

## Safety Data Sheet

### 1. Identification of the substance/preparation and of the company

- 1.1. Product name:** TMB Solution III  
**Product code:** TMB-P-001
- 1.2. Relevant identified uses of the substance or mixture and uses advised against**  
**Relevant identified uses:** For research use only, not for human or veterinary use.
- 1.3. Details of the supplier of the safety data sheet**  
**Company name/address:** Biopanda Diagnostics  
Unit 14 Carrowreagh Business Park  
Carrowreagh Road, Dundonald  
Belfast, BT16 1WF  
UNITED KINGDOM
- Website:** [www.biopanda-diagnostics.com](http://www.biopanda-diagnostics.com)  
**Email:** [info@biopanda-diagnostics.com](mailto:info@biopanda-diagnostics.com)  
**Telephone:** +44 (0)2895 438774
- 1.4. Emergency telephone number**  
*These services are only available to health professionals*  
UK National Poisons Emergency Number: +44 (0)870 600 6266

### 2. Hazards identification

- 2.1. Classification of the substance or mixture**  
**2.1.1. Classification according to Regulation (EC) No 1272/2008 [CLP]:**  
This chemical mixture is self-classified as non-hazardous. It does not contain hazardous material at a concentration that would be considered to be hazardous.
- 2.2. Label elements:**  
**2.2.1. Labelling according to Regulation (EC) No 1272/2008 [CLP]:**  
N/A

**Signal Word:** N/A

**Hazard Statement(s):** N/A

**Precaution Statement(s):**

- P260: Do not breathe dusts or mists.  
P264: Wash hands thoroughly after handling.  
P280: Wear protective gloves, eye protection and protective clothing.

**Response Statement(s):**

P301 + P330 + P331: IF SWALLOWED, rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353: IF ON SKIN, remove all contaminated clothing. Rinse skin with water/shower.  
 P363: Wash contaminated clothing before reuse.  
 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 safe to do so. Seek medical attention.

### 2.3. Other hazards:

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## 3. Composition/Information on ingredients

Component	CAS #	EC No.	Concentration ( % )
3,3',5,5'- Tetramethylbenzidine (TMB)	54827-17-7	259-364-6	<1% (w/v)
Water	7732-18-5	231-791-2	>98% (v/v)
Other ingredients	Not Hazardous		<1% ( w/v)

## 4. First-aid measures

### 4.1. Personal protection for first aid personnel

First aid personnel providing treatment to a patient exposed to this solution should observe the following precautions for their own personal protection:

- Avoid contact with contaminated skin, clothing and equipment by wearing protective gloves to prevent contact with skin.
- Wear safety goggles as a minimum level of eye protection to prevent splashes of solution entering the eye.
- Avoid inhalation of fumes or mist during rescue in a contaminated area by wearing suitable respiratory protection; suitable protection is an air supplied breathing apparatus or positive pressure self-contained breathing apparatus.

### 4.2. Description of first aid measures

#### Eye contact

Flush thoroughly with water or physiological salt water. Remember to remove contact lenses. If irritation persists, seek medical advice.

#### Skin Contact

Remove contaminated clothing and wash affected skin with soap and water. Seek medical attention if irritation develops.

#### Inhalation

If inhaled, remove victim to fresh air. If difficult breathing, support breathing, give oxygen and obtain medical attention. If not breathing, give artificial respiration.

#### Ingestion

If ingested, do NOT induce vomiting. If conscious and alert, rinse mouth, drink plenty of water, and seek medical advice.

#### Information

Show this Safety Data Sheet to a physician or emergency ward. Note to physician: Treat symptomatically.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

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

No data available.

### 5. Fire-fighting measures

#### 5.1. Flammable properties and hazards

Non Flammable, not combustible; aqueous solution.

#### 5.2. Extinguishing media

##### Suitable extinguishing media

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

##### Unsuitable extinguishing media

N/A

#### 5.3. Fire fighting instructions

As in any fire, wear self-contained breathing apparatus and full protective gear to prevent contact with skin and eyes.

### 6. Accidental release measures

#### 6.1. Personal precautions

Wear suitable laboratory protective clothing. See protective equipment listed in section 8. Avoid breathing vapours and provide adequate ventilation.

#### 6.2. Environmental precautions

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

#### 6.3. Methods for containment and cleaning

Absorb spilled liquid and place spillage in a chemical disposal container. Wash the area of the spill thoroughly with water and soap.

### 7. Handling and storage

#### 7.1. Precautions to be taken when handling

Wear proper personal protective lab equipment (see section 8). Avoid skin contact and breathing fume/gas/mist/vapour. Wash thoroughly after handling.

#### 7.2. Precautions to be taken in storing

Store at 2 – 8°C. Keep container tightly closed and ensure it is labelled appropriately.

### 8. Exposure controls and personal protection

#### 8.1. Exposure parameters

CAS#	Partial chemical name	Britain EH40	France VL	Europe
		No data	No data	No data
54827-17-7	3,3',5,5'-Tetramethylbenzidin (TMB)	OSHA TWA	ACGIH TWA	Other limits
		No data	No data	No data

## 8.2. Exposure controls

### 8.2.1. Engineering controls

Use process enclosures, local exhaust ventilation or other engineering controls to control airborne levels below recommended exposure limits.

### 8.2.2. Personal protective equipment

No special equipment is required in intended conditions of normal use.

Eye protection: Safety glasses.

Skin protection: Compatible chemical-resistant gloves.

Other protective clothing: Lab coat.

Work practices: Facilities storing or utilising this material should be equipped with an eyewash facility. Wash after handling.

## 9. Physical and chemical properties

<b>Physical state:</b>	Liquid
<b>Appearance:</b>	Clear and colourless solution
<b>Odour:</b>	Odourless
<b>Boiling point (°C):</b>	No data
<b>Flash point (°C):</b>	No data
<b>Density (g/ml) at 20°C:</b>	Approx. 1
<b>Solubility in water:</b>	Complete
<b>pH:</b>	Approx. 4
<b>Melting point:</b>	No data
<b>Freezing point:</b>	No data
<b>Evaporation rate:</b>	No data

## 10. Stability and reactivity

### Stability

This product is stable under normal storage and handling conditions

### Conditions and materials to avoid

Do not store in metallic containers.

### Hazardous decomposition products

No hazardous decomposition or polymerisation under normal conditions.

## 11. Toxicology information

**Toxicity** For more information on this component, refer to the MSDS Sheets available from the manufacturer (Sigma-Aldrich, product No.:860336).

**Chronic effects**  
(carcinogenicity, teratogenicity, reproductive toxicity, mutagenesis) No other known significant effects or critical hazards are expected from ingredients data.

## 12. Ecological information

Avoid release into the environment.

The calculated log  $P_{ow}$  of TMB is 4.11 and TMB is therefore suspected to accumulate.

TMB is toxic to aquatic organisms, and may cause long-term adverse effects in the aquatic environment.

## 13. Disposal considerations

Disposal should be according to local, state or national legislation.

## 14. Transport information

<b>ICAO/IATA Shipping Name</b>	N/A
<b>UN Number</b>	N/A
<b>Packing Group</b>	N/A
<b>Hazard Class</b>	N/A

## 15. Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1272/2008

### **Safety, health and environmental regulations/legislation specific for the product**

No data available

### **Chemical Safety Assessment**

No data available

## 16. Other information

**Edition No.: 05**

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### **Requirements concerning special training**

No special training is anticipated; however, the user should be well instructed for the execution of his task, have knowledge of this Safety Data Sheet and normal training in the use of personal protective equipment.

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