

Issuing Date 09-Dec-2015

Revision Date 09-Dec-2015

Revision Number B

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

### GHS product identifier

**Product Name** P400SC™ Waterworks™ Cleaning Solution

### Other means of identification

**SSYS Part Number** 400625-0001

**UN-Number** UN1823

**Synonyms** Alkaline cleaning agent

### Recommended use of the chemical and restrictions on use

**Recommended Use** Additive manufacturing

**Uses advised against** No information available

### Supplier's details

#### **Supplier Address**

Stratasys Inc  
7665 Commerce Way  
Eden Prairie, MN  
55344  
TEL: 1(952) 937 3000

### Emergency telephone number

**Emergency Telephone Number** 1(952) 937 3000  
+49 722 97772281 - Global - English language response  
+1 978 495 5580 - USA - Multi lingual response

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200).

|                                   |                           |
|-----------------------------------|---------------------------|
| Skin Corrosion/Irritation         | Category 1 Subcategory 1A |
| Serious Eye Damage/Eye Irritation | Category 1                |

### GHS Label elements, including precautionary statements

#### Emergency Overview

|   |               |
|---|---------------|
| <b>Signal Word</b>                        | <b>Danger</b> |
| <b>Hazard Statements</b>                  |               |
| • Causes severe skin burns and eye damage |               |

**Appearance** White.**Physical State** Solid (powder).**Odor** None.**Precautionary Statements****Prevention**

- Do not breathe dust/fume/gas/mist/vapors/spray.
- Wash face, hands and any exposed skin thoroughly after handling.
- Wear protective gloves/protective clothing/eye protection/face protection.

**General Advice**

- Immediately call a POISON CENTER or doctor/physician.
- Specific treatment (see supplemental first aid instructions on this label)

**Eyes**

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Immediately call a POISON CENTER or doctor/physician.

**Skin**

- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- Wash contaminated clothing before reuse.

**Inhalation**

- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

**Ingestion**

- IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

**Storage**

- Store locked up.

**Disposal**

- Dispose of contents/container to an approved waste disposal plant.

**Hazard Not Otherwise Classified (HNOC)**

Not applicable.

**Other information**

Harmful to aquatic life.

6% of the mixture consists of ingredient(s) of unknown toxicity.

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Synonyms**

Alkaline cleaning agent

| Chemical Name         | CAS-No    | Weight % | Trade secret |
|-----------------------|-----------|----------|--------------|
| Sodium carbonate      | 497-19-8  | 60-70    | *            |
| Sodium hydroxide      | 1310-73-2 | 20-30    | *            |
| Sodium lauryl sulfate | 151-21-3  | 1-5      | *            |
| Sodium metasilicate   | 6834-92-0 | 1-5      | *            |

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

## 4. FIRST AID MEASURES

### Description of necessary first-aid measures

|                                   |   |
|-----------------------------------|---|
| <b>General Advice</b>             | Immediate medical attention is required.  |
| <b>Eye Contact</b>                | Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. |
| <b>Skin Contact</b>               | Immediate medical attention is required. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.  |
| <b>Inhalation</b>                 | Move to fresh air. If breathing is difficult, give oxygen. If symptoms persist, call a physician.   |
| <b>Ingestion</b>                  | Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.                                  |
| <b>Protection of First-aiders</b> | Use personal protective equipment. Avoid contact with skin, eyes and clothing.  |

### Most important symptoms/effects, acute and delayed

**Most Important Symptoms/Effects** Corrosive. Serious eye irritation or damage.

### Indication of immediate medical attention and special treatment needed, if necessary

**Notes to Physician** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Water spray. Dry powder. Carbon dioxide (CO<sub>2</sub>). Foam.

**Unsuitable Extinguishing Media** No information available.

### Specific Hazards Arising from the Chemical

Burning produces obnoxious and toxic fumes. Carbon monoxide. Carbon dioxide (CO<sub>2</sub>). Nitrogen oxides (NO<sub>x</sub>)

### Explosion Data

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions** Attention! Corrosive material. Evacuate personnel to safe areas. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak. High risk of slipping due to leakage/spillage of product. Avoid inhalation of dust. Avoid dust formation. Refer to Section 8 for personal protective equipment.

### Environmental Precautions

**Environmental Precautions** Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Should not be released into the environment. See Section 12 for additional Ecological Information.

### Methods and materials for containment and cleaning up

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for Cleaning Up** Sweep up and shovel into suitable containers for disposal.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid dust formation. Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Avoid breathing dust. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Do not take internally. Wash thoroughly after handling.

### Conditions for safe storage, including any incompatibilities

**Storage** Keep tightly closed in a dry and cool place. Keep away from direct sunlight. Keep away from heat. Store away from incompatible materials. See Section 10 for Incompatibles.

