TO: Distribution

TGG: JCL: [redacted]: MJH: AJO: RF

XF: 378

FROM: T. G. Grumbles
DATE: April 4, 1990

Interoffice Communication

SUBJ: NIOSH NOTICE ON MAXIMUM USE CONCENTRATIONS

VISTA

Attached is a NIOSH Information Notice regarding the need to revise maximum use concentrations for certain air-purifying respirators. The labels and use restrictions on cartridges may be out-of-date for some time. In most cases maximum use concentrations will go down.

T. G. Grumbles

dlj
.121

Attachment

Distribution:

SAFETY DIRECTORS

Bruce Trego-Aber, Bill Jones-Balt, Harry Peirce-Blane, Kathy Perez-Hmd, K. L. Fogg-LCCP, R. V. Gantz-LCLAB, G. M. Shirley-LCVCM, J. D. Harris-Okc, R. B. Martin-Austin, D. A. Barclay, J. R. Drumwright

cc: W. L. McClain, D. L. Cohen

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
National Institute for Occupational
Safety and Health – ALOSH
944 Chestnut Ridge Road
Morgantown, WV 26505–2888

RESPIRATOR INFORMATION NOTICE

on

CHEMICAL CARTRIDGE RESPIRATORS

February 26, 1990

In 1972, the National Institute for Occupational Safety and Health (NIOSH) and the Bureau of Mines (BOM) initiated the respirator certification program conducted under Part 11 of Title 30 Code of Federal Regulations (30 CFR Part 11). Currently, NIOSH and the Mine Safety and Health Administration (MSHA) jointly certify respirators that meet the requirements of 30 CFR Part 11. These regulations provide a description of chemical cartridge respirators that include maximum use concentrations (MUCs) for certified cartridges (Section 11.150). These maximum use concentrations are based on the acceptable exposure limits at the time 30 CFR Part 11 was promulgated. They were calculated by multiplying the assigned protection factor of 10 for half mask chemical cartridge respirators by the exposure limit accepted in 1972 for each specific contaminant. Although not specifically required in 30 CFR Part 11, NIOSH has included these maximum use concentrations on all chemical cartridge approval labels.

OSHA recently revised the permissible exposure limits (PELs) for 212 substances and established permissible exposure limits for an additional 164 substances (Air Contaminants Standard, 29 CFR 1910.1000). The revised permissible exposure limits affect the maximum use concentrations for three of the substances listed in 30 CFR Part 11 (ammonia, chlorine, and sulfur dioxide). Compliance with the new permissible exposure limits became mandatory on September 1, 1989. Other regulatory agencies have established exposure limits that vary from the new OSHA permissible exposure limits. Future standards may further revise acceptable exposure limits. Thus, NIOSH has decided to eliminate maximum use concentrations from chemical cartridge approval letters and labels.

NIOSH has sent a letter to all manufacturers of MSHA/NIOSH-certified chemical cartridge respirators requesting a modification to approval labels and user instructions. However, respirator and cartridge labels and instructions with the old maximum use concentrations are already in use. Therefore, NIOSH is advising that all users of chemical cartridge respirators of the change in maximum use concentrations.

The following table lists substances for which OSHA does not have specific substance standards and for which NIOSH has specifically certified chemical cartridges. This table only applies to respirator users who are covered by OSHA regulations.

Substance	Current OSHA PEL	Maximum Use Concentrations Half Mask	Full Facepiece
Ammonia	35 ppm	350.0 ppm$^{\phi}$	500.0 ppm*
Chlorine	.5 ppm	5.0 ppm	25.0 ppm
Chlorine dioxide	.1 ppm	1.0 ppm	5.0 ppm
Hydrogen chloride	5 ppm	50.0 ppm	100.0 ppm*
Hydrogen Sulfide (escape only)	10 ppm	100.0 ppm	300.0 ppm*
Mercury	.1 mg/m^3	1.0 mg/m^3	5.0 mg/m^3
Monomethylamine	10 ppm	20 ppm^{+}	100.0 ppm*
Sulfur dioxide	2 ppm	20.0 ppm	100.0 ppm

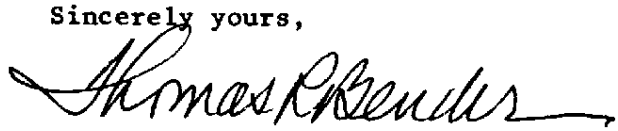
ϕ NIOSH REL is 25 ppm. Maximum use concentration recommended by NIOSH for half masks is 250 ppm.

* MUC based on immediately dangerous to life and health concentration.

+ MUC based on eye irritation level.

If you are covered by a regulatory agency other than OSHA or if your workplace has contaminants other than those listed in the table, you must review specific substance standards to determine which respirators are permitted by your regulatory agency. If there is no standard which specifically addresses which respirators can be used for protection against the contaminants used in your workplace, then determine the exposure limit established by the applicable regulatory standards or the recommended exposure limit (REL) established by NIOSH for all substances in your workplace. Then use the NIOSH Respirator Decision Logic [DHHS (NIOSH) Publication No. 87-108] to determine which classes of respirators can provide adequate protection. Where chemical cartridge respirators can be used, calculate the maximum use concentrations based on the applicable exposure limits. For example, OSHA and MSHA currently accept an assigned protection factor of 10 for half mask respirators. Therefore, the maximum use concentrations for half mask chemical cartridge respirators should never exceed 10 times the exposure limit (e.g., OSHA or MSHA permissible exposure limits, NIOSH recommended exposure limit). All other respirator selection criteria remain unchanged.

Sincerely yours,



Thomas R. Bender, M.D., M.P.H.
Director
Division of Safety Research

VVV 000012831