58030 Iodonitrotetrazolium chloride (p-Iodonitrotetrazolium Violet, 2-(4-Iodophenyl)-3-(4-Nitrophenyl)-5-phenyl-2H-tetrazolium chloride, INT)

**CAS number:** 146-68-9

**Product Description:**

- **Appearance:** Light yellow powder
- **Molecular formula:** C₁₉H₁₃ClIN₅O₂
- **Molecular weight:** 505.7 g/mol
- **Mp:** 202-204°C (dec.)
- **E₂₄₉nm:** 680 (1% in water)

**Solubility:**
INT dissolves in water to give a clear light yellow to light green solution at 4 mg/mL, although gentle heat and sonication are necessary for this concentration. INT dissolves up to 8 mg/mL in ethanol, and up to 30 mg/mL in ethylene glycol monomethyl ether. Aqueous solutions are reported to be stable for several weeks when stored at 2-8°C in the dark. A 50 mg/mL solution in hot methanol/water (1:1) is clear and very deep yellow.

**Applications:**
This tetracium dye precursor forms a purple formazan dye on reduction and has been used in a variety of applications. It is considered to have higher reactivity than some tetracium compounds, at least with respect to succinate dehydrogenase, with optimal results obtained using a concentration of 0.8 mM INT. The formazan (available as I7375) is comparatively insoluble in water, so can be detected visually or extracted into ethanol or organic solvent and determined spectrophotometrically. Altman reviewed properties of a number of different tetracium salts.
Used in a colorimetric assay to measure serum lactate dehydrogenase: *Clinical Chemistry*, 19, 766 (1973).
INT is used as an electron acceptor for the colorimetric assays of: lactate dehydrogenase, xanthine dehydrogenase, succinate dehydrogenase, BBM II ketolisisomerase, histidinol dehydrogenase and diverse other hydrolases.
Active bacterial biomass was estimated using INT stain for counting and cells have been stained with INT.

**References:**
2. Fluka quality control.
5. Green, J.D., and Narahara, H.T., J. Histochem. Cytochem., 28, 408 (1980).

Precautions and Disclaimer:
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.