Product Information Sheet

T8092
Toluidine Blue O

Synonyms:	Basic Blue 17; Blutene chloride; Methylene Blue T50 or T extra; Tolonium Chloride; C.I. 52040
CAS:	92-31-9
Formula:	C15H16ClN3S
Mol. Weight:	305.83

Properties

Form:	Powder
Appearance:	Dark Green
Solubility:	Soluble in Water
Application:	Biological Stain, Phytopathology
Storage Temp:	Room Temperature
Typical Working Concentration:	Varies, should be determined by end user.

Application Notes

Used as a stain for plant tissues. Table 1 lists color development of certain types of plant tissues when using Toluidine Blue O (Parker 1982).

TABLE 1. Differentiations Observed in Cell Types and Tissue Structures Using Toluidine Blue

Tissue Element or Structure	*Color Developed by Toluidine Blue*
Xylem	Green or Blue-Green
Phloem	Red
Sclerenchyma	Blue-green, sometimes Green
Collenchyma	Red-Purple
Parenchyma	Red-Purple
Callose, Starch	Unstained

Toluidine Blue O is commonly used as a metachromatic stain that can differentiate between different types of plant tissues and if present, fungal contaminants (Kuroda 2005; Sakai 1973).

References

Kuroda K (2005) Xylem dysfunction in Yezo spruce (*Picea jezoensis*) after inoculation with the blue-stain fungus *Ceratocystis polonica*. *For*. *Path*. 35; Pp.346–358.

Parker A.J., E.F. Haskins and I. Deyrup-Olsen (1982) Toluidine Blue: A Simple, Effective Stain for Plant Tissues. *The American Biology Teacher*, 44(8), pp. 487-489.

Sakai WS (1973) Simple Method for Differential Staining of Paraffin Embedded Plant Material Using Toluidine Blue O. *Biotechnic & Histochemistry* 48(5), Pp. 247-249.

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