**Incompatible Products** Strong reducing agents. Strong oxidizing agents. Metals.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

#### Exposure Guidelines

| Chemical Name                 | ACGIH TLV                    | OSHA PEL   | NIOSH IDLH   |
|-------------------------------|------------------------------|--|--|
| Sodium hydroxide<br>1310-73-2 | Ceiling: 2 mg/m <sup>3</sup> | TWA: 2 mg/m <sup>3</sup><br>(vacated) Ceiling: 2 mg/m <sup>3</sup> | IDLH: 10 mg/m <sup>3</sup><br>Ceiling: 2 mg/m <sup>3</sup> |

### Appropriate engineering controls

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems

### Individual protection measures, such as personal protective equipment

**Eye/Face Protection** Tightly fitting safety goggles.  
**Skin and Body Protection** Impervious clothing. Impervious gloves.  
**Respiratory Protection** No protective equipment is needed under normal use conditions. Effective dust mask

**Hygiene Measures** When using, do not eat, drink or smoke. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. For environmental protection, remove and wash all contaminated protective equipment before re-use. Wear suitable gloves and eye/face protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

|                       |                 |                       |                           |
|-----------------------|-----------------|-----------------------|---------------------------|
| <b>Physical State</b> | Solid (powder). | <b>Appearance</b>     | White.                    |
| <b>Odor</b>           | None.           | <b>Odor Threshold</b> | No information available. |

| <u>Property</u>                        | <u>Values</u>     | <u>Remarks/ - Method</u> |
|--|-------------------|--------------------------|
| pH                                     | No data available | None known               |
| Melting Point/Range                    | No data available | None known               |
| Boiling Point/Boiling Range            | No data available | None known               |
| Flash Point                            | No data available | None known               |
| Evaporation rate                       | No data available | None known               |
| Flammability (solid, gas)              | No data available | None known               |
| Flammability Limits in Air             |                   |                          |
| upper flammability limit               | No data available |                          |
| lower flammability limit               | No data available |                          |
| Vapor Pressure                         | No data available | None known               |
| Vapor Density                          | No data available | None known               |
| Specific Gravity                       | No data available | None known               |
| Water Solubility                       | No data available | None known               |
| Solubility in other solvents           | No data available | None known               |
| Partition coefficient: n-octanol/water | No data available | None known               |
| Autoignition Temperature               | No data available | None known               |
| Decomposition Temperature              | No data available | None known               |
| Viscosity                              | No data available | None known               |
| <br>                                   |                   |                          |
| Flammable Properties                   | Not flammable     |                          |
| <br>                                   |                   |                          |
| Explosive Properties                   | No data available |                          |
| Oxidizing Properties                   | No data available |                          |
| <br>                                   |                   |                          |
| <u>Other information</u>               |                   |                          |
| <br>                                   |                   |                          |
| VOC Content (%)                        | No data available |                          |

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

None under normal processing.

### Hazardous Polymerization

Hazardous polymerization does not occur.

### Conditions to avoid

Incompatible products. Heat, flames and sparks. Static discharge.

### Incompatible materials

Strong reducing agents. Strong oxidizing agents. Metals.

### Hazardous decomposition products

Burning produces obnoxious and toxic fumes. Carbon oxides. Nitrogen oxides (NOx). Ammonia.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure****Product Information****Inhalation**

Inhalation of dust in high concentration may cause irritation of respiratory system.

**Eye Contact**

Causes serious eye damage. Corrosive to the eyes and may cause severe damage including blindness.

**Skin Contact**

Corrosive. Causes severe skin burns.

**Ingestion**

May be harmful if swallowed. Ingestion of corrosive substances can cause burns of the upper digestive and respiratory tract.

| Chemical Name         | LD50 Oral            | LD50 Dermal            | LC50 Inhalation                     |
|-----------------------|----------------------|------------------------|-------------------------------------|
| Sodium carbonate      | = 4090 mg/kg ( Rat ) | -                      | -                                   |
| Sodium hydroxide      | -                    | 1350 mg/kg ( Rabbit )  | -                                   |
| Sodium lauryl sulfate | = 1288 mg/kg ( Rat ) | = 580 mg/kg ( Rabbit ) | >3900 mg/m <sup>3</sup> ( Rat ) 1 h |
| Sodium metasilicate   | = 600 mg/kg ( Rat )  | -                      | -                                   |

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

No information available.

**Delayed and immediate effects and also chronic effects from short and long term exposure****Sensitization**

No information available.

**Mutagenic Effects**

No information available.

**Carcinogenicity**

Contains no ingredients above reportable quantities listed as a carcinogen.

**Reproductive Toxicity**

No information available.

**STOT - single exposure**

No information available.

**STOT - repeated exposure**

No information available.

**Target Organ Effects**

Eyes. Respiratory system. Skin.

