



## MATERIAL SAFETY DATA SHEET

### 1. PRODUCT AND COMPANY IDENTIFICATION:

<b>PRODUCT CODE</b>	N0157
<b>PRODUCT NAME</b>	NAT. GAMMA-UNDECALACTONE (OPTICAL)
<b>SUPPLIER</b>	Shanghai M & U International Trade Co., Ltd. Rm 1717, No 598 North NuJiang Road 200333 Shanghai, China +86-21-32515501 32515502 sales@mu-intel.com

**FOR EMERGENCIES CALL CHEMTREC: 800-424-9300 (24-HOURS)**

### 2. HAZARD IDENTIFICATION:

#### Emergency Overview

#### OSHA Hazards

Corrosive

#### GHS Classification

Skin irritation (Category 2)

Eye irritation (Category 2A)

Specific target organ toxicity - single exposure (Category 3)

Acute aquatic toxicity (Category 3)

#### GHS Label elements, including precautionary statements

Signal word           Warning

#### Hazard statement(s)

H315                   Causes skin irritation.

H319                   Causes serious eye irritation.

H335                   May cause respiratory irritation.

H402                   Harmful to aquatic life.

#### Precautionary statement(s)

P261                   Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P305 P351 P338     IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

#### HMIS Classification

Health hazard       1

Flammability        1

Physical hazards    0

#### NFPA Rating

Health hazard       1

Fire                   1

Reactivity Hazard   0

### Potential Health Effects

Inhalation	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin	May be harmful if absorbed through skin. Causes skin burns.
Eyes	Causes eye burns.
Ingestion	May be harmful if swallowed.

### 3. COMPOSITION AND INFORMATION ON INGREDIENTS:

<b>Synonym</b>	Undecanoic lactone Aldehyde C14 Undecan-4-olide
<b>Formula</b>	C11 H20 O2
<b>Molecular Weight</b>	184.28 g/mol

CAS-No	EC-No	Index-No.	Concentration
104-67-6	203-225-4		

### 4. FIRST-AID GUIDE:

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 5. FIRE-FIGHTING GUIDE:

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide

#### Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

#### Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

### 6. ACCIDENTAL RELEASE GUIDE:

#### Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**Methods and materials for containment and cleaning up**

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

**7. HANDLING AND STORAGE:**

**Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Normal measures for preventive fire protection.

**Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place.

**8. EXPOSURE AND PERSONAL PROTECTION:**

Contains no substances with occupational exposure limit values.

**Personal protective equipment:**

**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Eye protection**

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection**

Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**9. PHYSICAL AND CHEMICAL PROPERTIES:**

**Appearance**

Form LIQUID

Color	COLORLESS TO PALE YELLOW
<b>Safety data</b>	
pH	no data available
Melting point (°C)	no data available
Boiling point (°C)	297
Flash point (°F) Closed cup	>200
Vapor pressure (mmHg@20°C)	0.0001
Density @25 °C	no data available
Water solubility	INSOLUBLE
Odor	PEACH-LIKE

## 10. STABILITY AND REACTIVITY:

### Chemical stability

Stable under recommended storage conditions.

### Materials to avoid

Strong oxidizing agents. Strong bases

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

## 11. TOXICOLOGICAL INFORMATION:

### Acute toxicity

#### Oral LD50

LD50 Oral - rat - 18,500 mg/kg

Remarks: Behavioral: Somnolence (general depressed activity). Skin and Appendages: Other: Hair.

### Skin corrosion/irritation

Skin - rabbit –

### Carcinogenicity

IARC:

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH:

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP:

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA:

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### Specific target organ toxicity - single exposure (Globally Harmonized System)

Inhalation - May cause respiratory irritation.

### Potential health effects

Inhalation May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.  
Ingestion May be harmful if swallowed.  
Skin May be harmful if absorbed through skin. Causes skin burns.  
Eyes Causes eye burns.

**Signs and Symptoms of Exposure**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Additional Information**

RTECS: YQ2485000

**12. ECOLOGICAL INFORMATION:**

Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 569 mg/l - 96 h  
Toxicity to daphnia EC50 - Daphnia magna (Water flea) - 17.0 mg/l - 48 h  
and other aquatic invertebrates

**Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life.

**13. DISPOSAL RECOMMENDATIONS:**

**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

**14. TRANSPORTATION INFORMATION:**

**DOT (US)**

Not dangerous goods.

**IMDG**

Not dangerous goods.

**IATA**

Not dangerous goods.

**15. REGULATORY INFORMATION:**

**OSHA Hazards**

Corrosive

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards**

Acute Health Hazard

**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

Undecan-4-olide	CAS-No.	Revision Date
	104-67-6	

**New Jersey Right To Know Components**

Undecan-4-olide	CAS-No.	Revision Date
	104-67-6	

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**16. OTHER INFORMATION:**

The information in this MSDS was obtained from current and reliable sources. However, the data is provided without any warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions for use, handling, storage and disposal of this product are beyond M&U's control, it is the responsibility of the user both to determine safe conditions for use of this product and to assume liability for loss, damage, or expense arising out of the products improper use. No warranty expressed or implied regarding the product described herein will be created by or inferred from any statement or omission in the MSDS. Various federal, state, or provincial agencies may have specific regulations concerning the transportation, handling, storage, use, or disposal of this product which may not be reflected in the MSDS. The user should review these regulations to ensure full compliance.