

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: Jun. 1, 2015

Section 1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier

Product Name: MTT
Product Code: M009
CAS Number: 298-93-1
EC Number: 206-069-5

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

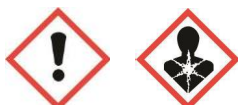
2.1 Classification of the substance or mixture

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
Germ cell mutagenicity, Category 2

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.
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 /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.
P281 Use personal protective equipment as required.

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| 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. |
| 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

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| 3.1 | Product Name: | MTT |
| | Synonyms: | 3-(4,5-Dimethyl-2-thiazolyl)-2,5-diphenyl-2H-tetrazolium bromide |
| | Concentration: | ≤100 % |
| | Formula: | C ₁₈ H ₁₆ BrN ₅ S |
| | Molecular Weight: | 414.32 |

Section4. FIRST AID MEASURES

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| 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

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| 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

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| 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

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| 7.1 | Precautions for safe handling |
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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.

Section 8. 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

Eye/face protection:

Wear safety glasses with side-shields conforming to European Standard EN166.

Hand protection:

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.

Skin and body protection:

Wear laboratory coat or impervious clothing. Choose appropriate body protection according to the amount and concentration of the substance at the work place.

Respiratory protection:

Wear suitable respiratory equipment in case of inadequate ventilation.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

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| a) Appearance: | Yellow to yellowish orange powder |
| b) Odor: | Odorless |
| c) Odor Threshold: | No data available |
| d) pH: | No data available |
| e) Melting point/freezing point: | No data available |
| 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 methyl alcohol (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 |

Section 10. STABILITY AND REACTIVITY

Stability and reactivity

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| 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, nitrogen oxides and sulfur oxides. |

Section 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

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| a) Acute toxicity: | No data available |
| b) Skin corrosion / irritation: | No data available |
| c) Serious eye damage/eye irritation: | No data available |
| d) Carcinogenicity: | Not classified by the IARC monographs. |

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| 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. |
| Eyes: | Causes serious eye irritation. |
| 11.3 Additional Information | |
| No additional information is available | |

Section 12. **ECOLOGICAL INFORMATION**

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|--|-------------------|
| 12.1 Ecotoxicity | No data available |
| 12.2 Persistence and degradability | No data available |
| 12.3 Bioaccumulative potential | No data available |
| 12.4 Mobility in soil | No data available |
| 12.5 Results of PBT and vPvB assessment | No data available |

Section 13. **DISPOSAL CONSIDERATIONS**

Waste treatment methods

Product

Contact a licensed professional waste disposal service to dispose of this material. Dispose of in accordance with local regulations.

Contaminated packaging

Dispose of as unused product. Do not reuse empty containers.

Section 14. **TRANSPORT INFORMATION**

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|--|---------------------------|----------|----------|
| 14.1 UN number | ADR/RID: - | IMDG: - | IATA: - |
| 14.2 UN proper shipping name | ADR/RID: - | | |
| | IMDG: - | | |
| | IATA: Not dangerous goods | | |
| 14.3 Transport hazard class(es) | ADR/RID: - | IMDG: - | IATA: - |
| 14.4 Packaging group | ADR/RID: - | IMDG: - | IATA: - |
| 14.5 Environmental hazards | ADR/RID: No | IMDG: No | IATA: No |

Section 15. **REGULATORY INFORMATION**

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006 [REACH], as amended by Commission Regulation (EU) No 453/2010.

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| 15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture | No information available |
| 15.2 Chemical Safety Assessment | No information available |

Section 16. **OTHER INFORMATION**

Key to abbreviations and acronyms

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|----------|---|
| STOT-SE: | Specific Target Organ Toxicity - Single Exposure |
| STOT-RE: | Specific Target Organ Toxicity - Repeated Exposure |
| PBT: | Persistent Bioaccumulative and Toxic |
| vPvB: | very Persistent very Bioaccumulative and toxic |
| ADR: | European Agreement concerning the international carriage of Dangerous goods by Road |
| CAS: | Chemical Abstracts Service |
| IARC: | International Agency for Research on Cancer |
| IATA: | International Air Transport Association |
| IMDG: | International Maritime code for Dangerous Goods |
| REACH: | Registration, Evaluation, Authorization and restriction of Chemicals |

RID:

Regulations concerning the International transport of Dangerous goods
by rail