




MARTRON INC. SAFETY DATA SHEET MARTRON ECM-117L

SECTION 1: IDENTIFICATION

PRODUCT NAME: MARTRON ECM-117L	MANUFACTURER IDENTITY CODE: MFC-000514
WEBSITE: www.martroninc.com	CUSTOMER SERVICE PHONE NUMBERS: 704-289-1934
MANUFACTURER NAME AND ADDRESS: Martron Inc. 1394-A Walkup Ave. Monroe, NC 28110	24 HOUR EMERGENCY PHONE NUMBER: CHEMTREC: 800-424-9300
OTHER MEANS OF IDENTIFICATION: Not Available	Relevant Identified Uses of the Substance or Mixture and Uses Advised Against: Not Available

SECTION 2: HAZARDS IDENTIFICATION

OSHA/HCS Status:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Classification of Substance or Mixture:	Acute Toxicity (oral) - Category 4 Skin Corrosion/Irritation - Category 1 Serious Eye Damage/Eye Irritation - Category 1
GHS Label Elements Hazard Pictograms:	
Signal Word:	Warning
Hazard Statements:	Harmful if swallowed. Causes severe skin burns and eye damage.

PRECAUTIONARY STATEMENTS

Prevention:	Wear protective gloves. Wear eye or face protection. Wear protective clothing. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
Response:	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or physician. IF SWALLOWED: Immediately call a POISON CENTER or physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or physician. 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 physician.
Storage:	Store locked up.
Disposal:	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards Not Otherwise Classified:	None known.
Substance/Mixture	Mixture
Other Means of Identification:	Not available

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredients*	Weight %	CAS #
Potassium Hydroxide	<30.0	1310-58-3
Trade Secret Ingredients	-	-
Tetra Potassium Pyrophosphate	<10.0	7320-34-5

*All ingredients in quantities > 1.0 % (0.1 % for carcinogens) that are **potentially** hazardous per OSHA definitions **NE** = not established **NA** = not applicable **NDA** = no data available. There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8.

Any concentration shown as a range is to protect confidentiality or is due to batch variation. There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8.

SECTION 4: FIRST AID MEASURES**DESCRIPTION OF NECESSARY FIRST AID MEASURES**

Eye Contact:	Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician.
Inhalation:	Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
Skin Contact:	Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion:	Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting maybe dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE AND DELAYED**I. Potential Acute Health Effects**

Eye Contact:	Causes serious eye damage.
Inhalation:	May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.
Skin Contact:	Causes severe burns.

Ingestion:	Harmful if swallowed. May cause burns to mouth, throat and stomach.
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II. Over-Exposure Symptoms/Signs

Eye Contact:	Adverse symptoms may include the following: pain or irritation, watering, redness.
Inhalation:	No known significant effects or critical hazards.
Skin Contact:	Adverse symptoms may include the following: irritation, redness, blistering may occur.
Ingestion:	Adverse symptoms may include the following: stomach pains.

III. Indication of Immediate Medical Attention and Special Treatment Needed, if Necessary.

Notes to Physician:	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific Treatment:	No specific treatment
Protection to First Responders:	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus (SCB). It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See Toxicological Information (Section 11)

SECTION 5: FIREFIGHTING MEASURES

Suitable Extinguishing Media:	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable Extinguishing Media:	None known.
Specific Hazards Arising from the Chemical:	Contact with water generates great amount of heat.
Hazardous Thermal Decomposition Products:	Decomposition products may include the following materials: carbon dioxide, carbon monoxide, phosphorous oxides, metal oxide/oxides
Special Protective Actions for Firefighters:	No special protection is required
Special Protective Equipment and Precautions for Firefighters:	Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: ACCIDENTAL RELEASE MEASURES**PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES**

For Non-Emergency Personnel:	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For Emergency Responders:	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
Environmental Precautions:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air)

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Spill:	Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas.
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	Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.
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SECTION 7: HANDLING and STORAGE

PRECAUTIONS FOR SAFE HANDLING

Protective Measures:	Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residue and can be hazardous. Do not reuse container.
Advice on General Occupational Hygiene:	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for Safe Storage Including Any Incompatibilities:	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from alkalis. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

**CONTROL PARAMETERS
OCCUPATIONAL EXPOSURE LIMITS**

Ingredient Name*	Exposure Limits
Potassium Hydroxide	ACGIH TLV (United States, 3/2012). C: 2 mg/m ³ NIOSH REL (United States, 1/2013). TWA: 2 mg/m ³ 10 hours. OSHA PEL 1989 (United States, 3/1989). CEIL: 2 mg/m ³

