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## 29 C.F.R. § 1926.60

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### Methylenedianiline.

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(a) *Scope and application.* (1) This section applies to all construction work as defined in 29 CFR 1910.12(b), in which there is exposure to MDA, including but not limited to the following:

- (i) Construction, alteration, repair, maintenance, or renovation of structures, substrates, or portions thereof, that contain MDA;
- (ii) Installation or the finishing of surfaces with products containing MDA;
- (iii) MDA spill/emergency cleanup at construction sites; and
- (iv) Transportation, disposal, storage, or containment of MDA or products containing MDA on the site or location at which construction activities are performed.

(2) Except as provided in paragraphs (a)(7) and (f)(5) of this section, this section does not apply to the processing, use, and handling of products containing MDA where initial monitoring indicates that the product is not capable of releasing MDA in excess of the action level under the expected conditions of processing, use, and handling which will cause the greatest possible release; and where no “dermal exposure to MDA” can occur.

(3) Except as provided in paragraph (a)(7) of this section, this section does not apply to the processing, use, and handling of products containing MDA where objective data are reasonably relied upon which demonstrate the product is not capable of releasing MDA under the expected conditions of processing, use, and handling which will cause the greatest possible release; and where no “dermal exposure to MDA” can occur.

(4) Except as provided in paragraph (a)(7) of this section, this section does not apply to the storage, transportation, distribution or sale of MDA in intact containers sealed in such a manner as to contain the MDA dusts, vapors, or liquids, except for the provisions of 29 CFR 1910.1200 and paragraph (e) of this section.

(5) Except as provided in paragraph (a)(7) of this section, this section does not apply to materials in any form which contain less than 0.1% MDA by weight or volume.

(6) Except as provided in paragraph (a)(7) of this section, this section does not apply to “finished articles containing MDA.”

(7) Where products containing MDA are exempted under paragraphs (a)(2) through (a)(6) of this section, the employer shall maintain records of the initial monitoring results or objective data supporting that exemption and the basis for the employer's reliance on the data, as provided in the recordkeeping provision of paragraph (o) of this section.

(b) *Definitions.* For the purpose of this section, the following definitions shall apply:

*Action level* means a concentration of airborne MDA of 5 ppb as an eight (8)-hour time-weighted average.

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*Assistant Secretary* means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, or designee.

*Authorized person* means any person specifically authorized by the employer whose duties require the person to enter a regulated area, or any person entering such an area as a designated representative of employees for the purpose of exercising the right to observe monitoring and measuring procedures under paragraph (p) of this section, or any other person authorized by the Act or regulations issued under the Act.

*Container* means any barrel, bottle, can, cylinder, drum, reaction vessel, storage tank, commercial packaging or the like, but does not include piping systems.

*Decontamination area* means an area outside of but as near as practical to the regulated area, consisting of an equipment storage area, wash area, and clean change area, which is used for the decontamination of workers, materials, and equipment contaminated with MDA.

*Dermal exposure to MDA* occurs where employees are engaged in the handling, application or use of mixtures or materials containing MDA, with any of the following non-airborne forms of MDA:

- (i) Liquid, powdered, granular, or flaked mixtures containing MDA in concentrations greater than 0.1% by weight or volume; and
- (ii) Materials other than “finished articles” containing MDA in concentrations greater than 0.1% by weight or volume.

*Director* means the Director of the National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designee.

*Emergency* means any occurrence such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment which results in an unexpected and potentially hazardous release of MDA.

*Employee exposure* means exposure to MDA which would occur if the employee were not using respirators or protective work clothing and equipment.

*Finished article containing MDA* is defined as a manufactured item:

- (i) Which is formed to a specific shape or design during manufacture;
- (ii) Which has end use function(s) dependent in whole or part upon its shape or design during end use; and
- (iii) Where applicable, is an item which is fully cured by virtue of having been subjected to the conditions (temperature, time) necessary to complete the desired chemical reaction.

