MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY INFORMATION

- **Product name:** MTT cell proliferation kit
- **Catalog number:** MT01000.
- **Chemical name or synonyms:** Thiazoyl Blue; 3-(4,5-Dimethylthiazol-2-yl)-2,5- diphenyl-2H-tetrazolium Bromide
- **Kit composition:**
  10X MTT reagent : Thiazoyl Blue in phosphate buffered saline
  Solubilization solution: hydrochloric acid in isopropanol.
- **Contact:**

OZ Biosciences
Parc Scientifique de Luminy – Zone Luminy Entreprises
163 Avenue de Luminy – Case 922
13288 Marseille cedex 9, France
Phone: +33 (0)4.86.94.85.16 / Fax: +33 (0)4.86.94.85.15
www.ozbiosciences.com / contact@ozbiosciencces.com

10X MTT Reagent

SECTION 3 – HAZARDS IDENTIFICATION

Emergency Overview:
GHS Classification:
Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Germ cell mutagenicity (Category 2), H341

GHS Label elements, including precautionary statements
Pictogram:

Signal word: **Danger**
Hazard statement(s):
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects

Precautionary statement(s):
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area
P280 Wear protective gloves/ 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.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P321 Specific treatment (see supplemental first aid instructions on this label).
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 to an approved waste disposal plant.

HMIS Classification
Health hazard: 2
Flammability: 0

Physical hazards: 0
NFPA Rating
Health Hazard: 2

Reactivity Hazard: 0
Hazards not otherwise classified (HNOC) or not covered by GHS : none

Potential Health Effects
Inhalation: May be harmful if inhaled. May cause respiratory tract irritation**.**
Skin: May be harmful if absorbed through skin. May cause skin irritation**.**
Eyes: May cause eye irritation**.**
Ingestion: May be harmful if swallowed**.**

SECTION 3 – COMPOSITION, INFORMATION ON INGREDIENTS

Ingredient name	CAS number	EINECS	Classification
MTT	298-93-1	206-069-5	see section 2
Water	7732-18-5	None	None

. Ingredients are not hazardous or their concentrations do not exceed the limit specified according to 29 CFR 1910.1200 Hazard Communication Standard (USA) and Directive 1999/45/EC-2001/59/EC (EU).

SECTION 4 – FIRST AID MEASURES

- **Effects and symptoms:**
  - *Inhalation* Slightly hazardous in case of inhalation.
  - *Ingestion* Slightly hazardous in case of ingestion.
  - *Skin contact* Slightly hazardous in case of skin contact.
  - *Eye contact* Slightly hazardous in case of eye contact.
  - *Aggravating conditions* no aggravating condition none..
- **First-Aid measures:**
  - *Inhalation* If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.
  - *Ingestion* Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.
  - *Skin contact* In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothes before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
  - *Eye contact* In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
  - *Notes to physician* Not available.
  - *Protection of first-aiders* Not available.

SECTION 5 – FIRE FIGHTING MEASURES

- **Flammability of the product:** not flammable.
- **Flash Point:** N/A.
- **Fire hazards in presence of various substances:** N/A.
- **Fire fighting media and instructions:** SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
- **Protective clothing (fire):** Be sure to use an approved/certified respirator or equivalent.
- **Hazardous thermal decomposition products:** Carbon oxides, nitrogen oxides, sulfur oxides.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

- **Personal precautions:** Safety glasses, lab coat and gloves.
- **Environmental precautions and clean-up methods:** Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow evacuating through the sanitary system.
- **Small spill and leak:** Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
- **Additional information:** No dangerous substances are released.

SECTION 7 – HANDLING AND STORAGE

- **Handling:** Avoid breathing vapors or spray mists.
- **Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area. Store ***10X MTT reagent*** at -20°C.
- **Intended use:** Refer to the instruction booklet for proper and intended use. Otherwise, contact supplier for specific application.
- **Packaging materials**
  Suitable: Use original container.

