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Revision Number 0

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

Signal Word Danger
Hazard Statements
• 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

General Advice	Immediate medical attention is required.
Eye Contact	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.
Skin Contact	Immediate medical attention is required. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. If symptoms persist, call a physician.
Ingestion	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.
Protection of First-aiders	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 (CO₂). Foam.

Unsuitable Extinguishing Media No information available.

Specific Hazards Arising from the Chemical

Burning produces obnoxious and toxic fumes. Carbon monoxide. Carbon dioxide (CO₂). Nitrogen oxides (NO_x)

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.
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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 1310-73-2	Ceiling: 2 mg/m ³	TWA: 2 mg/m ³ (vacated) Ceiling: 2 mg/m ³	IDLH: 10 mg/m ³ Ceiling: 2 mg/m ³

Appropriate engineering controls

Engineering Measures	Showers Eyewash stations Ventilation systems
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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.
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9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical State	Solid (powder).	Appearance	White.
Odor	None.	Odor Threshold	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
Flammable Properties	Not flammable	
Explosive Properties	No data available	
Oxidizing Properties	No data available	
<u>Other information</u>		
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 ³ (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 497-19-8	EC50 120 h: = 242 mg/L (Nitzschia)	LC50 96 h: = 300 mg/L static (Lepomis macrochirus) LC50 96 h: 310 - 1220 mg/L static (Pimephales promelas)		EC50 48 h: = 265 mg/L (Daphnia magna)
Sodium hydroxide 1310-73-2		LC50 96 h: = 45.4 mg/L static (Oncorhynchus mykiss)		

Sodium lauryl sulfate 151-21-3	EC50 72 h: = 53 mg/L (Desmodesmus subspicatus) EC50 96 h: 30 - 100 mg/L (Desmodesmus subspicatus) EC50 96 h: = 117 mg/L (Pseudokirchneriella subcapitata) EC50 96 h: 3.59 - 15.6 mg/L static (Pseudokirchneriella subcapitata)	LC50 96 h: 8 - 12.5 mg/L static (Pimephales promelas) LC50 96 h: 15 - 18.9 mg/L static (Pimephales promelas) LC50 96 h: 22.1 - 22.8 mg/L static (Pimephales promelas) LC50 96 h: 4.3 - 8.5 mg/L static (Oncorhynchus mykiss) LC50 96 h: = 4.62 mg/L flow-through (Oncorhynchus mykiss) LC50 96 h: = 4.2 mg/L (Oncorhynchus mykiss) LC50 96 h: = 7.97 mg/L flow-through (Brachydanio rerio) LC50 96 h: 9.9 - 20.1 mg/L semi-static (Brachydanio rerio) LC50 96 h: 4.06 - 5.75 mg/L static (Lepomis macrochirus) LC50 96 h: 4.2 - 4.8 mg/L flow-through (Lepomis macrochirus) LC50 96 h: = 4.5 mg/L (Lepomis macrochirus) LC50 96 h: 5.8 - 7.5 mg/L static (Pimephales promelas) LC50 96 h: 10.2 - 22.5 mg/L semi-static (Pimephales promelas) LC50 96 h: 6.2 - 9.6 mg/L (Pimephales promelas) LC50 96 h: 13.5 - 18.3 mg/L semi-static (Poecilia reticulata) LC50 96 h: 10.8 - 16.6 mg/L static (Poecilia reticulata) LC50 96 h: = 1.31 mg/L semi-static (Cyprinus carpio)	EC50 = 0.46 mg/L 30 min EC50 = 0.72 mg/L 15 min EC50 = 1.19 mg/L 5 min	EC50 48 h: = 1.8 mg/L (Daphnia magna)
Sodium metasilicate 6834-92-0		LC50 96 h: = 210 mg/L semi-static (Brachydanio rerio) LC50 96 h: = 210 mg/L (Brachydanio rerio)		EC50 96 h: = 216 mg/L (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
Packing Group II
Classification Code C6
Description UN1823, Sodium hydroxide, solid mixture, 8, II
Limited Quantity 1 kg

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL	Not determined
IECSC	-

Legend

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

DSL/NDL - 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

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	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 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

NFPA	Health Hazard 3	Flammability 0	Instability 0	Physical and Chemical Hazards -
HMIS	Health Hazard 3	Flammability 0	Physical Hazard 0	Personal Protection X

Prepared By	Product Stewardship 23 British American Blvd. Latham, NY 12110 1-800-572-6501
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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