

MSDS ID: 8000060

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT PART NUMBER: 8000060
DESCRIPTION: 501 CLEANER

COMPANY:
Markem Corporation
150 Congress Street
Keene, NH 03431

EMERGENCY RESPONSE NUMBERS:
Transportation:
United States: (800) 424-9300
International: (703) 527-3887(collect)
Product Safety and Environmental:
(603) 352-1130

2. HAZARDOUS INGREDIENTS

COMPONENT	CAS #	PCT(WT)
Ethyl alcohol	64-17-5	20-40
M-Cresol	108-39-4	1-5
Methyl alcohol	67-56-1	1-5
P-Cresol	106-44-5	1-5

Exposure and physical property information is presented in Section 9. If the total percentage is less than 100, the balance of this product is not considered to be hazardous as defined in the OSHA Hazard Communication Standard (29 CFR 1910.1200).

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

HMIS RATING SYSTEM
Health: 3
Flammability: 3
Reactivity: 0
Protection: X

NFPA RATING SYSTEM
Health: 3
Flammability: 3
Reactivity: 0

POTENTIAL HEALTH CONSIDERATIONS

LIKELY ROUTES OF ENTRY:

Inhalation; Contact; Absorption; Ingestion

TARGET ORGANS:

Heart; Lungs; Blood; Respiratory Tract; Liver; Kidneys; Eyes; Skin;
Nervous System; Pancreas; Spleen; Digestive Tract;

POTENTIAL IMMEDIATE EFFECTS FROM OVEREXPOSURE

3. HAZARDS IDENTIFICATION (Cont.)

EYE CONTACT

Corrosive to eye tissue. Can cause severe irritation, tearing and burns leading to permanent injury including blindness.

SKIN CONTACT

Corrosive to skin tissue, can cause chemical burns.

Skin Sensitizer! Avoid exposure. If sensitized, repeated exposures will result in skin irritation, even at very low concentrations.

SKIN ABSORPTION

Highly toxic and may be fatal if absorbed through the skin.

Can be absorbed through the skin which can lead to permanent vision changes, loss of vision or total blindness.

INHALATION

Toxic by inhalation, can cause severe irritation or burns, pulmonary edema or lung inflammation. Central nervous system effects such as dizziness, weakness, fatigue, nausea, headache, unconsciousness and even asphyxiation are possible. Respiratory Sensitizer! Avoid exposure. If sensitized, repeated exposures will result in respiratory irritation and shortness of breath, even at very low concentrations. These asthma-type symptoms may develop immediately or be delayed up to several hours.

INGESTION

Corrosive to tissue. Can cause severe and permanent damage to mouth, throat, stomach and possibly lungs. Can be fatal if swallowed.

Upon ingestion of a large quantity of this material, visual disturbances may occur. Onset of the response may be delayed.

POTENTIAL LONG-TERM EFFECTS FROM OVEREXPOSURE:

CANCER INFORMATION

None of the substances in this product have been shown to cause cancer.

Not a carcinogen according to NTP, IARC or OSHA.

No IARC cancer hazard information available.

Contains a substance which is classified by ACGIH as A4: Not classifiable as a human carcinogen.

No NTP cancer hazard information available.

No OSHA cancer hazard information available.

REPRODUCTIVE SYSTEM INFORMATION

Contains a substance that is a possible reproductive hazard based on human studies.

ADDITIONAL HEALTH HAZARD INFORMATION

Ethyl alcohol: Repeated ingestion by pregnant mothers can cause fetal alcohol syndrome, a nervous system disorder. Effects include mental and physical retardation, learning disturbances, motor and language deficiencies, behavioral disorders, and small head size.

Mixed cresols: Skin absorption may contribute to exposure. Serious or even

3. HAZARDS IDENTIFICATION (Cont.)

fatal poisoning may result if large areas of skin are wet with cresol and not removed immediately. Chronic exposure may cause systemic poisoning with these potential symptoms: vomiting, difficulty in swallowing, salivation, diarrhea, loss of appetite, headache, fainting, dizziness, mental disturbances, and skin rash. Death may result if there has been severe overexposure.

