



MATERIAL SAFETY DATA SHEET

3-Methyl-3-Penten-2-One

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3-Methyl-3-Penten-2-One

SYNONYM: 2-Oxo-3-methyl-3-pentene

MOLECULAR FORMULA: C₆H₁₀O

MOLECULAR WEIGHT: 98.14 g/mol

CREATION DATE: Mar 02 2007

CONTACT PERSON:

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2. HAZARDS IDENTIFICATION

Emergency Overview:

CAUTION!

- May cause respiratory tract, skin and eye irritation.

Product Description

Appearance: Clear, colorless, mobile, liquid.

Potential health effects

Routes of exposure: Skin, eyes, inhalation, ingestion

Immediate effects: Skin:

Only slightly irritating to the skin. Symptoms of exposure may include: Drying, cracking or inflammation of skin.

Eyes: Exposure to liquid May cause eye irritation. Symptoms of exposure may include: Eye irritation or burning sensation

Inhalation: May cause respiratory tract irritation. Symptoms of exposure may include: Nasal discharge, hoarseness, coughing, chest pain and breathing difficulty.

Ingestion: Essentially non-toxic. Symptoms of exposure may include: Nausea, vomiting, loss of appetite, gastrointestinal irritation and/or diarrhea.

Reproductive: No evidence of reproductive effects.

Carcinogenic: No evidence of carcinogenicity.

Mutagenic: No evidence of mutagenicity.

Teratogenic: No evidence of birth defects.

Target Organ Effects: Overexposure (prolonged or repeated exposure) may cause:
Local irritation at the site of exposure

Medical Conditions which may be Aggravated by Exposure:

Significant exposure to this chemical may adversely affect people with acute or chronic disease of the:

Respiratory Tract Skin

For further information, see:

Section 4 - First Aid Measures

Section 5 - Fire Fighting Measures

Section 6 - Accidental Release Measures

Section 8 - Exposure Controls/Personal Protection

Section 9 - Physical and Chemical Properties

Section 10 - Stability and Reactivity

3. COMPOSITION, INFORMATION ON INGREDIENTS

CAS No.	EC No.	Chemical Name	Percent
565-62-8	209-283-7	3-Methyl-3-Penten-2-One	>99

4. FIRST AID MEASURES

Skin:

Immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Call a physician if irritation develops and persists. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eyes:

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

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

If large quantities of this material are swallowed, call a physician immediately. Do NOT induce vomiting unless directed to do so by a physician. Never give anything by mouth to an unconscious person. Get medical attention.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media-

M-Foam, Dry chemical, carbon dioxide (CO₂), Alcohol-resistant foam, water-Jet for large fire.

Wear self-contained breathing apparatus. Wear full protective suit.

Gases

Under conditions giving incomplete combustion, hazardous gases produced may consist of carbon monoxide carbon dioxide (CO₂). Combustion gases of organic materials must in principle be graded as inhalation poisons.

Vapors are lighter than air

Special protective equipment for fire fighters

Self-contained breathing apparatus (EN 133).

Environmental precautions

Water runoff can cause environmental damage. Do not use Dyke and collect water used to fight fire.

Other Information

Cool containers / tanks with water spray

6. ACCIDENTAL RELEASE MEASURES

Spill or Leak Instructions

See Section 8 for appropriate personal protective equipment. Contain spill with dikes of soil or nonflammable absorbent to minimize contaminated area. Avoid run-off into storm sewers and ditches leading to waterways. If required, notify state and local authorities. Place leaking containers in well-ventilated area. Clean up small spills by using a nonflammable absorbent or flushing sparingly with water. Contain larger spills with nonflammable diking or absorbent. Clean up by vacuuming or sweeping.

Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Assess the spill situation, as the spill may not evolve large amounts of hazardous airborne contaminants in many outdoor spill situations. It may be advisable in some cases to simply monitor the situation until spilled product is removed.

7. HANDLING AND STORAGE

Advice on safe handling

Provide sufficient air exchange and/or exhaust in workrooms

Protection - fire and explosion:

Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge. Ground and bond containers when transferring material. In case of fire, emergency cooling with water spray should be available.

Storage Technical measures/Storage conditions

Keep tightly closed in a dry, cool and well-ventilated place. Handle and open container with care. Keep away from Oxidizing agent

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

ACGIH Exposure Limits

Components

3-Methyl-3-Penten-2-One

TWA

N.A.

