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MSDS ID: 8000034

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT PART NUMBER: 8000034
DESCRIPTION: 320 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 acetate	141-78-6	40-60
Isopropyl alcohol	67-63-0	40-60

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: 1
Flammability: 3
Reactivity: 0
Protection: B

NFPA RATING SYSTEM
Health: 1
Flammability: 3
Reactivity: 0

POTENTIAL HEALTH CONSIDERATIONS

LIKELY ROUTES OF ENTRY:
Ingestion; Inhalation; Absorption; Contact

TARGET ORGANS:
Respiratory Tract; Eyes; Skin; Nervous System;

POTENTIAL IMMEDIATE EFFECTS FROM OVEREXPOSURE

EYE CONTACT
Can cause minor eye irritation, tearing or reddening.

3. HAZARDS IDENTIFICATION (Cont.)

SKIN CONTACT

Can cause minor skin irritation, defatting or dermatitis.

SKIN ABSORPTION

Minimal skin absorption hazard in normal industrial use.

INHALATION

Can cause respiratory irritation, dizziness, weakness, fatigue, nausea, headache and possible unconsciousness.

INGESTION

Irritating to mouth, throat, and stomach. Can cause abdominal discomfort, nausea, vomiting and diarrhea.

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

None of the substances in this product have been shown to cause reproductive system disorders.

ADDITIONAL HEALTH HAZARD INFORMATION

No information available.

MEDICAL CONDITIONS POTENTIALLY AGGRAVATED BY OVEREXPOSURE

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 with soap and water. Remove contaminated clothing and launder. Get medical attention if irritation develops or persists.

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

4. FIRST AID MEASURES (Cont.)

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: 26 F, -3 C

EXPLOSIVE/FLAMMABILITY LIMITS ESTIMATED FROM INGREDIENTS:

LOWER LIMIT: 2.0 %

UPPER LIMIT: 12.0 %

AUTOIGNITION TEMPERATURE ESTIMATED FROM INGREDIENTS:

750 F, 399 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

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. Water may be ineffective in firefighting due to low flash point and limited miscibility with water. Flammable/combustible components of this material may be lighter than water and burn while floating on the surface. 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

6. ACCIDENTAL RELEASE MEASURES (Cont.)

contractors, the fire department or your trained spill brigade.

HEALTH CONSIDERATIONS AND PROTECTIVE EQUIPMENT

Follow personal protective equipment recommendations found in this MSDS.

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 are normally required when handling or using this product to keep exposure to airborne contaminants below the TLV, PEL, or other recommended exposure limit and/or maintain operator comfort.

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

RESPIRATORY PROTECTION

If air monitoring indicates airborne concentrations at or above the limits, or symptoms of inhalation over-exposure occur, a respiratory protection program may be required. Engineering controls to reduce the exposure below acceptable limits are usually preferable to a respirator program.

EYE PROTECTION

Chemically resistant safety glasses with side shields must be worn when handling this product. Further eye protection such as chemical splash goggles and/or face shield must be worn when the possibility exists for eye contact due to splashing or spraying liquid or airborne particles. Contact lenses should not be worn. An eye wash station should be available.

SKIN PROTECTION

Depending upon conditions of use, wear protective gloves and other protective equipment. Inspect gloves for chemical break-through and replace as needed. Clean equipment thoroughly after each use.

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:

Nitrile; Neoprene; Natural rubber

9. PHYSICAL AND CHEMICAL PROPERTIES - PRODUCT

APPEARANCE: Liquid
 COLOR: Colorless to slightly pale
 ODOR: Strong solvent
 SPECIFIC GRAVITY(g/ml): 0.83
 PERCENT VOLATILE: 100
 VOC CONTENT(lb/gal): 6.93 lb/gal
 VAPOR PRESSURE (Pa): Not determined
 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
141-78-6	400 ppm	NE	400 ppm	NE
67-63-0	400 ppm	500 ppm	400 ppm	NE

COMPONENT CAS NUMBER	SPECIFIC GRAVITY	EVAP RATE N-BUTYL ACETATE=1	WATER SOLUBILITY Weight %	VAPOR PRESSURE mmHg at F
67-63-0	0.783	0.5-2	Complete; 133	

10. STABILITY AND REACTIVITY

STABILITY

Stable under normal conditions.