MEDICAL CONDITIONS POTENTIALLY AGGRAVATED BY OVEREXPOSURE

Liver disease,

Ethyl alcohol: Repeated exposure to ethyl alcohol may worsen liver injury produced from other causes.

4. FIRST AID MEASURES

EYE CONTACT

Immediately flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Get immediate medical attention.

SKIN CONTACT

Wash skin with soap and water. Immediately remove contaminated clothing and get medical attention. Launder or discard contaminated clothing at once.

INHALATION

Remove to fresh air. If not breathing, perform rescue breathing and, if available, have a trained person administer oxygen. Get medical attention immediately.

INGESTION

Emergency personnel should be contacted immediately and be provided with this MSDS. For ingestion of small quantities of chemicals, the risk associated with inducing vomiting usually exceeds the poisoning risk.

5. FIRE FIGHTING MEASURES

FLAMMABILITY DATA

FLASH POINT: 51 F, 10 C

EXPLOSIVE/FLAMMABILITY LIMITS ESTIMATED FROM INGREDIENTS:

LOWER LIMIT: 1.1 %

UPPER LIMIT: 36.5 %

AUTOIGNITION TEMPERATURE ESTIMATED FROM INGREDIENTS:

793 F, 422 C

GENERAL HAZARDS

Vapors may be ignited by heat, sparks, flames or other sources of ignition giving rise to a Class B fire. Vapors are heavier than air and may travel to a source of ignition and flash back. Container may explode in heat of fire. Empty container may still contain residual material that can ignite and/or result in an explosion. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty container to heat, flame, sparks, static electricity, or other sources of ignition.

EXTINGUISHING MEDIA

5. FIRE FIGHTING MEASURES (Cont.)

Use alcohol foam, carbon dioxide (CO₂) or dry chemical. Water may not be effective to extinguish fire. Use water spray to cool fire-exposed containers and to protect personnel.

FIRE FIGHTING INSTRUCTIONS

Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location. Heat may build pressure and rupture closed containers, spreading fire and increasing risk of burns or injuries. Use water spray/fog for cooling. Even if material is water soluble, it may not be practical to extinguish fire by water dilution. Notify authorities if liquid enters sewers or other public waters.

HAZARDOUS COMBUSTION PRODUCTS

carbon dioxide; carbon monoxide

6. ACCIDENTAL RELEASE MEASURES

SPILL CLEAN-UP PROCEDURES

Shut off ignition sources; smoking, flames or other sources of ignition must not be permitted in the area. Small Spills: Take up with sand or other noncombustible absorbent material and put into properly labeled containers for disposal. Large Spills: Dike ahead of liquid spill area to minimize migration and vapor generation. Ventilate the area. Get professional help from outside contractors, the fire department or your trained spill brigade.

HEALTH CONSIDERATIONS AND PROTECTIVE EQUIPMENT

Information on the selection and use of personal protective equipment is found in Section 8 of this MSDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; material spilled, quantity, the area in which it occurred and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits and consider that the evaporation of volatile solvents can lead to the displacement of air creating an environment that can cause asphyxiation.

7. HANDLING AND STORAGE

HANDLING

Avoid contact with material, avoid breathing vapors, use only in a well ventilated area, use bonding and grounding when transferring this material.

STORAGE

Store in a cool dry ventilated location, away from oxidizers, heat, flame or other incompatible conditions. Keep container(s) closed if possible.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

ENGINEERING CONTROLS

Local exhaust ventilation or other engineering controls may be needed when handling or using this product to keep exposure to airborne contaminants below the exposure limit. These controls should be explosion-proof when exhausting flammable vapors.

Facilities storing or using this material should be equipped with an eyewash and safety shower.

RESPIRATORY PROTECTION

A component of this material has an extremely low established exposure limit. If air monitoring indicates airborne concentrations at or above the exposure limit a respiratory protection program is required. Engineering controls are usually preferable to a respirator program.

EYE PROTECTION

Chemical splash goggles and a face shield must be worn when handling this product. Contact lenses should not be worn. An eye wash station should be available.