SECTION 8 – EXPOSURE CONTROLS, PERSONAL PROTECTION

- **Engineering Controls**: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.
- **Personal protection**
  - **Eyes:** Safety glasses.
  - **Body:** Lab coat and gloves.
  - **Respiratory:** Respirator is not needed under normal and intended conditions of use, if exposures are kept below established limits.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance**
  - **Physical State:** Liquid.
  - **Color:** yellow.
  - **Odor:** Not available.
  - **Taste:** Not available.
- **Molecular weight:** Not available.
- **pH:** Between 4 and 11
- **Boiling point:** 100°C.
- **Decomposition temperature:** 100°C.
- **Melting point:** Not available.
- **Flash point:** Not available.
- **Dispersion properties:** Not available.
- **Solubility:** miscible in water.

SECTION 10 – STABILITY AND REACTIVITY

- **Stability and reactivity:** The product is stable at a pH between 4 and 11
- **Conditions to avoid**: pH < 4 and pH > 11, using temperatures < + 2°C and > + 96°C
- **Materials to avoid:** Strong acids, strong bases and pure organic solvents.
- **Hazardous polymerization:** Will not occur.
- **Hazardous decomposition products:** Not available.

SECTION 11 – TOXICOLOGICAL INFORMATION

10X MTT reagent

- **Toxicity on animals:**
  - **LD50:** N/A.
- **Chronic effects on humans**: Carcinogenic effects: classified none. by NIOSH, By OSHA.

SECTION 12 – ECOLOGICAL INFORMATION

- No data available.

SECTION 13 – DISPOSAL CONSIDERATIONS

- **Waste stream:** Not available.
- **Waste disposal method**: Contact a licensed professional waste disposal service to dispose of this material. Dispose in accordance with governmental environmental regulations. Observe all federal, state, and local environmental regulations.
- **European waste catalogue (EWC):** Not available.
- **Hazardous waste:** Will not occur.

SECTION 14 – TRANSPORT INFORMATION

- This substance is considered to be non-hazardous for transport and air-transport.

SECTION 15 – REGULATORY INFORMATION

- This product is not classified according to the EU regulations.
- **SARA 302 Components**: SARA 302: No chemical in this material are subject to the reporting requirements of SARA Title III, Section 302.
- **SARA 313 Components**: SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the
- threshold (De Minimis) reporting levels established by SARA Title II, Section 313.
- **SARA 311/312 Hazards**: Acute Health Hazard, Chronic Health Hazard
- **Massachusetts Right To Know Components**: No components are subject to the Massachusetts Right to Know Act.
- **Pennsylvania Right To Know Components**: MTT REAGENT, CAS-No. 298-93-1
- **New Jersey Right To Know Components**: MTT REAGENT, CAS-No. 298-93-1
- California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects,or any other reproductive harm

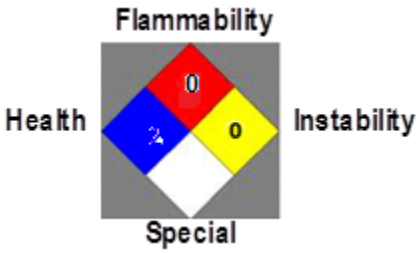
SECTION 16 – OTHER INFORMATION

- **Hazardous Material Information System (U.S.A.):**

Health	**2**
Fire hazard	**0**
Reactivity	**0**
Personal protection	**E**

0 = not significant
1 = slight
2 = moderate
3 = high
4 = extreme
* = chronic

- **National Fire Protection Association (U.S.A.):**



Solubilization Solution

SECTION 2 – HAZARDS IDENTIFICATION

Classification: This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin Corrosion/irritation:	**Category 2**
Serious Eye Damage/Eye Irritation	**Category 2**
Specific target organ toxicity (single exposure)	**Category 3**
Target Organs - Respiratory system, Central nervous system (CNS).	
Aspiration Toxicity	**Category 1**
Flammable liquids	**Category 2**

Label Elements
Signal Word **Danger**

Pictograms:

Hazard Statements
Highly flammable liquid and vapor
Causes serious eye irritation
Causes skin irritation

May cause respiratory irritation
May cause drowsiness or dizziness
May be fatal if swallowed and enters airways

Precautionary Statements
Prevention
Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Take precautionary measures against static discharge
Response
Call a POISON CENTER or doctor/physician if you feel unwell
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Skin
IF ON SKIN: Wash with plenty of soap and water
Take off contaminated clothing and wash before reuse
If skin irritation occurs: Get medical advice/attention
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
Ingestion
Do NOT induce vomiting
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Fire
Explosion risk in case of fire
Fight fire with normal precautions from a reasonable distance
Evacuate area
Storage
Store locked up
Store in a closed container
Store in a well-ventilated place. Keep cool
Disposal
Dispose of contents/container to an approved waste disposal plant
Hazards not otherwise classified (HNOC)
May form explosive peroxides
Repeated exposure may cause skin dryness or cracking
Other hazards
hygroscopic.

