

# Health and Safety Facts for Fiber Glass

Since its introduction into commerce nearly eighty years ago, fiber glass has become one of the world's most useful insulating materials, helping homeowners and industry increase energy efficiency, protect the environment, and reduce energy costs.

U.S., California and international authorities have all agreed that biosoluble and inhalable glass fibers should not be labeled as a possible cancer hazard. The U.S. National Toxicology Program ("NTP") and the California Office of Environmental Health Hazard Assessment ("OEHHA") actions mean that a cancer warning label for biosoluble fiber glass is no longer required under Federal or California Law. NAIMA and its member companies are committed to the safe manufacture, installation, and use of fiber glass insulation products.

The NTP in June 2011 removed from its Report on Carcinogens ("RoC") all biosoluble glass wool used in home and building insulation and for non-insulation products.<sup>1</sup>

Also in 2011, California's OEHHA published a modification to its Proposition 65 listing to include only "Glass wool fibers (inhalable and biopersistent)."<sup>2</sup>

NTP and California retained on their lists only certain biopersistent special purpose fibers (non- insulation) that remain in animal lungs for a longer time. These more durable fibers are not used for insulation and represent a small percentage of glass wool fibers produced in the United States.

To correctly identify those fibers described by NTP and California, NAIMA

and its members have adopted as a policy the European Union ("EU") criteria to identify which fibers require cancer warning labels under U.S. and California requirements.

The EU system of classification and exoneration provides a validated scientific system for differentiating and distinguishing those glass fibers that require a cancer warning label and those that do not. The EU system relies on standardized in vivo protocols. For details, see EU Guideline ECB/TM27 rev.7.<sup>3</sup>

The NTP and California decisions are consistent with the October 2001 expert review by the International Agency for

Research on Cancer ("IARC"). All fiber glass and rock and slag wools that are commonly used for thermal and acoustical insulation are now considered not classifiable as to carcinogenicity to

humans (Group 3). IARC noted specifically:

*"Epidemiologic studies published during the 15 years since the previous IARC Monographs review of these fibres in 1988 provide no evidence of increased risks of lung cancer or mesothelioma (cancer of the lining of the body cavities) from occupational exposures during manufacture of these materials, and inadequate evidence overall of any cancer risk."*

IARC also included a Group 3 classification for continuous glass filaments and the Group 2B "possible carcinogen" classification for certain special purpose glass fibers.

---

"EPIDEMIOLOGIC STUDIES...PROVIDE NO EVIDENCE OF INCREASED RISKS OF LUNG CANCER OR MESOTHELIOMA...AND INADEQUATE EVIDENCE OVERALL OF ANY CANCER RISK"

---



The NTP, California and IARC decisions are also consistent with the conclusions reached by Health Canada in 1993, the U.S. Agency for Toxic Substances and Disease Registry (“ATSDR”) in 2004, and the U.S. National Academy of Science in 2000.

Fiber glass is the most thoroughly evaluated insulation material in the market. The data from these evaluations demonstrate that:

1. No causal association has been found between either cancer or non-malignant pulmonary disease and human exposure to glass biosoluble fibers.
2. Inhalation exposures of animals to massive amounts of biosoluble glass wool fibers, hundreds and even thousands of times greater than human exposures, have not shown a relationship between glass wool fibers and disease.
3. Biosoluble glass wool fibers dissolve more rapidly in body fluids than other fibers that have been associated with human disease.
4. Workplace levels of respirable glass fibers in most settings are less than 1 fiber/cc; and airborne levels in insulated buildings are not significantly different than levels outside or in uninsulated buildings.

Scientific evidence demonstrates that fiber glass is safe to manufacture, install and use when recommended work practices are followed to reduce temporary mechanical irritation.\* For more information, consult the individual manufacturer’s Material Safety Data Sheets (“MSDSs”) or package labels. NAIMA’s pamphlet, “Working with Fiber Glass, Rock Wool and Slag Wool Products” provides specific safe work practices which are part of NAIMA’s current Product Stewardship Program and reflects the input of international industry, trade associations, OSHA, Labor, and others. Virtually all of these work practices were part of the OSHA-

approved Health and Safety Partnership Program (“HSPP”). NAIMA has also developed an instructional video/DVD entitled “Play It Smart, Play It Safe,” which details safe work practices and the following four components:

1. A voluntary workplace permissible exposure limit (PEL) of 1 respirable fiber/cc.
2. Respiratory protection for workers when workplace exposures exceed this PEL and for certain designated tasks.
3. Monitoring of workplace airborne fiber levels and a centralized exposure monitoring database.
4. Information and training for workers who handle glass wool products.

This video/DVD and the above-mentioned pamphlet are available in either English or Spanish from the NAIMA library at [www.NAIMA.org](http://www.NAIMA.org). Safe work practices and handling instructions are found on individual company’s product labels and MSDSs.

NAIMA is dedicated to providing up-to-date information on the safe handling of fiber glass products.

### References

1. National Institute of Environmental Health Sciences, National Toxicology Program, Fact Sheet, “The Report on Carcinogens,” June 2011 (<http://www.niehs.nih.gov/about/materials/roc12fs.pdf>).
2. 46-Z California Regulatory Notice Register, P. 1878 (November 18, 2011)
3. <http://tsar.jrc.ec.europa.eu/documents/Testing-Methods/mmmfweb.pdf> (version in effect on June 10, 2011).

### About NAIMA

NAIMA is the association for North American manufacturers of fiber glass, rock wool, and slag wool insulation products. Its role is to promote energy efficiency and environmental preservation through the use of fiber glass, rock wool and slag wool insulation, and to encourage the safe production and use of these materials.

NAIMA, continuing its members’ commitment to safety, has established a renewed Product Stewardship Program, which embodies the components of the earlier OSHA-NAIMA Health and Safety Partnership Program (HSPP). The HSPP was a comprehensive eight-year partnership with OSHA, which NAIMA completed in May 2007, and now NAIMA incorporates these safe work practices into NAIMA’s Product Stewardship Program.

**For more information, contact:**

**NAIMA**  
44 Canal Center Plaza, Suite 310  
Alexandria, VA 22314  
Tel: 703/684-0084  
Fax: 703/684-0427  
[www.naima.org](http://www.naima.org)

NAIMA MEMBERS:  
Aislantes Minerales, S.A. de C.V.  
D.F., México

CertainTeed Corp.  
Valley Forge, PA

Industrial Insulation Group, LLC  
Brunswick, GA

Johns Manville  
Denver, CO

Knauf Insulation  
Shelbyville, IN

Owens Corning  
Toledo, OH

Rock Wool Manufacturing Co.  
Leeds, AL

Roxul, Inc.  
Milton, Ontario

Thermafiber, Inc.  
Wabash, IN

USG Interiors, Inc.  
Chicago, IL

\* This is a mechanical irritation and does not meet the U.S. OSHA HAZCOM definition of “Irritation” specified in Appendix A to 29 C.F.R. § 1910. 1200.