Hexavalent Chromium

Welding applications that involve welding on Stainless Steel or metals containing chrome alloys, you need to be aware of the laws in effect since May, 2010.

Stainless steels have larger amounts of hexavalent chromium or nickel in the fume and lesser amounts of iron.

Under the OSHA Hexavalent Chromium Standard[Chromium (VI) 1910.1026 App A], engineering controls are required to be implemented no later than May 31, 2010 to reduce the permissible exposure limit (PEL) for hexavalent chromium to less than 0.5 micrograms per cubic meter measured as an 8-hour time-weighted average, (prior to May 2010, PEL was 50 milligrams per cubic meter). This applies to all employers, regardless of comapny size.

Manganese

Manganese is a trace element found in the emissions of virtually ALL types of welding. OSHA's current PEL (Permissible Exposure Limit) stands at 5 milligrams per cubic meter for manganese, and is classified as a ceiling measurement (5 mg/m3 (c)). This means that an employees can at no time during his/her workday be exposed to respirable manganese fume in quantities greater than 5 mg/m3. This information can be found through the U. S. Department of Labor's web site.(1910.1000 Table Z-1 Limits for Air Contaminants, listed as Manganese fume (Mn) Cas No. 7439-96-5).

There has been recent data that suggests that exposure to Manganese can cause a condition called Manganism, similar to Parkinson's disease. In extreme cases, overexposure to Manganese fumes can affect the Central nervous system and change neuropsychological and neurobehavioral function. It is widely expected that OSHA will raise the bar considerably for weld fume control systems concerning Manganese exposure.

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