SKIN PROTECTION

Wear protective gloves and apron. Depending upon conditions of use other equipment may be required. Inspect gloves for chemical break-through and replace as required. Clean equipment after each use. An emergency eye wash in the area is recommended.

Appropriate gloves to be used for MARKEM products that are mixtures have not been determined. Glove type(s) for ingredients present at 10% or more (if known) are:

Neoprene

9. PHYSICAL AND CHEMICAL PROPERTIES - PRODUCT

APPEARANCE:	Liquid
COLOR:	Colorless to pale amber
ODOR:	Mild solvent odor
SPECIFIC GRAVITY(g/ml):	0.90
PERCENT VOLATILE:	44
VOC CONTENT(lb/gl):	Not determined
VAPOR PRESSURE (Pa):	1329 - 13289
BOILING PT OR RANGE(F):	ND
pH:	NA
VISCOSITY:	ND
VAPOR DENSITY:	Heavier than air
FREEZING POINT(F):	ND
EVAPORATION RATE:	2-10 (n-Butyl acetate = 1)

9.1 EXPOSURE, PHYSICAL AND CHEMICAL PROPERTIES FOR COMPONENTS

COMPONENT	ACGIH		OSHA	
	TWA\CEIL	STEL	TWA	CEIL
64-17-5	1000 ppm	NE	1000 ppm	NE
108-39-4	NE	NE	NE	NE

9.1 EXPOSURE, PHYSICAL AND CHEMICAL PROPERTIES FOR COMPONENTS (Cont.)

67-56-1	200 ppm s	250 ppm s	200 ppm	NE
106-44-5	NE	NE	NE	NE
	SPECIFIC GRAVITY	EVAP RATE N-BUTYL ACETATE=1	WATER SOLUBILITY Weight %	VAPOR PRESSURE mmHg at F
COMPONENT CAS NUMBER				
64-17-5	0.786	0.5-2	Complete;	143 @ 68
108-39-4	1.000	ND	ND	ND
67-56-1	0.789	2-10	Complete;	192 @ 68
106-44-5	1.000	ND	ND	ND

10. STABILITY AND REACTIVITY

STABILITY

Stable under normal conditions.

CONDITIONS TO AVOID

Heat, sparks, open flame, other ignition sources, oxidizing conditions, and elevated temperatures.

INCOMPATIBILITY

strong oxidizing agents;

HAZARDOUS DECOMPOSITION PRODUCTS

carbon dioxide; carbon monoxide

11. TOXICOLOGICAL INFORMATION

Ethyl alcohol:

Oral LD50 rat: 7060 mg/kg

Inhalation LC50 rat: 20000 ppm/10H (4-hour exposure).

Methyl alcohol:

Oral LD50 rat: 5628 mg/kg.

Inhalation LC50 rat: 64000 ppm/4H

Oral TDLo man: 6422 mg/kg Effect: Brain and Coverings (Changes in circulation) Lungs, Thorax or Respiration (Dyspnea), Gastrointestinal (Nausea or vomiting) Sense organs and special senses (Visual field changes)

Inhalation TCLo human: 86000 mg/m³, Effect: Sense organs and special senses (Lacrimation); Lungs, Thorax or Respiration (Cough; Other changes)

12. ECOLOGICAL INFORMATION

Ethyl alcohol:

LC50 Pimephales promelas (fathead minnows) 15.3 g/l/96 hr.

When released to the atmosphere it will photodegrade in hours (polluted urban atmosphere) to an estimated range of 4 to 6 days in less polluted areas. Rain out should be significant.

Methyl Alcohol:

LC50 Pimephales promelas (fathead minnows) 29.4 g/l/96 hr.

12. ECOLOGICAL INFORMATION (Cont.)

If released to the atmosphere, methanol degrades via reaction with photochemically produced hydroxyl radicals with an approximate half-life of 17.8 days.

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with all federal, state, local or provincial regulations.

