



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460**

November 13, 2000

**OFFICE OF
ENVIRONMENTAL INFORMATION**

David C. Shelton
Senior Counsel
DuPont Legal
1007 Market Street (D7086)
Wilmington, DE 19898

Dear Mr. Shelton:

This letter responds to your October 17, 2000 email and position paper¹, several follow up telephone conversations, and an in person meeting with EPA², all of which expressed your concerns and requested guidance regarding the reporting requirements of section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA). Specifically, your correspondence asks EPA to respond to your concerns about reporting for sodium nitrite that is coincidentally manufactured during the biological treatment of wastewater.

You assert in your email and position paper that the reporting of sodium nitrite manufactured from the biological treatment of wastewater is not required by EPA guidance or supported by sound science. First, your position paper asserts that any nitrites manufactured from biological wastewater treatment will be unintentional "transient intermediate[s] ... rarely... accumulat[ing] in significant concentrations." Next, the position paper states that "sodium nitrite" does not exist as such in solution. Finally, this paper contends that there is no scientifically supportable method to measure the amount of sodium nitrite present in the wastestream. Each of your concerns are addressed below.

First, EPA has made clear since the inception of the TRI Program that the definition of "manufacture" includes the coincidental production of toxic chemicals. The preamble to the 1988 final rule implementing the reporting requirements of EPCRA section 313 provides:

Section 313(b)(1)(C) states that "[t]he term 'manufacture' means to produce, prepare, import, or compound a toxic chemical." There is no limitation in this definition that would exclude manufacture of a toxic chemical coincidental to the production, processing, use, or disposal of another chemical, nor is there any indication in the legislative history of Title III that Congress intended to exclude toxic chemicals produced coincidentally.

¹The position paper is entitled "Toxics Release Inventory Reporting Requirements for Sodium Nitrite: The Origin and Nature of Nitrite in Biological Treatment Systems."

² The meeting between DuPont (David Shelton, Esq. and Mitchell Press) and EPA's TRI Regulatory Development Branch

took place on Wednesday, October 25, 2000 at EPA offices located at Waterside Mall.

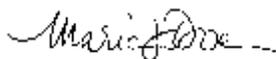
53 FR 4504, February 16, 1988) The regulatory definition of "manufacture" expressly states that "[m]anufacture also applies to a toxic chemical that is produced coincidentally during the manufacture, processing, use, or disposal of another chemical or mixture of chemicals, . . ." (40 CFR section 372.3) Accordingly, if sodium nitrite is manufactured during the biological treatment of wastewater, then sodium nitrite should be considered toward the manufacturing threshold for this listed toxic chemical regardless of whether the production of this chemical was intended, regardless of the length of time this chemical exists, and regardless of the amount produced.

With regard to your assertion that sodium nitrite cannot exist in solution, the presence of this chemical in a solution does not alter the chemical identity of this substance. "Sodium nitrite" is a specifically listed toxic chemical provided for at 40 CFR section 372.65. There is no qualifier assigned to this listed toxic chemical.

Finally, insofar as determining the amount of sodium nitrite manufactured, facilities are required to use their best readily available data, and where such data are not available, reasonable estimates should be made. (See EPCRA section 313(g)(2) and 1998 Q's & A's 461 and 585 in the 1998 EPCRA Section 313 Questions and Answers document, December 1998, EPA 745-13-98004) To assist you in estimating an amount of sodium nitrite, we have attached to this letter a copy of a June 14, 1991 EPA letter that provides relevant guidance on estimating the amount of a listed toxic chemical present in a wastestream.

I hope this information is helpful to you in complying with the reporting requirements of section 313 of EPCRA. If you have any other questions, or desire further information, please call Larry Reisman, of my staff, at 202.260.2301.

Sincerely,



Maria J. Doa, Ph.D., Director
Toxics Release Inventory Program Division

Enclosure



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

June 14, 1991

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

J. A. Trigg
Superintendent, Environmental Engineering
UOP Molecular Sieve Plant
P.O. Box 11486
Chickasaw, AL 36611,

Dear Mr. Trigg

This letter is in response to your written request of May 21, 1991 and our previous telephone conversations concerning how to report ammonium nitrate for the Toxic Release Inventory when ammonium ions from other sources (use of ammonia, ammonium sulfate) exist in the same wastestreams.

Ammonium nitrate is listed as a separate chemical on the Section 311, EPCRA and requires a separate Form R report. You may be in noncompliance of the reporting requirements if you exceed a manufacturing, processing, or use threshold for ammonium nitrate and have not filed a report for this chemical. Although it is possible to determine what salts may be formed if one knows the constituent ions in a waste stream, it might be less burdensome to use one of the following options.

As you have mentioned in your letter, it cannot be assumed that all the NH_4^+ is attributable to the use of ammonium nitrate alone since other ammonia containing compounds are used and released in the same wastestream. One possibility is to use the nitrate (NO_3^-) content in wastewater, it known, to estimate ammonium nitrate release. Based on the molecular weight of ammonium nitrate, every pound of nitrate ion can be attributed to 1.3 pounds of ammonium nitrate. If this seems unreasonable because the amount estimated would exceed the amount of ammonium nitrate used or there are nitrate contributions from other chemicals, then another approach could be used.

A second approach would be to use the total ammonium ion release and apportion it into separate amounts based on the throughput usage of ammonia, ammonium sulfate, and ammonium nitrate. For example, let's say your facility uses 50,000 lbs. of ammonia, 30,000 lbs. of ammonium sulfate, and 40,000 lbs. of ammonium nitrate. Molecular weight of ammonium ion is 18.03.

For the sake of simplicity, the $\text{NH}_3 \leftrightarrow \text{NH}_4^+$ equilibrium will be ignored and it will be assumed that all of the aqueous ammonia is in the NH_4^+ form. Therefore:

Chemical	NH ₄ ⁺ /M.W.	NH ₄ ⁺ fraction	lbs. used	lbs. NH ₄ ⁺	Wt. NH ₄ ⁺ fraction
Ammonia		1.00 x	50,000 =	50,000	0.79
Ammonium sulfate	18.03/132.14 =	0.14 x	30,000 =	4,200	0.07
Ammonium nitrate	18.03/80.04 =	0.23 x	40,000 =	9,200	0.14
			Total =	63,400	1.00

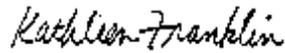
Let's say you measure 15,000 lbs. of total ammonium ion release, then you could roughly assume that (0.14 x 15000 = 2100 lbs.) ammonium ion is attributable to the ammonium nitrate. Converting this to pounds of ammonium nitrate:

$$2100 \text{ lbs. NH}_4^+ \quad \times \quad \frac{80.04 \text{ lb. NH}_4\text{NO}_3}{18.03 \text{ lb. NH}_4^+} \quad = \quad 9322 \text{ lbs. NH}_4\text{NO}_3 \text{ released}$$

This approach assumes, of course, that all the ammonium compounds are released in the same manner. If this is not the case, the appropriate adjustments would have to be made. An example would be the use of ammonia that does not result in any release to water,

The rest of the ammonia release, (0.78 + 0.07) x 15,000 lbs. = 12,750 lbs., would be reported under the TRI chemical submission of ammonia which includes the aqueous ammonia from ammonium sulfate. Please call me at (202) 382-2250 if you have any further questions.

Sincerely,



Kathleen Franklin, Chemical Engineer
Chemical Engineering Branch (TS-779)