



SAFETY DATA SHEET

Issuing Date 31-May-2017

Revision Date

Revision Number 0

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name A188-4

Other means of identification

Product Code(s) A188-4

UN-No UN1193

Synonyms No information available

MARKEM-IMAJE INC
#2-7075 Edwards Boulevard
Mississauga, Ontario L5S 1Z2
Phone: 1.800.267.5108
Fax: 1.866.921.9732

Recommended use of the chemical and restrictions on use

Recommended Use Make-up.

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Address

Markem-Imaje
150 Congress St. PO Box 2100
Keene, NH 03431
(603) 352-1130

Emergency telephone number

Chemical Emergency Phone Number Chemtrec: 1-800-424-9300 for US/ 703-527-3887 outside US

Emergency Telephone Number In case of emergency call CHEMTREC 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

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

Serious eye damage/eye irritation	Category 2
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 2

GHS Label elements, including precautionary statements

Emergency Overview

Danger**Hazard statements**

Causes serious eye irritation

May cause drowsiness or dizziness

Highly flammable liquid and vapor

**Color** Purple**Physical State** Liquid**Odor** Solvent**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Wear eye/face protection

Avoid breathing dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Call a POISON CENTER or doctor/physician if you feel unwell

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

No information available

Other information**3. COMPOSITION/INFORMATION ON INGREDIENTS****Chemical Nature of the Preparation** Preparation.

Chemical Name	CAS-No	Weight %
Methyl ethyl ketone	78-93-3	90 - 100

4. FIRST AID MEASURES**First aid measures****General Advice**

Call 911 or emergency medical service. Immediate medical attention is required. Show this safety data sheet to the doctor in attendance. If symptoms persist, call a physician.

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Immediately flush with plenty of water. Keep eye wide open while rinsing.
Skin Contact	Wash skin with soap and water.
Inhalation	Move to fresh air. If symptoms persist, call a physician. Immediate medical attention is not required. Move to fresh air in case of accidental inhalation of vapors.
Ingestion	Immediate medical attention is not required. Rinse mouth. Drink plenty of water. Do NOT induce vomiting. Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person. Consult a physician.
Protection of First-aiders	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed**Most Important Symptoms/Effects** No information available**Indication of any immediate medical attention and special treatment needed****Notes to Physician** Keep victim warm and quiet.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Dry chemical. Carbon dioxide (CO ₂). Water spray. Alcohol-resistant foam.
Unsuitable Extinguishing Media	CAUTION: All these products have a very low flash point.
Specific Hazards Arising from the Chemical	Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a "P" may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard.
Protective Equipment and Precautions for Firefighters	Move containers from fire area if you can do it without risk.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk.

Other Information Water spray may reduce vapor; but may not prevent ignition in closed spaces.

Environmental precautions

Environmental Precautions Prevent entry into waterways, sewers, basements or confined areas. Beware of vapors accumulating to form explosive concentrations.

Methods and material for containment and cleaning up

Methods for Containment A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Methods for Cleaning Up Use clean non-sparking tools to collect absorbed material. Dike far ahead of liquid spill for later disposal.

Other Information Water spray may reduce vapor; but may not prevent ignition in closed spaces

7. HANDLING AND STORAGE

Precautions for safe handling

Handling

Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Use only in an area containing flame proof equipment. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing.

Conditions for safe storage, including any incompatibilities

Storage

Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep containers tightly closed in a cool, well-ventilated place. Keep away from heat and sources of ignition. Keep away from heat. Protect from light.

Incompatible Products

Incompatible with oxidizing agents. Incompatible with strong acids and bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Methyl ethyl ketone 78-93-3	STEL: 300 ppm TWA: 200 ppm	TWA: 200 ppm TWA: 590 mg/m ³ (vacated) TWA: 200 ppm (vacated) TWA: 590 mg/m ³ (vacated) STEL: 300 ppm (vacated) STEL: 885 mg/m ³	IDLH: 3000 ppm TWA: 200 ppm TWA: 590 mg/m ³ STEL: 300 ppm STEL: 885 mg/m ³

NIOSH IDLH: Immediately Dangerous to Life or Health.

S*: Skin Notation

Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v.

Engineering Measures

Ensure adequate ventilation. Use explosion-proof equipment.

Personal Protective Equipment

Eye/Face Protection

Tightly fitting safety goggles. Face-shield.

Skin and Body Protection

Antistatic boots. Wear fire/flame resistant/retardant clothing. Impervious gloves. Long sleeved clothing. Chemical resistant apron. Apron.

Respiratory Protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn

Hygiene Measures

When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.