CONDITIONS TO AVOID

Elevated temperatures in combination with sparks, open flames, or other sources of ignition.

INCOMPATIBILITY

strong oxidizing agents;

HAZARDOUS DECOMPOSITION PRODUCTS

carbon dioxide; carbon monoxide

11. TOXICOLOGICAL INFORMATION

Ethyl acetate:

LC50 (rat): 16000 ppm (6-hour exposure).
 LC50 (mouse): 44000 mg/m3 (12200 ppm) (3-hour exposure).
 LD50 (oral, rat): 11.3 mL/kg (10200 mg/kg).
 LD50 (oral, rat): 5600 mg/kg.

 11. TOXICOLOGICAL INFORMATION (Cont.)

LD50 (oral, mouse): 4100 mg/kg.
 LD50 (oral, rabbit): 4900 mg/kg.
 LD50 (oral, guinea pig): 5500 mg/kg.
 LD50 (dermal, rabbit): Greater than 20 mL/kg (18000 mg/kg).
 Isopropyl alcohol:
 LD50 (rat, oral): 4.42 - 5.84 g/kg
 LD50 (mouse, oral): 4.8 g/kg
 LD50 (rabbit, oral): 7.9 g/kg
 LD50 (rabbit, dermal): 13 g/kg

 12. ECOLOGICAL INFORMATION

Ethyl acetate:
 LC50 Pimephales promelas (fathead minnow) 230 mg/l/96 hr.
 If released into water ethyl acetate will be lost primarily by evaporation (half-life 10 hr in a typical river) and biodegradation.
 Bioconcentration in fish will be insignificant.
 In the atmosphere, ethyl acetate will react with photochemically produced hydroxyl radicals (half-life 8.3 days). A few percent an hour will disappear under photochemical smog situations.
 Isopropyl alcohol:
 LC50 Pimephales promelas (fathead minnows) 11,830 mg/l/1 hr, 11,160 mg/l/24 hr, 11,130 mg/l/48 hr, 72 hr, 96 hr,
 When released into water, isopropyl alcohol will volatilize and biodegrade. In the atmosphere it will photodegrade primarily by reaction with hydroxyl radicals with a half-life of one to several days.

 13. DISPOSAL CONSIDERATIONS

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

 14. TRANSPORT INFORMATION, DOT and IATA:

DOT AND IATA: FLAMMABLE LIQUID, N.O.S.,
 (ISOPROPANOL, ETHYL ACETATE), 3, UN1993, PGII
 LABEL REQUIRED: FLAMMABLE LIQUID

 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%
141-78-6	ETHYL ACETATE	5000 lb final RQ;	50

15. REGULATORY INFORMATION (Cont.)

2270 kg final RQ

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

CASRN	DESCRIPTION
141-78-6	ETHYLACETATE

SARA TITLE III

SECTION 302 Extremely Hazardous Substances (EHS)

CASRN	DESCRIPTION
None	

SECTION 311/312 Community Right to Know

CASRN	DESCRIPTION
67-63-0	ISOPROPYL ALCOHOL

SARA HAZARD CATEGORY INFORMATION

FIRE: YES

SUDDEN RELEASE OF PRESSURE: NO

REACTIVE: NO

IMMEDIATE (ACUTE) HEALTH HAZARD: YES

DELAYED (CHRONIC) HEALTH HAZARD: YES

SECTION 313 Toxic Chemical Release Inventory Reporting (TRI)

CASRN	DESCRIPTION	
67-63-0	ISOPROPYL ALCOHOL	50

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
141-78-6	ETHYL ACETATE
67-63-0	ISOPROPYL ALCOHOL

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%
None		None

MASSACHUSETTS Right to Know Law

CASRN	DESCRIPTION	%
141-78-6	ETHYLACETATE	40-60
67-63-0	ISOPROPYL ALCOHOL	40-60

NEW JERSEY Right to Know Law

CASRN	DESCRIPTION	%
141-78-6	ETHYLACETATE	40-60
67-63-0	ISOPROPYL ALCOHOL	40-60

PENNSYLVANIA Right to Know Law

CASRN	DESCRIPTION	%
141-78-6	ACETIC ACID ETHYL ESTER	40-60
67-63-0	2-PROPANOL	40-60

16. OTHER INFORMATION

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

NA= Not applicable

ND= Not determined

TS= Trade secret

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.