



MATERIAL SAFETY DATA SHEETS

339

Ketene

1. CHEMICAL IDENTITY

Chemical Name : Ketene

Chemical Classification: Toxic

Trade Name :

Synonyms: Ethenone, Carbomethene, Ketoethylene

Formula : C₂H₂O

CAS No: 463-51-4

UN No: 1955

Regulated Identification

Shipping Name :

Hazchem Code : 2RE

Codes / Label : Class 2.3, Toxic

Hazardous Waste ID No :

HAZARDOUS INGREDIENTS	C.A.S. No.	HAZARDOUS INGREDIENTS	C.A.S. No.
1 Ketene	463-51-4	3	
2		4	

2. PHYSICAL / CHEMICAL DATA

Boiling Pt. °C: -56

Physical State: Gas

Appearance: Colourless gas.

Melting Pt °C: -150

Vapour Pressure @ 35°C mmHg: 1.04X10+4 mm Hg @ 25 deg C

Odour: Penetrating odour.

Vapour Density(Air =1): 1.45

Solubility in water at 30°C g/100ml: Decomposes

Others: Slightly soluble in ether. Fairly soluble in acetone.

Specific Gravity (Water =1): 0.65 g/cm³ (-60 deg C)

pH :

3. FIRE / EXPLOSION HAZARD DATA

Flammability :

LEL:

Flash Point °C in OC: -107

TDG Flammability:

UEL:

Flash Point °C in CC:

Autoignition Temperature °C :

Explosion sensitivity to impact:

Explosion sensitivity to static Electricity:

Hazardous Combustion Products :

Hazardous Polymerization :

Combustible Liquid:

Explosive Material:

Corrosive Material

Flammable Material:

Oxidiser :

Others:

Pyrophoric Material:

Organic Peroxide :

4. REACTIVITY DATA

Chemical Stability : Unstable under normal storage, requires special storage condition.

Incompatibility with other material : Strong oxidizing agents, water, alcohols, ammonia

Reactivity : Forms an explosive mixture with air. Ketene readily polymerizes. Decomposes in water, alcohol, and ammonia. Reacts with water to form acetic acid. Contact with hydrogen peroxide forms explosive diacetyl peroxide.

Hazardous Reaction Products : Substance may readily polymerize. Reacts violently with many organic compounds.

5. HEALTH HAZARD DATA

Routes of entry: Inhalation, Ingestion, Skin and Eyes

Effects of Exposure / Symptoms:

Inhalation : Irritation of the upper airways, cough, burning sensation of the throat, dyspnea, pain in the chest and severe, delayed pulmonary edema can occur. Respiratory failure can result after significant exposures. **Ingestion :** Nausea and vomiting may occur. **Skin :**

Severe dermal burns or frostbite may develop following skin exposure to the liquefied material.

Emergency Treatment :

Inhalation: If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

Skin: Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

Eyes: If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

Ingestion: Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician

LD50 (oral-rat) mg/kg: 1300 mg/kg

STEL:

LC50 (rat) mg/kg:

Odour Threshold:

Permissible Exposure Limit: 0.5 ppm (0.9 mg/m³)

TLV (ACGIH) :

NFPA Hazard	Health	Flammability	Reactivity	Special
Signals	3	0	2	

6. PREVENTIVE MEASURES

Personal Protective Equipment : Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Where chemical resistant gloves. To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

Handling : All chemicals should be considered hazardous. Avoid direct physical contact. Use appropriate, approved safety equipment. Untrained individuals should not handle this chemical or its container. Handling should occur in a chemical fume hood.

Storage : Cannot be stored in a gaseous state. Protect containers against physical damage by shock. Outdoor or detached storage is preferable. For indoor storage, use standard combustible liquid storeroom or cabinet.

Precautions :

7. EMERGENCY / FIRST AID MEASURES

FIRE:

Fire Extinguishing Media :

Special Procedure :

Unusual Hazards :

EXPOSURE: First Aid Measures:

Inhalation: If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer

oxygen. Keep person warm and quiet; seek immediate medical attention.

Skin: Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

Eyes: If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

Ingestion: Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician

Antidotes / Dosages:

SPILLS :

Steps To Be Taken : Evacuate area and ventilate. Wear protective equipment. If required, use an inert absorbent. Sweep up and place in an appropriate container for disposal. Wash contaminated surfaces.

Waste Disposal Method:

8. ADDITIONAL INFORMATION / REFERENCES

9. MANUFACTURERS / SUPPLIERS DATA

NAME OF FIRM :	Contact person
MAILING ADDRESS :	in Emergency :
TELEPHONE / TELEX NOS :	Local Bodies involved :
TELEGRAPHIC ADDRESS :	Standard Packing :
OTHERS :	Trem Card Details / Ref :

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