Glasses



Gloves



Boots



Face Mask

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

9. PHYSICAL AND CHEMICAL PROPERTIES

Color	Purple .	Odor	Solvent.
Physical State	Liquid	pH	Not determined
Flash Point	> 16°F / > -9°C	Boiling Point/Range	75°C / 167°F
Autoignition Temperature	500°C / 932°F	Melting Point/Range	-85°C / -121°F
Flammability Limits in Air	Not determined	Explosion Limits	Not determined
Upper	11.5	Upper	11.5
Lower	1.8	Lower	1.8
Specific Gravity	0.81	Solubility	Not determined
Evaporation Rate	Not determined	Vapor Pressure	Not determined
Vapor Density	Not determined	VOC Content(%)	99.9997
VOC (lb/gal)	6.75297	VOC (g/l)	810.887044481909

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable.

Possibility of Hazardous Reactions

strong oxidizing agents.

Hazardous Polymerization no.

Conditions to avoid

Heat, flames and sparks.

Incompatible materials

Incompatible with oxidizing agents. Incompatible with strong acids and bases.

Hazardous Decomposition Products

None.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	There is no data available for this product
Eye Contact	There is no data available for this product
Skin Contact	There is no data available for this product
Ingestion	There is no data available for this product

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Methyl ethyl ketone 78-93-3	2737 mg/kg (Rat)	= 6480 mg/kg (Rabbit) = 5000 mg/kg (Rabbit)	= 11700 ppm (Rat) 4 h

Information on toxicological effects

Symptoms No information available

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

Sensitization No information available
Mutagenic Effects No information available
Carcinogenicity No information available

Chemical Name	ACGIH	IARC	NTP	OSHA
Methyl ethyl ketone 78-93-3	-	No information available	-	-

Reproductive Toxicity No information available
Specific target organ systemic toxicity (single exposure) No information available
Specific target organ systemic toxicity (repeated exposure) No information available
Chronic Toxicity Repeated or prolonged exposure may cause irritation of eyes and skin. Repeated and prolonged exposure to solvents may cause brain and nervous system damage. Avoid repeated exposure.
Target Organ Effects Central nervous system (CNS), Eyes, Respiratory system, Skin.
Aspiration hazard No information available

Numerical measures of toxicity Product Information

ATEmix (oral) 99999
 ATEmix (dermal) 99999
 ATEmix (inhalation-gas) 99999
 ATEmix (inhalation-dust/mist) 99999
 ATEmix (inhalation-vapor) 99999

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Methyl ethyl ketone 78-93-3	?	3130 - 3320: 96 h Pimephales promelas mg/L LC50 flow-through		520: 48 h Daphnia magna mg/L EC50 4025 - 6440: 48 h Daphnia magna mg/L EC50 Static 5091: 48 h Daphnia magna mg/L EC50

Persistence and Degradability

No information available

Bioaccumulation

No information available

Chemical Name	Log Pow
Methyl ethyl ketone 78-93-3	0.29

Other Adverse Effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Methods

Dispose of in accordance with local regulations Should not be released into the environment Can be landfilled or incinerated, when in compliance with local regulations This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261)

14. TRANSPORT INFORMATION**DOT**

UN-No	UN1193
Proper Shipping Name	Methyl ethyl ketone
Hazard Class	3
Packing Group	II

IATA

UN-No	UN1193
Proper Shipping Name	Methyl ethyl ketone
Hazard Class	3
Packing Group	II

IMDG/IMO

UN-No	UN1193
Proper Shipping Name	Methyl ethyl ketone
Hazard Class	3
Packing Group	II
EmS No.	F-E, S-D

ADR

UN-No	UN1193
Proper Shipping Name	Methyl ethyl ketone
Hazard Class	3
Packing Group	II
Classification Code	F1

15. REGULATORY INFORMATION**International Inventories**

TSCA	Does not Comply
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Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. 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	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122)

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	Extremely Hazardous Substances RQs	RQ
Methyl ethyl ketone	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

U.S. State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	Pennsylvania	Illinois	Rhode Island
Methyl ethyl ketone	X	X	X	

Chemical Name	New Jersey
Methyl ethyl ketone	X

International Regulations**Mexico - Grade**

Serious risk, Grade 3

Chemical Name	Carcinogen Status	Exposure Limits
Methyl ethyl ketone		Mexico: TWA 200 ppm Mexico: TWA 590 mg/m ³ Mexico: STEL 300 ppm Mexico: STEL 885 mg/m ³

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

Legend

NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION**NFPA****HMIS**

Personal Protection X

Health Hazard 2

Health Hazard 2

Flammability 3

Flammability 3

Reactivity -

Reactivity 0

Prepared By

Environmental and Safety Department
150 Congress St. PO Box 2100.
Keene, NH 03431
(603) 352-1130

Issuing Date

31-May-2017

Revision Note

No information available

General Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication

End of Safety Data Sheet