*All ingredients in quantities > 1.0 % (0.1 % for carcinogens) that are **potentially** hazardous per OSHA definitions (skin) - indicates harmful amounts may be absorbed through the skin. ** Some States enforce the PEL's that OSHA promulgated in 1989, which were subsequently vacated by the U.S. Supreme Court. Check with your State OSHA agency to determine which PEL is enforced in your jurisdiction. **NE** = not established **NA** = not applicable **NDA** = no data available

Appropriate Engineering Controls:	If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
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Environmental Exposure Controls:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.
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INDIVIDUAL PROTECTION MEASURES

Hygiene Measures:	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/Face Protection:	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

SKIN PROTECTION

Hand Protection:	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. 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.
Body Protection:	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product...
Other Skin Protection:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product...
Respirator Protection:	Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9: PHYSICAL and CHEMICAL PARAMETERS

Physical State:	Liquid
Color:	Clear Brown
Odor:	Odorless
Odor Threshold:	N/A
pH:	12 to 13
Melting Point:	N/A
Boiling Point:	N/A
Flash Point:	N/A
Burning Time:	N/A
Burning Rate:	N/A
Evaporation Rate (n-butyl acetate=1):	N/A
Flammability (solid, gas):	N/A
Flammable Limits:	UEL: N/A LEL: N/A
Vapor Pressure:	N/A
Vapor Density (air=1):	N/A

Relative Density:	> NE
Solubility:	Miscible
Solubility in Water:	N/A
Partition/Coefficient N-Octanol/Water:	N/A
Auto-Ignition Temperature:	N/A
Decomposition Temperature:	N/A
SADT:	N/A
Viscosity:	N/A

SECTION 10: STABILITY and REACTIVITY

Reactivity:	No specific test data related to reactivity available for this product or its ingredients.
Chemical Stability:	This product is stable. (standard temperature and pressure).
Possibility of Hazardous Reactions:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to Avoid:	No specific data.
Incompatible Materials:	Highly reactive or incompatible with the following materials: acids and moisture. Reactive or incompatible with the following materials: oxidizing materials.
Hazardous Decomposition Products:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Product/Ingredient Name	Result	Species	Dose	Exposure
Potassium Hydroxide	LD50 Oral	Rat	273 mg/kg	-
Tetra Potassium Pyrophosphate 60% (TG) TKPP	LD50 Oral	Rat	2444 mg/kg	-
	LD50 Skin	Rabbit	4640 mg/kg	-

IRRITATION/CORROSION

Product/Ingredient Name	Result	Species	Score	Exposure	Observation
Potassium Hydroxide	Eyes- Moderate irritant	Rabbit	-	24 hrs 1 mg	-
	Skin- Moderate irritant	Rabbit	-	24 hrs 50 mg	-

SENSITIZATION

Skin:	There is no data available
Respiratory:	There is no data available

Mutagenicity:	There is no data available
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CARCINOGENICITY CLASSIFICATION

Product/Ingredient Name	OSHA	IARC	ACGIH	NTP

Reproductivity Toxicity:	There is no data available
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Teratogenicity:	There is no data available
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SPECIFIC TARGET ORGAN TOXICITY – SINGLE EXPOSURE

Name	Category	Route of Exposure	Target Organs

Specific Target Organ Toxicity- Repeated Exposure:	There is no data available
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Aspiration Hazard:	There is no data available
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EXPOSURE - INFORMATION ON LIKELY ROUTES OF EXPOSURE

Routes of Entry Anticipated:	Dermal contact, Eye contact, Ingestion, Inhalation.
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POTENTIAL ACUTE HEALTH EFFECTS

Eye Contact:	Causes serious eye damage.
Inhalation:	May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system.
Skin Contact:	Causes severe burns.
Ingestion:	Harmful if swallowed. May cause burns to mouth, throat, and stomach.

SYSTEMS RELATED TO THE PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS

Eye Contact:	Adverse symptoms may include the following: pain or irritation, watering, redness.
Inhalation:	No known significant effects or critical hazards.
Skin Contact:	Adverse symptoms may include the following: irritation, pain, redness or blistering.
Ingestion:	Adverse symptoms may include the following: stomach pain.

DELAYED AND IMMEDIATE EFFECTS AND ALSO CHRONIC EFFECTS FROM SHORT AND LONG-TERM EXPOSURE**SHORT TERM EXPOSURE**

Potential Immediate Effects:	No significant effects or critical hazards.
Potential Delayed Effects:	No significant effects or critical hazards.

