

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: METHYL VINYL KETONE

CAS Number: 78-94-4

1. IDENTIFICATION:

Product Code : 98086

Company Name : ADVENT CHEMBIO PRIVATE LIMITED

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2. HAZARDS IDENTIFICATION:**Hazard classification****Physical hazards**

Flammable liquids : Category 2

Health hazards

Acute toxicity : Category 2 (Fatal if swallowed)

Acute toxicity : Category 1 (Fatal if inhaled)

Acute toxicity : Category 1 (Fatal in contact with skin)

Skin corrosion : Sub-category 1B

Serious eye damage : Category 1

Skin sensitization : Category 1

Short-term (acute) aquatic hazard, exposure, Oral : Category 1

Long-term (chronic) aquatic hazard : Category 1

Labels elements :

Hazard symbol : 

Signal word : Danger

Hazard statement : Highly flammable liquid and vapor.
Fatal if swallowed, in contact with skin or if inhaled.
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
Very toxic to aquatic life with long lasting effects.

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Precautionary statement

- Prevention** : Obtain special instructions before use.
Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. Do not handle until all safety precautions have been read and understood.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
Keep container tightly closed. Ground/ bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting/ equipment.
Use only non-sparking tools. Take precautionary measures against static discharge.
- Response** : IF exposed or concerned: Get medical advice/ attention.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- Storage** : Store in a dry & well-ventilated place. Keep container tightly closed. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
- Disposal** : Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
- Other hazards which do not result in GHS classification** : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

3. COMPOSITION/ INFORMATION ON INGREDIENTS:

Ingredient	CAS Number	Percent	Hazardous
Methyl vinyl ketone	78-94-4	NLT 90.0%	Yes

4. FIRST AID MEASURES:

- General information** : Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
- Ingestion** : Call a physician or poison control center immediately. Rinse mouth. Do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
- Inhalation** : Move to fresh air. Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen.

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	Get medical attention if symptoms persist.
Skin contact	: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
Eye contact	: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
If swallowed	: Give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible. Do not attempt to neutralise.
Most important symptoms/effects, acute and delayed	: Toxic if inhaled. Toxic if swallowed. Toxic in contact with skin. Irritating to eyes, respiratory system and skin.
Indication of immediate medical attention and special treatment needed	: The most important known symptoms and effects are described in the labelling

5. FIRE FIGHTING MEASURES:

General information	: Highly flammable liquid and vapor.
Suitable (and unsuitable) extinguishing media	
Suitable extinguishing media	: Water spray, foam, dry powder or carbon dioxide.
Unsuitable extinguishing media	: For this substance/mixture no limitations of extinguishing agents are given.
Specific hazards arising from the chemical	Carbon oxides Combustible. : Pay attention to flashback. Vapors are heavier than air and may spread along floors. Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.
Special protective equipment and precautions for firefighters	
Special firefighting procedures	: Fight fire from a protected location. Move containers from fire area if you can do so without risk.
Special protective equipment for fire-fighters	: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. ACCIDENTAL RELEASE MEASURES:

Personal precautions, protective equipment and emergency procedures	: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Avoid breathing mists or vapors. Keep upwind. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.
Methods and material for containment and cleaning up	: Eliminate all ignition sources if safe to do so. Use only non-sparking tools. Take precautionary measures against static discharges. Stop leak if possible without any risk. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger

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spill for later recovery and disposal.

Notification Procedures : Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

Environmental precautions : Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. HANDLING AND STORAGE:

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Wear protective gloves/protective clothing/eye, protection/ face protection. Avoid contact with eyes, skin, and clothing. Do not breathe mist or vapor. Use only with adequate ventilation. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities : Keep away from food, drink and animal feeding stuffs. Keep container tightly closed in a dry, well-ventilated place. Ground container and transfer equipment to eliminate static electric sparks. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids.

Storage class : Storage class (TRGS 510): 3: Flammable liquids.

8. EXPOSURE CONTROLS PERSONAL PROTECTION:**Control parameters**

Appropriate engineering controls : No data available

Individual protection measures, such as personal protective equipment

General information : 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. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.

Eye/face protection : Wear safety glasses with side shields (or goggles).

Hand protection : Chemical resistant gloves.

Other : Wear suitable protective clothing.

Respiratory protection : In case of inadequate ventilation use suitable respirator. Chemical respirator with organic vapor cartridge.
Recommended Filter type: Filter type ABEK

Hygiene measures : Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Provide eyewash station and safety shower.

