Anyone else wear a respirator while sharpening?

Posted by Allgonquin - 09 May 2012 20:58

I noticed a discussion about magnets to lessen the cleanup and swarf which collects around the WEPS after a session. I also noticed some direct evidence in my handkerchief after doing a few knives in a row and blowing my nose!

For a quick touchup - no, but If I'm reprofiling from scratch I'll put on my respirator (3M 7503 type). Doesn't help the cleanup of the WEPS, but I'm sure it helps my lungs. In my shop over the years I've used disposable masks and other single cartridge type respirators, but I find this 3M to be very comfortable and effective. Highly recommend this as a preventative measure.

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Re: Anyone else wear a respirator while sharpening?

Posted by mark76 - 10 May 2012 03:25

I have often wondered whether this is necessary. When I sand a piece of wood, the dust is flying around and a respirator is clearly useful. However, metal particles are quite heavy and never floating around in the air. I have never seen anything close to a dust, either.

Any opinions?

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Re: Anyone else wear a respirator while sharpening?

Posted by AnthonyYan - 10 May 2012 09:28

Hi!

Haven't done much sharpening since my collection is small and I've not been a sharpening enthusiast for long. So, I haven't thought so much about using a respirator or a dust-collection vacuum.

When sharpening, I like to lay out newspaper and spray it down with water (from a spray bottle). I figure that metal shavings and abrasive grit will stick to wet paper and not leave. Afterwards, I just roll up the paper and throw it in the trash.

I don't know about airborn particles. Probably we are talking about micron/sub-micron shavings, so I don't know if they would float around (that is very small, but they're metal or abrasive, so probably much heavier than wood dust). Is anyone from OSHA around? ^_^;

Sincerely,

--Lagrangian

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Re: Anyone else wear a respirator while sharpening?

Posted by wickededge - 10 May 2012 13:06

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I would be very interested to see a photo of your filter after sharpening, given that you started with a fresh one. Alternately, even a particle mask might be instructive.

Allgonquin wrote:

I noticed a discussion about magnets to lessen the cleanup and swarf which collects around the WEPS after a session. I also noticed some direct evidence in my handkerchief after doing a few knives in a row and blowing my nose!

For a quick touchup - no, but If I'm reprofiling from scratch I'll put on my respirator (3M 7503 type). Doesn't help the cleanup of the WEPS, but I'm sure it helps my lungs. In my shop over the years I've used disposable masks and other single cartridge type respirators, but I find this 3M to be very comfortable and effective. Highly recommend this as a preventative measure.

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Re: Anyone else wear a respirator while sharpening?

Posted by Allgonquin - 10 May 2012 19:34

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Hi Clay,

The filters on my 3M are purple (2091 type) and I use the respirator for other stuff like wood sanding and rough metal grinding, so at the moment the evidence is tainted and somewhat difficult to see.

However the evidence was graphic in my handkerchief after doing several knives around Christmas time one evening. I too thought that most of the metal dust would be too heavy to float and be breathed, but

it appears not to be so. And it's not like I'm swiping the stones with wild abandon - I think my technique is normal, at least after viewing tons of WEPS videos!

Rgds,

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Re: Anyone else wear a respirator while sharpening?

Posted by wickededge - 10 May 2012 20:17

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It's something I've been curious about too. I'll wear a clean respirator and see what happens after a couple of knives. I'm guessing that keeping the stones a little moist will help. Maybe I'll do a couple knives with wet stones and check the mask and then do some with dry stones and check the mask. I'll be sure to post results.

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Re: Anyone else wear a respirator while sharpening?

Posted by BassLakeDan - 11 May 2012 00:34

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Well there is good news here and bad news.

The good news is that the materials you are dealing with, and are exposed to, are low toxicity. Diamond (dust) is virtually inert as far as the human body is concerned. Iron is, actually, a necessary human nutrient. About the worst you have at your sharpening bench is Chromium Oxide, but it has very low solubility in water so therefore its hazard level is low when ingested.

