and p-xylene using standard species. EPA has reviewed these and other standard species studies (Geiger et al. (1986, 1990))¹⁰ submitted by the commenters on the xylene isomers.

Fathead minnow data on m-xylene in both the Geiger et al. (1990) and Springborn Laboratories (1994b) studies support the assignment of a 1,000pound RQ for this substance.¹¹ In today's final rule, therefore, EPA is not promulgating the 100-pound RQ for mxylene as proposed; rather, the Agency is promulgating a 1,000-pound RQ for this substance based, in part, on the aquatic toxicity data reported in Geiger et al. (1990) and Springborn Laboratories (1994b). (Chronic toxicity and ignitability data also support a 1,000-pound RQ for m-xylene.)

Fathead minnow data on p-xylene, however, as reported in both the Geiger et al. (1986) and Springborn Laboratories (1994a) studies, support the 100-pound RQ proposed for pxylene in the October 22, 1993 proposed rule.¹² Therefore, EPA is finalizing a 100-pound adjusted RQ for p-xylene based on the standard aquatic toxicity data provided in Geiger et al. (1986) and Springborn Laboratories (1994a), and supported by the non-standard aquatic toxicity data used by EPA in the October 22, 1993 NPRM as the basis for the 100pound RQ proposed for this substance.

With regard to the comments recommending a 1,000-pound RQ for the "xylenes (mixed)" category, although EPA appreciates the aquatic toxicity data provided by the commenters, the Agency is not using these data to determine an RQ for this hazardous substance category in the final rule. As noted previously, because there are three xylene isomers within the "xylenes (mixed)" category and EPA

¹² The Agency disagrees with one commenter's assertion that data from Geiger et al. (1986) are unacceptable because of certain deviations from standard test conditions. For a detailed discussion of the studies on p-xylene, see Response Numbers II.A.3, II.A.4, and II.A.5 in Section II of the responses to comments document for this rulemaking, available for inspection at the CERCLA Docket Office, Crystal Gateway #1, 12th Floor, 1235 Jefferson Davis Highway, Arlington, VA 22202.

has sufficient data to assign RQs to each of these three substances, the Agency is assigning the lowest RQ of the individual member substances to the category. Thus, EPA is readjusting the 1,000-pound RQ for xylenes (mixed) to 100 pounds, as proposed, to be consistent with the 100-pound RQ for one of its member substances, p-xylene. Assigning a 100-pound RQ to the "xylenes (mixed)" category is consistent with other instances (e.g., cyanides) in which the Agency has assigned the lowest RQ of the individual member substances to a hazardous substance category, because the category contains only a limited number of substances and EPA has sufficient data to assign RQs to all of these substances in the category.

b. Application of BHP. Eight commenters contended that EPA did not properly evaluate xylenes for their susceptibility to degradation in the environment in proposing adjusted RQs for these substances in the October 22, 1993 NPRM. The Agency disagrees. EPA conducted a comprehensive search for data on both the primary RQ adjustment criteria and the secondary criteria of BHP, and was unable to locate any convincing degradation data indicating that application of BHP to raise the RQs of xylenes was warranted.13 In addition, EPA applies the secondary RQ adjustment criteria of BHP to raise the RQ of a hazardous substance only when the reaction products are less hazardous than the parent substance. Data submitted on the xylenes indicate that the degradation products of xylenes in the atmosphere include 2,4dimethylphenol and formaldehyde, each of which is a CERCLA hazardous substance with a 100-pound RQ. Because the RQs of these two degradative products are 100 pounds, application of the secondary criteria of BHP to the xylenes could not be used to raise the 1,000-pound RQs for m- and o-xylene or the 100-pound RQs for pxylene and xylenes (mixed).

2. Dimethylformamide

One commenter opposed the 10pound RQ proposed for dimethylformamide and asserted that a 100-pound RQ is more appropriate for this substance. To support this assertion, the commenter submitted data from a number of epidemiology and animal toxicity studies the commenter had used to challenge the Agency's classification of dimethylformamide as a probable human carcinogen. As the commenter correctly noted, the Agency proposed in the October 22, 1993 NPRM to adjust the RQ for dimethylformamide to 10 pounds, based on an evaluation of its potential carcinogenicity. Based on data reviewed at that time indicating limited evidence of carcinogenic effects in humans and inadequate evidence in animals, EPA classified dimethylformamide as a weight-ofevidence Group B1, probable human carcinogen. Combining this weight-ofevidence classification with a potency Group 2 classification resulted in a hazard ranking of "medium" and a proposed adjusted RQ of 10 pounds.

Since publication of the October 22, 1993 NPRM, however, the Agency has completed its own internal review of data on the potential carcinogenicity of dimethylformamide, including relevant data submitted by the commenter. As a result of this review, EPA agrees with the commenter that the weight of evidence is not currently sufficient to classify dimethylformamide as a Group B1, probable human carcinogen. For this reason, EPA has not relied on the potential carcinogenicity criterion as a basis for the RQ adjustment for dimethylformamide; rather, in today's final rule, the Agency is promulgating a 100-pound RQ for this substance based on chronic toxicity.

3. Titanium Tetrachloride

Two commenters asserted that a 1,000-pound primary criteria RQ is scientifically justified for titanium tetrachloride based on toxicity and, thus, more appropriate than the 100pound RQ proposed for this substance. Although EPA continues to believe that a primary criteria RQ of 100 pounds is warranted for titanium tetrachloride,14 the Agency has decided to promulgate an adjusted RQ of 1,000 pounds for this substance based on a re-evaluation of titanium tetrachloride under the secondary RQ adjustment criterion of hydrolysis. As noted in Section II.B.1.b of this preamble, one-level upward RQ adjustments based on hydrolysis are warranted only when the secondary products of the reaction are less toxic than the parent compound. The most prevalent secondary product of the titanium tetrachloride hydrolysis reaction is hydrochloric acid (or

¹⁰ Geiger, D.L., S.H. Poirier, L.T. Brooke, D.J. Call, Eds. 1986. Acute Toxicities of Organic Chemicals to Fathead Minnows (*Pimephales promelas*). Vol III, Center for Lake Superior Environmental Studies, University of Wisconsin-Superior; and Geiger, D.L., S.H. Poirier, L.T. Brooke, D.J. Call, Eds. 1990. Acute Toxicities of Organic Chemicals to Fathead Minnows (*Pimephales promelas*). Vol V, Center for Lake Superior Environmental Studies, University of Wisconsin-Superior.

¹¹ For a detailed discussion of the studies on mxylene, see Response Numbers II.A.3 and II.A.6 in Section II of the responses to comments document for this rulemaking, available for inspection at the CERCLA Docket Office, Crystal Gateway #1, 12th Floor, 1235 Jefferson Davis Highway, Arlington, VA 22202.

¹³For detailed responses to comments regarding the degradation of xylenes and application of BHP to these substances, see Response Numbers II.A.10 and II.A.11 in Section II of the responses to comments document for this rulemaking, available for inspection at the CERCLA Docket Office, Crystal Gateway #1, 12th Floor, 1235 Jefferson Davis Highway, Arlington, VA 22202.

¹⁴ For further discussion of the chronic toxicity primary criterion RQ for titanium tetrachloride, see Response Number II.B.17 in Section II of the responses to comments document for this rulemaking, available for inspection at the CERCLA Docket Office, Crystal Gateway #1, 12th Floor, 1235 Jefferson Davis Highway, Arlington, VA 22202.