOx)

5.3 Advice for firefighters
In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
Remove persons to safety.

For emergency responders
Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions
Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advises on how to contain a spill
Covering of drains
Advises on how to clean up a spill
Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques
Use of adsorbent materials.

Other information relating to spills and releases
Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations
- Measures to prevent fire as well as aerosol and dust generation
  Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene
Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.
7.2 Conditions for safe storage, including any incompatibilities

7.3 Specific end use(s)
See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Country</th>
<th>Name of agent</th>
<th>CAS No</th>
<th>Identifier</th>
<th>TWA [ppm]</th>
<th>TWA [mg/m³]</th>
<th>STEL [ppm]</th>
<th>STEL [mg/m³]</th>
<th>Ceiling-C [ppm]</th>
<th>Ceiling-C [mg/m³]</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>sodium hydroxide</td>
<td>1310-73-2</td>
<td>REL</td>
<td>2</td>
<td>NIOSH REL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US</td>
<td>sodium hydroxide</td>
<td>1310-73-2</td>
<td>TLV®</td>
<td>2</td>
<td>AC-GIH® 2018</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US</td>
<td>sodium hydroxide (caustic soda)</td>
<td>1310-73-2</td>
<td>PEL (CA)</td>
<td>2</td>
<td>Cal/OSHA PEL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notation
Ceiling-C: ceiling value is a limit value above which exposure should not occur
STEL: short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA: time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Relevant DNELs of components of the mixture

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>CAS No</th>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Protection goal, route of exposure</th>
<th>Used in</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Chloride</td>
<td>7647-14-5</td>
<td>DNEL</td>
<td>2,069 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>chronic - systemic effects</td>
</tr>
<tr>
<td>Sodium Chloride</td>
<td>7647-14-5</td>
<td>DNEL</td>
<td>2,069 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>acute - systemic effects</td>
</tr>
<tr>
<td>Sodium Chloride</td>
<td>7647-14-5</td>
<td>DNEL</td>
<td>295.5 mg/kg bw/day</td>
<td>human, dermal</td>
<td>worker (industry)</td>
<td>chronic - systemic effects</td>
</tr>
<tr>
<td>Sodium Chloride</td>
<td>7647-14-5</td>
<td>DNEL</td>
<td>295.5 mg/kg bw/day</td>
<td>human, dermal</td>
<td>worker (industry)</td>
<td>acute - systemic effects</td>
</tr>
<tr>
<td>Sodium Hydroxide</td>
<td>1310-73-2</td>
<td>DNEL</td>
<td>1 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>chronic - local effects</td>
</tr>
</tbody>
</table>
### Relevant PNECs of components of the mixture

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>CAS No</th>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Organism</th>
<th>Environmental compartment</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Chloride</td>
<td>7647-14-5</td>
<td>PNEC</td>
<td>5 mg/l</td>
<td>aquatic organisms</td>
<td>freshwater</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>Sodium Chloride</td>
<td>7647-14-5</td>
<td>PNEC</td>
<td>500 mg/l</td>
<td>aquatic organisms</td>
<td>sewage treatment plant (STP)</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>Sodium Chloride</td>
<td>7647-14-5</td>
<td>PNEC</td>
<td>4.86 mg/kg</td>
<td>terrestrial organisms</td>
<td>soil</td>
<td>short-term (single instance)</td>
</tr>
</tbody>
</table>

### 8.2 Exposure controls

**Appropriate engineering controls**

- General ventilation.

**Individual protection measures (personal protective equipment)**

- **Eye/face protection**
  - Wear eye/face protection.

- **Skin protection**
  - **Hand protection**
    - Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.
  - **Type of material**
    - Nitrile
  - **Other protection measures**
    - Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

**Respiratory protection**

- In case of inadequate ventilation wear respiratory protection.

**Environmental exposure controls**

- Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

### SECTION 9: Physical and chemical properties

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

**Appearance**

<table>
<thead>
<tr>
<th>Physical state</th>
<th>liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>no data available</td>
</tr>
<tr>
<td>Odor</td>
<td>no data available</td>
</tr>
</tbody>
</table>
0.01M PBS with 0.01% Tween-80, pH 7.5

Other safety parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH (value)</td>
<td>not determined</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>not determined</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>100 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>not determined</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>not determined</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>not relevant, (fluid)</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>not determined</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>not determined</td>
</tr>
<tr>
<td>Density</td>
<td>not determined</td>
</tr>
<tr>
<td>Vapor density</td>
<td>not determined</td>
</tr>
<tr>
<td>Relative density</td>
<td>information on this property is not available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>not determined</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td></td>
</tr>
<tr>
<td>- n-octanol/water (log KOW)</td>
<td>this information is not available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>not determined</td>
</tr>
<tr>
<td>Viscosity</td>
<td>not determined</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>none</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>none</td>
</tr>
</tbody>
</table>

9.2 Other information

there is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity
Concerning incompatibility: see below “Conditions to avoid” and “Incompatible materials”.

10.2 Chemical stability
The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

Oxidizers

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

This mixture does not meet the criteria for classification.

Acute toxicity

The classification criteria for these hazard classes are not met.