**Aspiration Hazard**

No information available.

**Numerical measures of toxicity - Product****Acute Toxicity**

6% of the mixture consists of ingredient(s) of unknown toxicity.

*The following values are calculated based on chapter 3.1 of the GHS document:***LD50 Oral**

4966 mg/kg; Acute toxicity estimate

**LD50 Dermal**

5063 mg/kg; Acute toxicity estimate

**12. ECOLOGICAL INFORMATION****Ecotoxicity**

Harmful to aquatic life

| Chemical Name                 | Toxicity to Algae                     | Toxicity to Fish  | Toxicity to Microorganisms | Daphnia Magna (Water Flea)               |
|-------------------------------|---------------------------------------|---|----------------------------|--|
| Sodium carbonate<br>497-19-8  | EC50 120 h: = 242 mg/L<br>(Nitzschia) | LC50 96 h: = 300 mg/L static<br>(Lepomis macrochirus) LC50<br>96 h: 310 - 1220 mg/L<br>static (Pimephales promelas) |                            | EC50 48 h: = 265 mg/L<br>(Daphnia magna) |
| Sodium hydroxide<br>1310-73-2 |                                       | LC50 96 h: = 45.4 mg/L<br>static (Oncorhynchus<br>mykiss)   |                            |  |

|                                   |   |   |  |  |
|-----------------------------------|---|---|--|--|
| Sodium lauryl sulfate<br>151-21-3 | EC50 72 h: = 53 mg/L<br>(Desmodesmus subspicatus)<br>EC50 96 h: 30 - 100 mg/L<br>(Desmodesmus subspicatus)<br>EC50 96 h: = 117 mg/L<br>(Pseudokirchneriella<br>subcapitata) EC50 96 h:<br>3.59 - 15.6 mg/L static<br>(Pseudokirchneriella<br>subcapitata) | LC50 96 h: 8 - 12.5 mg/L<br>static (Pimephales promelas)<br>LC50 96 h: 15 - 18.9 mg/L<br>static (Pimephales promelas)<br>LC50 96 h: 22.1 - 22.8<br>mg/L static (Pimephales<br>promelas) LC50 96 h: 4.3 -<br>8.5 mg/L static<br>(Oncorhynchus mykiss)<br>LC50 96 h: = 4.62 mg/L<br>flow-through (Oncorhynchus<br>mykiss) LC50 96 h: = 4.2<br>mg/L (Oncorhynchus<br>mykiss) LC50 96 h: = 7.97<br>mg/L flow-through<br>(Brachydanio rerio) LC50 96<br>h: 9.9 - 20.1 mg/L<br>semi-static (Brachydanio<br>rerio) LC50 96 h: 4.06 -<br>5.75 mg/L static (Lepomis<br>macrochirus) LC50 96 h:<br>4.2 - 4.8 mg/L flow-through<br>(Lepomis macrochirus) LC50<br>96 h: = 4.5 mg/L (Lepomis<br>macrochirus) LC50 96 h:<br>5.8 - 7.5 mg/L static<br>(Pimephales promelas) LC50<br>96 h: 10.2 - 22.5 mg/L<br>semi-static (Pimephales<br>promelas) LC50 96 h: 6.2 -<br>9.6 mg/L (Pimephales<br>promelas) LC50 96 h: 13.5<br>- 18.3 mg/L semi-static<br>(Poecilia reticulata) LC50 96<br>h: 10.8 - 16.6 mg/L static<br>(Poecilia reticulata) LC50 96<br>h: = 1.31 mg/L semi-static<br>(Cyprinus carpio) | EC50 = 0.46 mg/L 30 min<br>EC50 = 0.72 mg/L 15 min<br>EC50 = 1.19 mg/L 5 min | EC50 48 h: = 1.8 mg/L<br>(Daphnia magna) |
| Sodium metasilicate<br>6834-92-0  |   | LC50 96 h: = 210 mg/L<br>semi-static (Brachydanio<br>rerio) LC50 96 h: = 210 mg/L<br>(Brachydanio rerio)  |  | EC50 96 h: = 216 mg/L<br>(Daphnia magna) |

**Persistence and Degradability** No information available.

**Bioaccumulation** No information available.

| Chemical Name         | Log Pow |
|-----------------------|---------|
| Sodium lauryl sulfate | 1.6     |

**Other Adverse Effects**

No information available.

