

# Material Safety Data Sheet



Revision Date 2018. 03. 02

## 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name	T3 DNA Ligase
Product code	M057S, M057L
Recommended use of the chemical and restrictions on use	
Recommended use	For research use only
Restrictions on use	For research use only
Details of the supplier	
Company name	Enzynomics Inc.
Address	Munji-ro 281-9, Yuseong-gu, Daejeon, 34050, Korea
Immergence contact number	+82-42-719-1023

## 2. HAZARDS IDENTIFICATION

Classification of Hazards and dangerousness	No relevant classification
Warning article including prevention methods	
Category	No information available
Hazards and dangerousness	No information available
Prevention methods	
Prevention	No information available
Action	No information available
Store	No information available
Discard	No information available
Other hazards and dangerousness (NFPA) not included in classification	
Health	No information applicable
Fire	No information applicable
Reactivity	No information applicable

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Material name	Usual name	CAS No.	Amount (%)
No information applicable	-	-	-

**This product contains no substances that are considered to be hazardous to health at the product concentration**

#### 4. FIRST AID MEASURES

<b>Eye contact</b>	Consult a physician Immediately rinse skin and eyes thoroughly with plenty of running water for at least 20 minutes.
<b>Skin contact</b>	Consult a physician Remove contaminated clothes and shoes and isolate contaminated area Immediately rinse skin and eyes thoroughly with plenty of running water for at least 20 minutes. Fire risk when drying contaminated clothes
<b>Inhalation</b>	Remove to fresh air CPR when there is no breathing Provide Oxygen when breathing is difficult Provide warm and stability
<b>Ingestion</b>	Emergency medical measurers
<b>Note to physicians</b>	Take protective action according to the material

#### 5. FIRE FIGHTING MEASURES

<b>Proper (improper) fire extinguishing agents</b>	Small fire: dry sand, dry chemical, alcohol-resistant foam, water spray, regular foam, CO <sub>2</sub> (suitable extinguishing agent) Large fires: water spray / mist, regular foam (suitable extinguishing agent) High pressure water (improper extinguishing agent)
<b>Specific hazards from chemical compounds</b>	No information available
<b>Protective equipment and precautions for fire fighting</b>	No information available

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions, protective equipment and emergency procedures</b>	Micro particles can ignite fire or explosion therefore remove all the sources of fire.  Separate combustibles from leaked material Stop leak if it is not dangerous Do not contact with leaked materials without wearing proper protective equipment
<b>Environmental precautions</b>	Give attention to materials and conditions that should be avoid No information available
<b>Containment and cleaning up</b>	Build a dike and pool water for fire extinguish Do not use flammable materials such as sawdust Make a ditch to contain large leak Pool released material by clean shovel into clean and dry container, tie it and then remove from released area  After probation clean contaminated area with water

#### 7. HANDLING AND STORAGE

<b>Precautions for safe handling</b>	Note the substances and conditions to avoid Wash thoroughly after handling Note the high temperature In case of material leakage, reduce the oxygen concentration in the air and cause suffocation in an enclosed space, so be careful not to spill Check the oxygen concentration before entering the place because there is a risk of loss of consciousness or death due to oxygen deficiency at high concentration in the air Keep this temperature below 20°C because this material evaporates slowly and reaches hazardous concentrations. Do not spray because it will evaporate faster if sprayed
<b>Conditions for safe storage</b>	Keep it tightly closed Store in a cool, dry place

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure standard of chemical compound, biological exposure standard

Domestic regulations	No information available
ACGIH regulation	No information available
Biological release regulation	No information available
Individual protection equipment	
Respiratory protection	No information available

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

State	Liquid
Color	Colorlessness
Odor	Odorless
Odor threshold	No information available
pH	No information available
Melting point/freezing point	No information available
Early boiling point and range	No information available
Flashing point	No information available
Evaporation rate	No information available
Evaporation rate (solid/liquid)	No information available
Maximum / minimum evaporation or explosion range	- / -
Steam pressure	No information available
Solubility	No information available
Vapor density	No information available
Specific gravity	No information available
n-octanol/ distribution coefficient	No information available
Self-ignition temperature	No information available
Disassemble temperature	No information available
Viscosity	No information available
Molecular weight	No information available

