The National Nitrate

Compliance Initiative

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EXECUTIVE SUMMARY

The National Nitrate Compliance Initiative achieved results through voluntary and negotiated compliance that reduced the cost and time associated with traditional enforcement actions.

EPA's Results in Brief

Through the National Nitrate Compliance Initiative, the U.S. Environmental Protection Agency (EPA) implemented a variety of compliance and enforcement tools to improve rates of compliance for known reporters: this initiative increased reporting of nitrate from 60 percent to 98 percent. EPA achieved this result at a fraction of the time and cost associated with traditional inspections and enforcement actions for both EPA and the regulated community. Specifically, nearly 600 companies agreed to audit more than 1,000 facilities for EPCRA Section 313 regulatory obligations and to pay administrative penalties totaling more than $1.4 million. As a result, EPA, the public, and our state partners received more than 7,000 revised or original TRI reporting forms that documented the release, transfer, and other waste management of 420 million pounds of nitrates that previously had been unreported.

Of particular note, the Nitrate Initiative resulted in the reporting of an additional 250 million pounds of previously unreported nitrates that were transferred off site to publicly owned treatment works–a correction to the TRI of almost 90 percent.

This information improved the compliance of various TRI reporting elements for nitrates and other toxic chemicals. For example, the Nitrate Initiative led to a correction to the TRI for on-site and off-site releases of nitrates by an additional 20 percent, of on-site treatment of nitrates by an additional 94 percent, and of total transfers off site for further waste management by an additional 84 percent. Of particular note, the Nitrate Initiative prompted facilities to report an additional 250 million pounds of previously unreported nitrates that were transferred off site to publicly owned treatment works (POTW)–a correction to the TRI by nearly an additional 90 percent. The reduced use of traditional inspections,

investigations, and litigation allowed agency resources to be focused on other activities. More than 600 regulated entities also benefitted because they were allowed to reserve more resources for auditing and compliance rather than paying penalties. Because more than 1,000 facilities agreed to conduct comprehensive audits of all TRI regulatory obligations, participants in the Nitrate Initiative also properly reported approximately 100 toxic chemicals other than nitrates to the TRI for the first time. Cumulatively, facility audits conducted through the initiative documented an additional 106 million pounds of toxic chemical releases and 33 million pounds of transfers for further waste management.

The Toxics Release Inventory in Brief

The TRI is a publicly available database that contains information on specific toxic chemical releases and waste management from industrial facilities in the United States, including federally owned facilities. Some consider the Emergency Planning and Community Right-to-Know Act (EPCRA), as implemented through the TRI, one of the most powerful forces in empowering the federal government, state governments, industry, environmental groups, and the

general public for full participation in an informed dialogue about the environmental and human health impacts of toxic chemical manufacture and use in the United States. Combined with information on hazard and exposure, the TRI has proven a valuable tool for identification of risk.

The Nitrate Initiative in Brief

In late 1999, an EPA analysis found reason to believe that as many as 600 facilities failed to report to the TRI nitrate compounds that were coincidentally manufactured during the treatment of nitric acid. Coincidentally manufactured chemicals have been reportable since the very first TRI rulemaking in 1988. Since 1988, EPA has consistently provided compliance assistance and outreach directed toward coincidentally manufactured chemicals such as nitrate compounds. Despite chemical- and industry-specific guidance documents, free national workshops, and nitrate-specific examples in the reporting instructions, EPA's analysis of the data showed that the rate of compliance remained at approximately 60 percent. Through this initiative, EPA improved this rate of compliance through publicized opportunities to voluntarily disclose noncompliance and opportunities to conduct voluntary compliance audits negotiated in exchange for significantly reduced administrative penalties.

Achieving Compliance Today, Maintaining Compliance Tomorrow

The Nitrate Initiative generated attention not only from the 1,000 facilities that chose to participate, but also from trade organizations that represented several industry sectors and from a variety of environmental news media. This broad exposure raised awareness of the basic concept of coincidental manufacturing, not only for nitrate compounds, but for other chemicals that are reportable under TRI as well. This report will be distributed to all participants in the initiative. It will include information on compliance assistance and pollution prevention strategies that can help to reduce the amount of nitrates that facilities must manage and to help avoid noncompliance.

BACKGROUND: THE TOXICS RELEASE INVENTORY

EPCRA Section 313 charges EPA with collecting and disseminating information on chemical releases and other waste management data, so governments, industry, and communities can estimate local exposure and local risks. EPCRA is intended to provide basic information on releases that will allow communities and states to make informed decisions on the management of toxic chemicals. This basic empowerment is a cornerstone of the right to know.

Introduction

Congress enacted the Emergency Planning & Community Right-To-Know Act (EPCRA) in 1986. Originally a part of the Superfund law, EPCRA recognizes the unique role communities play in ensuring environmental protection at the local level. Just before EPCRA was enacted, releases of methyl isocyanate from a chemical manufacturing facility in Bhopal, India, caused widespread fatalities and emphasized the need to develop and share emergency planning and routine release information with the public. A similar incident in Institute, West Virginia, sharpened understanding of this need. Because the chemicals involved in the Bhopal disaster are used at facilities located in the United States, lawmakers recognized the potential for similar accidents to occur domestically as well as the dangers posed by routine releases of toxic chemicals. These routine, annual releases, if assessed at all, were known only to the facilities themselves. Communities were unaware of the magnitude and potential consequences these releases posed.

Creation of the Toxics Release Inventory

EPCRA Section 313 created the Toxics Release Inventory (TRI). The TRI is a publicly available database that provides quantitative information about releases of toxic chemicals and certain other waste management operations at domestic facilities that are covered under the law. The TRI is populated with data through timely and accurate submission of Toxic Chemical Release forms from these covered facilities to the U.S. Environmental Protection Agency (EPA). This information was collected for the first time for the 1987 reporting year, creating the ability for the public, the government, and the regulated community to understand the magnitude of chemical releases in the United States; to compare chemical releases among facilities and transfers of chemical wastes among states, industries, facilities, and environmental media; and, perhaps most importantly, to assess the need to reduce and, where possible, eliminate these releases and transfers. The TRI enables all parties interested in environmental progress to establish credible baselines, to set realistic goals, and to measure progress in meeting these goals over time.

Before EPCRA was enacted, the kind of information now contained in the TRI was generally nonexistent or unavailable to the federal government, state governments, emergency preparedness teams, or the general public. If this information was disclosed, it usually was made available only after major impacts to human health and the environment were evident. This “after-the-fact” disclosure of information did little to help plan for or prevent serious damage to human health or the environment or to manage cumulative releases. EPCRA Section 313 allows communities to estimate local exposure and local risks, which can be significantly different than are assessed at the national level. These data can also be used to draw a national picture of releases and discern waste management trends over time. The intent of EPCRA Section 313 is to move the determination of risks that are acceptable from EPA to communities and the states where the releases occur. This basic empowerment is a cornerstone of the right to know.

The Basic Reporting Requirement and Enforcement

EPCRA Section 313 requires certain manufacturers, processors, and users of more than 650 listed toxic chemicals and chemical compounds[1] to report annually on the quantity of toxic chemicals that enters each environmental medium. The Pollution Prevention Act (PPA) of 1990 requires additional data and information to be included annually on "Form R" reports, including strategies for pollution prevention that focus on source reduction as the primary means of achieving and maintaining compliance. Facilities must now report the quantities for each toxic chemical released on site to air, water, and land (including underground injection), or transferred off site for disposal. They also must report quantities that are otherwise managed as waste (treated on site or off -site), combusted for energy recovery on site or off site, and recycled on site and off site. These reports must be sent to EPA and the state or tribal agencies by July 1 of each year for the prior year ending December 31. EPA is responsible for implementing and enforcing EPCRA Section 313, the PPA, and any rules promulgated pursuant to EPCRA and the PPA.

EPCRA Section 325(c) authorizes EPA to assess civil administrative penalties for violations of Section 313. Any owner or operator of a facility who violates any requirement of Section 313 is liable for a civil administrative penalty of up to$27,500[2] for each violation. Federal agencies are not subject to the reporting requirements based on Standard Industrial Classification (SIC) codes; however, Executive Order (EO) 13148 requires federal agencies to comply with EPCRA and the PPA of 1990. Each day a violation continues may constitute a separate violation. The EPA administrator may assess civil penalties after an administrative hearing or may bring actions to assess and collect penalties in the U.S. District Court.

[1] See generally Title 40 Code of Federal Regulations (CFR) 372 for a description of the requirements of EPCRA Section 313 . See also 40 CFR 372.65 for the current list of toxic chemicals regulated under EPCRA Section 313.

[2] Pursuant to the Debt Collection Improvement Act, violations occurring after January 30, 1997, are subject to a maximum penalty of $27,500.

BACKGROUND: THE NATIONAL NITRATE COMPLIANCE INITIATIVE

EPA discovered significant noncompliance rates with a critical element of TRI reporting—coincidental manufacturing of nitrate compounds—and employed a variety of regulatory tools to achieve and preserve improved rates of compliance.

Introduction

Early in fiscal year 2000, EPA analyzed reporting patterns and discovered potential widespread noncompliance with the EPCRA Section 313 reporting obligations for nitrates. EPA determined that many facilities submitted "Form R" for nitric acid but failed to report coincidentally manufactured nitrate compounds, which typically result from the neutralization of nitric acid. Facilities that coincidentally produce nitrate compounds at quantities that exceed the manufacturing threshold and that otherwise satisfy the elements of EPCRA Section 313 and 40 CFR Part 372 are required to submit a Form R or a Form A. EPA began investigating facilities that failed to submit a Form R or Form A for nitrate but appeared to coincidentally manufacture nitrate in amounts that exceeded the manufacturing threshold.

Water-Dissociable Nitrate Compounds

All water-dissociable nitrate chemicals have been subject to the requirements of EPCRA Section 313 as a category since 1995 (reports were due July 1, 1996). As stated in the directions that accompany the 1998 Form R and Form A: "manufacturing . . . EPCRA Section 313 chemicals during waste treatment is commonly overlooked. For example, the treatment of nitric acid may result in the coincidental manufacturing of a reportable chemical (nitrate compounds)." TOXIC CHEMICAL RELEASE INVENTORY REPORTING FORMS AND INSTRUCTIONS, Appendix C, page 2 ("Common Errors Completing Form R Reports") (February 1999). The partial or complete neutralization of nitric acid creates nitrate compounds (such as sodium nitrate and potassium nitrate), which requires annual Form R or Form A reports if they were manufactured in excess of 25,000 pounds and if all other EPCRA reporting criteria are satisfied. At a pH of 6, EPA considers the waste acid to be 100 percent treated. Consistent with the EPA guidance document, "Toxics Release Inventory. List of Toxic Chemicals within the Water, Dissociable Nitrate, Compounds Category and Guidance for Reporting" (June 1999) ("Nitrate Guidance") (originally published in 1995), a facility that treats or neutralizes 18,000 pounds or more of nitric acid on site with sodium hydroxide to a pH above 6 will likely manufacture 25,000 pounds of sodium nitrate, and therefore will be required to submit a Form R or Form A for nitrates. The use of other neutralizing compounds — for example, potassium hydroxide — will result in a greater weight of nitrate compounds for the same amount of acid neutralized.

Why Nitrates?

Nitrates are toxic chemicals that can pose serious risks to human health and the environment. Exposure to high levels of nitrates may cause serious illness or death, as well as significant environmental damage to streams, lakes, and rivers. Infants and children are especially sensitive to elevated levels of nitrate, which cause methemoglobinemia, or "blue-baby syndrome." When too much nitrate is ingested, it reduces the capacity of blood to carry oxygen, turning the skin blue, causing shortness of breath, and depriving the brain of oxygen. These effects in turn, increase the risk of brain damage. Other long-term effects include dieresis, increased starchy deposits, and hemorrhaging of the spleen.

Under the authority of the Safe Drinking Water Act (1974) EPA has set a maximum contaminant level (MCL) for public water supplies of 10 milligrams per liter (mg/L), which is equal to 10 parts per million (ppm) for nitrogen in the nitrate form. This level

provides a margin of safety against a significant risk to human health. EPA believes water that contains nitrogen in the nitrate form at or below this level is acceptable for daily drinking over a lifetime and does not pose a health risk of methemoglobinemia for infants or adults.

Catastrophic releases and their adverse health effects have prompted EPA to take emergency action. On June 7, 2000, EPA's Region III (in the mid-Atlantic area) issued an emergency order under the Safe Drinking Water Act to AK Steel Corporation to provide bottled water to more than 4,000 people in Zelienople, Pennsylvania, because AK Steel contaminated local drinking water and more than 21 miles of the Connoquenessing Creek with dangerous levels of nitrates.

Elevated levels of nitrate may damage surface water and ground water with excess nutrients and can cause algae blooms in coastal waters, which can remove oxygen from the water and result in fish kills. Nitrate contamination is a real and widespread environmental problem. The National Academy of Sciences recently reported that pollution by nitrogen and phosphorous were causing damage in most of the nation's coastal inlet, with severe problems identified in 44 of the 139 coastal areas examined.

The discussion shows that discharges of nitrate-contaminated water to surface water or groundwater could affect drinking water supplies. EPA has promulgated regulations that directly or indirectly limit discharges of pollutants such as nitrate to surface water and groundwater. For example, in 1972, Congress enacted the Clean Water Act (CWA) to restore and maintain the integrity of the nation's waters. EPA's National Pollutant Discharge Elimination System (NPDES) Permitting Program represents one of the key components established to accomplish this task.

The NPDES program requires that all point-source discharges to waters of the United States be permitted. The permits regulate point sources such as industries and

concentrated animal feeding operations that discharge directly into receiving waters. Permits include site-specific limits and standards and site-specific compliance monitoring and reporting requirements. The permit writer develops site-specific conditions for the permit based either on national standards or on more stringent local water quality standards. The permit conditions may involve conventional pollutants, toxic pollutants, or nonconventional pollutants such as nitrates.

The combination of human health and environmental risks posed by nitrates emphasizes the need to provide communities with reliable data about releases of nitrate by neighboring facilities.

Structuring a National Response

In light of the human health and environmental risk posed by nitrates and the noncompliance rate, which suggests that communities were denied access to valuable information, EPA concluded that it was appropriate to adopt a nationally consistent enforcement response. EPA named this response "The National Nitrate Compliance Initiative".

EPA designed the Nitrate Initiative to draw on multiple tools to achieve compliance. First, EPA sought to raise awareness to achieve voluntary compliance. EPA began the Nitrate Initiative on March 1, 2000, when the agency issued an "Enforcement Alert" that described the lack of compliance with the reporting required for coincidentally manufactured nitrate and urged facilities to self-disclose

violations under EPA's Audit and Small Business Policies. Many facilities took this opportunity.

Nevertheless, many facilities did not respond and remained out of compliance.

After voluntary disclosure, EPA's next tool was the use of broad, industry-wide settlements. On April 28, 2000, EPA issued "Notice of Opportunity to Show Cause" letters (Show Cause Letters) to facilities that had not disclosed violations but appeared out of compliance (as described above). Show Cause Letters offered facilities the opportunity to demonstrate the violations EPA alleged had not occurred or to accept a settlement by signing and returning a National Nitrate Compliance Agreement (Option I Agreement), which recited the proposed primary terms and conditions of a settlement and was enclosed with each Show Cause Letter. These proposed terms included a drastically reduced penalty of $5,000 per year of violation at each facility that was not in compliance, and proper reporting of nitrates in the future. EPA regions were responsible for developing and implementing procedures to verify statements made in the Show Cause Letters.

EPA concluded that there was an opportunity to achieve greater compliance. Therefore, on or about June 23, 2000, EPA issued follow-up correspondence with facilities that received the Show Cause Letter that described an alternative settlement and included a National Nitrate Compliance Option II Agreement.

Under the Option II Agreement, EPA proposed to settle confirmed violations of the reporting requirements for nitrate for $5,000 per company or $1,000 per company for businesses with fewer than 100 employees, regardless of the number of facilities or years of violation. In exchange for the flat penalty, Option II required participants to undertake a compliance audit of all obligations under EPCRA Section 313 , emphasizing the coincidental production of all listed toxic chemicals at all facilities that received the Show Cause Letter. The compliance audit under the Option II Agreement must have been completed and submitted by October 27, along with an audit report, which described the audit procedures, any violations discovered, and steps taken to prevent future violations.[3] The majority of companies that participated in the Nitrate Initiative agreed to settle under the terms of Option II. Ultimately, Option II allowed EPA to achieve far greater compliance and enabled the regulated community to focus resources on compliance rather than on paying penalties.

[3] Consistent with the general Statute of Limitations on administrative actions, EPA will not seek stipulated penalties for violations it may discover that are over 5 years beyond the date the violation occurred.

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PERFORMANCE MEASURES

The principal objective of the EPCRA Section 313 Enforcement Program is to promote the community's right to know by monitoring the accuracy and completeness of the TRI database. The Nitrate Compliance Initiative (1) substantially increased nitrate reporting to the TRI, (2) substantially raised awareness of reporting responsibilities for nitrate compounds that are coincidentally manufactured, (3) deterred future violations, and (4) conserved resources for EPA and the regulated community.

