

Working With Fiber Glass





SCIENTIFIC STUDIES SHOW FIBER GLASS SAFE WHEN USED AS DIRECTED

Tens of thousands of workers have been employed in manufacturing fiber glass since its initial development more than 60 years ago. During this time, there have been many studies and more than 400 scientific articles on the health aspects of fiber glass.

Johns Manville (JM) labels its products and provides Material Safety Data Sheets to customers stating that fiber glass wool has been classified as a possible cause of cancer. We want you to know why. Read this carefully.

This scientific research has shown that fiber glass is safe to manufacture, safe to use, and poses little — if any — health risk to humans when used as directed.

Major studies of the potential health effects of fiber glass have been conducted on more than 30,000 past and present fiber glass manufacturing workers in the U.S. and Europe. **Such studies show no cause and effect link between fiber glass exposure and deaths from cancer or other respiratory diseases.**

Scientists from Harvard Medical School and the Harvard School of Public Health reviewed all the human evidence regarding the risk of respiratory system cancer and exposure to fiber glass and concluded:

- Glass fibers (especially glass wool) have been studied most extensively.
- Taken together, the data indicate that among those occupationally exposed, glass fibers do not appear to increase the risk of respiratory system cancer.

In a current study that looked at the health of workers regarding non-cancer diseases, Hans Weill of Tulane University concluded that workers in the fiber glass manufacturing industry are generally healthy and without any detectable evidence of occupationally induced respiratory disease.

Fiber glass wool was classified in 1987 as a possible cause of cancer. That action was based on animal implantation studies. Most experts agree that more appropriate comparisons to human risk come from animal inhalation studies, in which animals breathe fiber glass. In studies where animals breathe high levels of building insulation fiber glass for most of their lives, these animals have shown no changes in life expectancy and no permanent changes in lung tissue. Results from two separate studies exposing animals to special application glass fibers have shown fibrosis and mesothelioma. Six previous studies conducted with the same type of glass fibers did not produce any disease. The American Conference of Governmental Industrial Hygienists (ACGIH) designated fiber glass an “A3-animal carcinogen.” This designation indicates that a substance may cause cancer in experimental animals at relatively high doses and by routes of exposure “not considered relevant” to workers.

GOOD WORK PRACTICES CAN REDUCE EXPOSURES

Keep dust to a minimum and protect your eyes - Whenever you're handling fiber glass materials, when appropriate, **we recommend** wearing eye protection (e.g., goggles, safety glasses with side shields, etc.)

Wear a dust mask - Keep dust out of your mouth, nose and throat by wearing a dust mask. Where exposures may exceed 1 fiber per cubic centimeter (f/cc) for an eight- hour work shift, the Occupational Safety and Health Administration (OSHA) recommends the use of a dust mask when handling or working with fiber glass products. These following jobs require the use of a dust mask:

- blowing wool installers and people in the immediate area (e.g., in the attic)
- cavity fill installers and people in the immediate area;
- dumping or pouring unbounded, bulk, specialty filtration fiber products where engineering controls are absent; and
- removal of SVF products during significant repair or demolition activity.

Choose a--NIOSH (National Institute for Occupational Safety and Health) -certified disposable dust mask or reusable dust respirator rated N95 or better when working with fiber glass. Check the box in which they come to make sure they are NIOSH-certified.

Be sure to read all instructions and perform a "fit test," as required by regulations and as outlined on the package. Respirator manufacturers provide fit-testing instruction with their dust masks. Do not wear your dust mask into atmospheres containing contaminants for which it is not designed to protect against. Keep track of your respirator so that you do not mistakenly use someone else's.



Wear the right dust mask - Some situations, such as spraying or blowing fiber glass, or working in a confined area without good ventilation, may call for greater respiratory protection. The type of respirator you will need depends on both: 1) the fiber product you're working with and 2) the fiber exposure level.

The Material Safety Data Sheets on file with your employer will indicate whether greater respiratory protection is needed for the specific products you're handling.



Protect your skin from irritation - Help protect your skin by wearing gloves and/or applying a barrier cream before handling fiber glass. Wear a hat to keep fibers from getting into your hair and onto your scalp. If you get fibers on your skin, don't rub or scratch the area. Wash gently with warm water and mild soap. Use a skin cream or lotion after washing.

Take care of your clothes - Wash your work clothes separately. This prevents fibers from getting on your other clothes. If your work clothes have a lot of fiber glass on them, do not shake them out. Instead, presoak and rinse them to remove most of the fibers before washing. After washing, rinse the washing machine to make sure the fibers won't get on other clothes.

For most disposable dust masks, you can perform your fit test as follows. A. Hold the respirator cup in the palm of your hand and place it under your chin with the nose piece up. B. Pull the top band over your head and let it rest against your head. The bottom band should be pulled over your head and positioned against your neck below your ears. C. Mold the nose piece to the shape of your nose. Then check the respirator seal by covering the respirator with both hands — without moving it — and exhaling sharply.

