

## Safety Data Sheet (SDS)

This product is a chemical substance and is intended to be used by persons having chemical knowledge and skill, at their own discretion and risk.

Revision Date: Aug. 23, 2017

### Section 1. PRODUCT AND COMPANY IDENTIFICATION

#### 1.1 Product identifier

Product Name: TPEN  
 Product Code: T040  
 CAS Number: 16858-02-9  
 EC Number: 605-520-7

#### 1.2 Details of the supplier of the safety data sheet

Company: Dojindo Laboratories  
 Address: Tabaru 2025-5 Mashiki-machi, Kamimashiki-gun, Kumamoto 861-2202, Japan  
 Telephone: +81-96-286-1515  
 Fax: +81-96-286-1525  
 Emergency phone number : +81-96-286-1515

#### 1.3 Product use

For research use only.

### Section 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008.[EU-GHS/CLP]  
 Skin corrosion/irritation, Category 2  
 Serious eye damage/eye irritation, Category 2  
 Specific target organ toxicity – single exposure, Category 3

#### 2.2 Label elements

##### Labeling according Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Pictogram:



Signal word: Warning

Hazard statement(s):

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.  
 P264 Wash /hands/face/forearms/clothing thoroughly after handling.  
 P271 Use only outdoors or in a well-ventilated area.  
 P280 Wear protective gloves/protective clothing/eye protection/ face protection.  
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
 P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P312 Call a POISON CENTER or doctor/physician if you feel unwell.

P332 + P313	If skin irritation occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/ international regulations.

### 2.3 Other hazards

None known.

---

### Section3. **COMPOSITION/INFORMATION ON INGREDIENTS**

---

<b>3.1</b>	Product Name:	TPEN
	Synonyms:	N,N,N',N'-Tetrakis(2-pyridylmethyl)ethylenediamine
	Concentration:	≤100 %
	Formula:	C <sub>26</sub> H <sub>28</sub> N <sub>6</sub>
	Molecular Weight:	424.54

---

### Section4. **FIRST AID MEASURES**

---

#### 4.1 Description of first aid measures

If inhaled:	If breathed in, move into fresh air. Seek medical advice if discomfort occurs. If not breathing, give artificial respiration. Call a physician.
If swallowed:	Do not induce vomiting. Wash out mouth with water. Never give anything by mouth to an unconscious person. Seek medical attention.
In case of skin contact:	Wash off with plenty of water. Remove contaminated clothing and launder before reuse.
In case of eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention if irritation occurs.

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

No information available.

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

No information available.

---

### Section5. **FIRE-FIGHTING MEASURES**

---

#### 5.1 Extinguishing media

Use extinguishing media appropriate for the surrounding fire.

#### 5.2 Special hazards arising from the substance or mixture

May emit toxic fumes under fire conditions.

#### 5.3 Special protective equipment for firefighters

Wear self-contained breathing apparatus and full protective clothing if necessary.

---

### Section6. **ACCIDENTAL RELEASE MEASURES**

---

#### 6.1 Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Ensure adequate ventilation. Use personal protective equipment. Avoid formation of dust. Avoid breathing dust, vapors, mist or gas. Avoid contact with skin and clothing.

#### 6.2 Environmental precautions

Prevent further leakage. Prevent contamination of drains with product.

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

Pick up and collect product in suitable container for disposal.

---

### Section7. **HANDLING AND STORAGE**

---

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust. Avoid breathing dust, vapors, mist or gas. Wear appropriate protective personal equipment. Use only with adequate ventilation.

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

Keep tightly closed.  
Store in a cool, dark and dry place.

---

### Section8. **EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

#### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

#### 8.2 Exposure controls

### Engineering measures

Ensure adequate ventilation, especially in confined areas.

### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. When using, do not eat, drink or smoke. Wash hands, forearms and face after handling.

### Personal protective equipment

<b>Eye/face protection:</b>	Wear safety glasses with side-shields conforming to European Standard EN166.
<b>Hand protection:</b>	Wear protective gloves conforming to EU Directive 89/686/EEC and European Standard EN374. Gloves must be inspected prior to use. Avoid skin contact with product when remove gloves. Dispose of contaminated gloves safely after use.
<b>Skin and body protection:</b>	Wear laboratory coat or impervious clothing. Choose appropriate body protection according to the amount and concentration of the substance at the work place.
<b>Respiratory protection:</b>	Wear suitable respiratory equipment in case of inadequate ventilation.

---

## Section9. **PHYSICAL AND CHEMICAL PROPERTIES**

---

### Information on basic physical and chemical properties

a) Appearance:	White to slightly yellow crystalline powder
b) Odor:	Odorless
c) Odor Threshold:	No data available
d) pH:	No data available
e) Melting point/freezing point:	110 - 115 °C
f) Initial boiling point and boiling range:	No data available
g) Flash point:	No data available
h) Evaporation rate:	No data available
i) Flammability (solid, gas):	No data available
j) Upper / lower flammability or explosive limits:	No data available
k) Vapor pressure:	No data available
l) Vapor density:	No data available
m) Relative density:	No data available
n) Solubility(ies):	Solubility in DMSO (100 mg / 10 ml)
o) Partition coefficient: <i>n</i> -octanol / water:	No data available
p) Auto-ignition temperature:	No data available
q) Decomposition temperature:	No data available
r) Viscosity:	No data available
s) Explosive properties:	No data available
t) Oxidizing properties:	No data available

---

## Section10. **STABILITY AND REACTIVITY**

---

### Stability and reactivity

Reactivity:	Stable
Chemical stability:	Stable at a cool, dark and dry place.
Possibility of hazardous reactions:	No data available
Conditions to avoid:	Heat, sunlight, high temperature
Incompatible materials:	Strong oxidizing agents, strong acids and bases
Hazardous decomposition products:	When decomposed, it may emit toxic fumes of carbon monoxide, carbon dioxide and nitrogen oxides.

---

## Section11. **TOXICOLOGICAL INFORMATION**

---

### 11.1 Information on toxicological effects

a) Acute toxicity:	No data available
b) Skin corrosion / irritation:	No data available
c) Serious eye damage/eye irritation:	No data available
d) Carcinogenicity:	No component of this product present at levels greater than or equal to 0.1% is identified as a possible, probable or confirmed human carcinogen by IARC.
e) Reproductive toxicity:	No data available
f) STOT - SE:	No data available
g) STOT - RE:	No data available
h) Aspiration hazard:	No data available

### 11.2 Potential health effects

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

