



NQAC

Nestlé Quality Assurance Center  
Dublin

# Technical Datasheet

**Analysis Name:** USP Dithiocarbamate Screen

**Method Number:** NQA-54.0011

**Scope of Application:** Dietary supplement products and raw materials.

**Description:** Method applicable, but not limited, to dietary supplement products and raw materials for the qualitative determination of dithiocarbamates as listed in the United States Pharmacopeia (USP <561>) via headspace with gas chromatography-mass spectrometry (HS-GC-MS) in electron impact mode. The validated screening target concentration limit is 2 mg/kg, which is the USP <561>, limit.

The evolution of carbon disulfide originating from dithiocarbamates and thiram fungicides is done by heating the sample in the presence hydrochloric acid, tin (II) chloride and ethanolamine in a gas tight vial. Determination of the carbon disulfide in the headspace is done via GC-MS.

**Sample Weight Required:** 25 g

**Method Reference:** The United States Pharmacopeia, General Chapter 561: Articles of Botanical Origin.  
LI-00.157 Low Levels of Dithiocarbamate Residues by Automated HS-GC-MS

**Analytical Platform:** HS-GC-MS

Plants belonging to the *Brassicaceae* family contain substances that may lead to non-fungicide CS<sub>2</sub> formation in the headspace. Matrices with mineral concentrations that react with strong acids to form foam are not compatible with this method.

Compound	Limit (mg/kg)
Dithiocarbamates (expressed as CS <sub>2</sub> )	2mg/kg