Introduction

The National Nitrate Compliance Initiative also provided a unique opportunity to measure the effect and effectiveness of an industry-wide, project that used multiple tools to restore an industry sector to compliance. The large number of regulated entities participating in the Nitrate Initiative allowed EPA to analyze changes in behavior both quantitatively and qualitatively . EPA selected four performance measures for the Nitrate Initiative: the amount of nitrates reported to the TRI; the awareness in the regulated community of reporting requirements for coincidentally manufactured compounds; deterrence of future violations; and the cost savings of the initiative for EPA and the regulated community.

The most meaningful measure is the change in nitrate reporting. The results are striking. The number of reports increased 63 percent. The reported pounds released increased 20 percent. The reported pounds transferred increased 84 percent. Overall, an additional 580 million pounds of nitrates were reported to the TRI, an increase of 47 percent.

Goal 1: Increasing Reporting of Nitrates to the TRI

NUMBER OF REPORTS

Participants in the Nitrate Initiative submitted an additional 2,452 reporting forms. These reports represented a 63 percent increase over the baseline. Of these reporting forms, 2,206 were submitted for the first time and 246 were submitted as revisions to reports that had been filed previously. Table 1 details the number of new and revised nitrate submissions for each reporting year covered by the initiative (1995 through 1998) compared with the number of baseline reports. Baseline reports are reporting forms that were submitted to the TRI before the Nitrate Initiative began.

POUNDS OF NITRATES RELEASED

These new and revised reports added more than 155 million pounds of nitrate releases to the TRI that previously had been unreported .[4] These releases marked a 20 percent increase over the baseline. Based on an analysis before the Nitrate Initiative began, EPA expected to claim an additional 50 to 100 million pounds of nitrate releases. Therefore, EPA's actual results for Goal One exceeded the most optimistic expectations by more than 50 percent. Table 2 details the amount of new and revised nitrate releases captured by the initiative by year, and the overall change to the TRI compared with baseline reports. The baseline quantity represents the cumulative release totals from all nitrate reporting forms submitted before the Nitrate Initiative began.

POUNDS OF NITRATES TRANSFERRED

Cumulatively, participants disclosed an additional 267 million pounds of nitrate transfers that had previously been

[4] As defined in the TRI, release numbers represent both on-site and off-site releases.

unreported[5], further exceeding EPA's projected results. These transfers represented a 84 percent increase over the report baseline. Table 3 details corrected transfers of nitrate for further waste management by reporting year.

OVERALL CHANGES FROM THE BASELINE

The most dramatic performance measures are the overall correction rates to the TRI for various nitrate reporting elements. Total on- and off-site releases of nitrates have been corrected by 20 percent. The largest correction of nitrate releases — 49 percent — represented releases to land. Total transfers off site for further waste management underwent an even more dramatic correction—84 percent. Notably, the Nitrate Initiative corrected known transfers of nitrates to publicly owned treatment works (POTW) by 89 percent.

Table 4 provides greater detail about overall corrections to the TRI for nitrates. The five facilities that reported the greatest releases and transfers of nitrate captured by the initiative appear in Table 5.

For further information about how the TRI changed with the new data, refer to Appendix 1, National and Regional Analysis of the Nitrate Initiative's Impact on the TRI, and Appendix 2, National and Regional Factsheets on the Nitrate Initiative's impact on the TRI.

[5] These transfers include transfers to POTWs and other off-site transfers for further waste management.

Table 1
Number of Reporting Forms for Nitrates

Reporting Year	Number of Reports				
	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Reports	Change in Reports
1995	831	28	539	1,370	567
1996	920	40	555	1,475	595
1997	993	53	558	1,551	611
1998	1,138	125	554	1,692	679
1995-1998	3,882	246	2,206	6,088	2,452

Table 2
Pounds of Released Nitrates Reported

Reporting Year	Release Quantities Reported (pounds)				
	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity	Change in Pounds
1995	142,025,029	3,463,387	32,336,622	177,825,038	35,800,009
1996	176,789,334	1,526,322	38,178,768	216,494,424	39,705,090
1997	201,999,901	1,235,063	33,943,735	237,178,699	35,178,798
1998	239,107,562	8,984,704	35,948,722	284,040,988	44,933,426
1995-1998	759,921,826	15,209,476	140,407,847	915,539,149	155,617,323

Table 3
Pounds of Transferred Nitrates Reported

Reporting Year	Transfer Quantities Reported (pounds)				
	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity	Change in Pounds
1995	66,915,608	564,374	62,803,621	130,283,603	63,367,995
1996	77,190,990	-1,008,027	62,764,358	138,947,321	61,756,331
1997	84,192,722	691,303	70,300,688	155,619,729	70,991,991
1998	88,898,236	923,671	69,735,794	159,122,595	70,659,465
1995-1998	317,197,556	1,171,321	265,604,461	583,973,248	266,775,782

Table 4
Percent Changes in Nitrates Reported Released, Treated, and Transferred (Reporting Years 1995 through 1998)

Type of Release or Transfer	Baseline Data [1] (pounds)	Changes from Revised Reports (pounds)	Increases from New Reports [2] (pounds)	Net Change from All Reports (pounds)	Percent Change to Baseline Data
On-Site Releases	741,868,493	15,260,506	137,813,893	153,074,399	21%
Surface Water Discharges	584,802,309	19,882,241	127,037,228	146,919,469	25%
Underground Injection	135,524,966	-4,608,780	306,967	-4,301,813	-3%
On-site Land Releases	21,541,218	-12,955	10,469,698	10,456,743	49%
Off-site Releases	18,053,333	-51,030	2,593,954	2,542,924	14%
Total On- and Off-site Releases	759,921,826	15,209,476	140,407,847	155,617,323	20%
Treated On-site	168,711,455	7,406,317	151,063,582	158,469,899	94%
Transfers to POTWs	288,575,876	3,110,154	254,804,991	257,915,145	89%
Other Off-site Transfers	28,621,680	-1,938,833	10,799,380	8,860,547	31%
Total Transfers Off-site for Further Waste Management/Disposal	317,197,556	1,171,321	265,604,371	266,775,692	84%
Total of All Releases, On-Site Treatment, and Transfers Off-Site	1,245,830,837	23,787,114	557,075,800	580,862,914	47%

(1) The baseline information reflects Toxic Release Inventory data as of December 31, 1999.
(2) "New reports" are reports submitted for the first time after January 1, 2000.

Table 5
Releases and Transfers of Nitrates for Top Five Facilities Ranked on Total Changes in Releases and Transfers(Reporting Years 1995 through 1998)

Facility, City, State	Responded to Enforcement Alert? [1]	First Time Reporter? [2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal				
Hercules Inc. Parlin Plant, Parlin, NJ	No	Yes	0	0	0	0	0	61,576,521	0
Süd-Chemie Inc., West Plant, Louisville, KY	No	Yes	0	0	24	24	0	16,100,000	0
First Chemical Corporation, Pascagoula, MS	No	Yes	0	0	0	0	0	10,484,000	0
Anheuser-Busch Inc., Baldwinsville, PA	No	Yes	10,240,413	0	0	10,240,413	0	0	0
Osram Sylvania Products Inc., Towanda, PA	No	Yes	8,109,372	0	0	8,109,372	0	0	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.
(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

Goal 2: Substantially Raising Awareness of Coincidental Manufacturing

All participants in the Nitrate Initiative that chose to settle under Option II were required to conduct a comprehensive environmental audit of all regulatory obligations under EPCRA Section 313. The audit required specific attention to any additional unreported chemicals that may have been generated as a result of coincidental manufacture. In total, 1,050 facilities agreed to these audits under the Option II settlement. As a result, EPA reached a sizable number of facilities from a variety of industries and substantially increased understanding of and compliance with reporting obligations for coincidental manufacturing of nitrate compounds. Figure 1 details the forms submitted as a result of the Nitrate Initiative that reported compounds other than nitrate. Although these forms are not entirely attributable to coincidental manufacturing, the Nitrate Initiative was responsible for a significant correction to information on releases, transfers, and other waste management for chemicals other than nitrate as well. Table 6 describes these changes by media.

These results also exceeded EPA's initial expectations.

FIGURE 1
NON-NITRATE REPORTING FORMS SUBMITTED

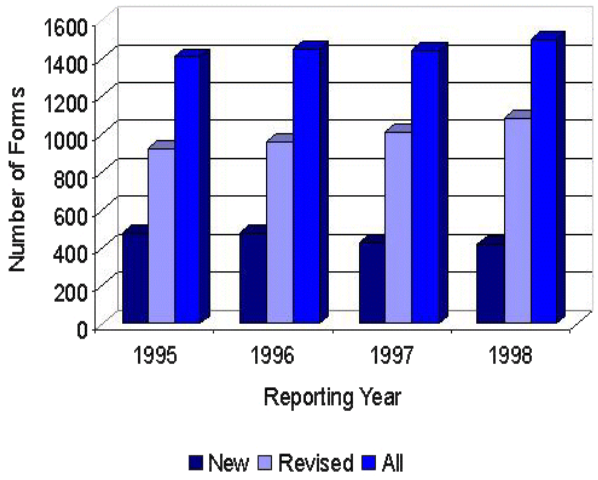

TABLE 6

Changes in Release and Transfer Data for Non-nitrate Compounds (Reporting Years 1995 Through 1998)

Type of Release or Transfer	Net Change from All Reports (pounds)
On-site Releases	57,126,724
Air Releases	11,750,723
Surface Water Discharges	4,665,516
Underground Injection	16,504,379
On-site Land Releases	24,206,106
Off-site Releases	48,987,700
Total On- and Off-site Releases	106,114,424
Transfers to POTWs	-3,679,740
Other Off-site Transfers	37,170,093
Total Transfers Off-site for Further Waste Management/Disposal	33,490,353
Total of All Releases and Transfers Off-site	139,604,777

Goal 3: Deterring Future Violations

In spite of the substantially reduced penalties each regulated entity paid in the Nitrate Initiative, EPA still assessed approximately $1.5 million in administrative penalties against participants in the Nitrate Initiative. In addition, nitrate settlements required participants to agree to pay stipulated penalties should EPA discover any additional violations of EPCRA Section 313 that were not reported in the required audit unless they were self-disclosed by the violator. This settlement structure provides further incentives to maintain compliance with EPCRA Section 313. Trade press and other media coverage likely raised awareness with facilities that had not specifically been targeted by EPA.

EPA's emphasis on reporting by-product formation has also raised the level of awareness for reporting Persistent, Bioaccumulative, and Toxic (PBT) chemicals under EPCRA Section 313. PBT chemicals were first required to be reported to the TRI

starting in 2000. Many PBT chemicals are coincidentally manufactured as a by-product or impurity from combustion operations and could easily be overlooked in the same fashion as were nitrates. Reporting thresholds for PBT chemicals, which can be as low as 0.1 gram for dioxin and dioxin-like compounds, are significantly lower than the 25,000 pound annual threshold value for nitrates.

These PBT chemical reports will provide data on releases, transfers, and other waste management operations for calendar year 2000. PBT chemicals are of particular concern not only because they are toxic, but also because they remain in the environment for long periods, are not readily destroyed, and build up or accumulate in body tissue. Relatively small releases of PBT chemicals can pose threats to human health and the environment. Consequently, releases of these chemicals warrant recognition by communities.

Goal 4: Conserving Resources for EPA and Regulated Community

EPA and the regulated community expended substantially fewer resources to return many entities to compliance. Traditional enforcement, including investigations, inspections, and litigation would have cost all parties significantly more in time and money. For every dollar spent, approximately $6 were saved. Assuming a 25 percent noncompliance rate with EPCRA Section 313 reporting, EPA would have traditionally spent approximately $2.75 million in enforcement resources to manage and settle the same number of cases.

EPA was able to increase compliance as well as improve the accuracy of the TRI database by effectively using resources and directly engaging the facilities with suspected violations of the reporting requirements for nitrate. Through this innovative approach, EPA saved approximately $2.35 million in capital resources and required an additional 1,000 facilities to review and correct any compliance issues under EPCRA Section 313. Refer to Appendix 1, EPA's estimate of inspection and enforcement costs that would have been incurred to achieve results similar to this initiative.

The regulated community also saved resources compared with typical expenses during traditional enforcement litigation. Instead, resources were directly spent on returning facilities to compliance.

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POLLUTION PREVENTION (P2) STRATEGIES

Pollution Prevention strategies can enable facilities to limit the amount of nitrates managed, ultimately reducing releases, transfers, and other waste management, saving money, and reducing human health and environmental impacts without government intervention.

Case Study: Nitrates and the Dairy Industry

MATERIAL SUBSTITUTION

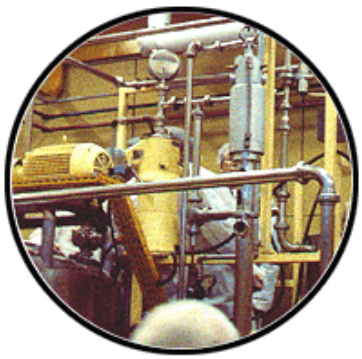
Dairy processing facilities use nitric acid during the equipment cleaning process (process lines, weigh jars, vessels, and other equipment) . Much of the equipment is cleaned using the clean-in-place (CIP) procedure, which involves the following steps:

1. Pre-rinse
2. Wash (usually with an alkaline cleaner to emulsify fats)
3. Rinse
4. Nitric acid post-rinse
5. Drain
6. Sanitize

Nitric acid is used in the post-rinse step to limit (1) the buildup of milkstone (mineral salts derived from water supply and milk), and (2) bacterial growth. It also helps to eliminate spotting and streaking and neutralizes alkaline residues from the washing step.

Pollution Prevention (P2) strategies for nitric acid in the dairy industry involve material substitution technologies. In addition, nitric acid can be treated in the wastewater. Material substitution alternatives and treatment of wastewater contaminated with nitric acid are discussed below. Alternatives to nitric acid that are less hazardous have not been widely available as a result of performance and cost issues. Specifically, with respect to performance, public health issues are of concern, and cleaning solutions must disinfect to reduce the potential for contaminated milk and milk products. Some vendors are marketing alternatives to nitric acid to replace or reduce use of nitric acid. These alternatives are discussed briefly below.

Several chemical vendors for the dairy industry are beginning to market alternatives to nitric acid in the United States; examples from Kem Tech, Bio/Chem Research, Inc., Ecolab, Inc., and DuPont are provided below. None of these vendors mentioned the companies using its products or the specific purpose, but they all indicated that the products can be used as alternatives to nitric acid in the dairy industry, and most of them stated that dairies are purchasing these products.



Dairy Processing

Kem Tech offers a line of cleaning products (SAFE-AR) that can be used in place of nitric acid or a nitric and phosphoric acid combination to remove milkstone, calcium, and lime deposits. The SAFE-AR line is a non-corrosive, biodegradable, low-pH, organic salt solution that works like an acid. Companies that have used SAFE-AR reported that it cleans as well as nitric acid, does not smell bad (unlike nitric acid), does not burn workers' skin, and saves money because it does not damage parts, such as gaskets, that nitric acid destroys.

Bio/Chem Research, Inc., offers a product called CITRICIDAL that is made from grapefruit extractives and glycerin. According to the manufacturer, the product is nontoxic, noncorrosive, and biodegradable that does not contaminate milk. It can be used to eliminate the crusts of cream and other particles in milk storage tanks after they have been washed with water and a neutral detergent.

Ecolab, Inc., offers an equipment-washing detergent called Mandate™ LT, which is a combination of phosphoric acid, propionic acid, organic acids, and anionic surfactants, for use in place of nitric acid.

Milk Solids Processing Equipment

DuPont offers a line of glycolic acid products that can be used in place of nitric acid. DuPont conducted a series of tests on acids (glycolic, sulfamic, phosphoric, and sodium bisulfate) as post-rinse cleaners for dairy equipment. Glycolic acid and sulfamic acids were found to be the most effective compounds tested. Glycolic acid is also the mildest of the acids tested and the most effective at removing milkstone deposits at varying levels of pH. According to DuPont, glycolic acid has been used for many years as a cleaner for dairy equipment and is a readily biodegradable, nonvolatile, phosphate- and chloride-free, nontoxic, non-fuming, and low-corrosive cleaner.

Note: EPA does not endorse or sponsor any of the entities mentioned in this report, or any specific technology. The names of the entities and technologies are provided as examples only.

NITRATE TREATMENT TECHNOLOGY

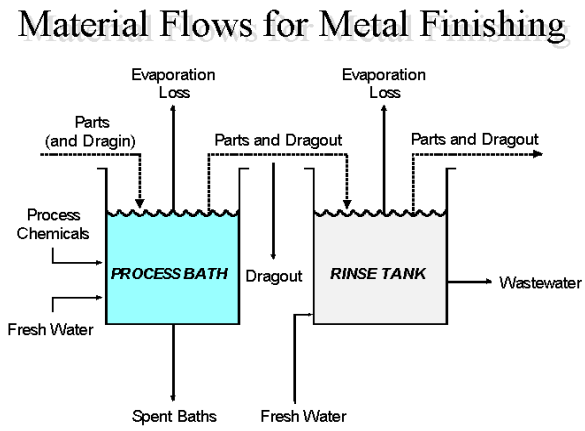
Dairy processes that use nitric acid in cleaning operations generate wastewater that contains nitric acid, which is neutralized into nitrates during the wastewater treatment process. Nitrates can be separated from wastewater using reverse osmosis, ion exchange, electrodialysis, and evaporation; however, these methods do not destroy nitrates and are often energy-intensive and expensive to purchase and operate. The Los Alamos Environmental Science and Waste Technologies group developed a nonthermal, nonbiological technology (ChemDen™) that uses a mixture of metal and acid to strip oxygen atoms from nitrates and reduces the nitrates to water and nitrogen gas that can be safely released into the atmosphere. The process is less expensive and more efficient than other methods used to destroy or remove nitrate wastes. The process has been tested on a pilot scale and is awaiting full-scale commercialization. The pilot equipment can eliminate about 2.5 pounds of nitrates from wastewater per hour, from a waste stream that contains up to 500 grams per liter of nitrates. For further information, contact Jacek Dziewinski (505) 667-9792, jacek@lanl.gov.

