



**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Institute of Standards and Technology**  
Gaithersburg, Maryland 20899-0001

DATE: 04 June 2018

**Product Identifier**

**SRM Number:** 5001

**SRM Name:** Two-Dimensional Grid Photomask Standard

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 for calibrating high accuracy two dimensional (X-Y) Photomask/Reticle registration metrology tools such as the IPRO, the IPRO II and the Leica 2020 as well as older tools such as the Nikon XY\_5i. A unit of SRM 5001 consists of a grid of  $27 \times 27$  unit cells with a nominal 5 mm pitch between cells. Each cell consists of a frame, a solid box, and a micro-array. This grid pattern is printed on fused-quartz substrate with nominal dimensions of  $15.2 \text{ cm} \times 15.2 \text{ cm} \times 0.64 \text{ cm}$  or  $6.0 \text{ in} \times 6.0 \text{ in} \times 0.25 \text{ in}$  using Photomask production techniques as described in the certificate.

**Disposal:** SRM 5001 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 Transport 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](mailto:srmmsds@nist.gov); or via the Internet at <https://www.nist.gov/srm>.