The bad news is that, yes, particles of dense (high specific gravity) material can and do float in the air if they are finely divided enough. So you have a foreign substance dust issue, that is similar to any other dust issue in your life. The key is to minimize your total quantity exposure over time. If you sharpen only occasionally as a hobby then you can probably disregard this dust as a minor factor.. However, if you are around this on a daily basis, or your exposure is continuous then you would be well advised to wear the appropriate respirators.

Additionally, you might want to consider that dust exposure is a cumulative issue that adds up over time from all sources around you. So if you are, for example, a smoker, if you live in a urban area with high particle counts from industry, if you live, like I do, in a Pine forest with the constant pressure of air borne pollens, you might realize that a good deal of exposure to additional dust of your own creation is “adding” to you overall continuous exposure count. It is not the case that sharpening knives is a dust hazard in and of itself, but rather it is part of a bigger picture. I have made the decision to install HEPA full house filter systems where I live. I didn’t do it because I sharpen my knives, I did it because of dozens of

separate exposure vectors in my environment that all add up. Of course, everyones situation is different, your mileage may vary!

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Re: Anyone else wear a respirator while sharpening?

Posted by jendeindustries - 11 May 2012 06:47

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BassLakeDan wrote:

I have made the decision to install HEPA full house filter systems where I live. I didn't do it because I sharpen my knives...

Yeah, right!!

I'm in agreement with BassLake Dan - a session of 1-2 knives on the WEPS doesn't warrant any sort of respirator. You could simply wear a doctor's mask to keep the majority of stuff out of your nose.

Once you step up to mechanized sharpening and/or batches of knives, then a respirator is a worthwhile investment. So are ear plugs

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Re: Anyone else wear a respirator while sharpening?

Posted by BassLakeDan - 11 May 2012 11:47

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jendeindustries wrote:

... You could simply wear a doctor's mask to keep the majority of stuff out of your nose.

...

Not to beat this subject to death, but I do want to mention a few important points about using respirators to protect yourself from dusts. I am concerned that viewers of the forum might take away some misconceptions. We all 'transfer knowledge' from one subject to another, but sometimes doing so will not serve you well. This is one of those situations.

I don't want to lull readers into a false sense of safety when dealing with air borne particles. My previous post was more or less, "you can ignore it at the hobby level". BUT… Many knife hobbyists are also wood workers. Remember toxicity is first on the scale of triggers for ones use of proper respirator protection. Oddly enough wood working represents a potential exposure to hundreds of times more toxic material than knife sharpening. Some woods are carcinogenic (Spanish Cedar), many are outright poisons (Cherry Wood, Oleander, etc.). So first rule of thumb is to ask yourself "Just how toxic is the material I am working around?"

From your answer to the above question then: be sure the respirator type matches the hazard type of the exposure. The manufacturer of the respirator has charts and written guide material to help you in the proper selection of the mask to use in your particular situation. *Read those guides carefully and follow them!* Using the wrong respirator for the exposure type is the number one common mistake people make (Toms' 'doctors mask' from his above post is an excellent example of this :)

Second rule of thumb is proper fitment of the respirator to your face. Everyone's facial features vary and there are fitment tests that you must perform every time you wear a respirator to assure that the device seals correctly. Someone mentioned OSHA earlier in a post on this thread. One of OSHAs strict rules has to do with fitment training of persons that use respirators in the workplace. That is a required procedure that is necessary to be documented and followed in an industrial work environment. The rules are there for a good reason: nothing is more dangerous than false security in a hazardous exposure environment from poorly fitting personal safety equipment.

OSHA has some good information you might want to see:

www.osha.gov/dts/shib/respiratory_protection.pdf

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Re: Anyone else wear a respirator while sharpening?

Posted by jendeindustries - 11 May 2012 18:12

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Excellent link, BLD!

Good points about the woodworking, too!

My respirator cartridge mentions that it requires a minimum of 19% oxygen in an area. I'm quite happy with the fact that it filters vapors from the gluing I do for the WEPS stones (3M 77 glue spray), and easily keeps the particulates from mechanized sharpening and buffing out. I do recall doing a bunch of comparisons at the store for the right filter, though...

FWIW, I do not wear any face gear while using sharpening stones or the WEPS.

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