Biological treatment systems can also convert nitrates to nitrogen gas in a properly designed and operated wastewater treatment plant. This process is known as denitrification. More information on denitrification and other wastewater treatment processes can be obtained from EPA's Office of Water, Office of Wastewater Management, at http://www.epa.gov/owm/mtbfact.html.

Case Study: Nitrates and the Metal Finishing Industry

All metal finishing (electroplating and anodizing) processes involve a series of tanks that contain chemical solutions. Parts are sequentially immersed to achieve the desired decorative or functional surface finish. Between chemical tanks is at least one tank that holds clean water used to rinse the film of the chemical solution that remains on the part after it is removed from the chemical tank (this film is known as dragout). Generically, there are three stages in most metal finishing processes: surface preparation, surface finishing, and post-finishing.

Metal finishers use nitric acid for various reasons, depending on the type of metal processed; however, nitric acid is used for two general purposes: surface preparation and stripping. *Surface preparation* removes oxides, scale, and other contaminants from the surface of the part to achieve a quality finish. Specifically, nitric acid is commonly used (1) for descaling or passivating (removing free iron and iron oxide) stainless steel; (2) as an ingredient in several bright dips, which are mixtures of nitric, sulfuric, and phosphoric acid; and (3) in combination with hydrofluoric acid to remove heat scale. *Stripping* is used on "reject" parts (plated parts with quality defects) to remove plated metal so the parts can be processed again. Stripping also removes metal buildup on racks used to move parts through the metal finishing process.

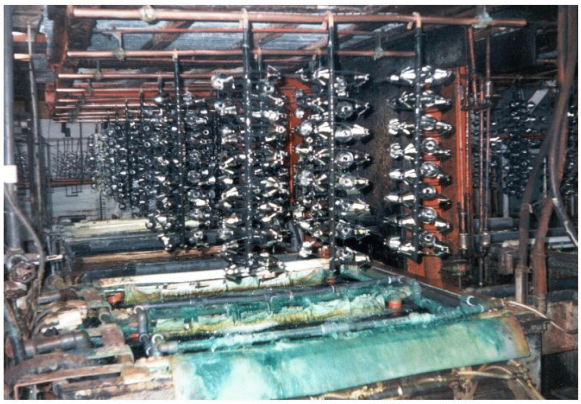


For more than 10 years, EPA, states, and local governments have initiated P2 outreach to the metal finishing sector. Much of this work has culminated in the National Metal Finishing Strategic Goals Program (SGP). The SGP was established on the foundation of work and relationships built under EPA's Common Sense Initiative. The SGP is a unique, collaborative effort to define new, performance-based approaches to compliance and proactive environmental management in the metal finishing sector. Information about the SGP can be found at its website: www.strategicgoals.org.

Specific P2 strategies for nitric acid can be organized in three categories: material substitution, recovery and recycling technology, and reduction in dragout; each of these categories is discussed below.

MATERIAL SUBSTITUTION

Alternatives to nitric acid that are less hazardous have not been widely available as a result of performance, cost, and customer specification issues. However, recent



changes in passivating standards for stainless steel allow citric acid to be substituted for nitric acid, and some vendors are marketing proprietary formulations to replace or reduce nitric acid. These alternatives are discussed briefly below.

Citric Acid Passivation

Government standard QQP3C established widely used parameters for stainless steel passivation using nitric acid (typically 20 to 50 percent by volume). However, the American Society for Testing and Materials (ASTM) established, in ASTM A967, a new passivation standard that allows citric acid passivation; this standard has replaced QQP3C. Citric acid (4 to 10 percent by weight) is an effective passivating agent that typically operates faster than nitric acid, thereby improving throughput. Nitric acid passivation baths are often heated (sometimes up to 160 /F), whereas citric acid baths can be operated at room temperature. From a quality perspective, citric acid meets or exceeds nitric acid in various performance tests for corrosion resistance. Citric acid may cost up to 20 percent more than nitric acid; however, the higher purchase price is offset by lower waste treatment costs. According to manufacturers and metal finishing facilities, wastewater from citric acid passivation can be sent directly to the sewer, sometimes without requiring pH adjustment. In addition, processing at room temperature reduces heating costs.

Unlike nitric acid, citric acid does not emit smog-producing nitrous oxide (NOx) vapors, does not require special handling, and does not corrode other equipment. Moreover, citric acid passivates without removing significant amounts of nickel, chromium, and other metals from the part, which reduces hazardous constituents in dragout and spent baths.

Alternatives to Proprietary Chemicals or Additives

Several vendors for metal finishing chemicals are beginning to market alternatives and additives for surface preparation and stripping baths that use nitric acid; examples from Atotech and McDermott are provided below.

Atotech offers two proprietary solutions that substitute for conventional nitric acid processes. MTJ Rackstrip is an electrolytic rack stripper that removes plated copper, nickel, and chromium from stainless steel rack tips. MTJ Rackstrip replaces nitric acid stripping baths (typically 50 to 100 percent by volume), contains proprietary, nonhazardous chemicals, and operates at a pH range of 6.3 to 6.8. Alumetch NN is a nitric acid-free deoxidizing solution for aluminum anodizing processes. Alumetch NN can replace conventional deoxidizing solutions (typically 50 percent nitric acid); it operates at ambient temperature and causes less pitting than nitric acid solutions.

McDermott offers a proprietary material (Clepostrip 569NA and 569ND) that (1) reduces the concentration of nitric acid required in stripping and aluminum bright dip baths, and (2) oxidizes NOx emissions to nitrogen gas, thereby significantly reducing toxic air emissions. One medium-size company involved in decorative metal finishing reported that the concentration of nitric acid in a stripping bath could be reduced from 100 to 30 percent with measurable reductions in emissions; however, this facility also noted that the new process required twice as much time and careful supervision to prevent attack on the base metal.

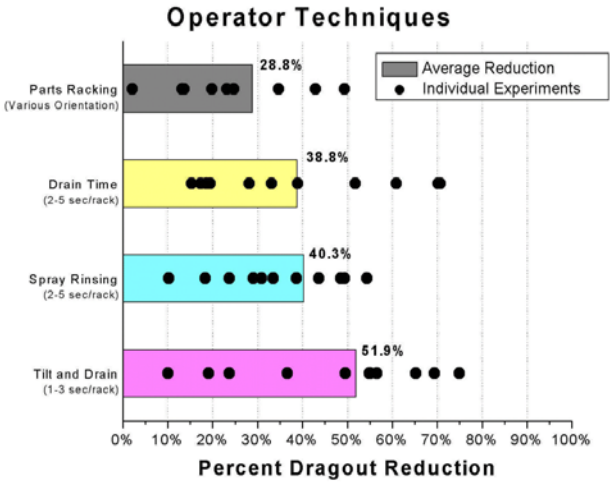
NITRIC ACID RECYCLING

Although it is not common, the National Center for Manufacturing Sciences cites metal finishing facilities that have attempted to recycle (purify), rather than neutralize, spent acids using acid sorption technology. Acid sorption technology relies on specialized anion exchange resins to separate metal contaminants from the acid. Acid sorption is primarily applicable to sulfuric and hydrochloric acid solutions; however, the National Center for Manufacturing Sciences report refers to case studies from EcoTec, a technology vendor, where acid sorption was applied to a nitric acid stripping bath and an

aluminum bright dip bath that contained nitric acid. Acid sorption cannot be applied to solutions with a concentration of nitric acid that exceeds 35 percent, which, together with the "exotic" nature of the technology, explains its limited use in the metal finishing industry.

DRAGOUT REDUCTION

Formation of nitrate during on-site wastewater treatment is proportional to the amount of nitric acid introduced to the treatment system from rinse tanks, which, in turn, is proportional to the volume of dragout from the nitric acid process bath. Numerous P2 techniques exist to reduce dragout, including over-tank spray systems, slower withdrawal rate, longer hang time, rack tilt pads, and many more. These P2 techniques are often not rigorously implemented because they require changes in worker practice or modifications to the process line that facilities hesitate to implement based on time constraints or quality concerns, or because they have insufficient data to quantify operational and environmental benefits. Nevertheless, fundamental practices that reduce dragout, when implemented regularly, can result in significant source reductions and associated material use and treatment costs. The following chart illustrates the percent reduction associated with four dragout reduction techniques measured at 10 metal finishing facilities.



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MAINTAINING COMPLIANCE: RESOURCES FOR ASSISTANCE

The following compliance assistance references provide opportunities to obtain further information on the Toxics Release Inventory and reporting obligations:.

EPA compiles data contained in facility reports on release and other waste management operations that involve toxic chemicals in the TRI, an on-line, publicly accessible, national computerized database. The TRI helps communicate information to communities on releases (that is, toxic chemicals that are released into the environment) and other waste management activities (that is, toxic chemicals that may not be released but are managed by on- or off-site waste management facilities) of manufacturing facilities and certain other industry sectors. TRI data, in conjunction with other information, can be used as a starting point in evaluating exposures that may result from releases and other waste management operations that involve toxic chemicals. The estimate of potential risk depends on many factors, including the toxicity of the chemical, the fate of the chemical after it is released, the locality of the release, and the populations that are exposed to the chemical after it is released. EPA communicates this information to the public so it can be used in several ways. For example, TRI data provide citizens with an opportunity to become active in emergency planning and prevention activities in the community.

In addition, the TRI website provides valuable information to the regulated community on the regulations and policies that govern reporting requirements, chemical- and industry-specific guidance documents, question and answer documents, and access to the required reporting forms and instructions. Useful resources for TRI information includes:

EPA's TRI Homepage:
http://epa.gov/tri/

TRI Reporting Forms and Instructions:
http://www.epa.gov/tri/report.htm

Guidance Documents:
http://www.epa.gov/tri/guidance.htm

Other TRI Policy Documents, Regulations, and Statutes:
http://www.epa.gov/tri/trirules.htm

EPA also maintains a Hotline telephone number and website, which can be accessed at:

EPCRA Hotline: 1-800-424-9346
EPCRA TDD: 1-800-553-7672
www.epa.gov/epaoswer/hotline

The following are EPA Compliance and Enforcement Resources:

Office of Regulatory Enforcement:
http://www.epa.gov/oeca/ore

Toxic & Pesticide Enforcement Division:
http://www.epa.gov/oeca/ore/tped

"Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations" (Audit Policy):
http://www.epa.gov/oeca/auditpol.html

Small Business Policy:
http://www.epa.gov/oeca/smbusi.html

Protocol for conducting environmental compliance audits under EPCRA:
http://es.epa.gov/oeca/ccsmd/epcra.pdf

TRI Explorer:
http://www.epa.gov/triexplorer

APPENDIX 1

NATIONAL AND REGIONAL ANALYSES OF THE NITRATE INITIATIVE'S IMPACT ON THE TOXICS RELEASE INVENTORY

NITRATE INITIATIVE:
CHANGES TO THE TOXIC RELEASE INVENTORY
ALL EPA REGIONS

BACKGROUND

Through its National Nitrate Compliance Initiative (Nitrate Initiative), the U.S. Environmental Protection Agency (EPA) has achieved significantly improved compliance rates for nitrate reporting to the Toxic Release Inventory (TRI). The TRI is a database of specific toxic chemical releases and other waste management activities in the United States. The TRI was created through the Emergency Planning and Community Right-to-Know Act (EPCRA). EPCRA empowers national, state, and local governments; industry; groups and organizations; and the public in dialogues about environmental and human health impacts from the manufacture and use of toxic chemicals in the United States.

Facilities submit one of two types of reporting forms to EPA for the TRI: Form R and Form A. Form R is an extensive report that provides information on releases, transfers, and waste management activities of a toxic chemical. The Form A can be used by a facility when it uses less than 1 million pounds of a chemical and releases or otherwise manages less than 500 pounds of that chemical; it certifies that the facility is not subject to the more extensive reporting requirements on the Form R.

The Nitrate Initiative used various compliance and enforcement tools to improve known compliance rates by facilities for the period of 1995 through 1998 for water-dissociable nitrate compounds. Nitrate reporting is important because nitrates are toxic chemicals that at sufficient doses can cause serious risks or death to humans and significant damage to the environment.

The Nitrate Initiative began on March 1, 2000; it combined the use of an enforcement alert and show cause letters. The enforcement alert described the lack of compliance with nitrate reporting for coincidentally-manufactured nitrate compounds and urged facilities to self-disclose violations. The show cause letters offered facilities the opportunity to demonstrate that there were no violations as alleged or to negotiate a settlement with a greatly reduced penalty.

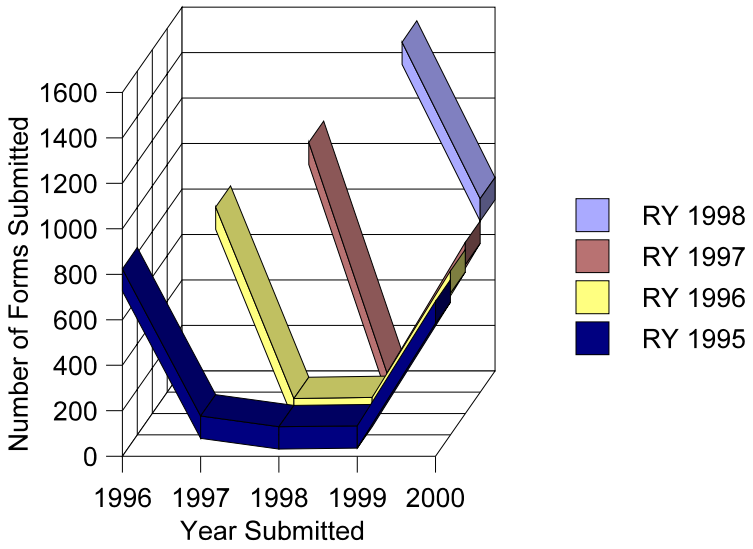
Although the enforcement alert for the Nitrate Initiative was published in March 2000, some facilities became aware of the enforcement effort before its publication and submitted nitrate reporting forms to the TRI after December 31, 1999, under EPA's audit policy. Therefore, the TRI data as of December 31, 1999, is designated as baseline data and is used to evaluate the effect of the Nitrate Initiative on the TRI database. This document summarizes the impact of the Nitrate Initiative for nitrate reporting to the TRI.

PARTICIPATION

Prior to the Nitrate Initiative, the TRI contained data from 3,882 nitrate reporting forms for reporting years 1995 to 1998. Figure 1 shows the number of nitrate reporting forms submitted to the TRI for each reporting year. The data is shown by submittal year, as reporting forms are due July 1 of the year after the reporting year. Most forms were submitted on time. The year-by-year number of submittals typically dropped significantly each year after the due date.

FIGURE 1

NUMBER OF REPORTING FORMS FOR NITRATES SUBMITTED IN CALENDAR YEARS 1996 THROUGH 2000 FOR REPORTING YEARS (RY) 1995 THROUGH 1998



In calendar year 2000, the effect of the Nitrate Initiative is shown in the substantial increases in the number of submittals for reporting years 1995 through 1997. For reporting year 1998, the Nitrate Initiative resulted in a substantially diminished decrease in the number submittals between calendar years 1999 to 2000, especially as compared to the prior years, 1995 to 1997.

During the Nitrate Initiative, about 800 facilities submitted a total of 2,452 reports for nitrates. One hundred fifty-seven of these facilities submitted reporting forms in response to the enforcement alert. As shown in Table 1, the majority of these forms are "new reports," which are reports that were submitted for the first time during the Nitrate Initiative. These new reports increased by over 50 percent the number of nitrate reporting forms in the TRI database from facilities. Fewer than 250 reports were submitted as revisions to nitrate reports filed prior to the Nitrate Initiative.

The number of reporting forms increased across the 4 reporting years covered by the Nitrate Initiative. TRI Form A reporting forms represented only 31 of the 2,452 forms submitted. The

TABLE 1

NUMBER OF NITRATE REPORTING FORMS

Reporting Year	Number of Reports				
	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Nitrate Reports	Changes in Reports
1995	831	28	539	1,370	567
1996	920	40	555	1,475	595
1997	993	53	558	1,551	611
1998	1,138	125	554	1,692	679
1995-1998	3,882	246	2,206	6,088	2,542

remaining 2,421 Form R reporting forms resulted in a 20 percent increase in reported on-site and off-site releases of nitrates and a 84 percent increase in reported transfers off-site of nitrates for further waste management. As shown on Figures 2 and 3 below, food and chemical industries were responsible for most of the increases in releases and transfers, respectively.

Nitrate Initiative participants paid about $1.5 million in penalties under consent agreements with EPA, including $356,000 assessed by EPA's Office of Enforcement and Compliance Assistance and more than $1.1 assessed by EPA's ten regional offices..