*Historical monitoring data* means monitoring data for construction jobs that meet the following conditions:

- (i) The data upon which judgments are based are scientifically sound and were collected using methods that are sufficiently accurate and precise;
- (ii) The processes and work practices that were in use when the historical monitoring data were obtained are essentially the same as those to be used during the job for which initial monitoring will not be performed;
- (iii) The characteristics of the MDA-containing material being handled when the historical monitoring data were obtained are the same as those on the job for which initial monitoring will not be performed;

- (iv) Environmental conditions prevailing when the historical monitoring data were obtained are the same as those on the job for which initial monitoring will not be performed; and
- (v) Other data relevant to the operations, materials, processing, or employee exposures covered by the exception are substantially similar. The data must be scientifically sound, the characteristics of the MDA containing material must be similar and the environmental conditions comparable.

*4,4'-Methylenedianiline or MDA* means the chemical; 4,4'-diaminodiphenylmethane, Chemical Abstract Service Registry number 101-77-9, in the form of a vapor, liquid, or solid. The definition also includes the salts of MDA.

*Regulated Areas* means areas where airborne concentrations of MDA exceed or can reasonably be expected to exceed, the permissible exposure limits, or where "dermal exposure to MDA" can occur.

*STEL* means short term exposure limit as determined by any 15-minute sample period.

- (c) *Permissible exposure limits.* The employer shall assure that no employee is exposed to an airborne concentration of MDA in excess of ten parts per billion (10 ppb) as an 8-hour time-weighted average and a STEL of one hundred parts per billion (100 ppb).
- (d) *Communication among employers.* On multi-employer worksites, an employer performing work involving the application of MDA or materials containing MDA for which establishment of one or more regulated areas is required shall inform other employers on the site of the nature of the employer's work with MDA and of the existence of, and requirements pertaining to, regulated areas.
- (e) *Emergency situations—(1) Written plan.* (i) A written plan for emergency situations shall be developed for each construction operation where there is a possibility of an emergency. The plan shall include procedures where the employer identifies emergency escape routes for his employees at each construction site before the construction operation begins. Appropriate portions of the plan shall be implemented in the event of an emergency.
  - (ii) The plan shall specifically provide that employees engaged in correcting emergency conditions shall be equipped with the appropriate personal protective equipment and clothing as required in paragraphs (i) and (j) of this section until the emergency is abated.
  - (iii) The plan shall specifically include provisions for alerting and evacuating affected employees as well as the applicable elements prescribed in 29 CFR 1910.38 and 29 CFR 1910.39, "Emergency action plans" and "Fire prevention plans," respectively.

(2) *Alerting employees.* Where there is the possibility of employee exposure to MDA due to an emergency, means shall be developed to promptly alert employees who have the potential to be directly exposed. Affected employees not engaged in correcting emergency conditions shall be evacuated immediately in the event that an emergency occurs. Means shall also be developed for alerting other employees who may be exposed as a result of the emergency.

- (f) *Exposure monitoring—(1) General.* (i) Determinations of employee exposure shall be made from breathing zone air samples that are representative of each employee's exposure to airborne MDA over an eight (8) hour period. Determination of employee exposure to the STEL shall be made from breathing zone air samples collected over a 15 minute sampling period.
  - (ii) Representative employee exposure shall be determined on the basis of one or more samples representing full shift exposure for each shift for each job classification in each work area where exposure to MDA may

occur.

(iii) Where the employer can document that exposure levels are equivalent for similar operations in different work shifts, the employer shall only be required to determine representative employee exposure for that operation during one shift.

(2) *Initial monitoring.* Each employer who has a workplace or work operation covered by this standard shall perform initial monitoring to determine accurately the airborne concentrations of MDA to which employees may be exposed unless:

(i) The employer can demonstrate, on the basis of objective data, that the MDA-containing product or material being handled cannot cause exposures above the standard's action level, even under worst-case release conditions; or

(ii) The employer has historical monitoring or other data demonstrating that exposures on a particular job will be below the action level.

(3) *Periodic monitoring and monitoring frequency.* (i) If the monitoring required by paragraph (f)(2) of this section reveals employee exposure at or above the action level, but at or below the PELs, the employer shall repeat such monitoring for each such employee at least every six (6) months.

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