SAFETY DATA SHEET

Issue Date 21-Nov-2017 **Revision Date** 21-Nov-2017 **Version** 1

1. IDENTIFICATION

Product identifier
Product Name CM-5004-M

Other means of identification
Product Code CM-5004-M
UN/ID no. UN1760
Synonyms None

Recommended use of the chemical and restrictions on use
Recommended Use Aqueous Cleaner.
Uses advised against No information available

Details of the supplier of the safety data sheet
Supplier Address
Chemical Methods, Inc.
20338 Progress Drive
Cleveland, OH 44149
Telephone: (216)476-8400

Emergency telephone number
Company Phone Number (216)476-8400
24 Hour Emergency Phone Number CHEMTREC (800)424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Reproductive toxicity	Category 2
Corrosive to metals	Category 1

Label elements

Emergency Overview

Danger

Hazard statements
Causes severe skin burns and eye damage
Suspected of damaging fertility or the unborn child
May be corrosive to metals

Appearance aqueous solution **Physical state** liquid **Odor** Slight

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response
Immediately call a POISON CENTER or doctor/physician
Specific treatment (see .? on this label)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
Harmful to aquatic life with long lasting effects

Unknown acute toxicity 7.4% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Chemical Name	CAS No.	Weight-%	Trade Secret
Potassium hydroxide	1310-58-3	1 - 5	*
Diethylene glycol monomethyl ether	111-77-3	1 - 5	*
Sodium metasilicate	6834-92-0	1 - 5	*
Tetrasodium ethylenediaminetraacetate	64-02-8	1 - 5	*
Triethanolamine	102-71-6	0.1 - 1	*

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

4. FIRST AID MEASURES

Description of first aid measures

Eye contact Immediately flush eyes with large amounts of water for at least 15 minutes, holding lids open to ensure flushing of the entire surface.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Consult a physician if necessary.

Inhalation Airborne concentrations of mist or spray may cause damage to the upper respiratory tract or lung tissue which could cause chemical pneumonia depending on the severity of exposure. If symptoms persist, call a physician.

Ingestion If swallowed, can cause severe burns and perforation of the mucous membranes of the mouth, throat, esophagus, and stomach. Call a physician or poison control center immediately.

Most important symptoms and effects, both acute and delayed

Symptoms Product is corrosive to all body tissues with which it comes in contact.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

Unsuitable extinguishing media CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Contact with metals may evolve flammable hydrogen gas.

Hazardous combustion products During a fire, smoke may contain combustion products of varying composition which may be toxic and/or irritating. Combustion products may include oxides of nitrogen and carbon.

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 Keep unnecessary personnel away. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Local authorities should be advised if significant spillages cannot be contained. Heavier than water. See Section 8 of the SDS for Personal Protective Equipment.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Large Spills: Dike area to contain spill and pump into properly labeled containers. Small Spills: Clean up with absorbent material and collect in suitable containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Use caution when combining with water; DO NOT add water to caustic; ALWAYS add caustic towater while stirring to minimize heat generation. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Do not breathe mist or vapor. Use only with adequate

ventilation. Wear appropriate personal protective equipment. Transfer and storage systems should be compatible and corrosion resistant. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials Strong acids. Strong oxidizing agents. Contact with metals may evolve flammable hydrogen gas.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines Exposure limits are listed below, if they exist.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m³	(vacated) Ceiling: 2 mg/m³	Ceiling: 2 mg/m³
Triethanolamine 102-71-6	TWA: 5 mg/m³	-	-

Appropriate engineering controls

Engineering Controls Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit guidelines. If there are no applicable exposure limit guidelines, general ventilation should be sufficient for most operations. Eyewash stations. Showers.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Face protection shield.

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state liquid
Appearance aqueous solution
Color light yellow
Odor Slight
Odor threshold No information available

Property	Values	Remarks • Method
pH	13	
Melting point / freezing point	< 0 °C / 32 °F	
Boiling point / boiling range	> 100 °C / 212 °F	
Flash point	> 100 °C / > 212 °F	
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Relative density	1.130	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	

Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity

Contact with metal may release flammable hydrogen gas. 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

Reacts violently with strong acids. This product may react with oxidizing agents. Do not mix withother chemicals.

Incompatible materials

Strong acids. Strong oxidizing agents. Contact with metals may evolve flammable hydrogen gas.

Hazardous Decomposition Products

Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information Harmful if swallowed

Inhalation Irritating to respiratory system.

Eye contact Corrosive to the eyes and may cause severe damage including blindness.

Skin contact Contact causes severe skin irritation and possible burns.

