SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier
Product name: Eastman(TM) MPK

Product No.: EAN 901928. 06548-00, P0654801, P0654805, P0654806, P0654807, P0654808, P0654809, P0654800, P0654802, P0654803, P0654804, P06548P2

Synonyms, Trade Names: 06548-00

Additional identification

Chemical name:	methyl propyl ketone
CAS-No.:	107-87-9

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Solvent
Uses advised against: None known.

1.3 Details of the supplier of the safety data sheet
Manufacturer / Supplier

Eastman Chemical Company
200 South Wilcox Drive
Kingsport, TN 37660-5280 US
+14232292000

Visit our website at www.EASTMAN.com or email emnmsds@eastman.com

1.4 Emergency telephone number:

For emergency health, safety, and environmental information, call 1-423-229-4511 or 1-423-229-2000.

For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300 or call 423-229-2000.

SECTION 2: Hazards identification

WARNING!
FLAMMABLE LIQUID AND VAPOR
POSSIBLE CANCER HAZARD - MAY CAUSE CANCER BASED ON ANIMAL DATA
HARMFUL IF INHALED OR SWALLOWED
CAUSES EYE IRRITATION
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
POTENTIAL PEROXIDE FORMER

SECTION 3: Composition/information on ingredients

3.1 / 3.2 Substances / Mixtures

©COPYRIGHT 2011 BY EASTMAN CHEMICAL COMPANY

General information:

Chemical name	Concentration	Additional identification	Notes
methyl propyl ketone	>90%	CAS-No.: 107-87-9 EC No.: 203-528-1	#
4-methylpentan-2-one; isobutyl methyl ketone	<10%	CAS-No.: 108-10-1 EC No.: 203-550-1 INDEX No.: 606-004-00-4	#

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
# This substance has workplace exposure limit(s).
PBT: persistent, bioaccumulative and toxic substance.
vPvB: very persistent and very bioaccumulative substance.

SECTION 4: First aid measures

4.1 Description of first aid measures

Inhalation: Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

Skin contact: 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: Call a physician or poison control center immediately. Do NOT induce vomiting. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head lower than the hips to help prevent aspiration.

4.2 Most important symptoms and effects, both acute and delayed: Respiratory tract irritation. Narcotic effect. May irritate and cause redness and pain.

4.3 Indication of any immediate medical attention and special treatment needed

Hazards: Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.

Treatment: Treat symptomatically.

SECTION 5: Firefighting measures

General fire hazards: Flammable liquid and vapor. USE WATER WITH CAUTION. Material will float and may ignite on surface of water.

©COPYRIGHT 2011 BY EASTMAN CHEMICAL COMPANY

5.1 Extinguishing media

Suitable extinguishing media:	Water spray. Dry chemical. Carbon Dioxide. Foam.
Unsuitable extinguishing media:	None known.

5.2 Special hazards arising from the substance or mixture:	Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Prevent buildup of vapors or gases to explosive concentrations. May form peroxides of unknown stability.

5.3 Advice for firefighters

Special Fire Fighting Procedures:	Water may be ineffective in fighting the fire. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:	Wear appropriate personal protective equipment.
6.2 Environmental precautions:	Avoid release to the environment.
6.3 Methods and material for containment and cleaning up:	Eliminate sources of ignition. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Large Spillages: Flush spill area with water spray. Prevent runoff from entering drains, sewers, or streams. Dike for later disposal.
Notification Procedures:	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

SECTION 7: Handling and storage:

7.1 Precautions for safe handling:	Avoid breathing mists or vapors. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Use only with adequate ventilation. Wash thoroughly after handling. Minimize exposure to air. After opening, purge container with nitrogen before reclosing. Periodically test for peroxide formation on long-term storage. Do not allow to evaporate to near dryness. Do not distill to near dryness. Addition of water or appropriate reducing materials will lessen peroxide formation.
7.2 Conditions for safe storage, including any incompatibilities:	Keep container tightly closed and in a well-ventilated place. Keep away from food, drink and animal feedingstuffs. Store away from heat and light.
7.3 Specific end use(s):	Solvent

©COPYRIGHT 2011 BY EASTMAN CHEMICAL COMPANY

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

If exposure limits have not been established, maintain airborne levels to an acceptable level.