SECTION 3– COMPOSITION, INFORMATION ON INGREDIENTS

Ingredient name	CAS number	EINECS	Classification
Isopropanol	67-63-0	200-661-7	None
Hydrochloric acid	7647-01-0	231-595-7	None

Ingredients are not hazardous or their concentrations do not exceed the limit specified according to 29 CFR 1910.1200 Hazard Communication Standard (USA) and Directive 1999/45/EC-2001/59/EC (EU).

SECTION 4 – FIRST AID MEASURES

- **Effects and symptoms:**
  - *Inhalation* Slightly hazardous in case of inhalation.
  - *Ingestion* Slightly hazardous in case of ingestion (irritant).
  - *Skin contact* Slightly hazardous in case of skin cantact.
  - *Eye contact* Slightly hazardous in case of eye contact.
  - *Aggravating conditions* Isopropanol may be toxic to kidneys, liver, skin, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

- **First-Aid measures:**
  - *Inhalation* If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.
  - *Ingestion* Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.

- *Skin contact* — In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothes before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
- *Eye contact* — In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
- *Notes to physician* — Not available.
- *Protection of first-aiders* — Not available.

SECTION 5 – FIRE FIGHTING MEASURES

Solubilization solution

- **Flammability of the product:** Flammable.
- **Flash Point:** 11.7°C (open cup), 13°C (close cup).
- **Fire hazards in presence of various substances:** Highly flammable in presence of open flames and sparks, of heat. Flammable in presence of oxidizing materials. Nonflammable in presence of shocks.
- **Fire fighting media and instructions:** Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog.
- **Protective clothing (fire):** Be sure to use an approved/certified respirator or equivalent.
- **Hazardous thermal decomposition products:** Carbon oxides.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

- **Personal precautions:** Safety glasses, lab coat and gloves.
- **Environmental precautions and clean-up methods:** Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow evacuating through the sanitary system.
- **Small spill and leak:** Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
- **Additional information:** No dangerous substances are released.

SECTION 7 – HANDLING AND STORAGE

- **Handling:** Avoid breathing vapors or spray mists.
- **Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area. Store ***solubilization solution*** at +4°C.
- **Intended use:** Refer to the instruction booklet for proper and intended use. Otherwise, contact supplier for specific application.
- **Packaging materials**
  Suitable: Use original container.

SECTION 8 – EXPOSURE CONTROLS, PERSONAL PROTECTION

- **Engineering Controls**: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.
- **Personal protection**
  - **Eyes:** Safety glasses.
  - **Body:** Lab coat and gloves.
  - **Respiratory:** Respirator is not needed under normal and intended conditions of use, if exposures are kept below established limits.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Solubilization solution

- **Appearance**
  - **Physical State:** Liquid.
  - **Color:** colorless.
  - **Odor:** alcohol like.
  - **Taste:** Not available.
- **Molecular weight:** Not available.
- **pH:** acidic
- **Boiling point:** 82°C
- **Decomposition temperature:** N/A.
- **Melting point:** N/A.
- **Flash point:** 11.7°C (open cup), 13°C
- **Dispersion properties:** Not available.

- **Solubility:** miscible in water.

SECTION 10 – STABILITY AND REACTIVITY

- **Stability and reactivity:** The product is stable at a pH between 4 and 11
- **Conditions to avoid**: Heat flame, ignition sources
- **Materials to avoid:** Strong acids, strong bases and oxidizing agents.
- **Hazardous polymerization:** Will not occur.
- **Hazardous decomposition products:** Not available.