## 10. STABILITY AND REACTIVITY

Chemical stability and possibility of hazardous reactions	No information available
Situation to avoid	No information available
Materials to avoid	No information available
Harmful material produce by degradation	No information available

## 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	No information available
Health maleficence information	
Acute poison	
Oral	No information available
Ingestion	No information available
Inhalation	No information available
Skin corrosion or irritant agent	No information available
Serious eye damage or irritation	No information available
Respiratory organ hypersensitiveness	No information available
Skin hypersensitiveness	No information available

**Carcinogenic**

<b>Occupational safety and health acts</b>	No information available
<b>Employment announcement</b>	No information available
<b>IARC</b>	No information available
<b>OSHA</b>	No information available
<b>ACGIH</b>	No information available
<b>NTP</b>	No information available
<b>EU CLP</b>	No information available
<b>Germ cell mutagenicity</b>	No information available
<b>Reproduction toxicity test</b>	No information available
<b>Special target poison (1 time exposer)</b>	No information available
<b>Special target poison (long exposer)</b>	No information available
<b>Absorption injurious</b>	No information available

**12. ECOLOGICAL INFORMATION****Ecotoxicity**

<b>Fish</b>	No information available
<b>Crustacean</b>	No information available
<b>Algae</b>	No information available

**Residual fungicide and resolvability**

<b>Residual fungicide</b>	No information available
<b>Resolvability</b>	No information available

**Life enrichment**

<b>Enrichment</b>	No information available
<b>Biodegradability</b>	No information available

**Soil**

<b>Other harmful influences</b>	No information available
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**13. DISPOSAL CONSIDERATIONS****Waste treatment method**

Dispose container and content according to the waster control act

**Disposal considerations**

Dispose container and content according to the waster control act

**14. TRANSPORT INFORMATION****IATA**

<b>Propriety shipping name</b>	No dangerous good in sense of these transport regulations
<b>Hazard class</b>	No information available
<b>Subsidiary class</b>	No information available
<b>Packing group</b>	No information available
<b>UN-No</b>	No information available
<b>Environmental hazards</b>	No information available

**15. REGULATORY INFORMATION**

<b>Regulations of occupational safety and health act</b>	No information available
<b>Regulations of toxic chemicals regulation act</b>	No information available
<b>Regulations of safety control of dangerous substances act</b>	No information available
<b>Regulations of waste control act</b>	No information available

**Regulations of other domestic and international act**

**Domestic act**

**Persistent organic pollutants control act** No information available

**Foreign act**

**American supervision information** No information applicable

**CERCLA** No information applicable

**EPCRA 302** No information applicable

**EPCRA 304** No information applicable

**EPCRA 313** No information applicable

**American supervision information  
(Rotterdam agreement material)** No information applicable

**American supervision information  
(Stockholm agreement material)** No information applicable

**American supervision information  
(Montreal protocol material)** No information applicable

**EU Classification information  
(Confirmed classification results)** No information applicable

**EU Classification information  
(Danger expression)** No information applicable

**EU Classification information  
(Safety expression)** No information applicable

**16. OTHER INFORMATION**

Source of material

IUCLID (oral)

SIDS (oral)

SIDS (skin corrosive or irritant)

SIDS (severe eye damage or irritation)

NLM (Germ Cell Mutagenesis)

IUCLID (specific target organ toxicity (repeated exposure))

OECD SIDS (fish)

EU IUCLID (Crustaceans)

OECD SIDS (Crustaceans)

US EPA ECOTOX (Crustaceans)

ECOSAR (agar)

OECD SIDS (Enrichment)

IUCLDE (biodegradable)

OECD SIDS (biodegradable)

OECD TG 301C (biodegradable)

OECD TG 301D (biodegradable)

The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since Enzynomics, Inc. cannot control the actual methods, volumes, or conditions of use, the company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein.

Questions about the information found on this MSDS should be directed to [info@enzynomics.com](mailto:info@enzynomics.com).

**End of Material Safety Data Sheet**