CHANGES IN NITRATE RELEASE AND TRANSFER DATA BY MEDIA

As a result of the Nitrate Initiative, an additional 147 million pounds of nitrates were reported as released to surface water from 1995 through 1998. This represents a correction of 25 percent to the baseline data. About 2.5 million pounds of nitrates were added to the quantity released off-site, a correction of 14 percent. Over 10 million pounds of nitrates were added to the quantity released to land on-site, a correction of 49 percent. Changes in nitrate releases through underground injection were minimal.

Most dramatic was the 255 million pounds of nitrates that were reported for the first time as released to publicly owned treatment works. This resulted in a correction of 89 percent to the TRI database. An additional 8.9 million pounds of nitrates were reported as transferred off-site to other types of facilities for further waste management. This quantity represents a correction of 31 percent to the TRI database. The quantity of nitrates reported as treated on-site increased by about 160 million pounds, a correction of 94 percent.
Table 2 lists the top fifty facilities that responded to the initiative, ranked on total changes in

FIGURE 2

PERCENT CHANGES IN NITRATE RELEASES REPORTED BY INDUSTRY SECTOR

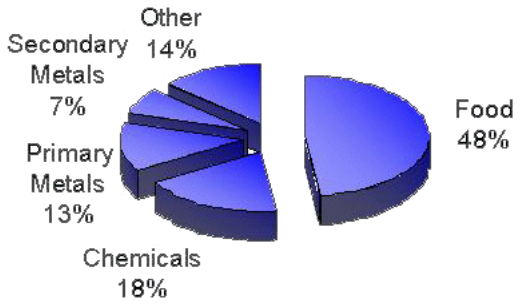
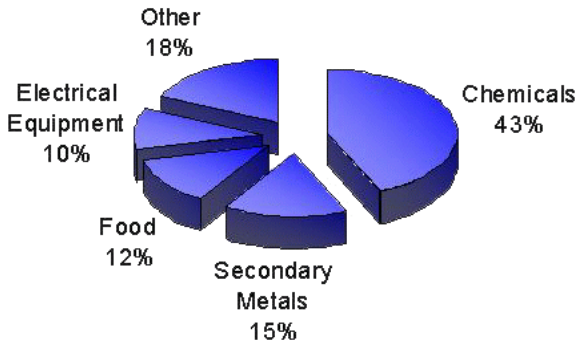


FIGURE 3

PERCENT CHANGES IN NITRATE WASTE MANAGEMENT TRANSFERS REPORTED BY INDUSTRY SECTOR



releases. Table 3 lists the top fifty facilities ranked on total changes in transfers. Table 4 lists the top five-parent corporations based on the total changes in releases and transfers of nitrates reported by facilities owned by that corporation.

TABLE 2

CHANGES IN RELEASES OF NITRATES FOR TOP 50 FACILITIES RANKED ON TOTAL CHANGES IN RELEASES (REPORTING YEARS 1995 THROUGH 1998)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal		
Anheuser-Busch Inc. Baldwinsville, NY	No	Yes	10,240,413	0	0	10,240,413	0
Osram Sylvania Products Inc., Towanda, PA	No	Yes	8,109,372	0	0	8,109,372	0
Rohm & Haas Texas Inc. Deer Park, TX	No	No	7,092,909	0	0	7,092,909	0
Protein Technologies International Inc. Pryor, OK	No	Yes	6,091,690	0	160,250	6,251,940	0
Farmland Foods Inc. Crete, NE	No	Yes	6,009,972	0	0	6,009,972	0
Perdue Farms Inc. Accomac Processing Plant, Accomac, VA	Yes	Yes	5,660,000	0	1,110	5,661,110	0
Simmons Foods Inc. South West City, MO	No	Yes	5,260,431	0	0	5,260,431	4,266
IBP Inc., Lexington, NE	No	No	5,100,000	0	0	5,100,000	0
MEMC Electronic Materials Inc., Moore, SC	No	Yes	4,235,000	0	0	4,235,000	0
Ensign-Bickford Company, Graham, KY	No	Yes	0	0	4,048,238	4,048,238	0
Solutia Inc., Decatur, AL	Yes	Yes	4,000,000	0	0	4,000,000	0
Piper Impact Inc. New Albany, MS	No	Yes	3,761,200	0	0	3,761,200	0
DuPont Repauno Plant Gibbstown, NJ	No	Yes	3,666,204	0	0	3,666,204	0
Excel Corporation Fort Morgan, CO	No	Yes	3,596,262	0	0	3,596,262	0
Lewiston Processing Plant, Lewiston-Woodville, NC	No	Yes	2,941,627	0	877	2,942,504	0
Excel Corporation Schuyler, NE	No	Yes	2,822,967	0	0	2,822,967	363
Gulf Chemical & Metallurgical Corporation Freeport, TX	No	Yes	2,646,605	0	0	2,646,605	0
Wausau-Mosinee Paper Corporation Brokaw Mill Brokaw, WI	No	Yes	2,447,991	0	4,159	2,452,150	44
Central Industries Inc. Forest, MS	No	Yes	2,377,336	0	0	2,377,336	0

TABLE 2

CHANGES IN RELEASES OF NITRATES FOR TOP 50 FACILITIES RANKED ON TOTAL CHANGES IN RELEASES (REPORTING YEARS 1995 THROUGH 1998) (Continued)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal		
Amphenol Corporation Sidney, NY	No	Yes	2,018,847	0	0	2,018,847	0
Modine Manufacturing Company, Knoxville, TN	No	Yes	1,969,828	0	0	1,969,828	0
American Cyanamid Company Hannibal Plant Palmyra, MO	No	No	1,877,000	0	0	1,877,000	0
Crucible Materials Corporation Trent Tube Plants 1, 2 & 3 East Troy, WI	No	Yes	1,844,200	0	0	1,844,200	2,260
Leaf River Forest Products New Augusta, MS	No	Yes	1,806,369	0	0	1,806,369	5,610
Biokyowa Inc. Cape Girardeau, MO	No	Yes	1,626,000	0	0	1,626,000	5,600
Georgetown Processing Plant Facility #17 Georgetown, DE	No	Yes	1,563,000	0	640	1,563,640	0
William L. Bonnell Company Inc. Newnan, GA	No	Yes	1,550,000	0	0	1,550,000	6,680
DuPont Victoria Plant Victoria, TX	No	No	6,145,040	-4,608,780	0	1,536,260	0
Gold Kist Live Oak Processing Plant Live Oak, FL	No	Yes	1,420,000	0	14,900	1,434,900	0
Lion Oil Company El Dorado, AR	No	Yes	1,395,394	0	0	1,395,394	0
Hilmar Cheese Company Inc., Hilmar, CA	Yes	Yes	0	0	1,387,105	1,387,105	0
Excel Corporation Beardstown, IL	No	Yes	316,907	0	1,040,741	1,357,648	0
Gold Kist Trussville Processing Plant Trussville, AL	No	Yes	1,340,000	0	0	1,340,000	0
Nielsen & Bainbridge LLC, Gainesboro, TN	No	Yes	1,277,108	0	0	1,277,108	791
Dairy Farmers of America Inc., New Wilmington, PA	Yes	Yes	1,276,565	0	0	1,276,565	-30,946
Spectratech International Inc., Kearneysville, WV	No	Yes	1,187,000	0	0	1,187,000	0

TABLE 2

CHANGES IN RELEASES OF NITRATES FOR TOP 50 FACILITIES RANKED ON TOTAL CHANGES IN RELEASES (REPORTING YEARS 1995 THROUGH 1998) (Continued)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal		
BWX Technologies Inc. Lynchburg, VA	No	No	1,183,100	0	0	1,183,100	0
F & A Dairy of California Inc., Newman, CA	Yes	No	0	0	1,162,765	1,162,765	0
U.S. TVA Paradise Fossil Plant, Drakesboro, KY	No	Yes	1,100,000	0	0	1,100,000	0
Wah Chang Oremet Facility, Albany, OR	No	Yes	1,095,000	0	0	1,095,000	0
Koch Petroleum Group LP, Rosemount, MN	No	Yes	1,080,000	0	0	1,080,000	0
Excel Corporation Plainview, TX	No	Yes	0	0	1,054,919	1,054,919	0
Wah Chang, Albany OR	No	No	1,022,000	0	0	1,022,000	0
Excel Corporation Dodge City, KS	No	Yes	0	0	958,662	958,662	0
Maytag Appliances NLP 2, Newton, IA	No	Yes	918,000	0	0	918,000	0
Defuniak Springs Complex Facility #87 Defuniak Springs, FL	No	Yes	871,000	0	3,300	874,300	0
Georgia Tubing Corporation Cedar Springs, GA	No	Yes	867,376	0	0	867,376	2,201
U.S. TVA Cumberland Fossil Plant Cumberland City, TN	No	Yes	860,000	0	0	860,000	0
Summit Corporation of America, Thomaston, CT	No	Yes	856,147	0	0	856,147	0
Cook Family Foods Grayson, KY	No	Yes	845,755	0	7	845,762	8

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

TABLE 3

**CHANGES IN TRANSFERS OF NITRATES FOR TOP 50 FACILITIES
RANKED ON TOTAL CHANGES IN TRANSFERS FOR WASTE MANAGEMENT
(REPORTING YEARS 1995 THROUGH 1998)**

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
Hercules, Inc., Parlin Plant, Parlin, NJ	No	Yes	61,576,521	0
Sdd-Chemie, Inc., West Plant, Louisville, KY	No	Yes	16,100,000	0
First Chemical Corporation, Pascagoula, MS	No	Yes	10,484,000	0
Bristol-Myers Squibb Company, East Syracuse, NY	No	Yes	8,050,000	0
MEMC Electronic Materials, Inc., St. Peters Plant O'Fallon, MO	No	Yes	4,155,000	0
Corning, Inc., Danville, VA	Yes	Yes	3,555,000	0
Farmland Foods, Inc., Denison, IA	No	Yes	3,518,000	0
Ruetgers Organics Corporation, State College, PA	No	Yes	0	3,415,138
Miller Plating & Metal Finishing, Evansville, IN	No	Yes	3,220,000	0
Harshaw Chemical Company, Louisville, KY	No	Yes	3,120,000	0
Procter & Gamble Manufacturing Company, Greenville, SC	No	Yes	2,898,608	0
Excel Corporation, Marshall, MO	No	Yes	2,828,594	0
Dairy Farmers of America, Inc., Corona, CA	Yes	Yes	2,813,050	0
Gerber Products, Fort Smith, AR	No	Yes	2,572,558	0
Aluminum Coil Anodizing Corporation, Streamwood, IL	Yes	Yes	2,534,684	0
Zenith Electronics Corporation, Rauland Division Melrose Park, IL	Yes	Yes	2,485,347	0
Land O'Lakes, Inc., Tulare, CA	Yes	Yes	2,373,763	0
Indalex West, Watsonville, CA	No	Yes	2,293,788	0
First District Association, Litchfield, MN	No	Yes	2,053,446	0
George Industries, Los Angeles, CA	No	Yes	1,885,541	0
UCAR Graph-Tech, Inc., Lakewood, OH	No	Yes	1,846,700	0
Hemlock Semiconductor Corporation, Hemlock, MI	No	Yes	0	1,832,278
Anomatic Corporation, Newark, OH	No	Yes	1,726,413	0
Boeing BCAG Fabrication Division-Auburn, Auburn, WA	Yes	Yes	1,560,000	0
Thomson Consumer Electronics, Marion, IN	No	Yes	1,406,405	0
Delphi Delco Electronics Systems Plant 1, Kokomo, IN	No	No	1,376,000	0
United Dairymen of Arizona, Tempe, AZ	No	Yes	1,375,997	0
Precision Lithograining Corporation, South Hadley, MA	Yes	Yes	1,371,355	0
ITT Industries Cannon, Santa Ana, CA	No	Yes	1,319,724	0
Avesta Sheffield East, Inc., Baltimore, MD	Yes	Yes	1,277,956	0
American Racing Custom Wheels, Gardena, CA	No	Yes	1,214,659	0
Talley Metals Technology, Hartsville, SC	No	No	0	1,187,392

TABLE 3

**CHANGES IN TRANSFERS OF NITRATES FOR TOP 50 FACILITIES
RANKED ON TOTAL CHANGES IN TRANSFERS FOR WASTE MANAGEMENT
(REPORTING YEARS 1995 THROUGH 1998)
(Continued)**

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
Blue Grass Chemical Specialties LP, New Albany, IN	No	Yes	1,187,221	0
Plating Technologies, Inc., Dayton, OH	No	Yes	1,187,000	0
Webco Industries, Inc., Sand Springs, OK	No	Yes	1,181,092	0
Curtis Metal Finishing Company, Sterling Heights, MI	No	Yes	1,142,350	14,762
Crucible Materials Corporation Trent Tube Division Carrollton, GA	No	Yes	1,117,755	18,815
Solutia, Inc., Sauget, IL	Yes	Yes	1,112,684	0
National Metal Finishing Corporation, Springfield, MA	No	Yes	1,101,410	0
Rohm & Haas Company, Bayport Plant, LaPorte, TX	No	Yes	1,075,729	0
Komag, Inc., Building 6, San Jose, CA	No	Yes	1,070,000	0
Easton Technical Products, Salt Lake City, UT	Yes	Yes	1,066,856	0
Western Lithotech, Jacksonville, TX	No	Yes	1,060,824	0
Haynes International, Inc., Arcadia, LA	No	Yes	1,007,507	0
Mueller Brass Company, Port Huron, MI	No	No	988,602	0
Jan-Eze Plating, Inc., Nashville, AR	No	Yes	988,323	0
Gene's Plating Works, Los Angeles, CA	No	Yes	785,299	198,190
Northrop Grumman Corporation, Dallas, TX	Yes	Yes	959,000	0
PQ Corporation, Augusta, GA	No	Yes	955,675	0
US Chrome Corp. of Wisconsin, Fond du Lac, WI	No	Yes	955,449	0
Easton Sports, Inc., Van Nuys, CA	Yes	Yes	923,000	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

TABLE 4

CHANGES IN RELEASES AND WASTE MANAGEMENT TRANSFERS OF NITRATES FOR TOP FIVE-PARENT CORPORATIONS BASED ON TOTAL CHANGES IN RELEASES AND TRANSFERS (REPORTING YEARS 1995 THROUGH 1998)

Parent Company	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)	Total Changes (pounds)
Hercules Inc.	0	61,576,521	61,576,521
Sdd Chemie Inc.	24	16,100,000	16,100,000
Cargill Inc.	9,992,393	2,828,594	10,484,000
Perdue Farms Inc.	11,777,791	43,000	12,820,987
El du Pont de Nemours and Company Inc.	10,747,770	553,209	11,820,791

CHANGES IN TRI DATA FOR CHEMICALS OTHER THAN NITRATES

As a result of the initiative, 508 facilities submitted 5,794 reporting forms for chemicals other than nitrates. The distribution of these reporting forms across the 4 reporting years is shown on Figure 4. Only 1,813 of the reporting forms were first-time submittals, consisting of 361 Form As and 1,452 Form Rs. Data from the new reports addressed 100 chemicals.

The other 3,981 reporting forms were revisions to previous submittals to the TRI. These revised reporting forms addressed a total of 140 chemicals. A summary of the changes in transfer and release quantities from all non-nitrate reports is shown in Table 5. The largest change to the TRI from these reports was an additional 11 million pounds of manganese compounds reported as disposed of off-site by one facility for reporting years 1995 through 1998.

FIGURE 4

NON-NITRATE REPORTING FORMS SUBMITTED

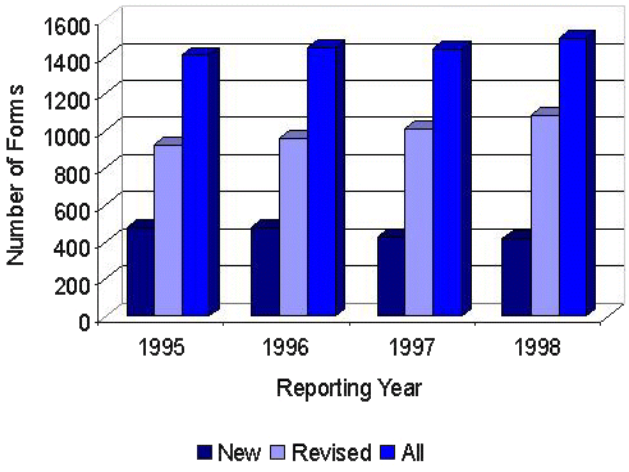


TABLE 5

CHANGES IN RELEASES AND WASTE MANAGEMENT TRANSFERS REPORTED FOR TOP FIVE CHEMICALS BASED ON TOTAL CHANGES IN RELEASES AND TRANSFERS (REPORTING YEARS 1995 THROUGH 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)	Total Changes (pounds)
—	Zinc compounds	37,594,151	-1,506,664	36,087,487
7664-38-2	Phosphoric acid	-318,108	35,138,498	34,820,390
—	Manganese compounds	24,884,427	2,540,505	27,424,932
7440-50-8	Copper	831,060	16,033,244	16,864,304
—	Chromium compounds	2,439,220	9,387,769	11,826,989
—	All other chemicals	40,683,674	-28,102,999	12,580,675
Total		106,114,424	33,490,353	139,604,777

ADDITIONAL INFORMATION

Additional information on nitrate releases and transfers reported to TRI is presented in the Nitrate Initiative Fact Sheet for all EPA regions. The fact sheet also identifies an EPA contact that can be reached for further information.

