



**UNITED**  
INTERNATIONAL INC.

**United International Co., Ltd.**

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## Material Safety Data Sheet

### GAMMA UNDECALACTONE

United International Co., Ltd. asks to its customers receiving this material safety data sheet to study it carefully in order to know the dangers presented by the product and to inform its employees, agents, and sub-contractors. The end user is responsible for the handling and the storage of the product to refer to legislative, regular and administrative up to date texts, concerning the protection of the workers and the population and the environmental. This information is based on our current level of knowledge given by our own suppliers.

Date/revised: Aug. 08, 2011	Date issued: Dec. 04, 2008
Product: Gamma undecalactone	

#### 1. Substance/preparation and company name

**Company:**

United International Co., Ltd.

18/F, Huaren International Building, 2A Shandong Road, Qingdao, China - 266071

#### 2. Composition/information on ingredients

**Chemical name:** Gamma undecalacton

**CAS No.:** 104-67-6

**FEMA No.:** 3091

**FDA No.:** 172.515

**CE No.:** 179c

**EINECS No.:** 203-225-4

#### 3. Physical and chemical properties

**Appearance:** Colorless or slightly yellow liquid

**Formula:**  $C_{11}H_{20}O_2$

**Molecular weight:** 184.28

**Boiling point:** 165 °C

**Density:** 0.949g/cm<sup>3</sup>

**Odor:** Fruity

**Assay:** 98.0% min.

#### 4. Hazards identification

**Eyes:** Causes eye irritation.

**Skin:** Causes skin irritation.

**Ingestion:** May cause gastrointestinal irritation with nausea, vomiting and diarrhea. The toxicological properties of this substance have not been fully investigated.

**Inhalation:** Causes respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.

#### 5. First aid measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**Skin:** Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

**Ingestion:** Never give anything by mouth to an unconscious person. Get medical aid. do not induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do not use mouth-to-mouth resuscitation.

**Notes to Physician:** Treat symptomatically and supportively.

## 6. Fire fighting and measures

**Flash point:** 113°C

**Explosion Limits:** N/A

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Will burn if involved in a fire. Vapors may be heavier than air. They can spread water along the ground and collect in low or confined areas. Runoff from fire control or dilution may cause pollution.

**Suitable extinguishing media:** Use water spray, dry chemical, carbon dioxide, or appropriate foam.

## 7. Accidental release measures

**General information:** Use proper personal protective equipment as indicated in Section 9.

**Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately.

## 8. Handling and storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

**Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

## 9. Exposure controls and personal protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels.

**Hand:** Use chemical resistant gloves

**Eyes:** Wear chemical splash goggles.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

## 10. Stability and reactivity

**Chemical stability:** Stable at room temperature in closed containers under normal storage and handling conditions.

**Conditions to avoid:** Excess heat.

**Incompatibilities with other materials:** Strong oxidizing agents.

**Hazardous decomposition products:** Carbon monoxide, irritating and toxic fumes and dgases, carbon dioxide.

#### 11. Toxicological information

**Estimated acute oral toxicity:** LD<sub>50</sub> (rats) > 5g/kg

#### 12. Ecological information

N/A

#### 13. Disposal considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

#### 14. Transport information

**Emergency TEL:** +86-532-86069596; 83891505~9

#### 15. Regulatory information

N/A

#### 16. Other information

**Shelf life:** 12 months minimum in sealed containers protected from light and air

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind expressed or implied is made with respect to the information contained here.