

## Chemical Safety Data Sheet MSDS / SDS

**Z-LIGUSTILIDE**Revision Date:2026-05-31 Revision Number:1

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****Product identifier**

Product name : Z-LIGUSTILIDE  
CBnumber : CB41484410  
CAS : 81944-09-4  
Synonyms : cis-ligustilide,Ligustilide A

**Relevant identified uses of the substance or mixture and uses advised against**

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

**Company Identification**

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 010-86108875

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**SECTION 2: Hazards identification****GHS Label elements, including precautionary statements**

Symbol(GHS)



Signal word

Danger

**Precautionary statements**

P501 Dispose of contents/container to.....  
P405 Store locked up.  
P330 Rinse mouth.  
P321 Specific treatment (see ... on this label).  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P270 Do not eat, drink or smoke when using this product.  
P264 Wash skin thoroughly after handling.

**Hazard statements**H301 Toxic if swallowed

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**SECTION 3: Composition/information on ingredients**

## Substance

Product name	: Z-LIGUSTILIDE
Synonyms	: cis-ligustilide, Ligustilide A
CAS	: 81944-09-4
MF	: C12H14O2
MW	: 190.24

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## SECTION 4: First aid measures

### Description of first aid measures

#### General information

Immediately remove any clothing soiled by the product.

In case of irregular breathing or respiratory arrest provide artificial respiration.

#### After inhalation

In case of unconsciousness place patient stably in side position for transportation.

#### After skin contact

Immediately wash with water and soap and rinse thoroughly.

#### After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

#### After swallowing

Do not induce vomiting; immediately call for medical help.

#### Information for doctor

#### Most important symptoms and effects, both acute and delayed

No further relevant information available.

#### Indication of any immediate medical attention and special treatment needed

No further relevant information available.

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## SECTION 5: Firefighting measures

### Extinguishing media

#### Suitable extinguishing agents

Use fire fighting measures that suit the environment.

A solid water stream may be inefficient.

## Special hazards arising from the substance or mixture

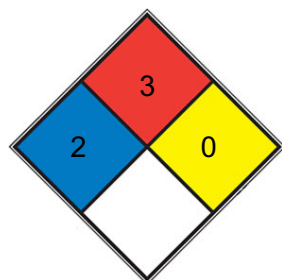
No further relevant information available.

## Advice for firefighters

## Protective equipment

No special measures required.

## NFPA 704



HEALTH 2 Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. [diethyl ether](#), ammonium phosphate, iodine)

FIRE 3 Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions . Liquids having a flash point below 22.8 °C (73 °F) and having a boiling point at or above 37.8 °C (100 °F) or having a flash point between 22.8 and 37.8 °C (73 and 100 °F). (e.g. gasoline, [acetone](#))

REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N<sub>2</sub>](#))

SPEC.  
 HAZ.

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## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Not required.

### Environmental precautions

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

### Methods and material for containment and cleaning up

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to section 13.

### Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## Protective Action Criteria for Chemicals

### PAC-1

Substance is not listed.

### PAC-2

Substance is not listed.

### PAC-3

Substance is not listed.

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## SECTION 7: Handling and storage

### Handling

#### Precautions for safe handling

No special precautions are necessary if used correctly.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Avoid prolonged or repeated exposure.

Keep away from sources of ignition.

Take precautionary measures against static discharge.re.

#### Information about protection against explosions and fires

No special measures required.

#### Conditions for safe storage, including any incompatibilities

#### Storage

Store in accordance with information listed on the product insert.

#### Requirements to be met by storerooms and receptacles

No special requirements.

#### Information about storage in one common storage facility

Not required.

#### Further information about storage conditions

Keep receptacle tightly sealed.

#### Specific end use(s)

No further relevant information available.

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## SECTION 8: Exposure controls/personal protection

## **Additional information about design of technical systems**

No further data; see section 7.

## **Control parameters**

## **Components with limit values that require monitoring at the workplace**

Not required.

## **Additional information**

The lists that were valid during the creation were used as basis.

## **Exposure controls**

## **Personal protective equipment**

## **General protective and hygienic measures**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

## **Breathing equipment**

Not required.

## **Protection of hands**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

## **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

## **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

## **Eye protection**

Goggles recommended during refilling.

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# SECTION 9: Physical and chemical properties

## **Information on basic physicochemical properties**

### **Appearance**

### **Physical State**

neat oil

**Color**

Colorless

**Odor**

Alcohol-like

**Structural Formula**

C<sub>12</sub>H<sub>14</sub>O<sub>2</sub>

**Molecular Weight**

190.2 g/mol

**Odor Threshold**

Not determined.

**Formulation**

A solution in ethanol

**pH**

Not determined.

**Change in condition**

**Melting point/Melting range**

Undetermined.

**Boiling point/Boiling range**

78 °C (172.4 °F)

**Flash point**

Not applicable.

**Flammability (solid,gas)**

Not applicable.

**Decomposition temperature**

Not determined.

**Ignition temperature**

Not determined.

**Danger of explosion**

Product does not present an explosion hazard.

**Explosion limits**

Lower: 3.5 Vol %

Upper: 15 Vol %

### **Vapor Pressure**

Not determined.

### **Density**

1.10±0.1 g/cm<sup>3</sup> (20 °C 760 Torr)

### **Relative Density**

1.10±0.1 g/cm<sup>3</sup> (20 °C 760 Torr)

### **Vapor Density**

Not determined.