For further information on chemical releases and transfers reported to TRI, access the TRI Explorer and Envirofacts databases through the following EPA websites:

- http://www.epa.gov/triexplorer
- http://www.epa.gov/enviro/html/ef_overview.html

The TRI Explorer database will generate reports based on facilities, chemicals, geographic areas, or industry type (SIC code) at the county, state, and national levels. The Envirofacts database provides environmental information from other EPA databases on air, chemicals, facility information, grants and funding, hazardous waste, risk management plans, Superfund, TRI, and other EPA databases.

These databases are publicly available and contain information on specific toxic chemical releases and other waste management activities reported annually by facilities in certain covered industry groups as well as federal facilities. Reporting year 1999 is the most recent TRI data available. Please access the EPA Envirofacts database for the most recent TRI data.

NITRATE INITIATIVE:
CHANGES TO THE TOXIC RELEASE INVENTORY
EPA REGION 1

BACKGROUND

Through its National Nitrate Compliance Initiative (Nitrate Initiative), the U.S. Environmental Protection Agency (EPA) has achieved significantly improved compliance rates for nitrate reporting to the Toxic Release Inventory (TRI). The TRI is a database of specific toxic chemical releases and other waste management activities in the United States. The TRI was created through the Emergency Planning and Community Right-to-Know Act (EPCRA). EPCRA empowers national, state, and local governments; industry; public-interest and environmental groups and organizations; and the public in dialogues about environmental and human health impacts from the manufacture and use of toxic chemicals in the United States.

Facilities submit one of two types of reporting forms to EPA for the TRI: Form R and Form A. Form R is an extensive report that provides information on releases, transfers, and other waste management activities of a toxic chemical. The Form A can be used by a facility when it uses less than 1 million pounds of a chemical and releases or otherwise manages less than 500 pounds of that chemical; it certifies that the facility is not subject to the more extensive reporting requirements on the Form R.

The Nitrate Initiative used various compliance and enforcement tools to improve known compliance rates by facilities for the period of 1995 through 1998 for water-dissociable nitrate compounds. Nitrate reporting is important because nitrates are toxic chemicals that at sufficient doses can cause serious risks or death to humans and significant damage to the environment.

The Nitrate Initiative began on March 1, 2000; it combined the use of an enforcement alert and show cause letters. The enforcement alert described the lack of compliance with nitrate reporting for coincidentally-manufactured nitrate compounds and urged facilities to self-disclose violations. The show cause letters offered facilities the opportunity to demonstrate that there were no violations as alleged or to negotiate a settlement with a greatly reduced penalty.

Although the enforcement alert for the Nitrate Initiative was published in March 2000, some facilities became aware of the enforcement effort before its publication and submitted nitrate reporting forms to the TRI after December 31, 1999, under EPA's audit policy. Therefore, the TRI data as of December 31, 1999, is designated as baseline data and is used to evaluate the effect of the Nitrate Initiative on the TRI database. This document summarizes the impact of the Nitrate Initiative for nitrate reporting to the TRI in EPA Region 1.

PARTICIPATION

Prior to the Nitrate Initiative, the TRI contained data from 216 nitrate reporting forms from facilities in EPA Region 1. About 60 facilities in EPA Region 1 submitted a total of 192 reports for nitrates during the Nitrate Initiative. Twenty-one of these facilities submitted reporting forms in response to the enforcement alert.

As shown in Table 1, the majority of these forms are "new reports," which are reports that were submitted for the first time during the Nitrate Initiative. These new reports almost doubled the number of nitrate reporting forms in the TRI database from facilities in EPA Region 1. Fewer than 10 reports were submitted as revisions to nitrate reports filed prior to the Nitrate Initiative.

TABLE 1

NUMBER OF NITRATE REPORTING FORMS

Reporting Year	Number of Reports			
	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Nitrate Reports
1995	52	1	44	96
1996	56	2	45	101
1997	59	2	46	105
1998	49	2	50	99
1995-1998	216	7	185	401

The reporting forms were fairly evenly distributed across the 4 reporting years covered by the Nitrate Initiative. TRI Form A reporting forms represented only 3 of the 192 forms submitted. The remaining 189 Form R reporting forms resulted in a 39 percent increase in reported on-site and off-site releases of nitrates and a 74 percent increase in reported transfers off-site of nitrates for further waste management. As shown on Figures 1 and 2 below, industries that perform secondary smelting and refining of metals were responsible for most of the increases in EPA Region 1.

FIGURE 1

PERCENT CHANGES IN NITRATE RELEASES REPORTED BY INDUSTRY SECTOR

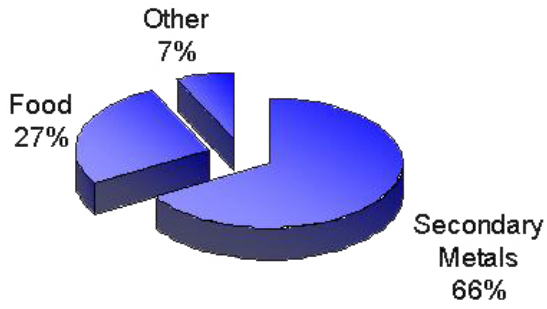
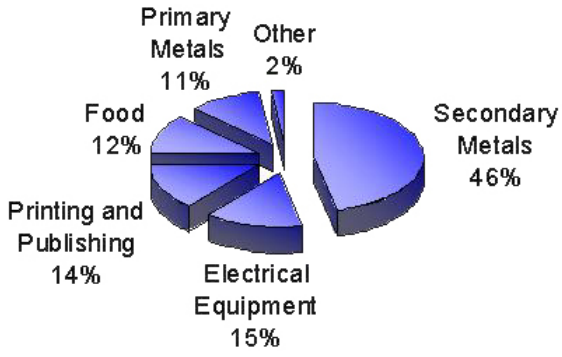


FIGURE 2

PERCENT CHANGES IN NITRATE WASTE MANAGEMENT TRANSFERS



No penalties were assessed by EPA Region 1 under the Nitrate Initiative.

CHANGES IN NITRATE RELEASE AND TRANSFER DATA BY MEDIA

As a result of the Nitrate Initiative, an additional 1.7 million pounds of nitrates were reported as released to surface water in EPA Region 1 from 1995 through 1998. This represents a correction of 39 percent to the baseline data. Over 0.5 million pounds of nitrates were added to the quantity released off-site, a correction of 41 percent. Changes in nitrate releases to land or through underground injection were minimal or nonexistent.

Most dramatic was the 10.6 million pounds of nitrates that were reported for the first time as released to publicly owned treatment works. This resulted in a correction of 76 percent to the TRI database. An additional 650,000 pounds of nitrates were reported as transferred off-site to other types of facilities for further waste management. This quantity represents a correction of 50 percent to the TRI database. The quantity of nitrates reported as treated on-site increased by about 2 million pounds, a correction of 31 percent.

Table 2 lists the top ten facilities in EPA Region 1 that responded to the initiative, ranked on total changes in releases. Table 3 lists the top ten facilities ranked on total changes in transfers.

TABLE 2

CHANGES IN RELEASES OF NITRATES FOR TOP TEN FACILITIES IN EPA REGION 1 RANKED ON TOTAL CHANGES IN RELEASES (REPORTING YEARS 1995 THROUGH 1998)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal		
Summit Corporation of America, Thomaston, CT	No	Yes	856,147	0	0	856,147	0
Vermont Whey Co., Georgia, VT	Yes	Yes	4,175	0	0	4,175	290,643
Philson Inc., Watertown, CT	No	Yes	277,000	0	0	277,000	0
Wyeth Nutritionals Inc., Georgia, VT	Yes	Yes	2,550	0	0	2,550	252,510
Whyco Technologies Inc., Thomaston, CT	Yes	Yes	235,158	0	0	235,158	0
Harrow Products Inc., New Haven, CT	No	Yes	127,000	0	0	127,000	0
Texas Instruments Inc., Attleboro, MA	No	Yes	82,000	0	0	82,000	30,900
National Starch & Chemical Company, Island Falls, ME	No	Yes	55,552	0	40	55,592	0
Duralectra Inc., Natick, MA	No	Yes	31,975	0	0	31,975	0
Osram Sylvania Inc., Waldoboro, ME	No	Yes	14,082	0	0	14,082	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

TABLE 3

CHANGES IN TRANSFERS OF NITRATES FOR TOP TEN FACILITIES IN EPA REGION 1 RANKED ON TOTAL CHANGES IN TRANSFERS FOR WASTE MANAGEMENT (REPORTING YEARS 1995 THROUGH 1998)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
Precision Lithograining Corporation, South Hadley, MA	Yes	Yes	1,371,355	0
National Metal Finishing Corporation, Springfield, MA	No	Yes	1,101,410	0
Kodak Polychrome Graphics LLC, Holyoke, MA	Yes	Yes	719,710	0
Cabot/Agri-Mark Inc., Middlebury, VT	Yes	Yes	632,321	0
Echo Manufacturing Company, Inc., Waterbury, CT	No	Yes	610,980	0
FMC Biopolymer, Rockland, ME	No	Yes	571,400	0
Kodak Polychrome Graphics LLC., Holyoke, MA	Yes	Yes	529,334	0
Reflek Corporation, Fall River, MA	No	Yes	516,807	0
Osram Sylvania Inc., Waldoboro, ME	No	Yes	0	431,074
Westfield Electroplating Company, Westfield, MA	No	Yes	413,781	319

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

CHANGES IN TRI DATA FOR CHEMICALS OTHER THAN NITRATES

As a result of the initiative, 18 facilities in EPA Region 1 submitted 117 reporting forms for chemicals other than nitrates. The distribution of these reporting forms across the 4 reporting years is shown on Figure 3. Only 16 of the reporting forms were first-time submittals, consisting mainly of Form As.

The other 101 reporting forms were revisions to previous submittals to the TRI. These revised reporting forms addressed a total of 18 chemicals. A summary of the changes in waste management and release quantities from the revised non-nitrate reports is shown in Table 4. The most significant change to the TRI from these reports was a reduction of almost 1 million pounds of phosphoric acid previously reported as transferred off-site by one facility for reporting years 1995 and 1996.

FIGURE 3

NON-NITRATE REPORTING FORMS SUBMITTED

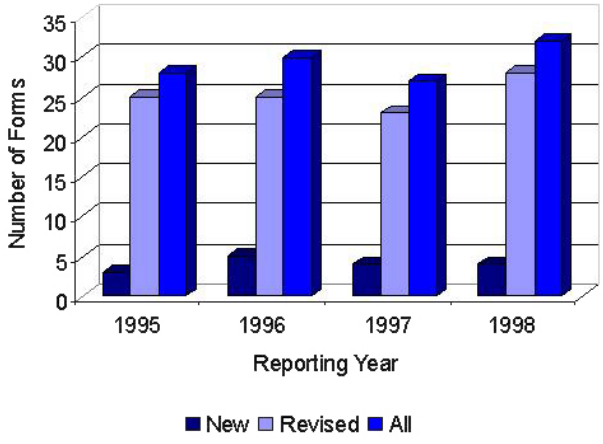


TABLE 4

CHANGES IN RELEASES AND WASTE MANAGEMENT TRANSFERS REPORTED FOR TOP FIVE CHEMICALS BASED ON TOTAL CHANGES IN RELEASES AND TRANSFERS IN REVISED REPORTS (REPORTING YEARS 1995 THROUGH 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)
7440-50-8	Copper	3,644	514,947
—	Cyanide compounds	-209	13,845
7697-37-2	Nitric acid	18,251	-5,464
—	Chromium compounds	7,757	-7,372
—	Nickel compounds	540	-1,343
—	All other chemicals	76,736	-1,316,958
Total		106,719	-802,345

ADDITIONAL INFORMATION

Additional information on nitrate releases and transfers reported to TRI from facilities in EPA Region 1 is presented in the Nitrate Initiative Fact Sheet for this region. The fact sheet also identifies the EPA Region 1 contact that can be reached for further information and state contacts for EPA Region 1 that can provide further information about individual state TRI programs.

For further information on chemical releases and transfers reported to TRI, access the TRI Explorer and Envirofacts databases through the following EPA websites:

- http://www.epa.gov/triexplorer
- http://www.epa.gov/enviro/html/ef_overview.html

The TRI Explorer database will generate reports based on facilities, chemicals, geographic areas, or industry type (SIC code) at the county, state, and national levels. The Envirofacts database provides environmental information from other EPA databases on air, chemicals, facility information, grants and funding, hazardous waste, risk management plans, Superfund, TRI, and other EPA databases.

These databases are publicly available and contain information on specific toxic chemical releases and other waste management activities reported annually by certain covered industry groups as well as federal facilities. Reporting year 1999 is the most recent TRI data available. Please access the EPA Envirofacts database for the most recent TRI data.

NITRATE INITIATIVE:
CHANGES TO THE TOXIC RELEASE INVENTORY
EPA REGION 2

BACKGROUND

Through its National Nitrate Compliance Initiative (Nitrate Initiative), the U.S. Environmental Protection Agency (EPA) has achieved significantly improved compliance rates for nitrate reporting to the Toxic Release Inventory (TRI). The TRI is a database of specific toxic chemical releases and other waste management activities in the United States. The TRI was created through the Emergency Planning and Community Right-to-Know Act (EPCRA). EPCRA empowers national, state, and local governments; industry; public-interest and environmental groups and organizations; and the public in dialogues about environmental and human health impacts from the manufacture and use of toxic chemicals in the United States.

Facilities submit one of two types of reporting forms to EPA for the TRI: Form R and Form A. Form R is an extensive report that provides information on releases, transfers, and other waste management activities of a toxic chemical. The Form A can be used by a facility when it uses less than 1 million pounds of a chemical and releases or otherwise manages less than 500 pounds of that chemical; it certifies that the facility is not subject to the more extensive reporting requirements on the Form R.

The Nitrate Initiative used various compliance and enforcement tools to improve known compliance rates by facilities for the period of 1995 through 1998 for water-dissociable nitrate compounds. Nitrate reporting is important because nitrates are toxic chemicals that at sufficient doses can cause serious risks or death to humans and significant damage to the environment.

The Nitrate Initiative began on March 1, 2000; it combined the use of an enforcement alert and show cause letters. The enforcement alert described the lack of compliance with nitrate reporting for coincidentally-manufactured nitrate compounds and urged facilities to self-disclose violations. The show cause letters offered facilities the opportunity to demonstrate that there were no violations as alleged or to negotiate a settlement with a greatly reduced penalty.

Although the enforcement alert for the Nitrate Initiative was published in March 2000, some facilities became aware of the enforcement effort before its publication and submitted nitrate reporting forms to the TRI after December 31, 1999, under EPA's audit policy. Therefore, the TRI data as of December 31, 1999, is designated as baseline data and is used to evaluate the effect of the Nitrate Initiative on the TRI database. This document summarizes the impact of the Nitrate Initiative for nitrate reporting to the TRI in EPA Region 2.

PARTICIPATION

Prior to the Nitrate Initiative, the TRI contained data from 252 nitrate reporting forms from facilities in EPA Region 2. About 50 facilities in EPA Region 2 submitted a total of 150 reports for nitrates during the Nitrate Initiative. Twelve of these facilities submitted reporting forms in response to the enforcement alert.

As shown in Table 1, the majority of these forms are "new reports," which are reports that were submitted for the first time during the Nitrate Initiative. These new reports increased by about 50 percent the number of nitrate reporting forms in the TRI database from facilities in EPA Region 2. Fewer than 20 reports were submitted as revisions to nitrate reports that were filed prior to the Nitrate Initiative.

TABLE 1

NUMBER OF NITRATE REPORTING FORMS

Reporting Year	Number of Reports			
	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Nitrate Reports
1995	57	3	31	88
1996	65	2	34	99
1997	64	2	38	102
1998	66	7	33	99
1995-1998	252	14	136	388

The reporting forms were fairly evenly distributed across the 4 reporting years covered by the Nitrate Initiative. None of the reporting forms submitted were TRI Form A. The 150 Form R reporting forms resulted in a 51 percent increase in reported on-site and off-site releases of nitrates and a 540 percent increase in reported transfers off-site of nitrates for further waste management. As shown on Figures 1 and 2 below, food and chemical industries were responsible for most of the increases in EPA Region 2.

FIGURE 1

PERCENT CHANGES IN NITRATE RELEASES REPORTED BY INDUSTRY SECTOR

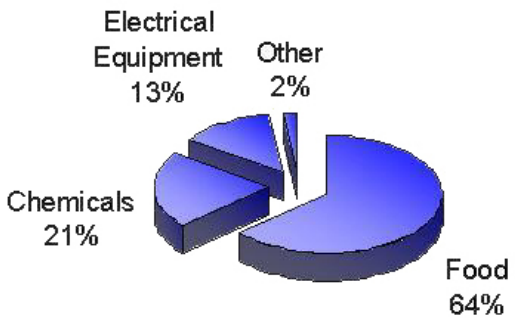
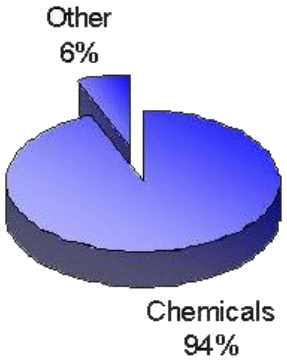


FIGURE 2

PERCENT CHANGES IN NITRATE WASTE MANAGEMENT TRANSFERS REPORTED BY INDUSTRY SECTOR



EPA Region 2 assessed $57,000 in penalties under the Nitrate Initiative.

