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**Subject:** FW: RIN 1219-AB58; COMMENTS TO MSHA REGARDING PROPOSED RULE FOR REFUGE ALTERNATIVES FOR UNDERGROUND COAL MINES (ALLOWABLE CO2 LEVELS)

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**From:** Tom Daley [mailto:Tom.Daley@microporeinc.com]  
**Sent:** Wednesday, August 13, 2008 10:29 AM  
**To:** zzMSHA-Standards - Comments to Fed Reg Group  
**Cc:** Doug McKenna; Tom McKenna; Vince Suddard; billkennedy@kennedymetal.com  
**Subject:** RIN 1219-AB58; COMMENTS TO MSHA REGARDING PROPOSED RULE FOR REFUGE ALTERNATIVES FOR UNDERGROUND COAL MINES (ALLOWABLE CO2 LEVELS)

**In response to Mr. Harris Comment 27:** Micropore has been involved in providing specialized carbon dioxide absorbents for numerous life support/atmosphere control applications, and my personal background includes a career as a technology specialist for the US Navy's submarine atmosphere control system, where I was extensively involved in the process of establishing atmosphere contaminant limits.


In Comment 27 Mr. Harris states that there appears to be no pronounced physical effects associated with exposure to 5% carbon dioxide. We do not concur with this statement. The US Navy has established 2.5% as its one-hour emergency limit. The US Navy also reports that exposure to 5 to 6% CO2 causes significant degradation in performance and tremors (Nuclear Powered Submarine Atmosphere Control Manual). As such, life and death decisions made by navy personnel could be compromised. Additional risk will likely result when exposing miners of unknown age and physical health to 5% CO2, compared to Navy personnel.

Micropore recommends that the CO2 limits from the MSHA proposed regulations be maintained (1% time weighted average and 2.5% maximum).

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