

SAFETY DATA



Issuing Date 01-Mar-2016

Revision Date 25-Sep-2018

Revision number 04

This product is packaged for retail sale and intended for consumer use. The U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200) does not apply to "consumer products" as defined by the U.S. Consumer Product Safety Act and Federal Hazardous Substances Act, including consumer products used in the workplace under typical duration and frequency of exposure as experienced by consumers when used for the intended purpose. This Safety Data Sheet (SDS) is provided as a courtesy to assist with proper use and safe handling. Applicable consumer product use and safety information is provided on the product label and is included for easy reference in Section 16 of this SDS. This SDS is designed to cover both U.S. and Canada. Differences between U.S. and Canadian requirements are noted where applicable

Section 1: Identification of Product and Company

Product Name	Citrus Essence Automatic Dish Washing Powder
Synonyms	None
Recommended Use	Automatic Dishwashing
Uses advised against	Follow Directions on Product Label

Manufacturer Name	Bi-O-Kleen Industries, Inc. dba Biokleen
Address	PO Box 820689, Vancouver, WA 98665, USA
Phone Number	360-576-0064
Fax	360-576-0065
Email address	barry@biokleenhome.com

Emergency Telephone Number	800-535-5053
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Section 2: Hazard Identification

Classification	This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)
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Eye damage/eye irritation	Category 2A
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Signal Word	Warning
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Hazard Statements	H319 Causes serious eye irritation
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Hazard Pictogram(s)	
Exclamation mark	

Precautionary Statement - General Household Products	Keep Away from Children. If medical attention is needed, keep product label in hand. Read label before use
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Precautionary Statement - Prevention	Wash hands thoroughly after handling
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Precautionary Statement - Response
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to so. Continue rinsing. Seek medical attention if eye irritation persists

Precautionary Statement - Storage
None

Precautionary Statement - Disposal
None

Hazards not otherwise identified
None

Other Information
Maybe harmful if swallowed
May cause mild skin irritation

Interaction with other chemicals
Not known

Section 3: Composition, Information on Ingredients

Regardless of hazard classification, Biokleen lists all known ingredients and, known incidental ingredients $\geq 0.5\%$ on the product label.

Ingredients	Function	CAS number	Concentration ¹	LD50 ²
Sodium Carbonate	mineral-based cleaning agent	497-19-8	30% - 80%	4050 mg/Kg
Sodium Sulfate	flow aid	7757-82-6	10% -30%	5989 mg/Kg
Zeolite	mineral	1318-02-1	5% - 10%	>10000 mg/Kg
Sodium Citrate	pH adjuster	6132-04-3	5% - 10%	6730 mg/kg
Sodium Silicate	mineral based cleaning enhancer	1344-09-8	1% - 5%	> 1960 mg/Kg
P(AA/NaHSO3)_Na salt	non-phosphate cleaning agent	68479-09-4	5% - 20%	>5000 mg/Kg
Hydrogen Peroxide	non-chlorine stain remover	7722-84-1	0% - 1% ¹	2000 mg/Kg
Amylase Blend	plant derived enzymes soil remover	9000-90-2	0% - 1%	>2000 mg/kg
Protease Blend	plant derived enzymes soil remover	9014-01-1	0% - 1%	1800 mg/Kg
Citrus Terpene	plant based degreasing agent	8028-48-6	5% - 20%	> 2000 mg/Kg
Citrus Grandis (Grapefruit) Seed Extract)	plant derived preservative	90045-43-5	< 0.05%	> 5000 mg/Kg
Glycerine	plant based foam stabilizer	56-81-5	0% - 1%	12600 mg/Kg
Sodium Chloride	mineral viscosity modifier	7647-14-5	0% - 1%	> 2000 mg/Kg

¹The exact concentrations have been withheld as a trade secret.

²LD50 Acute oral toxicity (rat) values are provided by ingredient suppliers or scientific literature and is not generated by Biokleen. Biokleen does not test on animals to generate LD50 data.

