



OSHA Revises Process Safety Management Guidance on Covered Chemical Concentrations

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Under a settlement with industry groups, the Occupational Safety and Health Administration (OSHA) has modified one of its interpretation documents on how the agency determines the concentrations of a chemical that trigger inclusion under the Process Safety Management (PSM) program.

In June 2015, OSHA issued a memorandum titled “Process Safety Management of Highly Hazardous Chemicals and Covered Concentrations of Listed Appendix A Chemicals,” which defined for the first time the concentration of a chemical that must be present in a process for it to count as above the threshold quantity of the PSM program. OSHA indicated that this definition was needed to fix ambiguity in the previous interpretation. Industry groups disagreed and sued over the change, criticizing the document as overbroad and burdensome to companies and asserting that OSHA should have made the change under traditional notice-and-comment procedures because it may have expanded which facilities are subject to the PSM program. See *Am. Chemistry Council v. OSHA*, No. 15-01252 (D.C. Cir.).

The parties entered into a settlement, under which the industry groups agreed to dismiss the case and OSHA agreed to publish a new memorandum. OSHA issued the new memorandum on July 18, 2016. This update supersedes the OSHA guidance document issued in June 2015.

The PSM standard applies to “a process which involves a chemical at or above the specified threshold quantities listed in Appendix A to this section.” 29 C.F.R. § 1910.119(a)(1)(i). In its July 18 guidance document, OSHA explains that Appendix A lists 137 chemicals and gives the threshold quantity in pounds for each one. For 11 of the 137 chemicals, a minimum concentration is listed along with the chemical name. However, the remaining 126 chemicals are listed without reference to any concentration. OSHA stated in the guidance that “this has created an issue regarding whether the threshold quantities for Appendix A chemicals without listed concentrations apply only to the chemicals in their undiluted (pure) form, or to mixtures in which the chemicals are present at some concentration.”

Earlier OSHA policies stated that the PSM standard applied to Appendix A chemicals without minimum concentrations only if the chemicals were pure (or “chemical grade”). Later policies stated the standard applied only if they were commercial grade concentrations. In the July 18 OSHA guidance, OSHA rescinds the pure grade and maximum commercial grade policies and adopts a 1 percent test similar to that adopted by the Environmental Protection Agency (EPA). In the July 18 guidance document, OSHA describes the new policy as follows:

“In determining whether a process involves a chemical (whether pure or in a mixture) at or above the specified threshold quantities listed in Appendix A, the employer shall calculate: . . . with respect to chemicals for which no concentration is specified in Appendix A, the total weight of the chemical in the process at a concentration of one percent or greater. However, the employer need not include the weight of such chemicals in any portion of the process in which the partial pressure of the chemical in the vapor space under handling or storage conditions is less than 10 millimeters of mercury (mm Hg). The employer shall document this partial pressure determination.

In determining the weight of a chemical present in a mixture, only the weight of the chemical itself, exclusive of any solvent, solution, or carrier is counted.”

The July 18 guidance document then provided some examples to illustrate the new policy's application:

"If a process involves a 2,000-pound mixture of 50 percent chloropicrin by weight and an appropriate solvent, the following formula determines coverage:

Weight x [concentration] = amount of highly hazardous chemical
2,000 pounds x 50 percent = 1,000 pounds chloropicrin
1,000 pounds exceeds the 500-pound threshold quantity in Appendix A.

For a chemical with a listed concentration, the same formula applies. For example, if a process involves a 10,000-pound mixture of 70 percent diacetyl peroxide and an appropriate solvent, the calculation is as follows:

Weight x [concentration] = amount of highly hazardous chemical
10,000 pounds x 70 percent = 7,000 pounds of diacetyl peroxide
7,000 pounds exceeds the 5,000-pound threshold quantity.

