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Revision Number B

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

GHS product identifier

Product Name Ecoworks™ Cleaning Agent

Other means of identification

SSYS Part Number 400619-0001

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).

Acute Oral Toxicity	Category 4
Serious Eye Damage/Eye Irritation	Category 2

GHS Label elements, including precautionary statements

Emergency Overview

Signal Word	Warning
Hazard Statements	
• Harmful if swallowed	
• Causes serious eye irritation	

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

- Wash face, hands and any exposed skin thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear eye/face protection.

General Advice

- None

Eyes

- IF IN EYES: 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.

Ingestion

- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- Rinse mouth.

Storage

- None

Disposal

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

Hazard Not Otherwise Classified (HNOC)

Not applicable.

Other information

Toxic to aquatic life.

16.25% 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 percarbonate	15630-89-4	45-55	*
Sodium carbonate	497-19-8	15-25	*
Tetrasodium N,N-bis(carboxylatomethyl)-L-glutamate	51981-21-6	10-20	*
Citric acid	77-92-9	10-20	*

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

4. FIRST AID MEASURES

Description of necessary first-aid measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
Skin Contact	Wash skin with soap and water. If skin irritation persists, call a physician.
Inhalation	Move to fresh air. If symptoms persist, call a physician.
Ingestion	Drink plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most important symptoms/effects, acute and delayed

Most Important Symptoms/Effects Eye irritation/reactions.

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

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Water spray. Dry powder. Foam. Carbon dioxide (CO₂).

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 Avoid contact with skin, eyes and clothing. Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Avoid inhalation of dust. High risk of slipping due to leakage/spillage of product.

Environmental Precautions

Environmental Precautions Avoid release to 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 contact with skin, eyes and clothing. Wear personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. 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 oxidizing agents. Strong reducing agents.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

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 Protective gloves.
Respiratory Protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

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

Other information

VOC Content (%)	No data available
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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.

Incompatible materials

Strong oxidizing agents. Strong reducing agents.

Hazardous decomposition products

Nitrogen oxides (NO_x). Carbon monoxide (CO). Carbon dioxide (CO₂). Ammonia.

11. TOXICOLOGICAL INFORMATION

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

Inhalation	Product dust may cause irritation of respiratory tract.
Eye Contact	Dust contact with the eyes can lead to mechanical irritation.
Skin Contact	Contact with dust can cause mechanical irritation or drying of the skin.
Ingestion	Harmful if swallowed.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium percarbonate	= 1034 mg/kg (Rat)	-	-
Sodium carbonate	= 4090 mg/kg (Rat)	-	-
Citric acid	3000 mg/kg (Rat)	-	-

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	No information available.
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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. Skin. Respiratory system.
Aspiration Hazard No information available.

Numerical measures of toxicity - Product

Acute Toxicity 16.25% 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 1454 mg/kg; Acute toxicity estimate

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Toxic to aquatic life.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Sodium percarbonate 15630-89-4	EC50 240 h: = 70 mg/L (Chlorella emersonii)	LC50 96 h: = 70.7 mg/L static (Pimephales promelas)		EC50 48 h: = 4.9 mg/L (Daphnia pulex)
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)
Citric acid 77-92-9		LC50 96 h: = 1516 mg/L static (Lepomis macrochirus)		EC50 72 h: = 120 mg/L (Daphnia magna)

Persistence and Degradability No information available.

Bioaccumulation No information available.

Chemical Name	Log Pow
Citric acid	-1.72

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 Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
 DSL Complies

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 does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

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
Citric acid	-	-	RQ Section number 180.950

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations.

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

<u>NFPA</u>	Health Hazard 2	Flammability 0	Instability 0	Physical and Chemical Hazards -
<u>HMIS</u>	Health Hazard 2	Flammability 0	Physical Hazard 0	Personal Protection X

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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