CHANGES IN NITRATE RELEASE AND TRANSFER DATA BY MEDIA

As a result of the Nitrate Initiative, an additional 18.3 million pounds of nitrates were reported as released to surface water in EPA Region 2 from 1995 through 1998. This represents a correction of 52 percent to the baseline data. Over 190,000 pounds of nitrates were added to the quantity released off-site, a correction of 21 percent. Changes in nitrate releases to land or through underground injection were non-existent.

Most dramatic was the 74 million pounds of nitrates that were reported for the first time as released to publicly owned treatment works. This resulted in a correction of over 600 percent to the TRI database. An additional 470,000 pounds of nitrates were reported as transferred off-site to other types of facilities for further waste management. This quantity represents a correction of 24 percent to the TRI database. The quantity of nitrates reported as treated on-site increased by about 2.6 million pounds, a correction of 16 percent.

Table 2 lists the top ten facilities in EPA Region 2 that responded to the initiative, ranked on total changes in releases. Table 3 lists the top ten facilities ranked on total changes in transfers.

TABLE 2

CHANGES IN RELEASES OF NITRATES FOR TOP TEN FACILITIES IN EPA REGION 2 RANKED ON TOTAL CHANGES IN RELEASES (REPORTING YEARS 1995 THROUGH 1998)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal		
Anheuser-Busch Inc. Baldwinsville, NY	No	Yes	10,240,413	0	0	10,240,413	0
Du Pont Repauno Plant Gibbstown, NJ	No	Yes	3,666,204	0	0	3,666,204	0
Amphenol Corporation Sidney, NY	No	Yes	2,018,847	0	0	2,018,847	0
Great Lakes Cheese of New York Inc. Adams, NY	Yes	Yes	517,858	0	0	517,858	0
Kraft Foods Inc. Campbell, NY	Yes	No	500,000	0	0	500,000	0
Empire Cheese Inc. Cuba, NY	No	Yes	418,000	0	0	418,000	0
Colorite Specialty Resins Burlington, NJ	No	Yes	276,165	0	0	276,165	0
Crucible Specialty Metals Division, Solvay, NY	No	Yes	266,470	0	0	266,470	0
Toshiba Display Devices Inc., Horsehead, NY	No	Yes	232,749	0	0	232,749	0
Viasystems Puerto Rico Inc., San German, PR	No	Yes	0	0	0	0	164,408

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

TABLE 3

CHANGES IN TRANSFERS OF NITRATES FOR TOP TEN FACILITIES IN EPA REGION 1 RANKED ON TOTAL CHANGES IN TRANSFERS FOR WASTE MANAGEMENT (REPORTING YEARS 1995 THROUGH 1998)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
Hercules Inc. Parlin Plant, Parlin, NJ	No	Yes	61,576,521	0
Bristol-Myers Squibb Company, East Syracuse, NY	No	Yes	8,050,000	0
Anoplate Corporation, Syracuse, NY	Yes	No	499,250	3,400
Du Pont Repauno Plant, Gibbstown, NJ	No	Yes	0	464,123
H.P. Hood, Oneida, NY	Yes	Yes	448,560	0
Mccadam Cheese Co. Inc., Chateaugay, NY	Yes	Yes	421,298	0
Foremost Manufacturing Company Inc., Union, NY	No	Yes	378,786	0
Carborundum, Niagra Falls, NY	No	Yes	319,000	0
Keystone Corporation Key Tech Finishing, Buffalo, NY	No	Yes	317,712	0
O-At-Ka Milk Products Co-op Inc., Batavia, NY	Yes	Yes	283,000	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

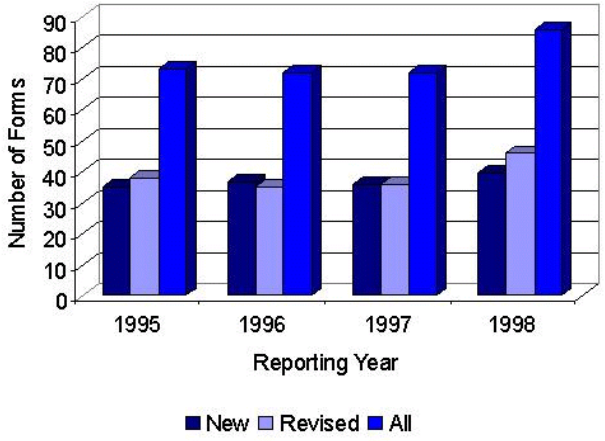
(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

CHANGES IN TRI DATA FOR CHEMICALS OTHER THAN NITRATE COMPOUNDS

As a result of the initiative, 35 facilities in EPA Region 2 submitted 303 reporting forms for chemicals other than nitrate compounds. The distribution of these reporting forms across the 4 reporting years is shown on Figure 3. About 150 of the reporting forms were first-time submittals, over half of which are Form A.

FIGURE 3

NON-NITRATE REPORTING FORMS SUBMITTED



The other reporting forms were revisions to previous submittals to the TRI. These revised reporting forms addressed a total of 29 chemicals. A summary of the changes in transfer and release quantities from all non-nitrate reports is shown in Table 4. The most significant change to the TRI from these reports was a reduction of over 4 million pounds of ethylene glycol, previously reported as transferred off-site by one facility for reporting years 1995 through 1998.

TABLE 4

CHANGES IN RELEASES AND WASTE MANAGEMENT TRANSFERS REPORTED FOR TOP FIVE CHEMICALS BASED ON TOTAL CHANGES IN RELEASES AND TRANSFERS

(REPORTING YEARS 1995 THROUGH 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)
—	Nickel compounds	468,421	411,687
7440-02-0	Nickel	6,604	762,657
7632-00-0	Sodium nitrite	378,876	0
100-41-4	Ethylbenzene	97,793	228,430
—	Copper compounds	239,050	67,230
—	All other chemicals	86,188	-4,039,109
Total		1,276,932	-2,569,105

ADDITIONAL INFORMATION

Additional information on nitrate releases and transfers reported to TRI from facilities in EPA Region 2 is presented in the Nitrate Initiative Fact Sheet for this region. The fact sheet also identifies the EPA Region 2 contact that can be reached for further information and state contacts for EPA Region 2 that can provide further information about individual state TRI programs.

For further information on chemical releases and transfers reported to TRI, access the TRI Explorer and Envirofacts databases through the following EPA websites:

- http://www.epa.gov/triexplorer
- http://www.epa.gov/enviro/html/ef_overview.html

The TRI Explorer database will generate reports based on facilities, chemicals, geographic areas, or industry type (SIC code) at the county, state, and national levels. The Envirofacts database provides environmental information from other EPA databases on air, chemicals, facility information, grants and funding, hazardous waste, risk management plans, Superfund, TRI, and other EPA databases.

These databases are publicly available and contain information on specific toxic chemical releases and other waste management activities reported annually by certain covered industry groups as well as federal facilities. Reporting year 1999 is the most recent TRI data available. Please access the EPA Envirofacts database for the most recent TRI data.

NITRATE INITIATIVE:
CHANGES TO THE TOXIC RELEASE INVENTORY
EPA REGION 3

BACKGROUND

Through its National Nitrate Compliance Initiative (Nitrate Initiative), the U.S. Environmental Protection Agency (EPA) has achieved significantly improved compliance rates for nitrate reporting to the Toxic Release Inventory (TRI). The TRI is a database of specific toxic chemical releases and other waste management activities in the United States. The TRI was created through the Emergency Planning and Community Right-to-Know Act (EPCRA). EPCRA empowers national, state, and local governments; industry; public-interest and environmental groups and organizations; and the public in dialogues about environmental and human health impacts from the manufacture and use of toxic chemicals in the United States.

Facilities submit one of two types of reporting forms to EPA for the TRI: Form R and Form A. Form R is an extensive report that provides information on releases, transfers, and other waste management activities of a toxic chemical. The Form A can be used by a facility when it uses less than 1 million pounds of a chemical and releases or otherwise manages less than 500 pounds of that chemical; it certifies that the facility is not subject to the more extensive reporting requirements on the Form R.

The Nitrate Initiative used various compliance and enforcement tools to improve known compliance rates by facilities for the period of 1995 through 1998 for water-dissociable nitrate compounds. Nitrate reporting is important because nitrates are toxic chemicals that at sufficient doses can cause serious risks or death to humans and significant damage to the environment.

The Nitrate Initiative began on March 1, 2000; it combined the use of an enforcement alert and show cause letters. The enforcement alert described the lack of compliance with nitrate reporting for coincidentally-manufactured nitrate compounds and urged facilities to self-disclose violations. The show cause letters offered facilities the opportunity to demonstrate that there were no violations as alleged or to negotiate a settlement with a greatly reduced penalty.

Although the enforcement alert for the Nitrate Initiative was published in March 2000, some facilities became aware of the enforcement effort before its publication and submitted nitrate reporting forms to the TRI after December 31, 1999, under EPA's audit policy. Therefore, the TRI data as of December 31, 1999, is designated as baseline data and is used to evaluate the effect of the Nitrate Initiative on the TRI database. This document summarizes the impact of the Nitrate Initiative for nitrate reporting to the TRI in EPA Region 3.

PARTICIPATION

Prior to the Nitrate Initiative, the TRI contained data from 336 nitrate reporting forms from facilities in EPA Region 3. About 55 facilities in EPA Region 3 submitted a total of 163 reports for nitrates during the Nitrate Initiative. Eleven of these facilities submitted reporting forms in response to the enforcement alert.

As shown in Table 1, the majority of these forms are "new reports," which are reports that were submitted for the first time during the Nitrate Initiative. These new reports increased by almost 40 percent the number of nitrate reporting forms in the TRI database from facilities in EPA Region 3. Fewer than 20 reports were submitted as revisions to nitrate reports that were filed prior to the Nitrate Initiative.

TABLE 1

NUMBER OF NITRATE REPORTING FORMS

Reporting Year	Number of Reports			
	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Nitrate Reports
1995	70	0	40	110
1996	78	2	37	115
1997	85	5	38	123
1998	103	12	29	132
1995-1998	336	19	144	480

The reporting forms were fairly evenly distributed across the 4 reporting years covered by the Nitrate Initiative. No TRI Form A reporting forms for nitrates were submitted. The 163 Form R reporting forms resulted in an 11 percent increase in reported on-site and off-site releases of nitrates and a 38 percent increase in reported transfers off-site of nitrates for further waste management. As shown on Figure 1 below, food and chemical industries were responsible for most of the increases in reported releases in EPA Region 3. Figure 2 shows that chemical industries and industries that manufacture stone, clay, glass and concrete products were responsible for most of the increases in reported transfers in EPA Region 3.

FIGURE 1

PERCENT CHANGES IN NITRATE RELEASES REPORTED BY INDUSTRY SECTOR

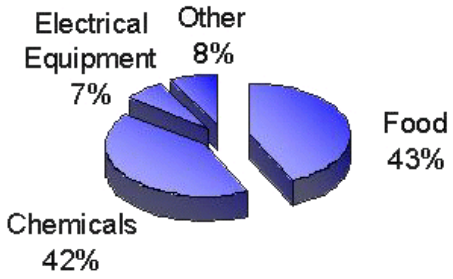
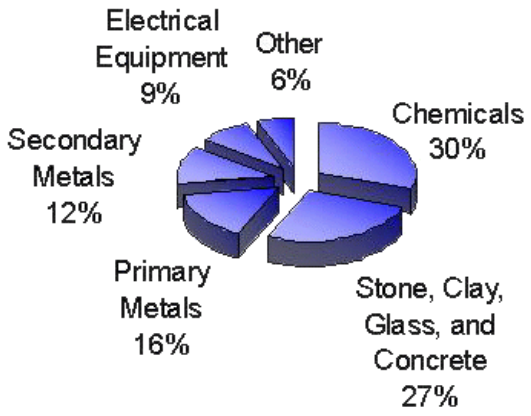


FIGURE 2

PERCENT CHANGES IN NITRATE WASTE MANAGEMENT TRANSFERS REPORTED BY INDUSTRY SECTOR



EPA Region 3 assessed $96,000 in penalties under the Nitrate Initiative.

CHANGES IN NITRATE RELEASE AND TRANSFER DATA BY MEDIA

As a result of the Nitrate Initiative, an additional 19.5 million pounds of nitrate compounds was reported as released to surface water in EPA Region 3 from 1995 through 1998. This

represents a correction of 11 percent to the baseline data. Over 19,000 pounds of nitrates were added to the quantity released off-site, a correction of 3 percent. Changes in nitrate releases to land or through underground injection were minimal or nonexistent.

Most dramatic was the 9.5 million pounds of nitrates that were reported for the first time as released to publicly owned treatment works. This contributed to a correction of 28 percent to the TRI database. An additional 3.9 million pounds of nitrates were reported as transferred off-site to other types of facilities for further waste management. This quantity represents a correction of 450 percent to the TRI database. The quantity of nitrates reported as treated on-site increased by about 1.8 million pounds, a correction of 13 percent.

Table 2 lists the top ten facilities in EPA Region 3 that responded to the initiative, ranked on total changes in releases. Table 3 lists the top ten facilities ranked on total changes in transfers.

TABLE 2

CHANGES IN RELEASES OF NITRATES FOR TOP TEN FACILITIES IN EPA REGION 3 RANKED ON TOTAL CHANGES IN RELEASES (REPORTING YEARS 1995 THROUGH 1998)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal		
Osram Sylvania Products, Inc., Towanda, PA	No	Yes	8,109,372	0	0	8,109,372	0
Perdue Farms, Inc., Accomac Processing Plant, Accomac, VA	No	Yes	5,660,000	0	1,110	5,661,110	0
Georgetown Processing Plant Facility #17 Georgetown, DE	No	Yes	1,563,000	0	640	1,563,640	0
Dairy Farmers of America, Inc., New Wilmington, PA	Yes	Yes	1,276,565	0	0	1,276,565	-30,946
Spectratech International, Inc., Kearneysville, WV	No	Yes	1,187,000	0	0	1,187,000	0
BWX Technologies, Inc. Lynchburg, VA	Yes	No	1,183,100	0	0	1,183,100	0
Welland Chemical Company, Inc., Newell Works, Newell, PA	No	Yes	324,000	0	0	324,000	0
Lucent Technologies Reading, PA	No	Yes	248,000	0	0	248,000	0
Showell Processing Plant Showell, MD	No	Yes	125,313	0	924	126,237	0
P. H. Glatfelter Company Spring Grove, PA	No	Yes	113,680	0	49	113,729	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

TABLE 3

CHANGES IN TRANSFERS OF NITRATES FOR TOP TEN FACILITIES IN EPA REGION 3

RANKED ON TOTAL CHANGES IN TRANSFERS FOR WASTE MANAGEMENT
(REPORTING YEARS 1995 THROUGH 1998)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
Corning, Inc., Danville, VA	No	Yes	3,555,000	0
Ruetgers Organics Corporation, State College, PA	No	Yes	0	3,415,138
Avesta Sheffield East, Inc., Baltimore, MD	No	Yes	1,277,956	0
Cerro Metal Products Company, Weyers Cave, VA	No	Yes	683,467	0
Barker Microfarads, Inc., Hillsville, VA	No	Yes	666,700	0
Honeywell International, Inc., Hopewell Plant Hopewell, VA	No	No	410,050	0
Republic Technologies International, Baltimore S&S Baltimore, MD	No	Yes	408,580	0
Cerro Metal Products Company, Shenandoah, VA	No	Yes	382,751	0
Thomson Consumer Electronics, Dunmore, PA	No	Yes	358,702	0
Rohm & Haas Company, Philadelphia, PA	No	Yes	283,008	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

CHANGES IN TRI DATA FOR CHEMICALS OTHER THAN NITRATE COMPOUNDS

As a result of the initiative, 42 facilities in EPA Region 3 submitted 519 reporting forms for chemicals other than nitrate compounds. The distribution of these reporting forms across the 4 reporting years is shown on Figure 3. Only 182 of the reporting forms were first-time submittals, consisting of 7 Form As and 175 Form Rs. Data from the new reports addressed 36 chemicals.

The other 337 reporting forms were revisions to previous submittals to the TRI. These revised reporting forms addressed a total of 54 chemicals. A summary of the changes in transfer and release quantities from all non-nitrate reports is shown in Table 4. The most significant change to the TRI from these reports was an increase of over 11 million pounds of manganese compounds reported as disposed of off-site by one facility for reporting years 1995 through 1998.