Chemical name	Type	Exposure Limit values	Source
methyl propyl ketone	STEL	150 ppm	US. ACGIH Threshold Limit Values (01 2010)
	PEL	200 ppm 700 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
4-methylpentan-2-one; isobutyl methyl ketone	TWA	20 ppm	US. ACGIH Threshold Limit Values (01 2010)
	STEL	75 ppm	US. ACGIH Threshold Limit Values (01 2010)
	PEL	100 ppm 410 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

Biological limit values

Chemical name	Exposure Limit values	Source
4-methylpentan-2-one; isobutyl methyl ketone (methyl isobutyl ketone: Sampling time: End of shift.)	1 mg/l (Urine)	ACGIH BEL (01 2010)

8.2 Exposure controls

Appropriate engineering controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

General information: Eye bath. Washing facilities.

Eye/face protection: Wear safety glasses with side shields (or goggles). Wear a full-face respirator, if needed.

Skin protection

Hand protection: Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Other: No data available.

©COPYRIGHT 2011 BY EASTMAN CHEMICAL COMPANY

Respiratory Protection:	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), 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: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.
Hygiene measures:	Observe good industrial hygiene practices.
Environmental Controls:	No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	
Physical State:	Liquid
Form:	Liquid
Color:	Colorless
Odor:	ketone
Odor Threshold:	11 ppm
pH:	No data available.
Melting Point	-78 °C
Boiling Point:	101 °C
Flash Point:	7.8 °C (Tag closed cup)
Evaporation Rate:	2.3
Flammability (solid, gas):	No data available.
Flammability Limit - Upper (%)–:	8.7 %(V)
Flammability Limit - Lower (%)–:	1.56 %(V)
Vapor pressure:	37 mbar (20 °C)
Vapor density (air=1):	2.9
Specific Gravity:	0.81 (20 °C)
Solubility(ies)	
Solubility in Water:	Moderate
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Autoignition Temperature:	No data available.
Decomposition Temperature:	(DTA) No exotherm to boiling
Viscosity:	No data available.
Explosive properties:	No data available.
Oxidizing properties:	No data available.

Other information

Minimum ignition temperature:	449 °C (ASTM D2155)

©COPYRIGHT 2011 BY EASTMAN CHEMICAL COMPANY

SECTION 10: Stability and reactivity

10.1 Reactivity: None known.

10.2 Chemical stability: Stable

10.3 Possibility of hazardous reactions: May form peroxides of unknown stability.

10.4 Conditions to avoid: Heat, sparks, flames.

10.5 Incompatible materials: Strong oxidizing agents.

10.6 Hazardous decomposition products: Carbon Dioxide. Carbon Monoxide.

SECTION 11: Toxicological information

Information on likely routes of exposure

Inhalation: Harmful if inhaled. High vapor concentrations may cause irritation of the eyes or respiratory system.

Ingestion: Harmful if swallowed. Harmful if swallowed. May be harmful if swallowed and enters airways.

Skin contact: Prolonged or repeated skin contact may cause drying, cracking, or irritation.

Eye contact: Causes eye irritation. High vapor concentrations may cause drowsiness and irritation of the eyes or respiratory tract.

11.1 Information on toxicological effects

Acute Toxicity

Oral

Product: No data available.

Specified substance(s)

methyl propyl ketone	Oral LD-50: (Rat): 3,730 mg/kg
4-methylpentan-2-one; isobutyl methyl ketone	Oral LD-50: (Rat): 1,600 - 3,200 mg/kg Oral LD-50: (Mouse): 2,850 mg/kg

Dermal

Product: No data available.

Specified substance(s)

methyl propyl ketone	Dermal LD-50: (Rabbit): 6,480 mg/kg
4-methylpentan-2-one; isobutyl methyl ketone	Dermal LD-50: (Rabbit): >10 ml/kg

Inhalation

Product: No data available.