LONG TERM EXPOSURE

Potential Immediate Effects:	No significant effects or critical hazards.
Potential Delayed Effects:	No significant effects or critical hazards.

POTENTIAL CHRONIC HEALTH EFFECTS

General:	No significant effects or critical hazards.
Carcinogenicity:	No significant effects or critical hazards.
Mutagenicity:	No significant effects or critical hazards.
Teratogenicity:	No significant effects or critical hazards.
Development Effects:	No significant effects or critical hazards.

NUMERICAL MEASURES OF TOXICITY**ACUTE TOXICITY ESTIMATES**

Route	ATE value
Oral	1063.9 mg/kg
Dermal	4444.4 mg/kg
Inhalation (vapors)	222.2 mg/L

SECTION 12: ECOLOGICAL INFORMATION**TOXICITY**

Product / Ingredient Name	Result	Species	Exposure
Potassium Hydroxide	Acute LC50 80 ppm Fresh Water	Fish – Gambusia affinis - Adult	96 hrs

Persistence and Degradability:	There is no data available
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BIOACCUMULATIVE POTENTIAL

Product/Ingredient Name	LogP	BCF	Potential




MOBILITY IN SOIL

Soil/Water Partition Coefficient (Koc):	There is no data available
Other Adverse Effects:	No known significant effects or critical hazards

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal Methods:	The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
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SECTION 14: TRANSPORTATION INFORMATION

	DOT CLASSIFICATION	IMDG	IATA
UN Number	UN1760	UN1760	UN1760
UN Proper Shipping Name	CAUSTIC ALKALI, LIQUID N.O.S. (Potassium hydroxide)	CAUSTIC ALKALI, LIQUID N.O.S. (Potassium hydroxide)	CAUSTIC ALKALI, LIQUID N.O.S. (Potassium hydroxide)
Transportation Hazard Class(es)	8 	8 	8 
Packing Group	II	II	II
Environmental Hazards	No	No	No
Additional Information	Reportable Quantity 6734 lbs/3057.2 kg [769.18 gal/2911.7 L] Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.	Emergency Schedules (EmS) F-A, S-B	-----

Special Precautions for User:	Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Transport in Bulk According to Annex II of Marpol 73/78 and the IBC Code:	Not available.

SECTION 15: REGULATORY INFORMATION

U.S. Federal Regulations: TSCA 8(a) PAIR: TSCA 8(a) CDR Exempt/Partial Exemption: United States Inventory (TSCA 8b): Clean Water Act (CWA) 311:	Not Determined Not Determined All components are listed or exempted Potassium Hydroxide
Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs):	Not listed.
Clean Air Act Section 602 Class 1 Substances:	Not listed.
Clean Air Act Section 602 Class II Substances:	Not listed.
DEA List 1 Chemicals (Precursor Chemicals):	Not listed.
DEA List II Chemicals (Essential Chemicals):	Not listed

SARA 302/304**COMPOSITION/INFORMATION ON INGREDIENTS**

Product/Ingredient Name	%	EHS	SARA 302 TPQ (lbs)	SARA 302 TPQ (gal)	SARA 304 TPQ (lbs)	SARA 304 TPQ (gal)
SARA 304 RQ:			Not applicable			

SARA 311/312

Classification:	Immediate (acute) health hazard
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COMPOSITION/INFORMATION ON INGREDIENTS

Product/Ingredient Name	%	Fire Hazard	Sudden Release of Pressure	Reactive	Immediate (Acute) Health Hazard	Delayed (Chronic) Health Hazard
Potassium Hydroxide	10-30	No	No	No	Yes	No

SARA 313

	Product Name	CAS Number	%
Form R - Reporting Requirements:			
Supplier Notifications:			

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

STATE REGULATIONS

Massachusetts:	The following components are listed: Potassium Hydroxide
New York:	The following components are listed: Potassium Hydroxide
New Jersey:	The following components are listed: Potassium Hydroxide
Pennsylvania:	The following components are listed: Potassium Hydroxide

CALIFORNIA PROP. 65

WARNING: This product does not contain a chemical known to the State of California to cause cancer

Ingredient Name	Cancer	Reproductive	No Significant Risk Level	Maximum Acceptable Dosage Level

SECTION 16: OTHER INFORMATION

Date of Issue:	4/2015
Version:	1
Revised Section(s):	Not Applicable

Key to Abbreviations:

ATE = Acute Toxicity Estimate
BCF = Bio concentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its Subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.