### **Evaporation Rate**

Not determined.

### **Solubility in / Miscibility with**

DMF:1.0(Max Conc. mg/mL);5.26(Max Conc. mM)

DMSO:50.5(Max Conc. mg/mL);265.45(Max Conc. mM)

### **Water**

Fully miscible.

### **Partition coefficient (n-octanol/water)**

Not determined.

### **Viscosity**

#### **Dynamic**

at 20 °C (68 °F): 1.2 mPas

#### **Kinematic**

Not determined.

### **SOLUBILITY**

DMF: 1 mg/ml; DMSO: 1 mg/ml; Ethanol: miscible

VOC content: 0.00 % 0.0 g/l / 0.00 lb/gal

Solids content: 0.0 %

### **Other information**

No information available

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## SECTION 10: Stability and reactivity

## Reactivity

No further relevant information available.

## Chemical stability

### Thermal decomposition / conditions to be avoided

No decomposition if used according to specifications.

### Possibility of hazardous reactions

No dangerous reactions known.

### Conditions to avoid

No further relevant information available.

### Incompatible materials

strong oxidizing agents

### Hazardous decomposition products

carbon dioxide; carbon monoxide

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## SECTION 11: Toxicological information

### Information on toxicological effects

#### Acute toxicity

LD/LC50 values that are relevant for classification:

Substance / Estimate	Route	Endpoint	Value
ATE (Acute Toxicity Estimate)	Oral	LD50	100 mg/kg

#### Primary irritant effect

##### on the skin

No irritant effect.

##### on the eye

No irritating effect.

#### Sensitization

No sensitizing effects known.

#### Additional toxicological information

#### Carcinogenic categories

### **IARC (International Agency for Research on Cancer)**

Substance is not listed.

### **NTP (National Toxicology Program)**

Substance is not listed.

### **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

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## **SECTION 12: Ecological information**

### **Toxicity**

#### **Aquatic toxicity**

No further relevant information available.

#### **Persistence and degradability**

No further relevant information available.

#### **Behavior in environmental systems**

#### **Bioaccumulative potential**

No further relevant information available.

#### **Mobility in soil**

No further relevant information available.

#### **Additional ecological information**

#### **General notes**

Water hazard class 1 (Self-assessment) slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

#### **Results of PBT and vPvB assessment**

##### **PBT**

Not applicable.

##### **vPvB**

Not applicable.

##### **PBT:**

Not applicable.

##### **vPvB:**

Not applicable.

#### **Other adverse effects**

No further relevant information available.

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## SECTION 13: Disposal considerations

### **Waste treatment methods**

#### **Recommendation**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

#### **Uncleaned packagings**

#### **Recommendation**

Disposal must be made according to official regulations.

#### **Recommended cleansing agent**

Water, if necessary with cleansing agents.

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## SECTION 14: Transport information

### **UN-Number**

DOT, IMDG, IATA UN3287

### **UN proper shipping name**

DOT, IATA Toxic liquid, inorganic, n.o.s. ((Z)-Ligustilide)

IMDG TOXIC LIQUID, INORGANIC, N.O.S. ((Z)-Ligustilide)

### **Transport hazard class(es)**

#### **DOT**

Class: 6.1 Toxic substances

Label: 6.1

#### **IMDG, IATA**

Class: 6.1 Toxic substances

Label: 6.1

### **Packing group**

DOT, IMDG, IATA III

### **Environmental hazards**

Not applicable.

### **Special precautions for user**

Warning: Toxic substances

**Hazard identification number (Kemler code)**

60

**EMS Number**

F-A,S-A

**Stowage Category**

A

**Stowage Code**

SW2 Clear of living quarters.

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

**Transport/Additional information**

**DOT:**

**Quantity limitations**

On passenger aircraft/rail: 60 L

On cargo aircraft only: 220 L

**IMDG:**

**Limited quantities (LQ)**

5L

**Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

**IATA:**

**Remarks**

When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10. Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.

**UN "Model Regulation"**

UN 3287 TOXIC LIQUID, INORGANIC, N.O.S. ((Z)-

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## SECTION 15: Regulatory information

### Safety, health and environmental regulations/legislation specific for the substance or mixture

No further relevant information available.

#### Sara

Section 355 (extremely hazardous substances):	Substance is not listed.
Section 313 (Specific toxic chemical listings):	Substance is not listed.
TSCA (Toxic Substances Control Act):	Substance is not listed.
Hazardous Air Pollutants:	Substance is not listed.

#### Proposition 65

Chemicals known to cause cancer:	Substance is not listed.
Chemicals known to cause reproductive toxicity for females:	Substance is not listed.
Chemicals known to cause reproductive toxicity for males:	Substance is not listed.
Chemicals known to cause developmental toxicity:	Substance is not listed.

#### Carcinogenic categories

EPA (Environmental Protection Agency):	Substance is not listed.
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#### TLV (Threshold Limit Value)

Substance is not listed.

#### NIOSH-Ca (National Institute for Occupational Safety and Health)

Substance is not listed.

#### Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

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## SECTION 16: Other information

### Abbreviations and acronyms

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Toxicity - Oral 3: Acute toxicity – Category 3

**Disclaimer:**

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.