

Number: 009

### Section 1. Product and Company Identification

Product name: Cyclopentanone
Synonyms: A515
Recommended use and Restrictions on use: Manufacture of drug 、 pesticide 、 Intermediates of rubber chemicals
Manufacturer, Importer, or Supplier: Shiny Chemical Industrial Co., Ltd. Address: No.5, Yeong Gong 1 <sup>st</sup> Rd, Yeong An Dist., Kaohsiung 82841, Taiwan, R.O.C. Telephone: +886-7-8619171 ext. 711~714
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### Section 2. Hazards Identification

Classification: 1. Flammable liquids, Category 3 2. Skin corrosion/irritation, Category 2 3. Serious eye damage/eye irritation, Category 2A
Label elements:  Hazard pictograms: Flame, Exclamation mark Signal word: Warning Hazard Statements: 1. Flammable liquid and vapour. 2. Causes skin irritation. 3. Causes serious eye irritation. Precautionary statements: 1. Keep container in a well ventilated place. 2. Keep away from sources of ignition - No Smoking. 3. Do not breathe gas/fumes/vapor/mist. 4. Wear eye protect or face protect equipment. 5. Use only in the well ventilated place.
Other Hazards: -

### Section 3. Composition/Information on Ingredients

Pure substance

Chemical Name: Cyclopentanone
Synonyms: Ketocyclopentane, Adipic ketone, Ketopentamethylene
CAS NO. : 120-92-3
Weight: 100%

### Section 4. First Aid Procedures

Description of first aid measures: <ul style="list-style-type: none"><li>• Inhalation:<ol style="list-style-type: none"><li>1. Move affected person to breathe fresh air immediately.</li><li>2. If not breathing, give artificial respiration.</li><li>3. If heart stop, give CPR.</li><li>4. Get medical attention.</li></ol></li><li>• Skin contact:<ol style="list-style-type: none"><li>1. Remove contaminated clothing and shoes.</li><li>2. Immediately flush with plenty of water at least 15 minutes.</li><li>3. Wash gently with non-abrasive soap and water..</li><li>4. If the stimulus persists, transfer the affected person to hospital for examination and treatment.</li></ol></li><li>• Eye contact:<ol style="list-style-type: none"><li>1. Flush eyes with large amounts of warm water at least 20 minutes</li><li>2. If the stimulus persists, transfer the affected person to hospital for examination and treatment.</li><li>3. Avoid light if affected person feel pain.</li></ol></li><li>• Ingestion:<ol style="list-style-type: none"><li>1. If the victim is about to lose or has lost consciousness or experiences spasm, do not feed any food via mouth.</li><li>2. Do not induce vomiting.</li><li>3. If the patient is conscious, give 1 to 2 cups of water or milk to dilute the contents of the stomach.</li><li>4. Put the victim' s body forward to lower the risk of inhalation when the victim spontaneously vomits.</li><li>5. Give water to drink.</li><li>6. Get medical attention immediately.</li></ol></li></ul>
The most Important Symptoms and Hazardous Effects: -
Protection for emergency personnel: equip appropriate personal protective equipment such as class C and conduct first aid in a safe location.

Notes to Physicians:

1. If inhaled, provided oxygen.
2. Consider stomach lavage and activated carbon in case of ingestion.

### Section 5. Firefighting Measures

Suitable extinguishing media: use water mist, dry chemical, carbon dioxide, alcohol foam.

Special hazards during firefighting:

1. Vapors can travel to a source of ignition and flash back.
2. Containers may explode due to heat of combustion, and remove the container from the fire if there are safe.
3. Vapors may accumulate that cause explosions in low-lying areas and sewers.

Firefighting procedures:

1. Cool containers with plenty of water mist until fire stops.
2. Evacuate immediately if tank safety valve has been sounded or cause discoloration.
3. Remove the container from the fire if there are safe.

Protective equipment for firefighters: Firefighters must wear air respirator, protective gloves, fire fighting clothes.

### Section 6. Accidental Release Measures

Personal precautions:

1. Restrain personnel from close to spilled areas.
2. Ensure cleanup is conducted by trained personnel.
3. Wear appropriate personal protection equipment.

Environmental precautions:

1. Ventilate area.
2. Extinguish or remove all fire sources.
3. Notify relevant safety, health, and environmental protection agencies.

Methods for cleaning up:

1. Do not touch spillage.
2. Prevent entry to sewers or airtight spaces.
3. Prevent or reduce spillage under safe circumstances.
4. Soak up spills with inert solids, sand, or inert absorbing agents.
5. Remove spill with vacuum equipment. Label and store it in an appropriate container with a lid.
6. In case of small spill, absorb with an inert material. Contaminated absorbent is as hazardous as spillage; label and store it in an appropriate container with a lid.
7. Contaminated absorbing agents have same risk as leaks.

### Section 7. Handling and Storage

Handling: 1. Operate minimal amount in vented areas to prevent fogging. 2. Keep container closed. Use only with adequate ventilation. 3. Equip appropriate personal protective equipment.
Storage: 1. Store in cool, dry and well ventilated area and avoid sunlight directly. 2. Keep away incompatible chemicals and store in the capped and labeled container. 3. Keep container tightly closed and avoid impact. 4. Limited storage and storage area should be far away from the workplace.