©COPYRIGHT 2011 BY EASTMAN CHEMICAL COMPANY

Specified substance(s)

methyl propyl ketone	No data available.
4-methylpentan-2-one; isobutyl methyl ketone	LC50 (Rat, 4 h): 2000 - 4000 ppm

Repeated dose toxicity

Product: No data available.

Specified substance(s)

methyl propyl ketone	No data available.
4-methylpentan-2-one; isobutyl methyl ketone	No data available.

Skin corrosion/irritation:

Product: No data available.

Specified substance(s)

methyl propyl ketone	(Guinea Pig, 24 h): slight
4-methylpentan-2-one; isobutyl methyl ketone	(Rabbit, 24 h): moderate (Guinea Pig, 24 h): slight

Serious eye damage/eye irritation:

Product: No data available.

Specified substance(s)

methyl propyl ketone	(Rabbit): Slight
4-methylpentan-2-one; isobutyl methyl ketone	(Rabbit): moderate

Respiratory or skin sensitization:

Product: No data available.

Specified substance(s)

methyl propyl ketone	No data available.
4-methylpentan-2-one; isobutyl methyl ketone	No data available.

Germ cell mutagenicity

In vitro

Product: No data available.

Specified substance(s)

methyl propyl ketone	No data available.
4-methylpentan-2-one; isobutyl methyl ketone	No data available.

In vivo

Product: No data available.

Specified substance(s)

methyl propyl ketone	No data available.

©COPYRIGHT 2011 BY EASTMAN CHEMICAL COMPANY

4-methylpentan-2-one; isobutyl methyl ketone	No data available.

Carcinogenicity

Product:	No data available.
Specified substance(s)	
methyl propyl ketone	No data available.
4-methylpentan-2-one; isobutyl methyl ketone	IARC 2B: possibly carcinogenic to humans.

Reproductive toxicity

Product:	No data available.
Specified substance(s)	
methyl propyl ketone	No data available.
4-methylpentan-2-one; isobutyl methyl ketone	No data available.

Specific target organ toxicity - single exposure

Product:	No data available.
Specified substance(s)	
methyl propyl ketone	No data available.
4-methylpentan-2-one; isobutyl methyl ketone	No data available.

Specific target organ toxicity - repeated exposure

Product:	No data available.
Specified substance(s)	
methyl propyl ketone	No data available.
4-methylpentan-2-one; isobutyl methyl ketone	No data available.

Aspiration hazard

Product:	No data available.
Specified substance(s)	
methyl propyl ketone	No data available.
4-methylpentan-2-one; isobutyl methyl ketone	May be harmful if swallowed and enters airways.

Other adverse effects: No data available.

SECTION 12: Ecological information

12.1 Toxicity

Acute toxicity

Fish

Product:	No data available.
Specified substance(s)	

©COPYRIGHT 2011 BY EASTMAN CHEMICAL COMPANY

methyl propyl ketone	LC-50 (Fathead Minnow, 96 h): > 810 mg/l
4-methylpentan-2-one; isobutyl methyl ketone	No data available.

Aquatic invertebrates

Product:	No data available.
Specified substance(s)	
methyl propyl ketone	EC-50 (snail, 96 h): > 810 mg/l EC-50 (daphnid, 96 h): > 810 mg/l
4-methylpentan-2-one; isobutyl methyl ketone	No data available.

Chronic Toxicity

Fish

Product:	No data available.
Specified substance(s)	
methyl propyl ketone	No data available.
4-methylpentan-2-one; isobutyl methyl ketone	No data available.

Aquatic invertebrates

Product:	No data available.
Specified substance(s)	
methyl propyl ketone	No data available.
4-methylpentan-2-one; isobutyl methyl ketone	No data available.

Toxicity to Aquatic Plants

Product:	No data available.
Specified substance(s)	
methyl propyl ketone	No data available.
4-methylpentan-2-one; isobutyl methyl ketone	No data available.

12.2 Persistence and degradability

Biodegradation

Product:	No data available.
Specified substance(s)	
methyl propyl ketone	No data available.
4-methylpentan-2-one; isobutyl methyl ketone	No data available.

