

Guidance for Industrial Hygiene Assessment of Workplace Reproductive and Developmental Hazards

- References:** (a) OPNAVINST 5100.23F, Chapter 29
(b) PL 91-596, "Occupational Safety and Health Act of 1970"
(c) NEHC Technical Manual NEHC-6260-TM-01 (13 June 2001), "Reproductive and Developmental Hazards: A Guide for Occupational Health Professionals"

The identification and evaluation of potential reproductive and developmental hazards is an ongoing process. Per reference (a), the current industrial hygiene (IH) survey of the worksite, the hazardous materials inventory, and the authorized use list are used to develop a list of reproductive and developmental hazards at a supported command. Further collaboration with occupational medicine staff may be necessary to fully understand the nature and intensity of worker exposure to reproductive and developmental hazards, especially for pregnant females.

Important points:

1. Per reference (b), it is the employers' obligation to provide a safe and healthful workplace that is free from recognized hazards that are causing or likely to cause death or serious harm.
2. Industrial Hygienists are ethically bound to identify, evaluate and recommend controls for reproductive hazards to all personnel.
3. We must determine the adequacy of current occupational exposure limits (OELs) in protecting personnel in the workplace including reproductive hazards. Historically, reproductive and developmental effects have not been used as a significant health sentinel event in setting standards for a particular stressor.

Current Policy (per reference (a)) –

1. Industrial Hygiene personnel shall identify reproductive hazards listed in Appendix 29-B during surveys of all Navy workplaces. Industrial hygienists (IH) shall clearly annotate (highlight, asterisk, etc.) reproductive stressors on this list of materials and harmful physical agents found in each workplace.
2. Where stressor specific standards either do not exist, or were developed without consideration of reproductive health risk, activities shall still determine the quantitative evaluation of the exposure if possible. IH and the occupational physician shall review the results of sampling.
3. The IH shall specifically address a reproductive hazard assessment (including negative determinations) as part of the routine evaluation in industrial hygiene survey reports they submit to the cognizant line activity.

Interpretation of the requirements –

1. An industrial hygiene evaluation must include the reproductive stressors listed in Appendix 29-B of reference (a). Specific IH reporting requirements are based on these stressors.
2. Reproductive hazard assessments will routinely be conducted as part of the IH worksite evaluation including stressors not present in Appendix 29-B of reference (a) (e.g., using the stressor lists of reference (c)). However, the specific reporting/counseling requirements are not mandatory for stressors not listed in Appendix 29-B of reference (a).
3. An IH and an occupational physician shall review the results of sampling for agents where stressor specific standards either do not exist, or were developed without consideration of reproductive health risk.

Concerns –

1. A single authoritative list is needed for reproductive stressors so all Navy workplaces are assessed uniformly. The authoritative stressor list must not be expanded to a point where recommendations on counseling/controls for workers are based on insignificant risks.
2. Most of the current OELs have not been evaluated to determine if they are adequate to protect workers against reproductive injuries. Exposure risks cannot be assessed without a known dose-response relationship for adverse reproductive and developmental outcomes.
3. Where stressor specific standards either do not exist, or were developed without consideration of reproductive health risk, local resolution (IH and OM review) will only make the evaluation process more variable Navy wide (the risk assessment would be activity dependent).
4. The first trimester is the critical period where numerous potential adverse reproductive and developmental effects of job exposures can occur. Therefore, the reproductive and developmental hazards of a worker who does not know that she is pregnant, or workers (any sex) considering conception must be considered.

Interim Approach –

1. Routine industrial hygiene assessments of workplaces should be focused to the toxic effects of the stressors present as based on some trigger of exposure. Suggest a reproductive hazard action level (one half of the OEL of the stressors listed in reference (c) except for the physical stressors) as a trigger for implementing "non-negative" assessment actions that would require hazard abatement with control recommendations and inclusion of specific training (due to unknown risks).
2. The stressors listed in Appendix 29-B of reference (a) will invoke all of the reporting/counseling/training requirements of reference (a). Stressors listed in reference (c) but not in reference (a) should also be mentioned in the IH survey with similar reporting, counseling,

control, and training requirements of reference (a) at exposures greater than the reproductive hazard action level.

3. Include dermal uptake (if a significant route of entry) as part of the worksite assessment for all stressors.
4. Treat all workers as either potentially pregnant (female) or considering conception (male and female) for all worksite assessments for reproductive and developmental hazards.