14. TRANSPORT INFORMATION, DOT and IATA:

DOT & IATA: FLAMMABLE LIQUIDS, TOXIC, N.O.S., (ETHANOL, CRESOLS), 3, UN1992, PGII, 6.1

LABEL REQUIRED: FLAMMABLE LIQUID & SUBSIDIARY TOXIC

15. REGULATORY INFORMATION

Those ingredients appearing on the following list that do not appear in Section 2 are present at <0.1% for carcinogens, <1% for other hazardous substances, or are not considered hazardous in this product.

UNITED STATES OF AMERICA

FEDERAL REGULATIONS

CERCLA: The following components have CERCLA reportable quantities:

CASRN	DESCRIPTION	CERCLA RQ	WEIGHT%
108-39-4	M-CRESOL	100 lb final RQ; 45.4 kg final RQ	3
67-56-1	METHANOL	5000 lb final RQ; 2270 kg final RQ	2
106-44-5	P-CRESOL	100 lb final RQ; 45.4 kg final RQ	2

RCRA: The following components are subject to RCRA land disposal restrictions:

CASRN	DESCRIPTION
108-39-4	M-CRESOL
67-56-1	METHANOL
106-44-5	P-CRESOL

SARA TITLE III

SECTION 302 Extremely Hazardous Substances (EHS)

CASRN	DESCRIPTION
None	

SECTION 311/312 Community Right to Know

CASRN	DESCRIPTION
108-39-4	M-CRESOL
67-56-1	METHANOL
106-44-5	P-CRESOL

SARA HAZARD CATEGORY INFORMATION

FIRE: YES

SUDDEN RELEASE OF PRESSURE: NO

REACTIVE: NO

IMMEDIATE (ACUTE) HEALTH HAZARD: YES

15. REGULATORY INFORMATION (Cont.)

DELAYED (CHRONIC) HEALTH HAZARD: YES

SECTION 313 Toxic Chemical Release Inventory Reporting (TRI)

CASRN	DESCRIPTION	
108-39-4	M-CRESOL	3
67-56-1	METHANOL	2
106-44-5	P-CRESOL	2

TSCA

SECTION 8(b) Inventory: All chemicals in this product appear in the inventory or are exempt from the listing requirements.

SECTION 12(b) Export: The following chemicals are subject to export reporting

CASRN	DESCRIPTION
108-39-4	M-CRESOL
106-44-5	P-CRESOL

STATE REGULATIONS

CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT (PROPOSITION 65)

The following chemical(s) in this product are known to the State of California to cause cancer:

CASRN	DESCRIPTION	WGT%
None		

The following chemical(s) in this product are known to the State of California to be hazards to reproductive health:

CASRN	DESCRIPTION	WGT%
64-17-5	ETHYL ALCOHOL	20-40

MASSACHUSETTS Right to Know Law

CASRN	DESCRIPTION	%
64-17-5	ETHYL ALCOHOL	20-40
108-39-4	M-CRESOL	1-5
67-56-1	METHANOL	1-5
106-44-5	P-CRESOL	1-5

NEW JERSEY Right to Know Law

CASRN	DESCRIPTION	%
64-17-5	ETHYL ALCOHOL	20-40
108-39-4	M-CRESOL	1-5
67-56-1	METHYL ALCOHOL	1-5
106-44-5	P-CRESOL	1-5

PENNSYLVANIA Right to Know Law

CASRN	DESCRIPTION	%
64-17-5	ETHANOL	20-40
108-39-4	PHENOL, 3-METHYL-	1-5
67-56-1	METHANOL	1-5
106-44-5	PHENOL, 4-METHYL-	1-5

16. OTHER INFORMATION

Methyl Alcohol: NIOSH recommends a limit of 200 ppm, 8-hour TWA; 800 ppm, 15-minute ceiling.

Note: A CAS number in the form TSXXXX-XX-X is a trade secret.

NA= Not applicable

ND= Not determined

TS= Trade secret

16. OTHER INFORMATION (Cont.)

MSDS prepared by Richard C. Berry

This information is offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is made. The recommended industrial hygiene and safe handling practices are believed to be generally applicable, however each user must review the recommendations and determine the suitability for their intended use.