SAFETY DATA SHEET

1. Identification

Product Identifier	**High Temp Chlorinated Detergent**	
Other means of identification		
Product code	CU-5415	
Recommended use	Chlorinated detergent for automatic dish machines.	
Recommended restrictions	Professional use only.	
Manufacturer information		
Company name	Chemical Universe, Inc.	
Address	1133 Saline St. North Kansas City, MO 64116	
Telephone	(816) 471-3602	
Fax	(816) 474-3302	
Emergency phone number	PERS	(800) 633-8253
	24 hour Emergency	(800) 633-8253

2. Hazard(s) Identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Serious eye damage	Category 1
	Skin corrosion	Category 1B
Environmental hazards	Not classified.	
OSHA defined hazards	None.	
Label elements		

Signal word	Danger
Hazard statement	Harmful if swallowed. Causes severe skin burns and eye damage.
Precautionary statement	
Prevention	Wash hands and exposed skin thoroughly after handling. Do not eat, drink, or smoke when using this product. Do not breathe dust or mists. Wear protective gloves/protective clothing/eye protection/face protection.
Response	IF SWALLOWED: Immediately call a poison center/doctor/medical professional. Specific treatment: See section 4 on the Safety Data Sheet. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage	Store locked up.
Disposal	Dispose of contents/containers in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Potassium Hydroxide	1310-58-3	12-18
Sodium tripolyphosphate	7758-29-4	1-5
Sodium hypochlorite	7681-52-9	0.1-1
Other components below reportable levels		80-100

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. Potassium hydroxide is extremely destructive to tissues of the mucous membranes and upper respiratory tract, eyes, and skin.
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 (chlorine gas).
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: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or

confined areas. Following product recovery, flush area with water.

Small spills: Wipe up with absorbent material (e.g. cloth, fleece). 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
Potassium Hydroxide	PEL	2 mg/m^3

US ACGIH Threshold Limit Values

Components	Type	Value
Potassium Hydroxide	STEL	2 mg/m^3

Biological limit values No information.

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 Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

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 Liquid.

Color Light yellow.

Odor	Characteristic.
Odor threshold	Not available.
pH	14
Melting/freezing point	-0.4°F (-18°C) estimated.
Initial boiling point and boiling range	>212°F (100°C) estimated.
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)	1.17
Solubility in water	Soluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
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. 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 occur. 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. May cause damage to the upper respiratory tract.
Skin contact	Can cause severe skin burns.
Eye contact	Can cause serious eye damage.
Symptoms related to the physical, chemical and toxicological characteristics	Burning sensation, coughing, wheezing, shortness of breath. Potassium hydroxide is extremely destructive to mucous membranes and upper respiratory tract, eyes, and skin.
Acute toxicity	Harmful if swallowed.

Product	**Route and Species**	**LD_{50}**
High Temp Chlorinated Detergent (CAS mixture)		
Acute	*Oral*, rat	1,023 mg/kg estimated

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

Skin corrosion/irritation	Can cause severe skin burns.
Serious eye damage/ irritation	Can cause serious eye damage.
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	May cause damage to the upper respiratory tract with prolonged inhalation.
Specific target organ toxicity – repeated exposure	No data available.
Aspiration hazard	No data available.

12. Ecological information

Ecotoxicity

Product	Species	Test Results
High Temp Chlorinated Detergent (CAS mixture)		
Aquatic		
Fish	Fathead minnow	LC_{50} = 11.3 mg/L estimated
Crustacea	Daphnia Magna	EC_{50} = 18 mg/L estimated

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

Persistence and degradability	No data available.
Bioaccumulative potential	Not data available

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

Not available.

Mobility in soil	No data available.
Other adverse effects	Harmful to plants or wildlife in high concentrations.

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

UN number	UN1760

UN proper shipping name	Corrosive liquids, n.o.s. (Contains: Potassium hydroxide, Sodium hypochlorite)
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packaging group	III
Marine pollutant	No
Special precautions for user	Read safety instructions, SDS, and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not intended to be transported in bulk.

DOT

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)

Not listed.

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

Issue date	1/23/2015
Revision date	1/23/2015
Version #	1
HMIS® ratings	Health: 3 Flammability: 0 Physical hazard: 0
NFPA ratings	Health: 3

	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