ionized ammonia are two different chemicals, they argue that by requiring facilities to base release determinations on 10 percent of total aqueous ammonia EPA is requiring facilities to report releases of a chemical that is not listed on EPCRA section 313. They contend that the statute does not require facilities to report on conversion of non-listed chemicals into listed chemicals where such conversion takes place after release to the environment.

EPA disagrees. As stated above in Unit III.A.1. of this preamble, EPA believes that un-ionized ammonia and ionized ammonia are two forms of one chemical not two separate chemicals. Therefore, EPA is requiring that only a fraction of the total releases of the listed chemical be reported. Further, even if EPA were to accept the argument that these two forms were actually two separate chemicals, EPA believes that it would be appropriate to list a chemical on EPCRA section 313 because the chemical is transformed in the environment into a more toxic chemical. EPCRA allows EPA to add a chemical to the section 313 list if the chemical is ''known to cause or can reasonably be anticipated to cause'' certain adverse human health or environmental effects. The statute and the legislative history do not specifically preclude the consideration of whether the listed chemical is transformed in the environment to a more toxic chemical that causes the adverse effects in evaluating whether or not a chemical meets the statutory criteria for listing under EPCRA section 313. EPA believes that environmental transformations can and should be considered in determining whether or not a chemical should be subject to reporting under EPCRA section 313. When listing a chemical on the EPCRA section 313 list that is transformed in the environment to a more toxic chemical, EPA requires threshold and release determinations to be made only on quantities of the listed chemical, not on quantities of the more toxic chemical generated subsequent to release into the environment.

4. *The un-ionized portion of aqueous ammonia should be calculated based on the pH and temperature of the industrial effluent.* Commenters stated that only the un-ionized form of ammonia should be reported for aqueous ammonia and that the reporting should be based on calculations using the pH and temperature data of the facility's effluent. Commenters state that this is the most accurate information that can be provided concerning the amount of the toxic chemical released by the facility.

EPA believes that reporting the amount of the un-ionized form of ammonia in an aqueous ammonia release without reporting the pH and temperature of the release would not adequately report or characterize the toxic chemical released. For aqueous ammonia, in order to appropriately characterize the toxic chemical released, not only would the amount of the un-ionized form have to be reported but the pH and temperature of the effluent solution (which are data not currently required to be reported under EPCRA section 313) would have to be reported as well. This is because the toxicity of aqueous ammonia solutions is dependent on the pH and temperature of the solution; the toxicity of aqueous ammonia is not dependent solely on the amount of the un-ionized form of ammonia present. The pH and temperature dependency of aqueous ammonia toxicity is not simply a reflection of the amount of the un-ionized form of ammonia present since in the lower pH range (where there is less un-ionized ammonia), aqueous ammonia is more toxic when expressed in terms of the concentration of the un-ionized form. Therefore effluent solutions cannot be appropriately reported or characterized based solely on the amount of the un-ionized form of ammonia present. For aqueous ammonia, the nature of the toxic chemical released or its impact on the environment cannot be determined unless, at a minimum, total aqueous ammonia can be determined from the reported data. The pH and temperature data not only provide information as to the true nature of the toxic chemical releases but can also be used to determine total aqueous ammonia from the amount of un-ionized ammonia present. The only alternatives to reporting the pH and temperature data for releases are to report total aqueous ammonia or a proportion of total aqueous ammonia which when combined with environmental pH and temperature data are sufficient to characterize the toxic chemical released. Under any of these reporting options, the user of the data must still acquire environmental pH and temperature data in order to fully characterize the environmental significance of a release. However, this information can be readily obtained from public sources and would not involve access to information from a facility's private records. If facilities are allowed to report only the amount of the un-ionized form of ammonia in a release, then the pH and temperature of each release (to water, to POTWs, to land, to underground injection) as well as off-site transfers for disposal would need to be reported in order to appropriately report and characterize the toxic chemical released. If this information is not collected, then it is not possible for the public to determine the toxicity of the chemical released or to assess the potential impact on the environment from such a release. Reporting only the amount of the un-ionized form of ammonia in a facility's effluent would not provide the public with information sufficient to assess the volume and hazard of the toxic chemical released. For example, a facility could reduce its reportable releases by 10-fold simply by adjusting the pH of its effluent from 7 to 6. However, the same amount of total ammonia would be released under both conditions and upon mixing in the receiving stream the same potential hazard would result from both releases. Therefore, the public would be misled as to the amount and significance of the toxic chemical released.

EPA believes that it would be an unnecessary and overly burdensome requirement to have facilities report the pH and temperature of each release since the alternative of reporting a set percentage of total ammonia without pH and temperature data provides sufficient information to assess the impact of releases to the environment of aqueous ammonia solutions while minimizing burden. Further, 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 ammonia. Therefore, EPA believes it would be inappropriate to require reporting of only the un-ionized form of ammonia.

5. *The un-ionized portion of aqueous ammonia should be calculated based on receiving stream conditions.* Several commenters stated that facilities should be allowed to calculate the concentration of the un-ionized form of ammonia in a release based on the pH and temperature data for the water bodies that they release to, either as the required method or as an alternative to reporting a set percentage of total ammonia.

EPA considered the option of reporting the amount of the un-ionized form of ammonia released based on the pH and temperature of the receiving streams. However, this option has the same problems that occur when using the pH and temperature of the effluent, in that the facility must report the pH and temperature data used to make the calculations in order to appropriately report and characterize the toxic chemical released (see Unit III.A.4. of this preamble). In addition, the pH and