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July 1, 2014

Thomas M. Galassi  
Deputy Director, Enforcement Program  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Suite N-3119  
Washington, DC 20210

Re: PSP 2012 and N95 Respirators

Dear Tom:

Thank you for your continued support of our product stewardship program, PSP 2012, as reflected in your June 19, 2014 letter. We realized, upon reading your letter, that there was a typographical error in the Everest Consulting Associates Inc. memorandum attached to our May 12, 2014 letter. I have attached to this letter a corrected version of the memorandum, which describes the appropriate respirator to be used by workers exposed to refractory ceramic fibers when the industry Recommended Exposure Guideline is exceeded. As noted in the memorandum and our earlier letter, HTIW Coalition believes that the appropriate respirator in this situation is the N95 rather than the P-100, except in unusual situations of exposure above 5.0 f/cc, which could occur briefly in some operations such as tear-out of spent furnace linings.

HTIW Coalition has scheduled a meeting with NIOSH to discuss respirator selection and other issues within the next few weeks.

If you have any questions or would like to discuss further, please let me know.

Thank you again for your support of our product stewardship efforts.

Sincerely,

A handwritten signature in black ink that reads "Dean Venturin". The signature is written in a cursive, flowing style.

Dean Venturin  
Vice President



## *E-Mailed Memo*

**Date:** July 1, 2014

**To:** HTIW Coalition

**From:** L. Daniel Maxim and Ron Niebo, Everest Consulting Associates

**Subject:** N95 filtering facepiece respirators are appropriate for workers exposed to RCF

The refractory ceramic fiber (RCF) industry has established a recommended exposure guideline (REG) of 0.5 fibers per milliliter (f/cc) for RCF (8-hour time weighted average). This REG, which has been incorporated in the HTIW Coalition product stewardship program, was set on the basis of prudence and demonstrated feasibility, rather than proven risk. Moreover, the available epidemiological data on RCF exposed occupational cohorts have not shown any interstitial fibrosis, excess lung cancer, or any cases of mesothelioma.

The current version of the HTIW Product Stewardship Program (PSP 2012) lists P100 as the appropriate respirator for workplace exposures to RCF that exceed the REG. The listing of P100 in the PSP was in error. As discussed herein, the correct respirator is N95.

This result is supported by the NIOSH Pocket Guide to Chemical Hazards, reprinted at <http://www.cdc.gov/niosh/npg/npgd0432.html>. RCF is within the category of manmade mineral fibers. With respect to such fibers, the Guide provides:

### Respirator Recommendations

NIOSH

Up to 5X REL:(APF = 5) Any quarter-mask respirator.

Up to 10X REL:

(APF = 10) Any particulate respirator equipped with an N95, R95, or P95 filter (including N95, R95, and P95 filtering face pieces) except quarter-mask respirators. The following filters may also be used: N99, R99, P99, N100, R100, P100.

Pursuant to these recommendations, N95 respirators are appropriate for exposures up to 10 times the NIOSH Recommended Exposure Limit (REL). With respect to RCF, both the NIOSH REL and the industry REG have been set at 0.5 f/cc.<sup>1</sup> Accordingly, N95 would provide the necessary protection for exposures up to 5 f/cc. In addition, the Respirator Selection Guide published by 3M Corporation, the primary respirator manufacturer, specifically recommends use of N95 respirators for RCF exposures. [http://multimedia.3m.com/mws/mediawebserver?mwsId=SSSSSufSevTsZxtUOxmG4x\\_SevUqevTSevTSevTSeSSSSSS--](http://multimedia.3m.com/mws/mediawebserver?mwsId=SSSSSufSevTsZxtUOxmG4x_SevUqevTSevTSevTSeSSSSSS--) (page 84; copy attached).

We understand that the NIOSH CD recommends a 100 series filter because it has an assigned protection factor (APF) of 10 (p.7). However, the CD recommendation is not explained further, and the NIOSH guidance quoted above indicates that N95 respirators are considered to have an APF of 10. We believe it is clear from these materials that the use of N95 respirators is appropriate for the vast majority of workplace exposures that exceed the REL and REG. N100 is needed only in those few cases, if any, where exposures are shown reliably and consistently to be above 5.0 f/cc.

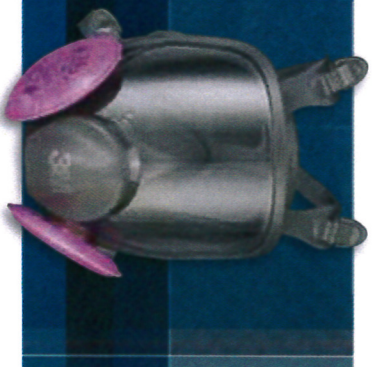
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<sup>1</sup> See NIOSH, "Occupational Exposure to Refractory Ceramic Fibers, Criteria for a Recommended Standard" (May 2006). <http://www.cdc.gov/niosh/nppm/upd-06-12-06.html>. NIOSH did not distinguish between P100 and N100. However, N100 would be the appropriate reference since P100 respirators are meant to be used in oily environments, which does not apply to workplaces with RCF.

3M Occupational Health and Environmental Safety Division  
**2010 Respirator Selection Guide**



Helping  
**Protect People**  
at Work, at Home, for Life



Sulfur pentafluoride	1	0.01 (ceiling)	Disulfur decafluoride	AG	Warning unknown
Sulfur tetrafluoride		0.1 (ceiling)		AG	Warning unknown
Sulfuryl fluoride	1000	5		SA	Warning unknown. Unknown sorbent effectiveness.
<b>Synthetic vitreous fibers</b>					
-Continuous filament glass fibers		1 f/cc		N95	
-Glass wool fibers		1 f/cc		N95	
-Refractory ceramic fibers		0.2 f/cc		N95	
-Rock wool fibers		1 f/cc		N95	
-Slag wool fibers		1 f/cc		N95	
-Special purpose glass fibers		1 f/cc		N95	
Talc (containing no asbestos)		2 mg/m <sup>3</sup> * (respirable)	Hydrrous magnesium silicate, Steatite talc, Non-fibrous talc, Non-asbestiform talc	N95	
<b>Talc (containing asbestos)</b>					
Tantalum, metal and oxide dusts (as Ta)		5 mg/m <sup>3</sup>	(See Asbestos)	N95	
Tellurium and compounds (as Te)		0.1 mg/m <sup>3</sup>		N95	
Tellurium hexafluoride (as Te)	1	0.02		SA	Warning unknown. Unknown sorbent effectiveness.

\* TLV is lower than PEL.