

# Product Information

## Thiazolyl Blue Tetrazolium Bromide

### Product Number

### Synonyms

MTT

Methylthiazolyldiphenyl-tetrazolium bromide

3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide

### Specifications

CAS Number: 298-93-1

Molecular Formula: C<sub>18</sub>H<sub>16</sub>BrN<sub>5</sub>S

Molecular Weight: 414.3 g.mol<sup>-1</sup>

Melting Point: 195 °C (with decomposition)

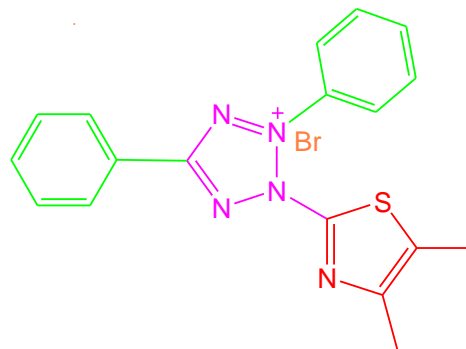
$\lambda_{max}$ : 378 nm (methanol); 243 nm and 380 nm (water).

Store at room temperature in a tightly closed container, protected from light.

### Description

Thiazolyl Blue Tetrazolium Bromide (MTT) is a yellow powder and used in measurement of cell proliferation in biological studies. The analytical MTT assay is a colorimetric analysis for assessing cell metabolic activity. Through the MTT assay, the yellowish cell permeable MTT solution is converted to a water-insoluble purple to dark blue formazan crystals by mitochondrial NAD(P)H-dependent cellular oxidoreductase enzymes of living cells. After treatment time, the purple crystals are solubilized with acidified isopropanol or dimethyl sulfoxide and the color intensity is colorimetrically measured by a UV/visible spectrometer at a wavelength of 570 nm.

Besides the cell proliferation analysis, the MTT has been used for histochemical/cytochemical studies.



### Precautions

For laboratory and research use. Not for drug, household or other uses.

### Preparation Instructions / Storage

MTT is soluble in water (10 mg/mL), ethanol (20 mg/ml) and buffered solutions, e.g. PBS pH 7.4 (5 mg/mL). Most researchers prepare the stock solution with PBS with a concentration of 5 mg/mL and store the filter-sterilized aqueous solutions protected from light either at 2 – 8 °C.

### Stability

The frozen MTT solution is stable for at least 6 months. Storage of the stock MTT solution at 2 – 8 °C for more than 2 weeks may cause decomposition and yield incorrect results.