SAFETY DATA SHEET

1. Identification

Product Identifier	**Bio-Klenz**	
Other means of identification		
Product code	FC-3230	
Recommended use	Bio-enzymatic carpet pre-spray.	
Recommended restrictions	None.	
Manufacturer/distributor/supplier/importer information		
Company name	Full Circle Chemical Company	
Address	1493 Iron St. North Kansas City, MO 64116	
Telephone	(866) 424-3648	
Emergency phone number	PERS 24 hour Emergency	(800) 633-8253 (800) 633-8253

2. Hazard(s) Identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral Skin Irritant Eye Irritant	Category 5 Category 2 Category 2A
Environmental hazards	Not classified.	
OSHA defined hazards	Not listed.	
Label elements		



Signal word	Warning.
Hazard statement	May be harmful if swallowed. Causes skin irritation. Causes serious eye irritation.
Precautionary statement	
Prevention	Wash hands and exposed skin thoroughly after handling. Wear protective gloves. Wear eye protection/face protection.
Response	Call a POISON CENTER/doctor/medical professional if you feel unwell. IF ON SKIN: Wash with plenty water. Specific treatment (see Section 4 on the Safety Data Sheet) If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing before reuse. 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.
Storage	
Disposal	
Hazard(s) not otherwise classified (HNOC)	None.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Sodium Carbonate	497-19-8	20-30
Nonylphenol ethoxylate	127087-87-0	1-3
2-butoxyethanol	111-76-2	1-3
D-limonene	5989-27-5	1-3
Other components below reportable levels		30-60

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Neutralize burns with vinegar. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.
Eye contact	Rinse with water for at least 15 minutes. Remove contact lenses if present and easy to do so. Immediately call a physician or transport to hospital.
Ingestion	Rinse mouth. Get medical attention immediately. Do not induce vomiting.
Most important symptoms/effects, acute and delayed	Can cause serious eye damage. Can cause burning sensation in affected areas. Shortness of breath, respiratory tract irritation or damage.
Indication of immediate medical attention and special treatment needed	Provide general support measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse. Use with extreme caution.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO_2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protecting clothing must be worn in case of fire.
Fire-fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of vapors or mists. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	This product is miscible in water. Large spills: Place the material in containers using a broom or shovel. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with

water.

Small spills: Sweep up and put into containers. Clean surface thoroughly to remove residual contamination.

Never return spills to original container for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid discharge into areas not consistent with package labeling.

7. Handling and storage

Precautions for safe handling Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Store in original tightly closed container. Store away from incompatible materials (see section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
2-butoxyethanol	PEL	50 ppm

US ACGIH Threshold Limit Values

Components	Type	Value
2-butoxyethanol	STEL	20 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Species	Sampling Time
2-butoxyethanol	200 mg/g	Creatinine	Urine	End of shift.

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels to an acceptable level. It is recommended that users of this product perform a risk assessment to determine the appropriate personal protective equipment.

Individual protection measures, such as personal protective equipment

Eye/face protection Avoid contact with eyes. Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other None.

Respiratory protection Do not breathe dust. In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards None.

General hygiene considerations When using do not smoke or use chewing tobacco. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	
Physical State	Powder
Color	Green.
Odor	Citrus.
Odor threshold	Not available.
pH	9-10 (10% solution)
Melting/freezing point	Not applicable.
Initial boiling point and boiling range	Not applicable.
Flash point	Not applicable.
Evaporation rate	Not available.
Flammability	Not available.
Flammability Limits	
Upper	Not available.
Lower	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Specific gravity (water=1)	1.9
Solubility in water	Soluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not applicable.

10. Stability and reactivity

Reactivity	This product is stable and non-reactive under normal conditions of use.
Chemical stability	Material is stable under normal conditions. Store in a cool dark place.
Possibility of hazardous reactions	Hazardous polymerization does not occur
Conditions to avoid	Avoid storage in elevated temperatures.
Incompatible materials	Bases, amines, metals.
Hazardous decomposition products	No hazardous decomposition products. In case of fire see section 5.

11. Toxicological information

Information on likely routes of exposure	
Ingestion	Do not ingest. May be harmful if swallowed.
Inhalation	Do not inhale. Irritating to the respiratory tract.
Skin contact	Can cause skin irritation. For personal protection see Section 8.
Eye contact	Can cause serious eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Coughing, wheezing, shortness of breath.
Acute toxicity	Harmful if swallowed.

Product	Route and Species	LD_{50}
Bio-Klenz (CAS mixture)		
Acute	*Oral*, rat	3,700 mg/kg estimated

*Estimates for product may be based on additional component data not shown

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/ irritation	Causes serious eye irritation.
Respiratory sensitization	Not considered a respiratory sensitizer.
Skin sensitization	Not considered a skin sensitizer.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not considered a carcinogen.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not Listed.

Reproductive toxicity	No data available.
Specific target organ toxicity – single exposure	Not classified.
Specific target organ toxicity – repeated exposure	No data available.
Aspiration hazard	No data available.

12. Ecological information

Ecotoxicity

Product	Species	Test Results
Bio-Klenz (CAS mixture)		
Aquatic		
Fish	Fathead minnow	LC_{50} = 252 mg/L estimated
Crustacea	Daphnia Magna	EC_{50} = 474 mg/L estimated

*Estimates for product may be based on additional component data not shown

Persistence and degradability	2-butoxyethanol is considered readily biodegradable.
Bioaccumulative potential	Bioaccumulative potential is low.

Partition coefficient n-octanol/water (log K_{OW})

Not available.

Mobility in soil	No data available.
Other adverse effects	No data available.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues/unused product	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner. (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may contain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as dangerous goods.

15. Regulatory information

US federal regulations .

SARA 302 Extremely hazardous substance

Not listed.

SARA 304 Emergency release notification

Not listed.

SARA 311/312 Hazard Categories

Immediate Hazard - Yes

Delayed Hazard – No

Fire Hazard – No

Pressure Hazard – No

Reactivity Hazard – No

SARA 313 (TRI reporting)

2-butoxyethanol (Glycol Ether Category)

16. Other information, including date of preparation or last revision

Issue date	3/12/2015
Revision date	4/11/2018
Version #	1
HMIS® ratings	Health: 1 Flammability: 0 Physical hazard: 0
NFPA ratings	Health: 1 Flammability: 0 Instability: 0
Disclaimer	The information provided in this Safety Data Sheet is correct to the best of our knowledge, and have been obtained from resources believed to be reliable. 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 a warranty or quality specification. The information related 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 by the text.
Revision information	First issue