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute toxicity

Component information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Isopropyl alcohol	**5840 mg/kg (Rat)**	**13900 mg/kg (Rat) 12870 mg/kg (Rabbit)**	**72.6 mg/L (Rat) 4 h**
Hydrochloric acid	**238 - 277 mg/kg (Rat)**	**5010 mg/kg (Rabbit)**	**1.68 mg/L (Rat) 1 h**

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation Irritating to eyes, respiratory system and skin
Sensitization No information available
Carcinogenicity To the best of our knowledge any component of this mixture is listed as carcinogen.
Mutagenic Effects No information available
Reproductive Effects No information available.
Developmental Effects No information available.
Teratogenicity No information available.
STOT - single exposure Respiratory system Central nervous system (CNS)
STOT - repeated exposure None known
Aspiration hazard Category 1
Symptoms / effects,both acute and Delayed Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

Endocrine Disruptor Information No information available
Other Adverse Effects The toxicological properties have not been fully investigated

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity
Do not empty into drains.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Isopropyl alcohol	1000 mg/L EC50 > 96 h 1000 mg/L EC50 > 72 h	1400000 µg/L LC50 96 h 11130 mg/L LC50 96 h 9640 mg/L LC50 96 h	35390 mg/L EC50 Photobacterium phosphoreum 5 min	13299 mg/L EC50 = 48 h 9714 mg/L EC50 = 24 h
Hydrochloric Acid		282 mg/L LC50 96 h		

Persistence and Degradability: No information available
Bioaccumulation/ Accumulation: No information available

SECTION 13 – DISPOSAL CONSIDERATIONS

- **Waste stream:** Not available.
- **Waste disposal method**: Contact a licensed professional waste disposal service to dispose of this material. Dispose in accordance with governmental environmental regulations. Observe all federal, state, and local environmental regulations.
- **European waste catalogue (EWC):** Not available.
- **Hazardous waste:** Will not occur.

SECTION 14 – TRANSPORT INFORMATION

DOT

UN-No	UN2924
Proper Shipping Name	FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.
Proper technical name	(ISOPROPANOL, HYDROCHLORIC ACID)
Hazard Class	3
Subsidiary Hazard Class	8
Packing Group	II

TDG

UN-No	UN2924
Proper Shipping Name	FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.
Hazard Class	3
Subsidiary Hazard Class	8
Packing Group	II

IATA

UN-No	UN2924
Proper Shipping Name	FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.
Hazard Class	3
Subsidiary Hazard Class	8
Packing Group	II

IMDG/IMO

UN-No	UN2924
Proper Shipping Name	FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.
Hazard Class	3
Subsidiary Hazard Class	8
Packing Group	II

SECTION 15 – REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Isopropyl alcohol	**X**	**X**	-	**200-661-7**	-		**X**	**X**	**X**	**X**	**X**
Hydrochloric Acid	**X**	**X**	-	**231-595-7**	-		**X**	**X**	**X**	**X**	**X**

Legend: X – Listed

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

Component	CWA Hazardous substances	CWA Reportable quantities	CWA Toxic pollutants	CWA Priority pollutants
Hydrochloric Acid	**X**	**5000 lb**	-	-

Clean Air Act

Component	HAPS Data	Class 1 Ozone depletors	Class 2 Ozone Depletors
Hydrochloric Acid	**X**		

OSHA Occupational Safety and Health Administration

Component	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Hydrochloric Acid	-	**TQ 5000 lb**

CERCLA

Component	Hazardous substances RQs	CERCLA EHS RQs
Hydrochloric Acid	**5000 lb**	**TQ 5000 lb**

California Proposition 65 This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Component	Massachussets	New Jersey	Pennsylvania	Illinois	Rhode Island
Isopropyl alcohol	**X**	**X**	**X**	-	**X**
Hydrochloric Acid	**X**	**X**	**X**	**X**	**X**

U.S. Department of Transportation

Reportable Quantity (RQ): **N**

DOT Marine Pollutant **N**

DOT Severe Marine Pollutant **N**

SECTION 16 – OTHER INFORMATION

- **Hazardous Material Information System (U.S.A.):**

- **National Fire Protection Association (U.S.A.):**

0 = not significant
1 = slight
2 = moderate
3 = high
4 = extreme
* = chronic

- **Revisions:**

Issue Date: 22-May-2014
Last Revision Date: 26-Aug-2016
Revision note: New format. updated Section 2,8,15,16.

- **Other Comments:**

To the best of our knowledge, the information contain herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Restriction of use: for research use only.