

# Keeping Warm and Staying Healthy

## *A Comprehensive look at Fiberglass and Cellulose Insulation*

### **Natural Resources Defense Council**

*Principal Author and Researcher: Anjanette DeCarlo; Project Design and Direction: Allen Hershkowitz, Ph.D.*

### **INTRODUCTION**

Insulating a home or office is one of the easiest and most cost effective things to do to protect the environment. As we all know, insulation reduces the amount of energy required to heat or cool a space. What is less well known is that there is a variety of different insulating materials with a range of environmental attributes, costs, advantages, and disadvantages.

Just because insulation helps conserve energy does not mean that the product itself is environmentally sound, many other factors must be considered when assessing the product's environmental soundness, including the health risks, energy required to produce the insulation, its flammability and its recycled content. The Natural Resources Defense Council (NRDC) report examines fiberglass and cellulose insulating materials.

### **SUMMARY OF FINDINGS**

After careful review of the literature, interviews with insulation industry executives, government officials, academics and scientists as well as site visits to manufacturing facilities associated with the materials studied, the NRDC has concluded the following:

- Cellulose insulation manufactured from recycled paper is the least polluting and most energy efficient.
- Cellulose has the highest post-consumer recycled content. The fiberglass industry averages 35% recycled glass, while the cellulose industry averages a minimum of 75% recycled content.
- It takes more than 10 times more energy to produce fiberglass insulation as cellulose insulation.
- Due to air circulation and natural convection, the R-value of blown in fiberglass insulation decreases by as much as 50% as the temperature drops from 45° degrees Fahrenheit to 18° degrees Fahrenheit.
- In contrast to fiberglass, cellulose has a better resistance to air flow and prevents the upward movement of air caused by temperature differences {the R-value of Cellulose actually improves during cold weather}. Heat flow problems associated with fiberglass make cellulose an attractive alternative.
- Substantial and well-documented public health threats are associated with fiberglass. Fiberglass insulation is required to carry a cancer warning label in compliance with OSHA's Hazard Communication Standard.
- No adverse health effects from cellulose insulation have been identified.
- Both types of insulation meet the American Society for Testing Materials (ASTM) fire protection standards.

**Just because insulation helps conserve energy, does not mean that the product itself is environmentally sound**

**Cellulose Insulation is the least polluting and most energy efficient.**

**It takes more than 10 times as much energy to produce fiberglass as it does cellulose.**

**Substantial and well documented public health threats are associated with fiberglass.**

**Cellulose is non-toxic.  
Biologically, cellulose is  
innocuous.**

***-Dr, Arthur Furst,  
Toxicologist***

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This is a summary of an extensive Natural Resources Defense Council (NRDC) report. The NRDC is a non-profit environmental membership organization with over 300,000 members and contributors in the US.. NRDC scientists and lawyers have been working to protect the world's natural resources and improve the quality of the human environment since 1970. NRDC has offices in New York City, Washington D.C., San Francisco and Los Angeles California.

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