



DATE: 21 April 2015

**Product Identifier**

**SRM Number:** 2012

**SRM Name:** Calibration Standard for High-Resolution X-Ray Diffraction (200 mm Wafer)

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 is intended primarily to provide the high resolution X-ray diffraction (HRXRD) community with Si (220) *d*-spacing in transmission, surface-to-crystal-plane wafer miscut, and surface-to-Si (004) Bragg angle in reflection traceable to the International System of Units (SI) for our reference wavelength. A unit of SRM 2012 consists of a 200 mm diameter  $\times$  0.725 mm thick double polished (100)-oriented, single crystal Si wafer with a nominal 50 nm Si<sub>0.85</sub>Ge<sub>0.15</sub> epitaxial layer and 25 nm Si cap.

**Disposal:** SRM 2012 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 of Analysis 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](mailto:srmmsds@nist.gov); or via the Internet at <http://www.nist.gov/srm>.