Ingestion Harmful if swallowed. Can burn mouth, throat, and stomach.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Potassium hydroxide 1310-58-3	= 284 mg/kg (Rat)	-	-
Diethylene glycol monomethyl ether 111-77-3	= 4 mL/kg (Rat)	= 650 mg/kg (Rabbit) = 2500 µL/kg (Rabbit)	-
Sodium metasilicate 6834-92-0	= 1153 mg/kg (Rat)	-	-
Tetrasodium ethylenediaminetraacetate 64-02-8	= 1658 mg/kg (Rat) = 10 g/kg (Rat)	-	-

Triethanolamine 102-71-6	= 4190 mg/kg (Rat)	> 20 mL/kg (Rabbit) > 16 mL/kg (Rat)	-

Information on toxicological effects

Symptoms Burning pain and severe corrosive skin damage. Permanent eye damage including blindness could result.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Causes severe burns.
Serious eye damage/eye irritation Risk of serious damage to eyes.
Sensitization No information available.
Germ cell mutagenicity No information available.
Carcinogenicity No information available.

Chemical Name	ACGIH	IARC	NTP	OSHA
Triethanolamine 102-71-6	-	Group 3	-	-

Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Aspiration hazard Risk of serious damage to the lungs (by aspiration).

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .
ATEmix (oral) 5,692.00
ATEmix (dermal) 88,469.33

12. ECOLOGICAL INFORMATION

Ecotoxicity

84.15 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Potassium hydroxide 1310-58-3	-	80: 96 h Gambusia affinis mg/L LC50 static	-
Diethylene glycol monomethyl ether 111-77-3	500: 72 h Desmodesmus subspicatus mg/L EC50	5741: 96 h Pimephales promelas mg/L LC50 7500: 96 h Lepomis macrochirus mg/L LC50 7500: 96 h Lepomis macrochirus mg/L LC50 static	500: 48 h Daphnia magna mg/L EC50
Sodium metasilicate 6834-92-0	-	210: 96 h Brachydanio rerio mg/L LC50 210: 96 h Brachydanio rerio mg/L LC50 semi-static	216: 96 h Daphnia magna mg/L EC50
Tetrasodium ethylenediaminetraacetate 64-02-8	1.01: 72 h Desmodesmus subspicatus mg/L EC50	41: 96 h Lepomis macrochirus mg/L LC50 static 59.8: 96 h Pimephales promelas mg/L LC50 static	610: 24 h Daphnia magna mg/L EC50
Triethanolamine 102-71-6	216: 72 h Desmodesmus subspicatus mg/L EC50 169: 96 h Desmodesmus subspicatus mg/L EC50	10600 - 13000: 96 h Pimephales promelas mg/L LC50 flow-through 450 - 1000: 96 h Lepomis macrochirus mg/L LC50 static 1000: 96 h Pimephales promelas mg/L LC50 static	1386: 24 h Daphnia magna mg/L EC50

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Chemical Name	Partition coefficient
Potassium hydroxide 1310-58-3	0.65 0.83
Diethylene glycol monomethyl ether	-0.682

111-77-3	
Triethanolamine 102-71-6	-2.53

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

US EPA Waste Number D002

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Potassium hydroxide 1310-58-3	Toxic Corrosive

14. TRANSPORT INFORMATION

DOT Regulated
UN/ID no. UN1760
Hazard Class Corrosive Liquid, n.o.s. (potassium hydroxid)
Packing Group III

15. REGULATORY INFORMATION

International Inventories

TSCA	Does not comply
DSL/NDSL	Does not comply
EINECS/ELINCS	Does not comply
ENCS	Does not comply
IECSC	Does not comply
KECL	Does not comply
PICCS	Does not comply
AICS	Does not comply

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

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

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Potassium hydroxide 1310-58-3	1000 lb	-	-	X

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	CERCLA/SARA RQ	Reportable Quantity (RQ)
Potassium hydroxide 1310-58-3	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA	**Health hazards** 2	**Flammability** 0	**Instability** 0	**Physical and Chemical Properties** -
HMIS	**Health hazards** 2	**Flammability** 0	**Physical hazards** 0	**Personal protection** X

Issue Date 21-Nov-2017
Revision Date 21-Nov-2017
Revision Note
No information available

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. While we believe the contained data is factual and those of qualified experts, the data should not be taken as a warranty or representation for which the company assumes legal responsibility. Any use of the data and information must be determined by the user to be in accordance with applicable federal, state, and local laws and regulations. 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 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. This product is intended for industrial use only.

End of Safety Data Sheet