Section 4: First Aid Measures

Eye Contact	Rinse with plenty of water immediately. Wash under eyelids too. Do not rub affected area. Seek medical attention with irritation persists.
Skin Contact	Rinse off immediately with plenty of water. Seek medical attention if irritation persists.
Inhalation	No need for first aid. Get medical attention immediately if symptoms occur.
Ingestion	Rinse mouth immediately and drink 4-8 oz of water. Never give anything by mouth to an unconscious person. Call a physician if nausea or pain occurs.
Notes to physician	Treat symptomatically
Most important symptoms and effects	Burning sensation with acute exposure

Section 5: Fire Fighting Measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstance and surrounding.
Unsuitable Extinguishing Media	Caution: Use of water spray may be insufficient.
Specific Hazards arising from the chemical mixture	Not available
Explosion Data	Not available
Protective Equipment and Precautions for Firefighters	As in any fire, wear self-contained breathing apparatus and full protective gear.

Section 6: Accidental Release Measures

Personal Precautions	
Industrial Setting	Wear appropriate personal protective equipment (refer to Section 8).
Environmental Precautions	Avoid entry into lakes, streams, ponds or public waterways.
Methods for Containment and Cleaning Up	
Household Setting	Small spills and leaks may be cleaned up and disposed of in normal household trash or diluted and disposed of via sewer.
Industrial Setting	Before attempting clean up, refer to hazard data given. Material may be slippery if spilled and wet. Prevent spill from entering a waterway. Stop spill at source and contain material. Dispose liquid in accordance with all applicable local, state, and federal regulations. Small amounts may be flushed to sewer.

Section 7: Handling and Storage

Safe Handling	
Household Setting	Use as directed on product label.
Industrial Setting	Wear appropriate personal protective equipment (refer to section 8). KEEP OUT OF REACH OF CHILDREN AND PETS.
Safe Storage	Store in original container and keep container closed when not in use. Avoid freezing.
Storage Incompatibilities	None known.

Section 8: Exposure Controls, Personal Protection

Exposure Limits	None known.
Engineering Controls	Not applicable.
Personal Protective Equipment (PPE)	
Household Setting	No special precautions necessary as long as product is used as directed.
Industrial Setting	
Respiratory Protection	None required under normal conditions. General ventilation required.
Eye Protection	Goggles or other protective eye wear may be worn for protection.
Skin Protection	Gloves may be worn for protection.

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Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.
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Section 9: Physical and Chemical Properties

Physical State	Powder
Color	White
Clarity	Solid
Odor	Citrus
Odor Threshold	Not known
pH	10.0 – 12.0
Melting Point	Not available.
Freezing Point	Not available.
Initial Boiling Point and Boiling Range	Not available.
Flash Point	Not available.
Evaporation Rate	Not available.
Upper Explosive Limit (UEL)	Not applicable.
Lower Explosive Limit (LEL)	Not applicable.
Vapor Pressure (mmHg)	Not available.
Specific Gravity (H ₂ O = 1)	Not available.
Relative Density	Not available.
Vapor Density (Air = 1)	Not available.
Solubility in Water	Soluble
Partition Coefficient: n-octanol/water	Not available.
Viscosity	Not available.
VOC (weight %)	Not available.
Explosive Properties	Not available.
Decomposition temperature	Not available.

Section 10: Stability and Reactivity

Reactivity	None known.
Chemical Stability	Stable under recommended storage conditions
Possibility of Hazardous Reactions	None under normal processing
Conditions to Avoid	Excessive heat.
Incompatible Materials	
Household Setting	In general, cleaning products should not be mixed with other household chemicals, unless specifically provided for in the use directions.
Industrial Setting	Strong Acid. Strong Oxidizing agent. Strong Bases.
Hazardous Decomposition Products	None known.

Section 11: Toxicological Information

Potential Route(s) of Exposure	Eyes. Skin. Ingestion.
Effects of Acute Exposure	
Oral Toxicity	LD50 >2000 mg/kg, calculated based on ingredients.
Dermal Toxicity	Not available.
Inhalation Toxicity	Specific test data for the product is not available. May cause irritation of respiratory tract. Harmful if inhaled. (based on components).
Eye Contact	Irritant based on ingredients
Skin Contact	Non irritant based on ingredients.
Component Information	Refer to section 3 for ingredient LD50 (acute oral).
Effects of Chronic Exposure	No known effect based on ingredient information supplied.
Sensitization	May cause sensitization with prolonged contact.
Carcinogenicity	Contains no ingredients listed as a carcinogen
NTP	No Ingredients Listed

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OSHA	No Ingredients Listed
Reproductive Effects	No information available.
Teratogenicity	No information available.
Mutagenicity	No information available.
Target Organ Effects	No information available.