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Avoid contact with eyes, skin, and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance	:	A Clear colourless to light amber liquid
Odor	:	Unpleasant
Solubility	:	Miscible in water.
Formula	:	C ₄ H ₆ O
Molecular Weight	:	70.09 g/mol
Specific Gravity	:	0.848- 0.851 g/cm ³ at 20°C
pH	:	No data available
% Volatiles by volume @ 21C (70F)	:	No data available
Boiling Point	:	80-81° C
Melting Point	:	No data available
Flash Point	:	-7° C
Vapor Density (Air=1)	:	No data available
Vapor Pressure (mm Hg)	:	100 @ 20°C
Evaporation Rate (BuAc=1)	:	No data available

10. STABILITY AND REACTIVITY:

Reactivity	:	Tends to polymerise Vapors may form explosive mixture with air.
Chemical stability	:	Heat-sensitive Sensitivity to light Please observe stabilisation. Store at 2-8°C in original packing. Keep the container tightly closed away from source of ignition; handle at inert atmosphere. May darken on storage.
Possibility of hazardous reactions	:	Risk of ignition or formation of inflammable gases or vapours with: Strong oxidizing agents Exothermic reaction with: polymerisation initiators, alkali hydroxides, Amines, Air, Reducing agents, Peroxides.
Conditions to avoid	:	Warming.
Incompatible materials	:	No data available
Hazardous decomposition products	:	In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION:

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

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Oral Product	:	LD50 Oral - Rat - 23,1 mg/kg LD50 Oral - Rat - 23,1 mg/kg (butenone)
Dermal Product	:	LD50 Dermal - Rat - 35 mg/kg LD50 Dermal - Rabbit - 0,0425 mg/kg (butenone)
Inhalation Product	:	LC50 Inhalation - Rat - 4 h - 0,007 mg/l - vapor LC50 Inhalation - Rat - 4 h - 0,007 mg/l - vapor
Repeated dose toxicity Product	:	No data available.
Skin corrosion/irritation Product	:	Causes burns.
Serious eye damage/eye irritation Product	:	Causes serious eye damage.
Respiratory or skin sensitization Product	:	May cause allergic skin reaction. (ECHA) (butenone)
Carcinogenicity Product	:	No data available
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans	:	No data available
US. National Toxicology Program (NTP) Report on Carcinogens	:	No data available
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	:	No data available
Germ cell mutagenicity	:	No data available
In vitro Product	:	No data available
Reproductive toxicity Product	:	No data available
Specific target organ toxicity - single exposure Product	:	No data available
Specific target organ toxicity - repeated exposure Product	:	No data available
Aspiration hazard Product	:	No data available
Other effects	:	No data available
Additional Information	:	Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea (butenone) To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. (butenone) After absorption: (butenone) Damage to: (butenone) Kidney Liver (butenone) The following applies to ketones in general: when vapours/aerosols occur, mucosal irritations, coughing, and dyspnoea after inhalation. The absorption of large quantities

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leads to: CNS depression (narcosis). Repeated skin contact leads to a degreasing effect, with secondary inflammation possible. Toxic effects on the liver and kidneys cannot be excluded after high doses. The inhalation of droplets may result in the formation of oedemas in the respiratory tract. (butenone) Other dangerous properties can not be excluded. (butenone) This substance should be handled with particular care. (butenone)

12. ECOLOGICAL INFORMATION:**Ecotoxicity****Acute hazards to the aquatic environment**

Toxicity to algae : EC50 - Pseudokirchneriella subcapitata (green algae) - 0,12 - 0,13 mg/l - 96 h (butenone)

Aquatic invertebrates : No data available.
Product

Chronic hazards to the aquatic environment

Fish Product : No data available.

Aquatic invertebrates : No data available.
Product

Toxicity to Aquatic Plants : No data available.
Product:

Persistence and degradability

Biodegradation Product : Not readily biodegradable.

Ratio BOD/ThBOD : 10 % (butenone)

Bioaccumulative potential

Bioconcentration factor : No data available on bioaccumulation.
(BCF) Product

Partition coefficient n- : No data available.
octanol / water (log Kow)

Product

Mobility in soil : No data available.

Other adverse effects : No data available.

13. DISPOSAL CONSIDERATION:

Disposal instructions : Discharge, treatment, or disposal may be subject to national, state, or local laws. Disposal recommendations are based on uncontaminated material.

Contaminated packaging : Since emptied containers retain product residue, follow label warnings even after container is emptied.

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14. TRANSPORT INFORMATION:

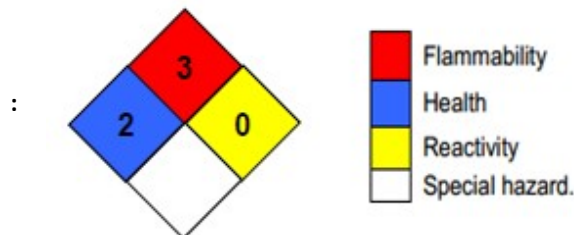
	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
ADR/RID	UN 1251	Methyl vinyl ketone	6.1 (3. 8)	I	Yes
IMDG	UN 1251	Methyl vinyl ketone	6.1 (3. 8)	I	Yes
IATA	UN 1251	Methyl vinyl ketone	6.1 (3. 8)	NA	No

15. REGULATORY INFORMATION:

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
Safety, health and environmental regulations/legislation specific for the substance or mixture
No Data Available.

16. OTHER INFORMATION:

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

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