FIGURE 3

NON-NITRATE REPORTING FORMS SUBMITTED

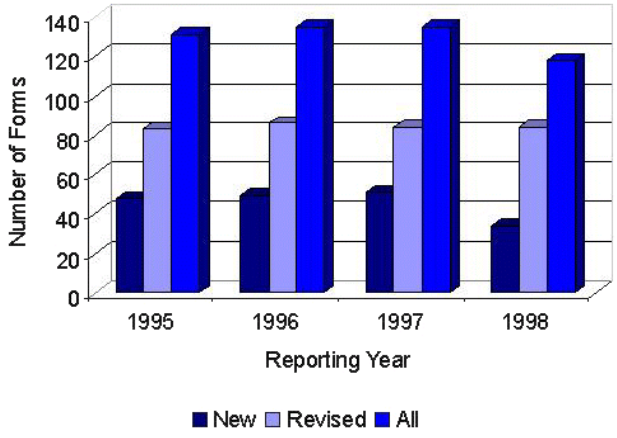


TABLE 4

CHANGES IN RELEASES AND WASTE MANAGEMENT TRANSFERS REPORTED FOR TOP FIVE CHEMICALS BASED ON TOTAL CHANGES IN RELEASES AND TRANSFERS (REPORTING YEARS 1995 THROUGH 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)
—	Manganese compounds	11,339,640	-13,926
—	Copper compounds	128,570	2,135,281
—	Zinc compounds	1,868,084	-91,813
—	Barium compounds	814,411	364,866
1330-20-7	Xylene (mixed isomers)	803,853	117,170
—	All other chemicals	3,101,179	-1,024,150
Total		18,055,737	1,487,428

ADDITIONAL INFORMATION

Additional information on nitrate releases and transfers reported to TRI from facilities in EPA Region 3 is presented in the Nitrate Initiative Fact Sheet for this region. The fact sheet also identifies the EPA Region 3 contact that can be reached for further information and state contacts for EPA Region 3 that can provide further information about individual state TRI programs.

For further information on chemical releases and transfers reported to TRI, access the TRI Explorer and Envirofacts databases through the following EPA websites:

- http://www.epa.gov/triexplorer
- http://www.epa.gov/enviro/html/ef_overview.html

The TRI Explorer database will generate reports based on facilities, chemicals, geographic areas, or industry type (SIC code) at the county, state, and national levels. The Envirofacts database provides environmental information from other EPA databases on air, chemicals, facility information, grants and funding, hazardous waste, risk management plans, Superfund, TRI, and other EPA databases.

These databases are publicly available and contain information on specific toxic chemical releases and other waste management activities reported annually by certain covered industry groups as well as federal facilities. Reporting year 1999 is the most recent TRI data available. Please access the EPA Envirofacts database for the most recent TRI data.

NITRATE INITIATIVE:
CHANGES TO THE TOXIC RELEASE INVENTORY
EPA REGION 4

BACKGROUND

Through its National Nitrate Compliance Initiative (Nitrate Initiative), the U.S. Environmental Protection Agency (EPA) has achieved significantly improved compliance rates for nitrate reporting to the Toxic Release Inventory (TRI). The TRI is a database of specific toxic chemical releases and other waste management activities in the United States. The TRI was created through the Emergency Planning and Community Right-to-Know Act (EPCRA). EPCRA empowers national, state, and local governments; industry; public-interest and environmental groups and organizations; and the public in dialogues about environmental and human health impacts from the manufacture and use of toxic chemicals in the United States.

Facilities submit one of two types of reporting forms to EPA for the TRI: Form R and Form A. Form R is an extensive report that provides information on releases, transfers, and other waste management activities of a toxic chemical. The Form A can be used by a facility when it uses less than 1 million pounds of a chemical and releases or otherwise manages less than 500 pounds of that chemical; it certifies that the facility is not subject to the more extensive reporting requirements on the Form R.

The Nitrate Initiative used various compliance and enforcement tools to improve known compliance rates by facilities for the period of 1995 through 1998 for water-dissociable nitrate compounds. Nitrate reporting is important because nitrates are toxic chemicals that at sufficient doses can cause serious risks or death to humans and significant damage to the environment.

The Nitrate Initiative began on March 1, 2000; it combined the use of an enforcement alert and show cause letters. The enforcement alert described the lack of compliance with nitrate reporting for coincidentally-manufactured nitrate compounds and urged facilities to self-disclose violations. The show cause letters offered facilities the opportunity to demonstrate that there were no violations as alleged or to negotiate a settlement with a greatly reduced penalty.

Although the enforcement alert for the Nitrate Initiative was published in March 2000, some facilities became aware of the enforcement effort before its publication and submitted nitrate reporting forms to the TRI after December 31, 1999, under EPA's audit policy. Therefore, the TRI data as of December 31, 1999, is designated as baseline data and is used to evaluate the effect of the Nitrate Initiative on the TRI database. This document summarizes the impact of the Nitrate Initiative for nitrate reporting to the TRI in EPA Region 4.

PARTICIPATION

Prior to the Nitrate Initiative, the TRI contained data from 680 nitrate reporting forms from facilities in EPA Region 4. About 135 facilities in EPA Region 4 submitted a total of 402 reports for nitrates during the Nitrate Initiative. Eight of these facilities submitted reporting forms in response to the enforcement alert.

As shown in Table 1, the majority of these forms are "new reports," which are reports that were submitted for the first time during the Nitrate Initiative. These new reports increased by over 50 percent the number of nitrate reporting forms in the TRI database from facilities in EPA Region 4. Fewer than 50 reports were submitted as revisions to nitrate reports filed prior to the Nitrate Initiative.

TABLE 1

NUMBER OF NITRATE REPORTING FORMS

Reporting Year	Number of Reports			
	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Nitrate Reports
1995	149	5	87	236
1996	157	8	94	251
1997	177	9	87	264
1998	197	23	89	286
1995-1998	680	45	357	1,037

The reporting forms were fairly evenly distributed across the 4 reporting years covered by the Nitrate Initiative. TRI Form A reporting forms represented only 6 of the 402 forms submitted. The remaining 396 Form R reporting forms resulted in a 26 percent increase in reported on-site and off-site releases of nitrates and a 183 percent increase in reported transfers off-site of nitrates for further waste management. As shown on Figures 1 and 2 below, food and chemical industries were responsible for most of the increases in EPA Region 4.

FIGURE 1

PERCENT CHANGES IN NITRATE RELEASES REPORTED BY INDUSTRY SECTOR

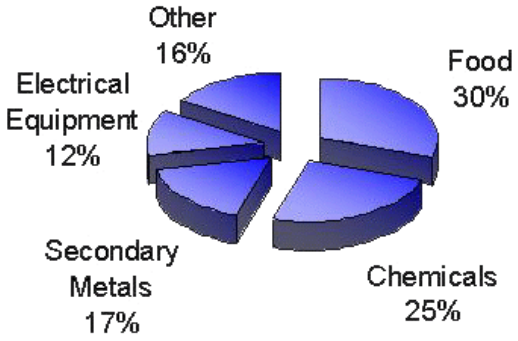
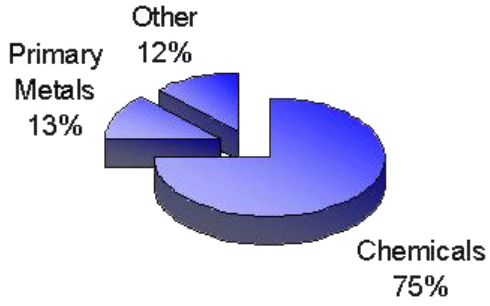


FIGURE 2

PERCENT CHANGES IN NITRATE WASTE MANAGEMENT TRANSFERS REPORTED BY INDUSTRY SECTOR



EPA Region 4 assessed $168,000 in penalties under the Nitrate Initiative.

CHANGES IN NITRATE RELEASE AND TRANSFER DATA BY MEDIA

As a result of the Nitrate Initiative, an additional 38 million pounds of nitrates were reported as released to surface water in EPA Region 4 from 1995 through 1998. This represents a correction of 36 percent to the baseline data. Over 4.1 million pounds of nitrates were added to the quantity released to land on-site, a correction of 235 percent. Changes in nitrate releases through underground injection or to off-site locations were minimal.

Most dramatic was the 43 million pounds of nitrates that were reported for the first time as released to publicly owned treatment works. This resulted in a correction of 257 percent to the TRI database. An additional 2.7 million pounds of nitrates were reported as transferred off-site to other types of facilities for further waste management. This quantity represents a correction of 32 percent to the TRI database. The quantity of nitrates reported as treated on-site increased by about 27 million pounds, a correction of 60 percent.

Table 2 lists the top ten facilities in EPA Region 4 that responded to the initiative, ranked on total changes in releases. Table 3 lists the top ten facilities ranked on total changes in transfers.

TABLE 2

CHANGES IN RELEASES OF NITRATES FOR TOP TEN FACILITIES IN EPA REGION 4 RANKED ON TOTAL CHANGES IN RELEASES (REPORTING YEARS 1995 THROUGH 1998)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal		
MEMC Electronic Materials, Inc., Moore, SC	No	Yes	4,235,000	0	0	4,235,000	0
Ensign-Bickford Company, Graham, KY	No	Yes	0	0	4,048,238	4,048,238	0
Solutia, Inc., Decatur, AL	No	Yes	4,000,000	0	0	4,000,000	0
Piper Impact, Inc. New Albany, MS	No	Yes	3,761,200	0	0	3,761,200	0
Lewiston Processing Plant Lewiston Woodville, NC	No	Yes	2,941,627	0	877	2,942,504	0
Central Industries, Inc. Forest, MS	No	Yes	2,377,336	0	0	2,377,336	0
Modine Manufacturing Company, Knoxville, TN	No	Yes	1,969,828	0	0	1,969,828	0
Leaf River Forest Products New Augusta, MS	No	Yes	1,806,369	0	0	1,806,369	5,610
William L. Bonnell Company, Inc. Newnan, GA	No	Yes	1,550,000	0	0	1,550,000	6,680
Gold Kist, Live Oak Processing Plant Live Oak, FL	No	Yes	1,420,000	0	14,900	1,434,900	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

TABLE 3

CHANGES IN TRANSFERS OF NITRATES FOR TOP TEN FACILITIES IN EPA REGION 4 RANKED ON TOTAL CHANGES IN TRANSFERS FOR WASTE MANAGEMENT (REPORTING YEARS 1995 THROUGH 1998)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
Sdd-Chemie, Inc., West Plant, Louisville, KY	No	Yes	16,100,000	0
First Chemical Corporation, Pascagoula, MS	No	Yes	10,484,000	0
Harshaw Chemical Company, Louisville, KY	No	Yes	3,120,000	0
Procter & Gamble Manufacturing Company, Greenville, SC	No	Yes	2,898,608	0
Talley Metals Technology, Hartsville, SC	No	No	0	1,187,392
Crucible Materials Corporation, Trent Tube Division, Carrollton, GA	No	Yes	1,117,755	18,815
PQ Corporation, Augusta, GA	No	Yes	0	956,675
Loxcreen Company, Roxboro, NC	No	Yes	792,700	0
Greenwood Fabricating & Plating, Inc., Greenwood, SC	No	Yes	626,360	0
Fleischmann's Yeast, Inc., Gastonia, NC	No	Yes	470,412	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

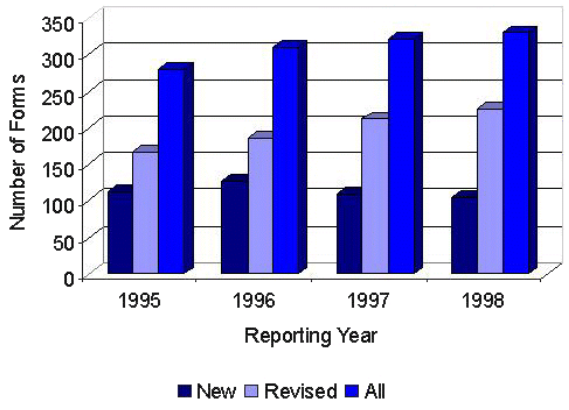
(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

CHANGES IN TRI DATA FOR CHEMICALS OTHER THAN NITRATE COMPOUNDS

As a result of the initiative, 96 facilities in EPA Region 4 submitted 1,245 reporting forms for chemicals other than nitrate compounds. The distribution of these reporting forms across the four reporting years is shown on Figure 3. About one-third of the reporting forms were first-time submittals, including 80 Form As and 375 Form Rs. Data from the new reports addressed 53 chemicals.

FIGURE 3

NON-NITRATE REPORTING FORMS SUBMITTED



The other 790 reporting forms were revisions to previous submittals to the TRI. These revised reporting forms addressed a total of 68 chemicals. A summary of the changes in transfer and release quantities from all non-nitrate reports is shown in Table 4. The most significant change to the TRI from these reports was an additional 18 million pounds of copper reported as transferred off-site by one facility for reporting years 1995 through 1998.

TABLE 4

CHANGES IN RELEASES AND WASTE MANAGEMENT TRANSFERS REPORTED FOR TOP FIVE CHEMICALS BASED ON TOTAL CHANGES IN RELEASES AND TRANSFERS (REPORTING YEARS 1995 THROUGH 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)
7440-50-8	Copper	-118,309	18,480,535
—	Manganese compounds	13,556,371	3,826,449
—	Chromium compounds	1,243,038	9,324,648
—	Nickel compounds	506,068	5,539,184
—	Copper compounds	1,478,448	1,378,272
—	All other chemicals	12,672,703	7,437,753
Total		29,338,319	45,986,841

ADDITIONAL INFORMATION

Additional information on nitrate releases and transfers reported to TRI from facilities in EPA Region 4 is presented in the Nitrate Initiative Fact Sheet for this region. The fact sheet also identifies the EPA Region 4 contact that can be reached for further information and state contacts for EPA Region 4 that can provide further information about individual state TRI programs.

For further information on chemical releases and transfers reported to TRI, access the TRI Explorer and Envirofacts databases through the following EPA websites:

- http://www.epa.gov/triexplorer
- http://www.epa.gov/enviro/html/ef_overview.html

The TRI Explorer database will generate reports based on facilities, chemicals, geographic areas, or industry type (SIC code) at the county, state, and national levels. The Envirofacts database provides environmental information from other EPA databases on air, chemicals, facility information, grants and funding, hazardous waste, risk management plans, Superfund, TRI, and other EPA databases.

These databases are publicly available and contain information on specific toxic chemical releases and other waste management activities reported annually by certain covered industry groups as well as federal facilities. Reporting year 1999 is the most recent TRI data available. Please access the EPA Envirofacts database for the most recent TRI data.

NITRATE INITIATIVE:
CHANGES TO THE TOXIC RELEASE INVENTORY
EPA REGION 5

BACKGROUND

Through its National Nitrate Compliance Initiative (Nitrate Initiative), the U.S. Environmental Protection Agency (EPA) has achieved significantly improved compliance rates for nitrate reporting to the Toxic Release Inventory (TRI). The TRI is a database of specific toxic chemical releases and other waste management activities in the United States. The TRI was created through the Emergency Planning and Community Right-to-Know Act (EPCRA). EPCRA empowers national, state, and local governments; industry; public-interest and environmental groups and organizations; and the public in dialogues about environmental and human health impacts from the manufacture and use of toxic chemicals in the United States.

Facilities submit one of two types of reporting forms to EPA for the TRI: Form R and Form A. Form R is an extensive report that provides information on releases, transfers, and other waste management activities of a toxic chemical. The Form A can be used by a facility when it uses less than 1 million pounds of a chemical and releases or otherwise manages less than 500 pounds of that chemical; it certifies that the facility is not subject to the more extensive reporting requirements on the Form R.

The Nitrate Initiative used various compliance and enforcement tools to improve known compliance rates by facilities for the period of 1995 through 1998 for water-dissociable nitrate compounds. Nitrate reporting is important because nitrates are toxic chemicals that at sufficient doses can cause serious risks or death to humans and significant damage to the environment.

The Nitrate Initiative began on March 1, 2000; it combined the use of an enforcement alert and show cause letters. The enforcement alert described the lack of compliance with nitrate reporting for coincidentally-manufactured nitrate compounds and urged facilities to self-disclose violations. The show cause letters offered facilities the opportunity to demonstrate that there were no violations as alleged or to negotiate a settlement with a greatly reduced penalty.

Although the enforcement alert for the Nitrate Initiative was published in March 2000, some facilities became aware of the enforcement effort before its publication and submitted nitrate reporting forms to the TRI after December 31, 1999, under EPA's audit policy. Therefore, the TRI data as of December 31, 1999, is designated as baseline data and is used to evaluate the effect of the Nitrate Initiative on the TRI database. This document summarizes the impact of the Nitrate Initiative for nitrate reporting to the TRI in EPA Region 5.

PARTICIPATION

Prior to the Nitrate Initiative, the TRI contained data from 1,043 nitrate reporting forms from facilities in EPA Region 5. About 220 facilities in EPA Region 5 submitted a total of 684 reports for nitrates during the Nitrate Initiative. Forty-two of these facilities submitted reporting forms in response to the enforcement alert.

As shown in Table 1, the majority of these forms are "new reports," which are reports that were submitted for the first time during the Nitrate Initiative. These new reports increased by almost 50 percent the number of nitrate reporting forms in the TRI database from facilities in EPA Region 5. Fewer than 80 reports were submitted as revisions to nitrate reports filed prior to the Nitrate Initiative.

TABLE 1

NUMBER OF NITRATE REPORTING FORMS

Reporting Year	Number of Reports			
	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Nitrate Reports
1995	225	7	156	381
1996	245	12	153	398
1997	272	20	152	424
1998	301	37	147	448
1995-1998	1,043	76	608	1,651

The reporting forms were fairly evenly distributed across the 4 reporting years covered by the Nitrate Initiative. TRI Form A reporting forms represented only 12 of the 684 forms submitted. The remaining 672 Form R reporting forms resulted in a 20 percent increase in reported on-site and off-site releases of nitrates and a 65 percent increase in reported transfers off-site of nitrates for further waste management. As shown on Figure 1 below, food industries and industries that perform primary smelting and refining of metals and industries were responsible for most of the increases in releases in EPA Region 5. A variety of industries were responsible for most of the increases in transfers, as shown in Figure 2.