Section 12: Ecological Information

Ecotoxicity	Not available.
Persistence and Degradability	Not available. Non - Inorganic compounds expected to biodegrade.
Bioaccumulative Potential	Not applicable.
Mobility in Soil	Not available.
Environmental Fate	No adverse effects expected.

Section 13: Disposal Considerations

Product Waste	Any disposal must be in compliance with applicable local, state, provincial and federal laws and regulations.
Household Setting	Product residues in the bottle may be discarded in trash, or diluted with water and disposed via sewer. When used as directed, the product is septic-safe.
Industrial Setting	When disposed as waste in its original form, this product is not considered hazardous waste under Federal regulations (40 CFR 261), however regulations may vary by state or province and may designate it as hazardous waste. Check with your local waste and waste water authorities. We are aware of the following state waste classifications:
California Hazardous Waste Code	561
Connecticut Hazardous Waste Code	CT05
Washington Hazardous Waste Code	WT02
Empty Packaging	Offer empty container for recycling. If recycling is not available, discard in trash. 

Section 14: Transport Information

U.S. DOT	Not regulated.
U.S. States	See U.S. DOT for finished product classification for transport.
Waste	Regulated in some states if the product is disposed of in its original form as waste by commercial users/handlers. Refer to Section 13. for applicable state waste codes.
Canadian TDG (Surface Transport)	Not regulated.
IMDG (Marine Transport)	Not regulated.
IATA (Air Transport)	Not regulated.
MEX	Not regulated.
RID	Not regulated.
ADR	Not regulated.
AND	Not regulated.

Section 15: Regulatory Information

U.S.	
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Toxic Substances Control Act (TSCA)	This product complies with the inventory requirements of the U.S. Toxic Substances Control Act (TSCA).
California Prop 65	This product is not subject to the labeling requirements of California's Proposition 65.
California Air Resources Board (CARB)	Not applicable.
Section 313 of Title III of the Superfund Amendments and reauthorization Act of 1966. (SARA 313).	This product does not have any ingredients which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372
Clean Water Act (CWA)	This product does not contain any ingredient regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Canada	
Domestic Substances List (DSL)	This product complies with the inventory requirements under Canada's Domestic Substances List (DSL) or Non-Domestic Substances List (NDSL) or is otherwise in compliance with the New Substances Notification (NSN) regulations or exemptions.
WHMIS Hazard Class	Not determined.
Other	Fragrances used in this product comply with applicable International Fragrance Association (IFRA) guidance.

Right to Know	Regardless of hazard classification, Biokleen discloses all intentionally added ingredients and, if applicable incidental ingredients $\geq 0.5\%$ on the product label. Please refer to Section 3. of this SDS for ingredient listing.
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Section 16: Other Information

Hazardous Materials Identification System (HMIS) Rating Legend: 4-Severe, 3-Serious, 2-Moderate, 1-Slight, 0-Minimal	HEALTH	2
	FLAMMABILITY	1
	PHYSICAL HAZARDS	0
	PERSONAL PROTECTION	A

National Fire Protection Association (NFPA) Rating	Not determined
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Consumer Product Label Information

CAUTION: HARMFUL IF SWALLOWED. EYE IRRITANT HOW TO USE LOAD DISHWASHER: Make sure items are dishwasher safe. Load items with soiled surfaces facing the center and keep taller items away from the center. Silver, aluminum, and stainless steel should be washed in separate loads to avoid discoloration. ADD DETERGENT: Fill main dispenser cup according to machine directions and close the dispenser door. Close between uses. Store in a cool, dry place. KEEP OUT OF REACH OF CHILDREN. FIRST AID TREATMENT: For product contents, see ingredient list. CONTACT WITH EYES: Flush immediately with water for at least 15 minutes and consult a physician. IF SWALLOWED: Drink plenty of water and consult a physician

Disclaimer: The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of Safety Data Sheet