SAFETY DATA SHEET

1. Identification

Product Identifier	**Liquid Live-Cranberry**
Other means of identification	
Product code	CU-1485
Recommended use	Non-pathogenic bacteria spotter and drain cleaner.
Recommended restrictions	Professional use only. Use as directed
Manufacturer information	
Company name	**Chemical Universe, Inc.**
Address	1841 Vernon St. North Kansas City, MO 64116
Telephone	(816) 471-3602
Fax	(816) 474-3302
Emergency phone number	PERS 24-hour Emergency (800) 633-8253

2. Hazard(s) Identification

Physical hazards	Not classified.
Health hazards	Skin irritant Category 2
Environmental hazards	Not classified
OSHA defined hazards	Not listed.
Label elements	None.
Signal word	**WARNING**
Hazard statement	Causes skin irritation.
Precautionary statement	
Prevention	
Response	If skin irritation occurs: Get medical advice/attention.
Storage	No special instructions
Disposal	No special instructions
Hazard(s) not otherwise classified (HNOC)	None.
Supplemental information	None.

3. Composition/information on ingredients

Mixture Component(s)		
Chemical name	**CAS number**	**%**
2-butoxyethanol	111-76-2	1-2
Other components below reportable levels		97-99

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. 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. Get medical attention. Eye wash stations should be located in work area.
Ingestion	Rinse mouth. Get medical attention if symptoms occur. Do not induce vomiting.

Most important symptoms/effects, acute and delayed	Dermatitis. Rash. May cause an allergic skin reaction.
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.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO_2).
Unsuitable extinguishing media	None known.
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	Wear appropriate protective equipment and clothing during clean-up. Wear eye/face protection.
Methods and materials for containment and cleaning up	Caution – spillages may be slippery. Large spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. Small spills: Wipe up with absorbent material (e.g. cloth, or textile wipes). Clean surface thoroughly with water to remove residual contamination. Never return spills to original container for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Do not release into the environment (see section 12). Avoid discharge into areas not consistent with package labeling.

7. Handling and storage

Precautions for safe handling	Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Do not store in extreme conditions.

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	Emergency eye wash stations and showers should be readily accessible. Provide natural or mechanical ventilation.
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	The use of gloves impervious to the specific material handled is advised to prevent skin contact. Users should check with manufacturers to confirm the breakthrough performance of their products. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. Suggested protective materials: Nitrile and PVC rubber.
Other	None.
Respiratory protection	Respiratory protection not required for prescribed use of this product
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
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	Milky liquid.
Color	White.
Odor	Cranberry fragrance
Odor threshold	Not available.
pH	6-7
Melting/freezing point	Not available.
Initial boiling point and boiling range	>212°F (100°C)
Flash point	>385°F (196°C)
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)	1.0
Solubility in water	Soluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Decomposes on heating.
Viscosity	Not available.

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.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat, flames can cause product to decompose.
Incompatible materials	Strong acids, strong bases, strong oxidizing agents.
Hazardous decomposition products	Carbon dioxide, carbon monoxide.

11. Toxicological information

Information on likely routes of exposure	
Ingestion	Expected to be a low ingestion hazard.
Inhalation	Expected to be a low inhalation hazard.
Skin contact	Repeated and/or prolonged skin contact may cause slight irritation.
Eye contact	Repeated and/or prolonged eye contact may cause slight irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Dermatitis. Rash. May cause an allergic skin reaction.
Acute toxicity	Not established.

Product Liquid Live-Cranberry (CAS mixture)		
Exposure Classification	**Route and Species**	**LD_{50}**
Acute	*Oral*, rat	48,500 mg/kg estimated
Acute	*Dermal*, rat	>5,000 mg/kg estimated
*Estimates for product may be based on additional component data not shown		

Skin corrosion/irritation	May cause skin irritation.
Serious eye damage/ irritation	Not classified.
Respiratory sensitization	Not classified.
Skin sensitization	Not classified.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Not considered a carcinogen.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not Listed.
Reproductive toxicity	Not classified.
Specific target organ toxicity – single exposure	Not classified.
Specific target organ toxicity – repeated exposure	Not classified.
Aspiration hazard	Not considered an aspiration hazard.

12. Ecological information

Ecotoxicity		
Product Liquid Live-Cranberry (CAS mixture)		
Aquatic Receptor	**Species**	**Test Thresholds**
Crustacea	Daphnia Magna	EC_{50} (48-hr): >730 mg/L (estimated)
Fish	Oncorhynchus mykiss	LC_{50} (96-hr): >400 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	Potential to bioaccumulate is low.
Mobility in soil	Not available. Chemicals of these classes are highly water soluble and will partition readily to water and weakly to particles in low-clay soil matrices. They are expected to exhibit moderate to high mobility in saturated and semi-saturated soils
Other adverse effects	No other adverse environmental effects known (*i.e. ozone depleting substance, tropospheric ozone precursor, greenhouse gas emission, endocrine disruptor or other deleterious environmental effect*)

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. Do not release to the environment.
Local disposal regulations	Dispose in accordance with all applicable regulations. As packaged, this product is not believed to meet criteria defining RCRA hazardous wastes when disposed. (40 CFR Part 261, Subpart C). Before selecting disposal method, ensure that the waste materials have been properly assessed and, as necessary, tested to confirm regulatory status.
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)

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986

This product is not known to contain any chemicals currently listed as carcinogens or reproductive toxins under California Proposition 65 at levels which would be subject to threshold determination and Safe Harbor notification (1/2019)

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

Issue date	12/29/2014
Revision date	2/13/2019, 4/15/2020
Version #	3
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

2-13-2019 Format update; Change skin hazard category from 3 – 2; Prop 54 notice; NFPA AND HMIS pictograms; Text changes Sections 1, 2, 4 6, 7, 9 and 11.
4/15/2020 Logo change PPE language updated; Aquatic toxicity table amended. General format update; Refine composition table, amend physical data; Update toxicology thresholds and environmental fate information; Text clarification amendments Sections 5,6,8,9 and 12. PPE recommendation updated; California Proposition 65 notice; HMIS and NFPA pictograms added.