



DATE: 17 December 2013

Product Identifier

SRM Number: 3451

SRM Name: Low-Temperature Seebeck Coefficient Standard (10 K to 390 K)

Under the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1200, this Standard Reference Material (SRM) is NOT classified as a physical hazard or a health hazard, a simple asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified. There are no hazard pictograms, hazard statements or signal word associated with it. Safety Data Sheet information is not required. This document may be used in conjunction with your hazard communication program.

Exemption: 1910.1200 (c). This SRM is an Article, as the word is defined by OSHA, where *Article* means a manufactured item other than a fluid or particle: (i) which is formed to a specific shape or design during manufacture; (ii) which has end use function(s) dependent in whole or in part upon its shape or design during end use; and (iii) which under normal conditions of use does not release more than very small quantities, e.g., minute or trace amounts of a hazardous chemical (as determined under paragraph (d) of 1910.1200), and does not pose a physical hazard or health risk to employees.

Description: This SRM intended primarily for use in calibrating Seebeck coefficient measurement equipment (for bulk materials) in the temperature range 10 K to 390 K. A unit of SRM 3451 consist of a bar-shaped artifact (approximately 3.5 mm × 2.5 mm × 8.0 mm) of non-stoichiometric bismuth telluride (n-type, Te rich, Bi/Te mole ratio approximately 2/3, formula $\text{Bi}_2\text{Te}_{3+x}$).

Disposal: SRM 3451 should be disposed of in accordance with local, state, and federal regulations.

Transport Information: This material is not regulated by the U.S. Department of Transportation (DOT) and/or International Air Transportation Association (IATA).

Disclaimer: This document was prepared carefully, using current references. Users of this SRM should ensure that this document and the corresponding Certificate in their possession are current. This can be accomplished by contacting the SRM Program: telephone (301) 975-2200; fax (301) 948-3730; e-mail srmmsds@nist.gov; or via the Internet at <http://www.nist.gov/srm>.