Acute toxicity estimate (ATE) of components of the mixture

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>CAS No</th>
<th>Exposure route</th>
<th>ATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Phosphate Monobasic Anhydrous</td>
<td>7558-80-7</td>
<td>inhalation: dust/mist</td>
<td>0.83 mg/l/4h</td>
</tr>
<tr>
<td>Sodium Hydroxide ACS Grade Pellets</td>
<td>1310-73-2</td>
<td>dermal</td>
<td>1,350 mg/kg</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation

The classification criteria for this hazard class are not met. Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

The classification criteria for this hazard class are not met. Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitization

The classification criteria for these hazard classes are not met.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

The classification criteria for this hazard class are not met.

Specific target organ toxicity - single exposure

The classification criteria for this hazard class are not met. Shall not be classified as a specific target organ toxicant (single exposure).
Specific target organ toxicity - repeated exposure
  The classification criteria for this hazard class are not met.
Aspiration hazard
  The classification criteria for this hazard class are not met.

SECTION 12: Ecological information

12.1 Toxicity
  Shall not be classified as hazardous to the aquatic environment.

12.2 Persistence and degradability
  Data are not available.

12.3 Bioaccumulative potential
  Data are not available.

12.4 Mobility in soil
  Data are not available.

12.5 Results of PBT and vPvB assessment
  Data are not available.

12.6 Other adverse effects
  Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
  Sewage disposal-relevant information
  Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.
  Waste treatment of containers/packages
  Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks
  Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1 UN number
  Not subject to transport regulations

14.2 UN proper shipping name
  not relevant

14.3 Transport hazard class(es)
  none

14.4 Packing group
  not relevant

14.5 Environmental hazards
  non-environmentally hazardous acc. to the dangerous goods regulations
14.6 **Special precautions for user**
There is no additional information.

14.7 **Transport in bulk according to Annex II of MARPOL and the IBC Code**
The cargo is not intended to be carried in bulk.

**Information for each of the UN Model Regulations**

- **Transport of dangerous goods by road or rail (49 CFR US DOT)**
  Not subject to transport regulations.

- **International Maritime Dangerous Goods Code (IMDG)**
  Not subject to IMDG.

- **International Civil Aviation Organization (ICAO-IATA/DGR)**
  Not subject to ICAO-IATA.

**SECTION 15: Regulatory information**

15.1 **Safety, health and environmental regulations specific for the product in question**

**National regulations (United States)**

- **Toxic Substance Control Act (TSCA)**
  all ingredients are listed

- **Superfund Amendment and Reauthorization Act (SARA TITLE III )**
  - The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)
    none of the ingredients are listed
  - Specific Toxic Chemical Listings (EPCRA Section 313)
    none of the ingredients are listed

- **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**
  - List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

<table>
<thead>
<tr>
<th>Name of substance</th>
<th>CAS No</th>
<th>Remarks</th>
<th>Statutory code</th>
<th>Final RQ pounds (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Phosphate Dibasic Anhydrous</td>
<td>7558-79-4</td>
<td></td>
<td>1</td>
<td>5000 (2270)</td>
</tr>
<tr>
<td>Sodium Hydroxide ACS Grade Pellets</td>
<td>1310-73-2</td>
<td></td>
<td>1</td>
<td>1000 (454)</td>
</tr>
</tbody>
</table>

**Legend**

1 "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act

**Clean Air Act**
none of the ingredients are listed
### New Jersey Worker and Community Right to Know Act

#### Right to Know Hazardous Substance List

<table>
<thead>
<tr>
<th>Name acc. to inventory</th>
<th>CAS No</th>
<th>Remarks</th>
<th>Classifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM PHOSPHATE, DIBASIC (PHOSPHORIC ACID, DISODIUM SALT)</td>
<td>7558-79-4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sodium hydroxide</td>
<td>1310-73-2</td>
<td></td>
<td>CO R1</td>
</tr>
</tbody>
</table>

**Legend**

- CO Corrosive
- R1 Reactive - First Degree

#### California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

none of the ingredients are listed

#### Industry or sector specific available guidance(s)

**NPCA-HMIS® III**


<table>
<thead>
<tr>
<th>Category</th>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic</td>
<td>/</td>
<td>none</td>
</tr>
<tr>
<td>Health</td>
<td>0</td>
<td>no significant risk to health</td>
</tr>
<tr>
<td>Flammability</td>
<td>0</td>
<td>material that will not burn under typical fire conditions</td>
</tr>
<tr>
<td>Physical hazard</td>
<td>0</td>
<td>material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive</td>
</tr>
<tr>
<td>Personal protection</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

**NFPA® 704**


<table>
<thead>
<tr>
<th>Category</th>
<th>Degree of hazard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>0</td>
<td>material that will not burn under typical fire conditions</td>
</tr>
<tr>
<td>Health</td>
<td>0</td>
<td>material that, under emergency conditions, would offer no hazard beyond that of ordinary combustible material</td>
</tr>
<tr>
<td>Instability</td>
<td>0</td>
<td>material that is normally stable, even under fire conditions</td>
</tr>
<tr>
<td>Special hazard</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### National inventories

<table>
<thead>
<tr>
<th>Country</th>
<th>Inventory</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
<td>TSCA</td>
<td>all ingredients are listed</td>
</tr>
</tbody>
</table>

**Legend**

- TSCA Toxic Substance Control Act
15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information, including date of preparation or last revision

Key literature references and sources for data


Classification procedure

Physical and chemical properties: The classification is based on tested mixture.
Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Disclaimer

The information contained herein is believed to be accurate but is not warranted to be so. Data and calculation are based on information furnished by the manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstance of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in section 1. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Teknova, inc. Shall not be held liable for any damage resulting from handling or from contact with the above product.

Teknova, inc.