But, in contrast, 5,000 pounds of 70 percent diacetyl peroxide is not covered:

Weight x [concentration] = amount of highly hazardous chemical
5,000 pounds x 70 percent = 3,500 pounds of diacetyl peroxide
3,500 pounds is less than the 5,000-pound threshold quantity."

The July 18 OSHA guidance also clarified the PSM standard's application to aqueous chemicals:

"OSHA notes that where an entry in Appendix A is listed as 'anhydrous,' it does not cover aqueous solutions or aqueous mixtures. Anhydrous means 'containing no water' or 'without water.' Thus, by definition, Appendix A to PSM does not cover aqueous solutions or aqueous mixtures of chemicals specifically listed as 'anhydrous.' In addition, although not specifically designated as 'anhydrous,' OSHA has interpreted Appendix A to mean that the PSM standard does not cover Hydrogen Chloride (CAS 7647-01-0) and/or Hydrogen Fluoride (CAS 7664-39-3) in aqueous solutions or aqueous mixtures. Therefore, the following entries in Appendix A are not covered when in aqueous solutions or aqueous mixtures:

- (1) Ammonia, Anhydrous (CAS 7664-41-7);
- (2) Dimethylamine, Anhydrous (CAS 124-40-3);
- (3) Hydrogen Cyanide, Anhydrous (CAS 74-90-8);
- (4) Methylamine, Anhydrous (CAS 74-89-5);
- (5) Hydrochloric Acid, Anhydrous/ Hydrogen Chloride (CAS 7647-01-0); and
- (6) Hydrofluoric Acid, Anhydrous/ Hydrogen Fluoride (CAS 7664-39-3)."

In such cases, the listing in Appendix A covers only the anhydrous form of the chemical.

OSHA's enforcement plan for its new policy, as spelled out in the July 18 guidance document, is as follows:

- Through March 31, 2017, OSHA will not cite any employers for violations of the PSM standard based on the July 18 memorandum (or the prior memorandum dated June 5, 2015). During this time, PSM citations may still be issued based on the previous commercial grade concentration policy.
- From April 1, 2017, through March 31, 2018, the following policies will apply to processes that are covered by the PSM standard for the first time as a result of the 1 percent test:
 - o OSHA will not conduct programmed inspections of such processes.
 - o OSHA will not cite an employer under the PSM standard for any PSM violations involving such processes, provided the employer is making good faith efforts to come into compliance with the PSM standard by March 31, 2018. OSHA will consider efforts made by employers to be in good faith if they can demonstrate that ongoing efforts to comply with the standard are underway and documented. This policy does not apply in cases involving a fatality or catastrophe.
 - o Any citations involving PSM violations at such processes must be submitted to the OSHA Regional Office prior to issuance to ensure consistency and clarity. For cases where the Regional Office needs assistance in its review, it will consult with OSHA's Directorate of Enforcement Programs Office of Chemical Process Safety and Enforcement Initiatives.

Through March 31, 2018, with respect to processes that will be covered by the PSM standard for the first time as a result of the 1 percent test, OSHA will make it a top priority for compliance assistance specialists in its area offices to provide assistance, when requested, to help employers bring such processes into PSM compliance. Eligible employers can also seek assistance from OSHA's On-site Consultation Program.

This latest OSHA guidance document, along with two other recently issued PSM guidance documents¹, mark the first updates to the PSM program in more than two decades.

¹ The initial chemical concentration guidance memorandum was issued at the same time as two other PSM guidance documents. Those other two documents concerned the PSM program's retail exemption and how it considers recognized and generally accepted good engineering practices. Those documents, "Process Safety Management of Highly Hazardous Chemicals and Application of the Retail Exemption" and "RAGAGEP in Safety Process Management Enforcement," also resulted in legal challenges from the industry. OSHA issued a new RAGAGEP guidance document in May 2016 as part of a settlement of an industry lawsuit. See *Am. Petroleum Insti. v. DOL*, No. 15-01253 (D.C. Cir. Aug. 2, 2015).