



## MATERIAL SAFETY DATA SHEET

### 1. PRODUCT AND COMPANY IDENTIFICATION:

<b>PRODUCT CODE</b>	N0086
<b>PRODUCT NAME</b>	NAT. ISOAMYL FORMATE
<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

Flammable liquid, Irritant.

#### GHS Classification

Flammable liquids(Category 3)

Skin irritation (Category 2)

Eye irritation (Category 2A)

Specific target organ toxicity - single exposure (Category 3)

#### GHS Label elements, including precautionary statements

Pictogram

Signal word                      Warning

#### Hazard statement(s)

H226                      Flammable liquid and vapor.

H315                      Causes skin irritation.

H319                      Causes serious eye irritation.

H335                      May cause respiratory irritation.

#### 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                      2

Flammability                      3

Physical hazards                      1

#### NFPA Rating

Health hazard                      2

Fire                      3

Reactivity Hazard 0

**Potential Health Effects**

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.  
Skin May be harmful if absorbed through skin. May cause skin irritation  
Eyes Causes eye irritation.  
Ingestion May be harmful if swallowed.

**3. COMPOSITION AND INFORMATION ON INGREDIENTS:**

**Synonym** Isopentyl formate  
**Formula** C6 H12 O2  
**Molecular Weight** 116.16 g/mol

CAS-No	EC-No	Index-No.	Concentration
110-45-2	203-769-2	607-018-00-3	

**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 at least 15 minutes and consult a physician.

**If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**5. FIRE-FIGHTING GUIDE:**

**Conditions of flammability**

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

**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

**Further information**

Use water spray to cool unopened containers.

## 6. ACCIDENTAL RELEASE GUIDE:

### **Personal precautions**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

### **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 12).

## 7. HANDLING AND STORAGE:

### **Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

### **Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

## 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 multipurpose 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**

Face shield and safety glasses 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, Flame retardant antistatic protective 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

### Safety data

pH no data available  
Melting point (°C) -93  
Boiling point (°C) 124  
Flash point (°F) Closed cup 80  
Vapor pressure (mmHg @20 °C) no data available  
Density @25 °C 0.880  
Water solubility INSOLUBLE  
Relative vapor density >1  
Odor PLUM-LIKE

## 10. STABILITY AND REACTIVITY:

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

Vapors may form explosive mixture with air.

### Conditions to avoid

Heat, flames and sparks.

### Materials to avoid

Strong oxidizing agents

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

## 11. TOXICOLOGICAL INFORMATION:

### Acute toxicity

#### Oral LD50

LD50 Oral - rat - 9, 840 mg/kg

Remarks:Behavioral: Somnolence (general depressed activity).

#### Dermal LD50

LD50 Dermal - rabbit – 5,000 mg/kg

#### Skin corrosion/irritation

Skin - rabbit - Skin irritation -24 h.

#### 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)**

May cause respiratory irritation.

**Potential health effects**

Inhalation                      May be harmful if inhaled. Causes respiratory tract irritation.

Ingestion                        May be harmful if swallowed.

Skin                                May be harmful if absorbed through skin. Causes skin irritation.

Eyes                                Causes eye irritation.

**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: NT0185000

**12. DISPOSAL RECOMMENDATIONS:**

**Product**

This combustible material may be burned in a chemical incinerator equipped with and afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

**13. TRANSPORTATION INFORMATION:**

**DOT (US)**

UN number: 1109      Class: 3              Packing group: III

Proper shipping name: Amyl formates

**IMDG**

UN number: 1109      Class: 3              Packing group: III

Proper shipping name: AMYL FORMATES

**IATA**

UN number: 1109      Class: 3              Packing group: III

Proper shipping name: Amyl formats

**14. REGULATORY INFORMATION:**

**OSHA Hazards**

Flammable liquid, Irritant.

**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**

Fire Hazard, Acute Health Hazard.

**Massachusetts Right To Know Components**

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

**Pennsylvania Right To Know Components**

	CAS-No.	Revision Date
Isopentyl formate	110-45-2	

**New Jersey Right To Know Components**

	CAS-No.	Revision Date
Isopentyl formate	110-45-2	

**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.

**15. 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.