

Pierce DTT, No-Weigh Format

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A39255**Number**

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Description**Pierce DTT, No-Weigh Format**, 48 vials each containing 7.7mg of DTT

Synonyms: 1,4-Dithiothreitol; DTT; Cleland's Reagent; 1,4-Dimercapto-2,3-Butanediol

Molecular Weight: 154.24

Formula: C₄H₁₀O₂S₂

CAS RN: 3483-12-3

Melting Point: 40°C

Appearance: white solid (see note below*)

Note: Product labels have been provided for your convenience. Please label the vials using one of the labels provided in the Al foil pouch to avoid any confusion as you work with this No-Weigh reagent.**Storage:** Upon receipt store product at 4°C.***Note: For product exposed to temperatures above 40°C during shipment or storage:**

Product may appear as a liquid rather than a white solid. To verify product integrity:

1. Place vials in a -20°C freezer for 30 minutes and return them to room temperature. A white precipitate should form after several minutes. Failure to form a white precipitate may indicate moisture exposure and the product should not be used.
2. DTT re-solidifying on the underside of the cap may make the tube appear to be empty. To dislodge the precipitate, carefully tap the vial with a finger. Alternatively, with the tube in the upright position, gently heat and then place in a -20°C freezer for 30 minutes to reform the pellet in the bottom of the vial.

Introduction

Thermo Scientific™ Pierce™ Dithiothreitol (DTT), No-Weigh™ Format is a reagent most commonly used to cleave disulfide bonds. The No-Weigh format of DTT consists of convenient 7.7mg of reagent per vial that eliminates the difficulties associated with weighing small quantities of reagent.

DTT Preparation

1. Uncap the vial immediately before use.
2. Add 100µL of water or buffer to one vial, which will result in a 500mM solution of DTT.
3. Gently mix solution with a pipette tip to fully dissolve the DTT. Alternatively, vortex the solution to ensure a homogeneous solution. **The maximum useable volume of the vial is 800µL.**

Note: Use DTT solution immediately, and discard any unused solution. Return unused vials to pouch containing the desiccant pack between uses to preserve the DTT.

Additional Information

- Use DTT in the pH range of 6.5 to 9.0 (optimal range is between 7.0 and 8.1).
- Some proteins lose activity when oxidized; therefore, 0.1-1.0mM DTT is often added.
Note: Certain proteins are inactivated by the presence of DTT.
- For SDS and tricine electrophoresis sample buffers, use DTT at a final concentration of 100mM.
- To prevent dimerization or oligomerization during crystallization, maintain protein in 5mM DTT.
- To reduce disulfide bonds for labeling sulfhydryl groups, use 50- to 200-fold molar excess of DTT over the cysteines present. Incubate for 1-2 hours at 37°C. For proteins and peptides at a concentration of 1-10mg/mL, use DTT at a final concentration of 1-10mM and incubate for 2 hours at room temperature.
- For complete disulfide reduction in proteins, use DTT at a final concentration of 10-100mM in a denaturant such as 6M guanidine hydrochloride. Incubate mixture for 1-2 hours at 37°C (30 minutes at 50°C also may be used).
- DTT interferes with protein concentration measurements at the following concentrations:

Method or Thermo Scientific Protein Assay	Highest Compatible DTT Concentration
Absorbance at 280nm	10mM
Pierce Coomassie Plus Protein Assay (Product No. 23236)	1M
Pierce Modified Lowry Protein Assay (Product No. 23240)	50µM
Pierce BCA Protein Assay (Product No. 23225)	1mM

Related Thermo Scientific Products

77720	Bond-Breaker™ TCEP Solution, Neutral pH, 5mL
77712	Immobilized TCEP Disulfide Reducing Gel, 5mL
20290	DTT, 5g
35602BID	2-Mercaptoethanol, 10 × 1mL
23460	Sulphydryl Addition Kit

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