### Section 8. Exposure controls

Engineering controls: local exhaust devices or general ventilation system.			
Control parameters			
TWA	STEL	CEILING	BEIs
-	-	-	-
Personal protective equipment: <ul style="list-style-type: none"> <li>• Respiratory protection:             <ol style="list-style-type: none"> <li>1. Use SCBA or self-contained air breathing apparatus in emergency response.</li> <li>2. Do not use Air-Purifying Respirators in anoxic environment.</li> </ol> </li> <li>• Hand protection: Use chemical protective gloves made of polyvinyl alcohol.</li> <li>• Eye protection: Use safety glasses and splash masks.</li> <li>• Skin and physical protection:             <ol style="list-style-type: none"> <li>1. Use protective clothing which is chemical resistant to this material.</li> <li>2. Safety shoes and boots should also be chemical resistant.</li> </ol> </li> </ul>			
Hygiene measures: <ol style="list-style-type: none"> <li>1. Remove contaminated clothing quickly as possible after work. Clean clothing before reuse or abandon. Tell cleaning staffs the harmfulness.</li> <li>2. Forbid smoking or eating in workplace.</li> <li>3. After handling this material, wash hands thoroughly.</li> <li>4. Keep workplace clean.</li> </ol>			

### Section 9. Physical and Chemical Properties

Appearance: liquid	Odor: Spicy flavor (like Ether)
Odor threshold: -	Melting point: -58.2°C
pH : -	Boiling point/Boiling range: 130.6°C
Flammability (solid, gas): -	Flash point: 28°C
Decomposition temperature: -	Test method: close cup

Auto-ignition temperature: -	Explosion limits: 1.7%
Vapor pressure: 11.4 mmHg (25°C)	Vapor density: 2.3 (air=1)
Density: 0.95 ( g/cm <sup>3</sup> ) (25°C · Water = 1)	Solubility: soluble in Ethanol, acetone, ether
Partition coefficient (n-octanol/water, log K <sub>ow</sub> ): 0.24	Volatility rate: -

### Section 10. Stability and Reactivity

Chemical stability: stable under normal conditions.
Possibility of hazardous reactions: 1. Contact with strong oxidizer may cause fire or explosions. 2. May cause violent explosion in the presence of acid and hydrogen peroxide.
Conditions to avoid: heat and fire.
Materials to avoid: strong oxidizing agents.
Hazardous decomposition products: carbon dioxide, carbon monoxide.

### Section 11. Toxicological Information

Exposure Route: skin, inhalation, ingestion, eyes
Symptoms: irritation, burning, headache
Acute toxicity: <ul style="list-style-type: none"> <li>• Inhalation: high concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.</li> <li>• Skin: contact will be irritating and burning.</li> <li>• Eyes: contact will be irritating and burning.</li> <li>• Ingestion: have moderate toxicity</li> <li>• LD<sub>50</sub> (animal test, entry): 1,950 mg/kg (rat, oral)</li> <li>• LC<sub>50</sub> (animal test, entry): -</li> </ul>
Chronic / Long-term toxicity: -

### Section 12. Ecological Information

Ecological toxicity: 1. LC <sub>50</sub> (fish): - 2. EC <sub>50</sub> (aquatic invertebrates): - 3. Bioconcentration factor (BCF): -
Persistence and degradability: 1. No Bioconcentration in aquatic organisms. 2. When released into the water, this material may evaporate and biodegrade. 3. When released into the air, this material may react with photochemically produced hydroxyl radicals and have a half-life of about 2 days.

<ul style="list-style-type: none"> <li>• Half-life (Air): -</li> <li>• Half-life (Water surface): -</li> <li>• Half-life (Groundwater): -</li> <li>• Half-life (Soil): -</li> </ul>
Bioaccumulative potential: -
Mobility in soil: When released into the soil, this material is expected to evaporate and biodegrade.
Other adverse effects: -

### Section 13. Disposal Considerations

Waste disposal: 1. Refer to relevant local regulations. 2. Store unprocessed waste according to storage conditions. 3. Use a special incinerator or dispose of in a sanitary landfill.
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### Section 14. Transport Information

United Nations Number (UN No.): 2245
UN Proper Shipping Name: Cyclopentanone
Transport Hazard classes: 3
Packaging Group: III
Marine pollutant (Yes/No): No
Specific Transport Measures and Precautionary Conditions: -

### Section 15. Regulatory Information

Applicable Regulations: 1. Occupational Safety and Health Act 2. Regulations for the Labeling and Hazard Communication of Hazardous Chemicals 3. Ordinance on Prevention of Organic Solvent Poisoning 4. Standards of Permissible Exposure Limits of Airborne Hazardous Substances in Workplace 5. Rules on Road Traffic Safety 6. Methods and Facilities Standards for the Storage, Clearance and Disposal of Industrial Waste 7. Public Hazardous Substances & Flammable Pressurized Gases Establishment Standards & Safety Control Regulations
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### Section 16. Other Information

References	1. RTECS database, TOMES PLUS CD-Rom, Vol.65, 2005. 2. HSDB database, TOMES PLUS CD-Rom, Vol.65, 2005.
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	3. Material Safety Data Sheets, Genium Publishing Corporation, 1997. 4. ChemWatch database, 2005-3.
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Notes	The symbol " - " in this sheet indicates no available information; the symbol " / " indicates the information is not applicable to the substance.