**Call for Public Comment: Methyl Bromide Proposed ERPG**

The AIHA Guideline Foundation (AGF) Emergency Response Planning (ERP) Committee develops Emergency Response Planning Guidelines (ERPGs) for responding to potential releases of airborne substances for use in community emergency planning. ERPGs are air concentration guidelines for single exposures to agents and are intended for use as tools to assess the adequacy of accident prevention and emergency response plans, including transportation emergency planning, community emergency response plans and incident prevention and mitigation.

The ERP Committee has proposed the following values for ERPGs for Methyl Bromide. In addition to providing comments, the Committee also welcomes any additional references or resources that could be provided to them for consideration. **The public comment period ends on Friday, April 22, 2022, at 11:59 p.m. Eastern (10:59 p.m. Central / 9:59 p.m. Mountain / 8:59 p.m. Pacific).**

To provide comments and/or additional references or resources, please complete the online form via [https://www.surveymonkey.com/r/JHMN6XM](https://www.surveymonkey.com/r/JHMN6XM) or via mail as follows:

**AIHA Guideline Foundation**  
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**METHYL BROMIDE PROPOSED ERPG AND RATIONALE**

**ERPG-3: 300 ppm (1,167 mg/m3)**

300 ppm of methyl bromide (MeBr) is the maximum concentration below which nearly all individuals could be exposed for up to 1 hour without developing life-threatening health effects. The 1-hr LC₅₀ in rats was 1,880 ppm with an LC₀₁ of 1,460 ppm (Zwart, 1988), the 4-hr LC₅₀ was 780 ppm (Kato, 1986), and the 8-hr LC₅₀ in rats was 302 ppm. The highest non-lethal exposure level for 4 hours was 701 ppm (Kato 1986) and for 8 hours was 268 ppm. (Honma, et al. 1985) Exposure of rats to 100 ppm for 22 hours was not lethal and exposure of rabbits to 220 ppm for 20 hours was not lethal. (Alexeeff, et al. 1985) The death of a child occurred when the child entered a warehouse fumigated two days earlier.
The estimated concentration was 250 ppm and the exposure may have been for several hours. (Kashima, et al. 1969). Brief workplace exposures to 1,000 ppm produced no symptoms. (Roosels, 1981) Metabolism studies suggest that humans may be less susceptible to the effects of MeBr because the toxicity of MeBr is likely due to its toxic metabolites. The rate of uptake in rats is greater than in humans resulting in a faster production of toxic metabolites and relatively greater toxicity than in man. (Nolan, 1985) These data suggest that 300 ppm for one hour should not cause lethality in humans.

**ERPG-2: 100 ppm (389 mg/m3)**

100 ppm of MeBr is the maximum airborne concentration below which nearly all individuals could be exposed for up to 1 hour without developing irreversible or other serious health effects or symptoms that could impair one’s ability to take protective action. In a single exposure to MeBr, a dog showed no CNS effects until 5 hours into a 7 hour exposure at 233 ppm, followed by CNS effects in the last two hours. In a follow up study no CNS effects were seen during the first day of a 7 hour exposure at 268 ppm, followed by CNS effects starting on the second exposure day. No effects were observed in dogs at 55 ppm 7 hr/day for 4 days. In dogs exposed to 156 ppm 7 hr/day, no effects were seen over 2 days of exposure; however, lacrimation, labored breathing, and prostration were noted on the 3rd day of exposure. (Newton, 1994) Rats exposed at 90 ppm for 6 hrs/day for 5 days showed no clinical signs, while rats exposed in the same study showed ataxia at the end of the third exposure at 250 and 325 ppm. Convulsions, tremors, and lethality were observed in this study in the 325 ppm group during the 4th exposure. (Hurtt, 1987) One monkey survived 11, 7.5 to 8 hr daily exposures at 100 ppm over 14 days before frank neurotoxicity (convulsions) was observed. (Irish, et al. 1940)

**ERPG-1: Not Appropriate**

Methyl bromide is not considered detectable by the sense of smell at or below ERPG-2 concentrations and is not irritating; therefore, it is not appropriate to recommend an ERPG-1.

**Reference List**