### 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods** Dispose of in accordance with federal, state, and local regulations

**Contaminated Packaging** Do not re-use empty containers.

### 14. TRANSPORT INFORMATION

**DOT**

**UN-Number** UN1823  
**Proper shipping name** Sodium hydroxide, solid mixture  
**Hazard Class** 8  
**Packing Group** II  
**Description** UN1823, Sodium hydroxide, solid mixture, 8, II

**Emergency Response Guide Number** 154

**TDG**

**UN-Number** UN1823  
**Proper Shipping Name** Sodium hydroxide, solid mixture  
**Hazard Class** 8  
**Packing Group** II  
**Description** UN1823, Sodium hydroxide, solid mixture, 8, II

**MEX**

**UN-Number** UN1823  
**Proper Shipping Name** Sodium hydroxide, solid mixture  
**Hazard Class** 8  
**Packing Group** II  
**Description** UN1823, Sodium hydroxide, solid mixture, 8, II

**ICAO**

**UN-Number** UN1823  
**Proper shipping name** Sodium hydroxide, solid mixture  
**Hazard Class** 8  
**Packing Group** II  
**Description** UN1823, Sodium hydroxide, solid mixture, 8, II

**IATA**

**UN-Number** UN1823  
**Proper Shipping Name** Sodium hydroxide, solid mixture  
**Hazard Class** 8  
**Packing Group** II  
**ERG Code** 8L  
**Description** UN1823, Sodium hydroxide, solid mixture, 8, II

**IMDG/IMO**

**UN-Number** UN1823  
**Proper Shipping Name** Sodium hydroxide, solid mixture  
**Hazard Class** 8  
**Packing Group** II  
**EmS No.** F-A, S-B  
**Description** UN1823, Sodium hydroxide, solid mixture, 8, II

**RID**

**UN-Number** UN1823  
**Proper Shipping Name** Sodium hydroxide, solid mixture  
**Hazard Class** 8  
**Packing Group** II  
**Classification Code** C6  
**Description** UN1823, Sodium hydroxide, solid mixture, 8, II

**ADR**

**UN-Number** UN1823  
**Proper Shipping Name** Sodium hydroxide, solid mixture  
**Hazard Class** 8  
**Packing Group** II  
**Classification Code** C6  
**Tunnel Restriction Code** (E)  
**Description** UN1823, Sodium hydroxide, solid mixture, 8, II, (E)

**ADN**

**Proper Shipping Name** Sodium hydroxide, solid mixture  
**Hazard Class** 8



|                            |  |
|----------------------------|--|
| <b>Packing Group</b>       | II   |
| <b>Classification Code</b> | C6   |
| <b>Description</b>         | UN1823, Sodium hydroxide, solid mixture, 8, II |
| <b>Limited Quantity</b>    | 1 kg   |

## 15. REGULATORY INFORMATION

### International Inventories

|              |                |
|--------------|----------------|
| <b>TSCA</b>  | Complies       |
| <b>DSL</b>   | Not determined |
| <b>IECSC</b> | -              |

### Legend

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

### U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

### SARA 311/312 Hazard Categories

|  |     |
|--|-----|
| <b>Acute Health Hazard</b>               | Yes |
| <b>Chronic Health Hazard</b>             | No  |
| <b>Fire Hazard</b>                       | No  |
| <b>Sudden Release of Pressure Hazard</b> | No  |
| <b>Reactive Hazard</b>                   | No  |

### Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

| Chemical Name    | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Sodium hydroxide | 1000 lb                     |                        |                           | X                          |

### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

| Chemical Name    | Hazardous Substances RQs | Extremely Hazardous Substances RQs | RQ  |
|------------------|--------------------------|------------------------------------|---|
| Sodium hydroxide | 1000 lb                  |                                    | RQ 1000 lb final RQ<br>RQ 454 kg final RQ |

### U.S. State Regulations

#### California Proposition 65

This product does not contain any Proposition 65 chemicals.

### U.S. State Right-to-Know Regulations

"X" designates that the ingredients are listed on the state right to know list.

| Chemical Name    | New Jersey | Massachusetts | Pennsylvania | Illinois | Rhode Island |
|------------------|------------|---------------|--------------|----------|--------------|
| Sodium hydroxide | X          | X             | X            |          | X            |
| Sodium sulfate   |            | X             | X            |          |              |

### U.S. EPA Label Information

**EPA Pesticide Registration Number** Not applicable

**16. OTHER INFORMATION**

|                    |                      |   |                     |   |                        |   |                                      |   |
|--------------------|----------------------|---|---------------------|---|------------------------|---|--------------------------------------|---|
| <b><u>NFPA</u></b> | <b>Health Hazard</b> | 3 | <b>Flammability</b> | 0 | <b>Instability</b>     | 0 | <b>Physical and Chemical Hazards</b> | - |
| <b><u>HMIS</u></b> | <b>Health Hazard</b> | 3 | <b>Flammability</b> | 0 | <b>Physical Hazard</b> | 0 | <b>Personal Protection</b>           | X |

**Prepared By** Product Stewardship  
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**Issuing Date** 09-Dec-2015  
**Revision Date** 09-Dec-2015  
**Revision Note** Initial Release.

**General Disclaimer**  
 The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of Safety Data Sheet**