



# DSL Chemicals (Shanghai) Co., Ltd.

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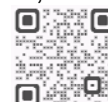
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## MATERIAL SAFETY DATA SHEET

Version 2.0

Revision Date: Jan. 05, 2016



### Section 1 - Product and Company Information

Product Name: Levulinic Acid

Product Number: C000005

Company: DSL Chemicals (Shanghai) Co., Ltd

1120, 409-459 Nanjing Road (E),

Shanghai 200001, China

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### Section 2 - Composition, Information on Ingredients

Substance Name

CAS #

Levulinic Acid

123-76-2

Formula: C<sub>5</sub>H<sub>8</sub>O<sub>3</sub>

Molecular Weight: 116.12 g/mol

### Section 3 - Hazards Identification

Emergency Overview

OSHA Hazards

Harmful by ingestion., Irritant

GHS Label elements, including precautionary statements

Pictogram

GHS Signal Word Danger

Hazard statement(s)

H302

Harmful if swallowed.

H315

Causes skin irritation.

H319

Causes serious eye irritation.

H335

May cause respiratory irritation.

Precautionary statement(s)

P261

Avoid breathing dust/ fume/ gas/ mist/ vapours/ 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:

1

Physical hazards:

0

NFPA Rating

Health hazard:

2

Fire:	1
Reactivity Hazard:	0
Potential Health Effects	
Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	Harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.
Ingestion	Harmful if swallowed.

#### **Section 4 - First Aid Measures**

##### 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.

##### If swallowed

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

#### **Section 5 - Fire Fighting Measures**

##### Suitable extinguishing media

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

##### Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

#### **Section 6 - Accidental Release Measures**

##### Personal precautions

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

##### Environmental precautions

Do not let product enter drains.

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

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

#### **Section 7 - Handling and Storage**

##### Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

##### Conditions for safe storage

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

Light sensitive.

#### **Section 8 - Exposure Controls, Personal Protection**

Contains no substances with occupational exposure limit values.

##### Personal protective equipment

##### Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator

cartridges. 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

Complete suit protecting against chemicals, 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.

### Section 9 - Physical and Chemical Properties

Appearance	colorless or pale yellow
Form	liquid or crystal
Safety data	
pH	no data available
Melting point	30 - 33 °C (86 - 91 °F) - lit.
Boiling point	245 - 246 °C (473 - 475 °F) - lit.
Flash point	98 °C (208 °F) - closed cup
Ignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	1 hPa (1 mmHg) at 102 °C (216 °F)
Density	1.134 g/mL at 25 °C (77 °F)
Water solubility	no data available

### Section 10 - Stability and Reactivity

#### Chemical stability

Stable under recommended storage conditions.

#### Conditions to avoid

no data available

#### Materials to avoid

Bases, Oxidizing agents, Reducing agents

#### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

### Section 11 - Toxicological Information

#### Acute toxicity

LD50 Oral - rat - 1,850 mg/kg

LD50 Dermal - rabbit - > 5,000 mg/kg

#### Skin corrosion/irritation

Skin - rabbit - Skin irritation - 24 h

#### Serious eye damage/eye irritation

no data available

#### Respiratory or skin sensitization

no data available

#### Germ cell mutagenicity

no data available

#### 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.

#### Reproductive toxicity

no data available

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

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

Aspiration hazard

no data available

#### Potential health effects

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

Ingestion Harmful if swallowed.

Skin 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: OI1575000

### Section 12 - Ecological Information

No data available.

### Section 13 - Disposal Considerations

Product

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.

### Section 14 - Transport Information

DOT (US)

Shipping Name: Levulinic Acid

Hazard Class: 8

UN Number: 3265

Packing Group: III

### Section 15 - Regulatory Information

OSHA Hazards

Harmful by ingestion., Irritant

DSL Status

All components of this product are on the Canadian DSL list.

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

Levulinic Acid

CAS-No.

123-76-2

Revision Date

New Jersey Right To Know Components

Levulinic Acid

CAS-No.

123-76-2

Revision Date

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.

#### **Section 16 - Additional Information**

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.