

temperature of receiving streams are subject to seasonal variations that are likely to vary much more than that of industrial effluent streams. This would mean that reported releases of un-ionized ammonia would be based on data with much more variability than those based on effluent data. If the pH and temperature information is not reported, then it is not possible to determine the toxicity of the chemical released or to assess the impact on the environment from such a release under various conditions. An additional burden of this option is that it would require reporters to gather information about conditions outside of their facility which is not currently a requirement for reporting under EPCRA section 313. Although information on environmental pH and temperature conditions should be available from public sources, it would be an added reporting burden for reporters to gather such data. The facilities would also still need to report the pH and temperature of their other releases (to land, POTWs, underground injection, etc.) in order to appropriately report and characterize the toxic chemical present in these releases. EPA believes that it would be an unnecessary and overly burdensome requirement to have facilities report the pH and temperature data used to determine each release since the alternative of reporting a set percentage of total ammonia provides sufficient information to assess the impact of releases to the environment of aqueous ammonia solutions and reduces reporting burdens. Further, as stated above in Unit III.A.4. of this preamble, EPA believes that it is inappropriate to require the reporting of only the un-ionized form of ammonia.

**6. Reporting a set proportion of total ammonia is not appropriate.**

Commenters stated that reporting a set proportion of total aqueous ammonia overestimates releases of the un-ionized form of ammonia for some facilities and underestimates the releases for others, thus misrepresenting the quantity of the un-ionized ammonia released. Commenters state that the use of national conditions rather than local conditions is inappropriate. Commenters stated that it is not appropriate to mandate an estimation method (i.e., 10 percent total aqueous ammonia) when the facility may have better information available. Commenters contend that EPA reporting guidance and enforcement policy states that all readily available information be used to calculate releases as accurately as possible and that reporting a set proportion violates this guidance.

EPA believes that reporting a proportion of total ammonia is appropriate. A proportion is used to reflect a reasonable estimation of the amount of the un-ionized form of ammonia that may be present under environmental conditions and takes into account the contribution of the ionized form of ammonia to the toxicity of aqueous ammonia. It also serves as an alternative to the more burdensome reporting requirements of either reporting the amount of the un-ionized form of ammonia in a release along with the pH and temperature of each release or of the receiving stream, or reporting total aqueous ammonia. Given that the ionized form of ammonia contributes to the toxicity of aqueous ammonia and that not all of the aqueous ammonia released will be in the more toxic un-ionized form, EPA believes that it is appropriate to limit the reporting of total aqueous ammonia to a proportion of total aqueous ammonia. For aqueous ammonia, the pH and temperature of the solution are not only used to estimate the proportion of aqueous ammonia existing in the un-ionized form, but also to define the toxicity of the solution at that pH and temperature. For example, the aquatic toxicity of three solutions of aqueous ammonia that each contain 0.1 mg/l of the un-ionized form of ammonia, but at different pH and temperatures (thus, with differing amounts of total ammonia), will not be the same.

EPA does not agree that reporting a proportion of total aqueous ammonia misrepresents the toxic chemical released. As discussed above in Unit III.A.4. of this preamble, EPA believes that reporting only the amount of the un-ionized form of ammonia in a facility's effluent, in the absence of pH and temperature data, misleads the public as to the volume and hazard of the toxic chemical released.

EPA is not mandating an estimation method, rather EPA is defining the limits of the reportability of a listed chemical. How a facility determines what represents 10 percent of total aqueous ammonia in their threshold and release determinations is still determined by the facility.

**7. Reporting 10 percent of total aqueous ammonia overestimates the releases of un-ionized ammonia.** Of the 18 comments received on the amended proposed rule, 10 commenters stated that reporting 10 percent total ammonia was too high or inappropriate, while 5 other commenters agreed with the proposal, and 2 other commenters agreed at least to some degree with the Agency's proposal. Commenters also stated that EPA should not use a

percentage of total aqueous ammonia that it based on "worst-case scenario" environmental conditions. Of the commenters that oppose the 10 percent standard, 8 suggested that 1 percent would be a more realistic value (since it would be consistent with the 50th percentile for pH and temperature data) as an alternative to calculating the un-ionized portion based on pH and temperature of the effluent. Two commenters on the original proposal stated that, as a default value, 45 percent of total ammonia should be used since this would represent the amount of un-ionized ammonia present at pH 9 and 30 °C and one commenter suggested 7.5 percent as the reporting level which is based on pH 8 and 30 °C. Three commenters cited what they contend are the SAB recommended standard conditions and suggested that reporting 1 percent total aqueous ammonia would be closer to the SAB standard conditions. None of these commenters indicated any support for reporting the pH and temperature data for their releases of aqueous ammonia.

EPA believes that for reporting purposes under EPCRA section 313, 10 percent of total aqueous ammonia is an appropriate proportion to report under the ammonia listing. Both the un-ionized and ionized forms of ammonia are toxic to aquatic organisms with the ionized form being relatively less toxic, but not non-toxic. EPA believes that aqueous ammonia meets the criteria of EPCRA section 313 primarily, but not exclusively, based on the toxicity of the un-ionized form of this chemical. Given the complexity of aqueous ammonia toxicity and the scientific consensus that the un-ionized form is primarily responsible for the aquatic toxicity, EPA believes that it is appropriate to limit the amount of total aqueous ammonia that is reported.

EPA believes that setting the proportion of total aqueous ammonia to be reported based on the 90th percentile for pH and temperature of the Nation's waters is not overly conservative given the complex nature of the toxicity of aqueous ammonia. By using 10 percent of total aqueous ammonia EPA is discounting 90 percent of the releases. EPA believes this addresses concerns raised by some commenters that reporting 100 percent total aqueous ammonia misleads the public as to the hazard associated with the release due to the high numbers associated with such reporting. Ten percent total aqueous ammonia reflects a reasonable estimation of the amount of un-ionized ammonia that may be present under environmental conditions and takes into account the contribution of the ionized