You should feel a positive pressure inside the dust mask. If air leaks around the nose, tighten the nose piece. If air leaks at the edges, adjust the straps along the sides of your head. With disposable dust masks, you must be sure to use a new one if the old one loses its shape due to moisture.

MATERIAL SAFETY DATA SHEETS CONTAIN IMPORTANT INFORMATION FOR YOU

U.S. federal and state laws give you the right to know about the hazards of the materials with which you work. The more you know, the better you are able to protect yourself. All manufacturers are required to provide customers with data about their products, any potential health hazards associated with those products, and any special precautions to be taken in handling them.

We provide customers with a Material Safety Data Sheet, commonly called an "MSDS," for each of our products. You should review each MSDS.

FIBER GLASS: A USEFUL PRODUCT

Fiber glass is one of the most useful and beneficial materials ever devised by man. Developed in the 1930s for use in home insulation and home panel filters, fiber glass today is widely used in everything from buildings to appliances to airplanes.

Fiber glass is used to control the flow of heat, absorb sound, and filter gases and liquids. Glass fibers don't burn, rot, or absorb moisture or odors. When properly maintained, they don't support the growth of mildew, mold, or bacteria.

Fiber glass comes in two forms: fiber glass wool, and textile glass fibers. Fiber glass wool is the most widely used form of fiber glass, notably in acoustical and thermal insulation, and in heating, venting, and air conditioning filters. It is produced by spinning or blowing molten glass into short, thin fibers.

Textile glass fibers are made of continuous strands or filaments. They are used to reinforce materials, especially plastics, and in woven and non-woven fabrics.



PLEASE READ LABELS CAREFULLY

JM labels its products to provide you with the latest information on our products and how to use them safely. Labels may vary by product and may be designed differently in some foreign locations to comply with specific country requirements. Check the label on the products you use.



HOW DO YOU WORK WITH FIBER GLASS?

When you work with fiber glass, do you use appropriate work practices?

<u>Check how you work.</u>	<u>YES</u>	<u>NO</u>
I wear goggles or safety glasses with side shields.	<input type="radio"/>	<input type="radio"/>
I use an appropriate/approved dust mask when needed.	<input type="radio"/>	<input type="radio"/>
I perform a fit test for my dust mask every time I put it on.	<input type="radio"/>	<input type="radio"/>
I wear long sleeved shirts and long pants.	<input type="radio"/>	<input type="radio"/>
I wear gloves and a cap.	<input type="radio"/>	<input type="radio"/>
I wash my work clothes separate from other clothing.	<input type="radio"/>	<input type="radio"/>
If I do get fibers on my skin, I wash with warm water and mild soap and then apply a skin cream or lotion.	<input type="radio"/>	<input type="radio"/>
I read product labels.	<input type="radio"/>	<input type="radio"/>
I know where to obtain a material safety data sheet.	<input type="radio"/>	<input type="radio"/>
I know how to get more information on fiber glass and health.	<input type="radio"/>	<input type="radio"/>

If you answer no to any of these questions, please re-read the booklet and remember to always use appropriate practices.

1. When appropriate, eye protection (goggles or glasses with eye shields) should be worn.
2. Long-sleeved shirts and long pants are recommended to prevent irritation.
3. Gloves are recommended.
4. A hat is recommended, especially when working overhead.
5. Wear an appropriate dust mask (NIOSH-certified N95 or better) as needed.
6. Wear loose clothing.



USE FIBER GLASS SAFELY

If you work with fiber glass, you already know it can irritate your skin, nose, and throat. Common sense says to handle it with care, just like any material which may generate dust.

This booklet recommends practices that should be followed when you use fiber glass. It will also help to familiarize you with our product labels and with information in our Material Safety Data Sheets. We hope this booklet will make you more aware of the health and safety aspects of fiber glass.

FIBER EXPOSURE GUIDELINES

Can you ever work with fiber glass without wearing a dust mask?

OSHA supports a voluntary Permissible Exposure Limit (PEL) of 1 f/cc for fiber glass as an eight-hour Time Weighted Average (TWA). ACGIH also recommends this same level as a Threshold Limit Value (TLV®).

Tasks listed on page 3 require the use of a dust mask. However, it is sensible when working with fiber glass, or any dust, to be prudent. JM recommends that you wear a dust mask any time you work with fiber glass, unless:

- the concentration of fiber glass in your work place is monitored, OR
- representative air monitoring results are available for the task you are performing, AND
- the sample results show that the air you are breathing contains **less than 1 f/cc** averaged over an eight-hour period.

Note: This does not mean that exposure to more than 1 f/cc is unsafe. It's simply a prudent guideline to follow when working with fiber glass. Again, care in the handling of fiber glass — or any material that may generate dust — is nothing more than common sense.

DO YOU HAVE QUESTIONS?

We can't cover everything about fiber glass in one short booklet. But we hope you find this information helpful.

The communication and training programs conducted by your employer help you in working safely with fiber glass. If you have any questions about fiber glass, industrial hygiene monitoring in your work place, or safe work practices, ask your employer.


If you'd like more technical information on respiratory protection and fiber glass research, ask your employer or request our Bulletin HSE-64C from:

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