Biological Oxygen Demand:

Product	No data available.
Specified substance(s)	
methyl propyl ketone	BOD-5: 1,380 mg/g BOD-20: 1,800 mg/g
4-methylpentan-2-one; isobutyl methyl ketone	BOD-5: 1,940 - 2,060 mg/g

©COPYRIGHT 2011 BY EASTMAN CHEMICAL COMPANY

Chemical Oxygen Demand:

Product	No data available.
Specified substance(s)	
methyl propyl ketone	1,800 mg/g
4-methylpentan-2-one; isobutyl methyl ketone	2,160 - 2,460 mg/g

BOD/COD ratio

Product	No data available.
Specified substance(s)	
methyl propyl ketone	No data available.
4-methylpentan-2-one; isobutyl methyl ketone	No data available.

12.3 Bioaccumulative potential

Product:	No data available.
Specified substance(s)	
methyl propyl ketone	No data available.
4-methylpentan-2-one; isobutyl methyl ketone	No data available.

12.4 Mobility in soil: No data available.

Known or predicted distribution to environmental compartments

methyl propyl ketone	No data available.
4-methylpentan-2-one; isobutyl methyl ketone	No data available.

12.5 Results of PBT and vPvB assessment: No data available.

methyl propyl ketone	No data available.
4-methylpentan-2-one; isobutyl methyl ketone	No data available.

12.6 Other adverse effects: No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

General information: No data available.

Disposal Methods: Dispose of waste and residues in accordance with local authority requirements. Mix with compatible chemical which is less flammable and incinerate. Since emptied containers retain product residue, follow label warnings even after container is emptied. Residual vapors may explode on ignition; do not cut, drill, grind, or weld on or near this container.

©COPYRIGHT 2011 BY EASTMAN CHEMICAL COMPANY

SECTION 14: Transport information

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

DOT

(methyl isobutyl ketone)

Possible Shipping Description(s):

UN 1224 Ketones, liquid, n.o.s. (methyl propyl ketone,methyl isobutyl ketone) 3 II

IMDG - International Maritime Dangerous Goods Code

Possible Shipping Description(s):

UN 1224 KETONES, LIQUID, N.O.S. (methyl propyl ketone,methyl isobutyl ketone) 3 II

IATA

Possible Shipping Description(s):

UN 1224 Ketones, liquid, n.o.s. (methyl propyl ketone,methyl isobutyl ketone) 3 II

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.
WHMIS (Canada) Status: controlled
WHMIS (Canada) Hazard Classification: B/2, D/2/A, D/2/B

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

US EPCRA (SARA Title III) Section 313 - Toxic Chemical List
METHYL ISOBUTYL KETONE

©COPYRIGHT 2011 BY EASTMAN CHEMICAL COMPANY

OSHA: hazardous

TSCA (US Toxic Substances Control Act): All components of this product are 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): All components of this product are listed on the DSL. Any impurities present in this product are exempt from listing.

AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme): All components of this product are listed on AICS or otherwise comply with NICNAS.

MITI (Japanese Handbook of Existing and New Chemical Substances): All components of this product are listed in the Handbook or have been approved in Japan by new substance notification.

ECL (Korean Toxic Substances Control Act): All components of this product are listed on the Korean inventory or otherwise comply with the Korean Toxic Substances Control Act.

Philippines Inventory (PICCS) : All components of this product are listed on the Philippine inventory or otherwise comply with PICCS.

Inventory of Existing Chemical Substances in China: All components of this product are listed on the Inventory of Existing Chemical Substances in China (IECSC).

SECTION 16: Other information

HMIS® Hazard Ratings: Health - 2, Flammability - 3, Chemical Reactivity - 1

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.

Revision Information:	Not relevant.
Key literature references and sources for data:	No data available.
Training information:	No data available.
Issue Date:	09/29/2011
SDS No:	
Disclaimer:	This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.

©COPYRIGHT 2011 BY EASTMAN CHEMICAL COMPANY