

## Safety Data Sheet

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

- 1.1. Product name:** TMB Solution IV  
**Product code:** TMB-S-003
- 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**

**(Revision) date: 6<sup>th</sup> February 2018**

### **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.

**DISCLAIMER:** The information above is believed to be accurate and based on the best information currently available to us with regard to appropriate safety precautions. We make no warranty, expressed or implied, with respect to such information and shall not be held liable for any damage or injury resulting from handling the above product. Nor shall Biopanda Diagnostics be liable for any claims, losses, or damages of any third party, or for lost profits or any indirect, incidental, consequential or exemplary damages, howsoever arising. Users should make their own investigations to determine the suitability of this information for their particular application.