Eastman

<03MATERIAL SAFETY DATA SHEET

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name	"EASTMAN" MAK
Product Identification Number(s)	00133-00, P0013300, P0013302, P0013303, P0013304, P0013301
Manufacturer/Supplier	Eastman Chemical Company, Kingsport, Tennessee 37662
MSDS Prepared by	Eastman Product Safety and Stewardship
Chemical Name	2-heptanone
Synonym(s)	902185
Molecular Formula	C7H14O
Molecular Weight	114.19
Product Use	solvent
OSHA Status	hazardous

For emergency health, safety & environmental information, call 800-EASTMAN.

For emergency transportation information, call CHEMTREC at 800-424-9300 or call 800-EASTMAN.

2. COMPOSITION INFORMATION ON INGREDIENTS

(Typical composition is given, and it may vary. A certificate of analysis can be provided.)

Weight %	Component	CAS Registry No.
100%	methyl n-amyl ketone	110-43-0

3. HAZARDS IDENTIFICATION

WARNING!
COMBUSTIBLE LIQUID AND VAPOR
HIGH VAPOR CONCENTRATIONS MAY CAUSE DROWSINESS AND IRRITATION OF THE EYES OR RESPIRATORY TRACT
PROLONGED OR REPEATED SKIN CONTACT MAY CAUSE DRYING, CRACKING, OR IRRITATION

HMIS® Hazard Ratings: Health - 1, Flammability -2, Chemical Reactivity - 0

NOTE: HMIS® rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

4. FIRST-AID MEASURES

Inhalation: Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.
Eyes: Immediately flush with plenty of water for at least 15 minutes. In case of irritation from airborne exposure, move to fresh air. If easy to do, remove contact lenses. Get medical attention if symptoms persist.
Skin: Wash with soap and water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash contaminated clothing before reuse. Destroy or thoroughly clean

contaminated shoes.
Ingestion: Seek medical advice.

5. FIRE FIGHTING MEASURES

Extinguishing Media: water spray, dry chemical, carbon dioxide, foam
Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing. USE WATER WITH CAUTION. Material will float and may ignite on surface of water. Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire.
Hazardous Combustion Products: carbon dioxide, carbon monoxide

6. ACCIDENTAL RELEASE MEASURES

Use personal protective equipment. (See Section 8, EXPOSURE CONTROLS/PERSONAL PROTECTION.) Eliminate all ignition sources. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste.
For Large Spills: Flush spill area with water spray. Prevent runoff from entering drains, sewers, or streams.

7. HANDLING AND STORAGE

Personal Precautionary Measures: Avoid breathing high vapor concentrations. Do not taste or swallow. Avoid prolonged or repeated contact with skin. Use only with adequate ventilation. Wash thoroughly after handling.
Prevention of Fire and Explosion: Keep away from heat and flame. Keep from contact with oxidizing materials.
Storage: Keep container tightly closed and in a well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Country specific exposure limits have not been established or are not applicable unless listed below.

METHYL N-AMYL KETONE
US. ACGIH Threshold Limit Values
Time Weighted Average (TWA): 50 ppm, 233 mg/m3
METHYL (N-AMYL) KETONE
US. NIOSH: Pocket Guide to Chemical Hazards
Recommended exposure limit (REL): 100 ppm, 465 mg/m3
METHYL N-AMYL KETONE
US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
PEL: 100 ppm, 465 mg/m3
US. OSHA Table Z-1-A (29 CFR 1910.1000)
Time Weighted Average (TWA): 100 ppm, 465 mg/m3

Ventilation: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. NOTE: Some countries might not have established exposure limits.

Respiratory Protection: If engineering controls do not maintain airborne concentrations to an acceptable level, an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: organic vapor
Eye Protection: It is a good industrial hygiene practice to minimize eye contact.
Skin Protection: For operations where prolonged or repeated skin contact may occur, chemical-resistant gloves should be worn. Contact glove manufacturer for specific information.
Recommended Decontamination Facilities: eye bath, washing facilities, safety shower

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: liquid
Color: colorless
Odor: pungent, sweet
Odor Threshold: 0.2 ppm
Specific Gravity: 0.81 (20 °C)
Vapor Pressure: 20 °C; 2.8 mbar
Vapor Density: 3.9
Melting Point: -36 °C
Boiling Point: 152 °C
Evaporation Rate: 0.34 (n-butyl acetate = 1)
Solubility in Water: slight
Octanol/Water Partition Coefficient: P: 95.4; log P: 1.98
Flash Point: 39 °C (Tag closed cup)
Autoignition Temperature: 393 °C (ASTM D2155)
Thermal Decomposition Temperature: (DTA) No exotherm

10. STABILITY AND REACTIVITY

Stability:	Stable.
Incompatibility:	Material reacts violently with strong oxidizing agents
Hazardous Polymerization:	will not occur

11. TOXICOLOGICAL INFORMATION

General: Based on animal data and structure-activity relationships, this product is NOT expected to cause nervous system damage.

Toxicity data are not available unless listed below.

Oral LD-50:(rat)	1,600 mg/kg
Oral LD-50:(mouse)	730 mg/kg
Inhalation LC-50: (rat)	4 h: 2000 - 4000 ppm
Dermal LD-50: (rabbit)	10,206 mg/kg
Dermal LD-50: (guinea pig)	> 16,200 mg/kg
Skin Irritation (rabbit)	slight to moderate
Eye Irritation (rabbit)	slight
Skin Sensitization:(human)	none

12. ECOLOGICAL INFORMATION

Oxygen Demand Data:
BOD-5: 1,770 mg/g
BOD-20: 2,000 mg/g

COD: 2,420 mg/g

Acute Aquatic Effects Data:
96 h LC-50 (fathead minnow): 131 mg/l
48 h EC-50 (daphnid): > 90 mg/l (highest concentration tested)

13. DISPOSAL CONSIDERATIONS

Discharge, treatment, or disposal may be subject to national, state, or local laws. Incinerate. Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. TRANSPORT INFORMATION

Marine pollutant components: none unless listed below

DOT (USA): Class combustible liquid Packing group III for quantities of 450 liters (119 gallons) or more; not regulated for smaller quantities Packing group III

ICAO Status: Class 3 Packing group III

IMDG Status: Class 3 Packing group III

15. REGULATORY INFORMATION

WHMIS (Canada) Status: controlled
WHMIS (Canada) Hazard Classification: B/3, D/2/B

SARA 311-312 Hazard Classification(s):
immediate (acute) health hazard
fire hazard

SARA 313: none, unless listed below

Carcinogenicity Classification (components present at 0.1% or more): none, unless listed below

TSCA (US Toxic Substances Control Act): This product is listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): This product is listed on the DSL or otherwise complies with CEPA new substance notification requirements.

EINECS (European Inventory of Existing Commercial Chemical Substances): This product is listed on EINECS.
EINECS Number: 203-767-1

AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme): This product is listed on AICS or otherwise complies with NICNAS.

MITI (Japanese Handbook of Existing and New Chemical Substances): This product is listed in the Handbook or has been approved in Japan by new substance notification.

ECL (Korean Toxic Substances Control Act): This product is listed on the Korean inventory or otherwise complies with the Korean Toxic Substances Control Act.

16. OTHER INFORMATION

For other information, call your Eastman representative or the Eastman operator at 423-229-2000 (USA).

The information contained herein is based on current knowledge and experience; no responsibility is accepted that the information is sufficient or correct in all cases. Users should consider these data only as a supplement to other information Users should make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials, the safety and health of employees and customers, and the protection of the environment.