

## Scientific Studies:

# Carbon Filters Ineffective

**“Breathing through a carbon filter had no protective effect!”**

For many with allergies and multiple chemical sensitivities (MCS), a mask is the only way to go into stores and other public places where volatile organic compounds (VOC's) such as perfume, detergents, cleaning products, formaldehyde, scented products, and pesticides, among others, are abundant. Since reactions may include respirator problems, seizures, headache, fatigue, confusion, and other unpleasant debilitating symptoms, it is important to assure adequate protection when unavoidable exposures are encountered. Frequently, those with allergies and MCS resort to cloth masks. But is a simple carbon mask effective? Or, must one upgrade to a respirator or other form of protection?

A scientific study by Millqvist and Lowhagen found that breathing through a carbon filter does not protect people from perfume exposures that trigger symptoms. The study, *Placebo-controlled Challenges with Perfume in Patients with Asthma-like Symptoms*, examined nine patients with respiratory symptoms after nonspecific irritating stimuli. The patients did

not have any IgE-mediated (histamine) allergy or bronchial obstruction, therefore represented a population similar to multiple chemical sensitivity (MCS) sufferers.

Millqvist and Lowhagen used provocation with perfume or a placebo with or without a carbon filter mask. The purpose was to determine if breathing through a filter with active carbon would prevent symptoms. A nasal clamp was used to prevent smelling of the perfume while patients breathed through the mouth.

The researchers found that the patients' earlier symptoms were verified by the perfume provocation. More importantly, breathing through the carbon filter had no protective effect! “The symptoms are not transmitted via the olfactory nerve, since the patients could not smell the perfume, but they may have been induced by a trigeminal reflex via the respiratory tract or by the eyes” (Millqvist & Lowhagen, 1996).

Those with MCS already know that carbon filtered masks only provide nuisance level protection. For full respiratory protection, one must upgrade to a half-mask respirator. If the eyes are a factor in reactions, a full-mask respirator is in order. The respirator should have both a particulate filter and a VOC filter. An example



**“In addition to breathing, those with MCS also find that VOC’s adhere to clothing, skin, and hair.”**

is a 3M 6000 series mask with a 6006 or 6003 VOC cartridge and an N-95 particulate filter that fits on top of the VOC cartridge.

A few respirator sources are:

**National Allergy**

<http://www.natallergy.com/product.asp?pn=1176&bhcd2=1177096712>

**Aler-G**

<http://www.alerg.com/page/A/PROD/11MSK/MSK1000>

**MSA North America**

<http://www.msanorthamerica.com/catalog/catalog500012.html>

**Western Safety Products**

<http://www.westernsafety.com/respro.htm>

**WS Safety Solutions**

[http://www.websoft-solutions.net/protective\\_respirators\\_safety\\_respirators\\_sj42.htm](http://www.websoft-solutions.net/protective_respirators_safety_respirators_sj42.htm)

A few mask resources for light duty nuisance protection:

**Allergy Control Products**

[http://www.allergcontrol.com/store/products\\_detail.asp?steps\\_id=55450&mcscd=CHC&PRG52B9K&VGDGRQOH1D1D9X0989](http://www.allergcontrol.com/store/products_detail.asp?steps_id=55450&mcscd=CHC&PRG52B9K&VGDGRQOH1D1D9X0989)

**American Environmental Health Foundation**

[http://www.aehf.com/catalog/product\\_info.php?Path=52&product\\_id=907&osCsid=114540b204f6f16456e6b6518a3398](http://www.aehf.com/catalog/product_info.php?Path=52&product_id=907&osCsid=114540b204f6f16456e6b6518a3398)

**Allergy Relief**

<http://onlineallergyrelief.com/masks/masks.html>

**Sandy DenBraber**

<http://www.lassentech.com/eimask.html>

**Respro**

[http://www.respro.com/allergyrelief\\_mcs.php](http://www.respro.com/allergyrelief_mcs.php)

In addition to breathing, those with MCS also find that VOC’s adhere to clothing, skin, and hair. Since skin absorption may occur, this mandates some form of a cover-up, such as long sleeves and pants with a hat or scarf, or even a disposable tyvek coverall that can protect clothing and be removed after exposure. Tyvek coveralls can be purchased at most hardware stores or online at:

**ABC Safety Mart**

<http://www.abcsafetymart.com/clothing/clothing.html>

**TASCO**

<http://www.tasco-safety.com/tyvek-protective-clothing.html>

**UV Process Supply**

<http://www.uvprocess.com/product.asp?code=CLOTHING+E>

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**Reference**

Millqvist, E.; Lowhagen, O. Placebo-controlled Challenges with Perfume in Patients with Asthma-like Symptoms. Allergy. 51(6):434-439, June 1996.

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