Additional information about design of technical systems: Properly operating chemical fume hood designed for hazardous chemicals & having an average face velocity of at least 100ft per minute.

Engineering measures

General or dilution ventilation is frequently insufficient as the sole means of Controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems.

Personal protective equipment

General advice

Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Use only in an area equipped with a safety shower. Hold eye wash fountain available.

Hygiene measures - When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

Eye protection - Tightly fitting safety goggles. In addition to goggles, wear a face shield if there is a reasonable chance for splash to the face. Equipment should conform to EN 166.

Skin protection - Impervious clothing

Hand protection -Chemicals resistant gloves

Suitable material type : Butyl-rubber Butyl plus (Company COMASEC), Acid-alkali proof or comparable article; or refer to glove manufacturer's recommendation

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	liquid
Colour:	Pale yellow
Odor:	Strong odor
Flash point:	34°C – closed cup
Ignition temperature:	N.A
Lower explosion limit:	N.A
Upper explosion limit:	N.A.
Melting point/range:	-70°C
Boiling point/range:	137 – 139 °C

Density:	0.883 g/cm ³ @ 20°C
Viscosity:	N.A.
Vapor pressure:	N.A.
Vapor density:	N.A.

10. STABILITY AND REACTIVITY

Stability:

Stable under normal conditions of handling, use and transportation.

Conditions to avoid:

Avoid any source of ignition. Avoid contact with heat, sparks, open flame, and static discharge.

Materials to avoid:

Keep away from: oxidizing agents.

Thermal decomposition:

No decomposition if used and stored according to specification.

Dangerous reactions:

No dangerous reactions known.

Dangerous products of decomposition:

Carbon monoxide & carbon dioxide

11. TOXICOLOGICAL INFORMATION

Primary irritant effect:

On the skin: Irritant for skin & mucous membranes.

On the Eye: Irritant effect.

Sensitization: No sensitizing effect known

Additional toxicological information:

To the best of our knowledge the acute & chronic toxicity of this substance is not fully known. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

Routes of exposure - Inhalation

12. ECOLOGICAL INFORMATION

General notes:

Water hazardous Class 1 (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system. Do not allow material to be released to the environment without proper governmental permits.

13. DISPOSAL CONSIDERATIONS

Product recommendation:

Disposal required in compliance with all waste management related state and local regulations. The choice of the appropriate method of disposal depends on the product composition by the time of disposal as well as the local statute and possibilities for disposal.

Uncleaned packaging's recommendation:

Disposal must be made according to official regulations.

14. TRANSPORT INFORMATION

Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)

ADR/RID-GGVS/E Class: 3 (F1) Flammable liquids.

Kemler number: 30

UN Number: 1224

Packaging group: III

Label: 3

Designation of goods: 1224 KETONES, LIQUID, N.O.S.(Not viscous)(3-Methyl- 3-Penten - 2-One)

Limited quantities (LQ): LQ7

Tunnel restriction code: D/E

Maritime transport IMDG/GGVSea:

IMDG/GGVSea Class: 3

UN Number: 1224

Packaging group: III

Label: 3

Correct technical name: KETONES, LIQUID, N.O.S. (3-Methyl- 3-Penten - 2-One)

Air transport ICAO -TI & IATA-DGR:

ICAO / IATA Class: 3

UN/ID Number: 1224

Packaging group: III

Label: 3

Correct technical name: KETONES, LIQUID, N.O.S. (3-Methyl- 3-Penten - 2-One)

15. REGULATORY INFORMATION

Labelling in accordance with EC directives

EC label

Contains 3-Methyl- 3-Penten -2-One

Symbol(s) - Flammable.

Xi - Irritant

Risk phrase(s)

R10 - Flammable.

R36 - Irritating to eyes.

R37 – Irritating to respiratory system.

R38 – Irritating to Skin

Safety phrase(s)

S16 - Keep away from sources of ignition - No smoking.

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S37 – Wear suitable items.

National regulations information about limitation of use:

Employment restrictions concerning young persons must be observed. For use only by technically qualified individuals.

16. OTHER INFORMATION

The information in this safety data sheet is based on data and samples provided. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Old versions must be destroyed. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes.

The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this

safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. Godavari Biorefineries Limited does not guarantee the accuracy or exhaustiveness of the information provided.