FIGURE 1

PERCENT CHANGES IN NITRATE RELEASES REPORTED BY INDUSTRY SECTOR

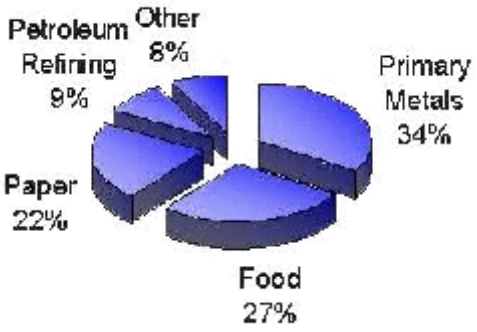
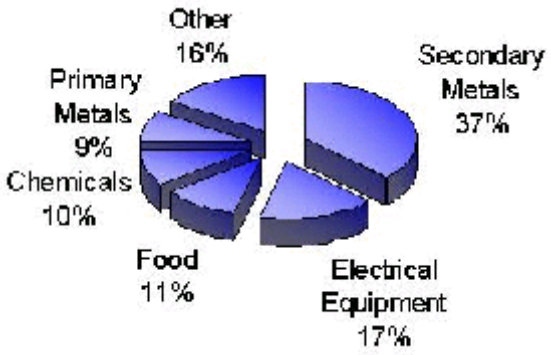


FIGURE 2

PERCENT CHANGES IN NITRATE WASTE MANAGEMENT TRANSFERS REPORTED BY INDUSTRY SECTOR



EPA Region 5 assessed $385,000 in penalties under the Nitrate Initiative.

CHANGES IN NITRATE RELEASE AND TRANSFER DATA BY MEDIA

As a result of the Nitrate Initiative, an additional 12 million pounds of nitrates were reported as released to surface water in EPA Region 5 from 1995 through 1998. This represents a correction of 20 percent to the baseline data. Over 1 million pounds of nitrates were added to the quantity released to land on-site, a correction of 52 percent. Changes in nitrate releases

through underground injection were minimal. An additional 930,000 pounds of nitrates were reported as released off-site, a correction of 39 percent.

Most dramatic was the 50 million pounds of nitrates that were reported for the first time as released to publicly owned treatment works. This resulted in a correction of 63 percent to the TRI database. An additional 2.3 million pounds of nitrates were reported as transferred off-site to other types of facilities for further waste management. This quantity represents a correction of 174 percent to the TRI database. The quantity of nitrates reported as treated on-site increased by about 21 million pounds, a correction of 92 percent.

Table 2 lists the top ten facilities in EPA Region 5 that responded to the initiative, ranked on total changes in releases. Table 3 lists the top ten facilities ranked on total changes in transfers.

TABLE 2

CHANGES IN RELEASES OF NITRATES FOR TOP TEN FACILITIES IN EPA REGION 5 RANKED ON TOTAL CHANGES IN RELEASES (REPORTING YEARS 1995 THROUGH 1998)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal		
Wausau-Mosinee Paper Corporation, Brokaw Mill, Brokaw, WI	No	Yes	2,447,991	0	4,159	2,452,150	44
Crucible Materials Corp., Trent Tube Plants 1, 2 & 3 East Troy, WI	No	Yes	1,844,200	0	0	1,844,200	2,260
Excel Corporation, Beardstown, IL	No	Yes	316,907	0	1,040,741	1,357,648	0
Koch Petroleum Group, L.P., Rosemount, MN	No	Yes	1,080,000	0	0	1,080,000	0
Associated Milk Producers, Dawson Div., Dawson, MN	Yes	Yes	723,626	0	1,000	724,626	7,045
Rhinelander Paper Company Rhinelander, WI	No	Yes	657,367	0	0	657,367	4,171
National-Standard Company, Lake Street Plant, Niles, MI	No	Yes	577,229	0	0	577,229	0
Granite City Steel Granite City, IL	No	Yes	554,126	0	0	554,126	0
LTV Steel Company, Inc. - Cleveland Works Cleveland, OH	No	Yes	430,500	0	0	430,500	0
Capitol Products Corporation Kentland, IN	No	Yes	407,000	0	0	407,000	2,910

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

TABLE 3

CHANGES IN TRANSFERS OF NITRATES FOR TOP TEN FACILITIES IN EPA REGION 5 RANKED ON TOTAL CHANGES IN TRANSFERS FOR WASTE MANAGEMENT (REPORTING YEARS 1995 THROUGH 1998)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
Miller Plating & Metal Finishing, Evansville, IN	No	Yes	3,220,000	0
Aluminum Coil Anodizing Corporation, Streamwood, IL	Yes	Yes	2,534,684	0
Zenith Electronics Corporation, Rauland Division Melrose Park, IL	No	Yes	2,485,347	0
First District Association, Litchfield, MN	No	Yes	2,053,446	0
Ucar Graph-Tech, Inc., Lakewood, OH	No	Yes	1,846,700	0
Hemlock Semiconductor Corporation, Hemlock, MI	No	Yes	0	1,832,278
Anomatic Corporation, Newark, OH	No	Yes	1,726,413	0
Thomson Consumer Electronics, Marion, IN	No	Yes	1,406,405	0
Delphi Delco Electronics Systems Plant 1, Kokomo, IN	No	No	1,376,000	0
Blue Grass Chemical Specialities, New Albany, IN	No	Yes	1,187,471	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

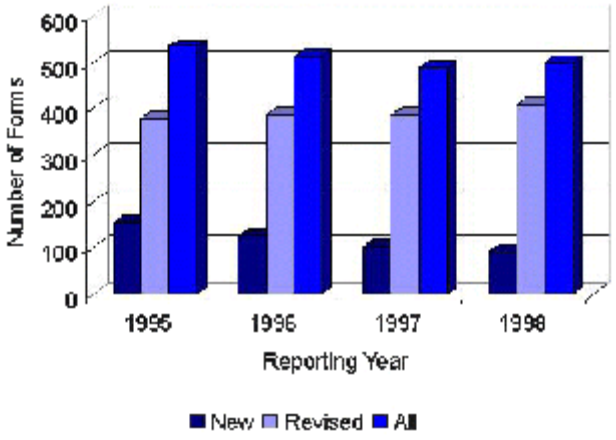
(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

CHANGES IN TRI DATA FOR CHEMICALS OTHER THAN NITRATE COMPOUNDS

As a result of the initiative, 155 facilities in EPA Region 5 submitted 2,038 reporting forms for chemicals other than nitrate compounds. The distribution of these reporting forms across the 4 reporting years is shown on Figure 3. About one-fourth of the reporting forms were first-time submittals, consisting of 98 Form As and 379 Form Rs. Data from the new reports addressed 61 chemicals.

FIGURE 3

NON-NITRATE REPORTING FORMS SUBMITTED



The other 1,561 reporting forms were revisions to previous submittals to the TRI. These revised reporting forms addressed a total of 88 chemicals. A summary of the changes in transfer and release quantities from all non-nitrate reports is shown in Table 4. The most significant change to the TRI from these reports was a reduction of about 48 million pounds of copper compounds previously reported as transferred off-site by one facility for reporting years 1995 through 1998.

TABLE 4

CHANGES IN RELEASES AND WASTE MANAGEMENT TRANSFERS REPORTED FOR TOP FIVE CHEMICALS BASED ON TOTAL CHANGES IN RELEASES AND TRANSFERS (REPORTING YEARS 1995 THROUGH 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)
—	Zinc compounds	32,953,361	1,860,290
7664-38-2	Phosphoric acid	-338,060	32,371,155
7697-37-2	Nitric acid	1,361,946	1,262,445
108-95-2	Phenol	1,358,163	6,914
—	Barium compounds	1,298,978	2,826
—	All other chemicals	4,861,469	-53,079,181
Total		40,196,879	-17,575,551

ADDITIONAL INFORMATION

Additional information on nitrate releases and transfers reported to TRI from facilities in EPA Region 5 is presented in the Nitrate Initiative Fact Sheet for this region. The fact sheet also identifies the EPA Region 5 contact that can be reached for further information and state contacts for EPA Region 5 that can provide further information about individual state TRI programs.

For further information on chemical releases and transfers reported to TRI, access the TRI Explorer and Envirofacts databases through the following EPA websites:

- http://www.epa.gov/triexplorer
- http://www.epa.gov/enviro/html/ef_overview.html

The TRI Explorer database will generate reports based on facilities, chemicals, geographic areas, or industry type (SIC code) at the county, state, and national levels. The Envirofacts database provides environmental information from other EPA databases on air, chemicals, facility information, grants and funding, hazardous waste, risk management plans, Superfund, TRI, and other EPA databases.

These databases are publicly available and contain information on specific toxic chemical releases and other waste management activities reported annually by certain covered industry groups as well as federal facilities. Reporting year 1999 is the most recent TRI data available. Please access the EPA Envirofacts database for the most recent TRI data.

NITRATE INITIATIVE:
CHANGES TO THE TOXIC RELEASE INVENTORY
EPA REGION 6

BACKGROUND

Through its National Nitrate Compliance Initiative (Nitrate Initiative), the U.S. Environmental Protection Agency (EPA) has achieved significantly improved compliance rates for nitrate reporting to the Toxic Release Inventory (TRI). The TRI is a database of specific toxic chemical releases and other waste management activities in the United States. The TRI was created through the Emergency Planning and Community Right-to-Know Act (EPCRA). EPCRA empowers national, state, and local governments; industry; public-interest and environmental groups and organizations; and the public in dialogues about environmental and human health impacts from the manufacture and use of toxic chemicals in the United States.

Facilities submit one of two types of reporting forms to EPA for the TRI: Form R and Form A. Form R is an extensive report that provides information on releases, transfers, and other waste management activities of a toxic chemical. The Form A can be used by a facility when it uses less than 1 million pounds of a chemical and releases or otherwise manages less than 500 pounds of that chemical; it certifies that the facility is not subject to the more extensive reporting requirements on the Form R.

The Nitrate Initiative used various compliance and enforcement tools to improve known compliance rates by facilities for the period of 1995 through 1998 for water-dissociable nitrate compounds. Nitrate reporting is important because nitrates are toxic chemicals that at sufficient doses can cause serious risks or death to humans and significant damage to the environment.

The Nitrate Initiative began on March 1, 2000; it combined the use of an enforcement alert and show cause letters. The enforcement alert described the lack of compliance with nitrate reporting for coincidentally-manufactured nitrate compounds and urged facilities to self-disclose violations. The show cause letters offered facilities the opportunity to demonstrate that there were no violations as alleged or to negotiate a settlement with a greatly reduced penalty.

Although the enforcement alert for the Nitrate Initiative was published in March 2000, some facilities became aware of the enforcement effort before its publication and submitted nitrate reporting forms to the TRI after December 31, 1999, under EPA's audit policy. Therefore, the TRI data as of December 31, 1999, is designated as baseline data and is used to evaluate the effect of the Nitrate Initiative on the TRI database. This document summarizes the impact of the Nitrate Initiative for nitrate reporting to the TRI in EPA Region 6.

PARTICIPATION

Prior to the Nitrate Initiative, the TRI contained data from 458 nitrate reporting forms from facilities in EPA Region 6. About 80 facilities in EPA Region 6 submitted a total of 259 reports for nitrates during the Nitrate Initiative. Thirteen of these facilities submitted reporting forms in response to the enforcement alert.

As shown in Table 1, the majority of these forms are "new reports," which are reports that were submitted for the first time during the Nitrate Initiative. These new reports increased by over 50 percent the number of nitrate reporting forms in the TRI database from facilities in EPA Region 6. Fewer than 25 reports were submitted as revisions to nitrate reports filed prior to the Nitrate Initiative.

TABLE 1

NUMBER OF NITRATE REPORTING FORMS

Reporting Year	Number of Reports			
	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Nitrate Reports
1995	95	3	58	153
1996	112	3	60	172
1997	114	4	61	175
1998	137	13	57	194
1995-1998	458	23	236	694

The reporting forms were fairly evenly distributed across the 4 reporting years covered by the Nitrate Initiative. No TRI Form A reporting forms were submitted. The 259 Form R reporting forms resulted in a 13 percent increase in reported on-site and off-site releases of nitrates and a 22 percent increase in reported transfers off-site of nitrates for further waste management. As shown on Figure 1 below, chemical and food industries were responsible for most of the increases in releases in EPA Region 6. A variety of industries were responsible for most of the increases in transfers, as shown in Figure 2.

FIGURE 1

PERCENT CHANGES IN NITRATE RELEASES REPORTED BY INDUSTRY SECTOR

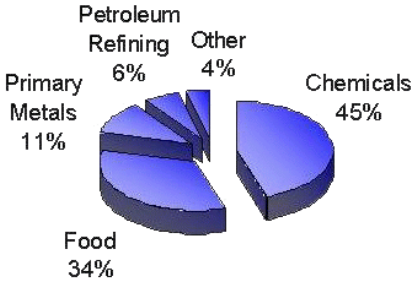
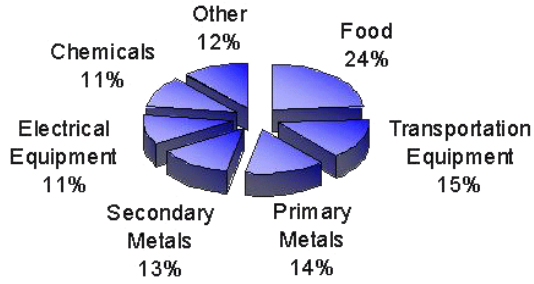


FIGURE 2

PERCENT CHANGES IN NITRATE WASTE MANAGEMENT TRANSFERS REPORTED BY INDUSTRY SECTOR



EPA Region 6 assessed $80,000 in penalties under the Nitrate Initiative.

CHANGES IN NITRATE RELEASE AND TRANSFER DATA BY MEDIA

As a result of the Nitrate Initiative, an additional 27 million pounds of nitrates were reported as released to surface water in EPA Region 6 from 1995 through 1998. This represents a correction of 22 percent to the baseline data. Over 2 million pounds of nitrates were added to the quantity released to land on-site, a correction of 60 percent. Changes in nitrate releases through underground injection were minimal. An additional 126,000 pounds of nitrates were reported as released off-site, a correction of 231 percent.

Nearly 16 million pounds of nitrates that were reported for the first time as released to publicly owned treatment works. This resulted in a correction of 23 percent to the TRI database. An additional 42,000 pounds of nitrates were reported as transferred off-site to other types of facilities for further waste management. This quantity represents a correction of 3 percent to the TRI database. The quantity of nitrates reported as treated on-site increased by about 55 million pounds, a correction of 114 percent.

Table 2 lists the top ten facilities in EPA Region 6 that responded to the initiative, ranked on total changes in releases. Table 3 lists the top ten facilities ranked on total changes in transfers.

TABLE 2

CHANGES IN RELEASES OF NITRATES FOR TOP TEN FACILITIES IN EPA REGION 6 RANKED ON TOTAL CHANGES IN RELEASES (REPORTING YEARS 1995 THROUGH 1998)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal		
Rohm & Haas Texas, Inc., Deer Park, TX	No	No	7,092,909	0	0	7,092,909	0
Protein Technologies International, Inc. Pryor, OK	No	Yes	6,091,690	0	160,250	6,251,940	0
Gulf Chemical & Metallurgical Corporation Freeport, TX	No	Yes	2,646,605	0	0	2,646,605	0
Du Pont, Victoria Plant Victoria, TX	No	No	6,145,040	-4,608,780	0	1,536,260	0
Lion Oil Company El Dorado, AR	No	Yes	1,395,394	0	0	1,395,394	0
Excel Corporation Plainview, TX	No	Yes	0	0	1,054,919	1,054,919	0
Union Carbide Corporation, Taft/Star Complex, Taft, LA	No	Yes	628,460	0	0	628,460	744
Solvay Interox Deer Park, TX	No	Yes	589,174	0	0	589,174	0
Ticona Polymers, Inc. Bishop, TX	No	Yes	550,530	0	0	550,530	0
Union Carbide Corporation, Seadrift Plant, Seadrift, TX	No	Yes	503,400	0	0	503,400	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

TABLE 3

CHANGES IN TRANSFERS OF NITRATES FOR TOP TEN FACILITIES IN EPA REGION 6 RANKED ON TOTAL CHANGES IN TRANSFERS FOR WASTE MANAGEMENT (REPORTING YEARS 1995 THROUGH 1998)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
Gerber Products, Fort Smith, AR	No	Yes	2,572,558	0
Webco Industries, Inc., SWT Division, Sand Springs, OK	No	Yes	1,181,092	0
Rohm & Haas Company, Bayport Plant, La Porte, TX	No	Yes	1,075,729	0
Western Lithotech, Jacksonville, TX	No	Yes	1,060,824	0
Haynes International, Inc., Arcadia, LA	No	Yes	1,007,507	0
Jan-Eze Plating, Inc., Nashville, AR	No	Yes	988,323	0
Northrop Grumman Corporation, Dallas, TX	Yes	Yes	959,000	0
Chem-Fab Corporation, Hot Springs, AR	No	Yes	900,506	0
St. Microelectronics, Inc., Carrollton, TX	No	Yes	546,028	0
Huck International, Inc., Waco, TX	No	Yes	467,600	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

CHANGES IN TRI DATA FOR CHEMICALS OTHER THAN NITRATE COMPOUNDS

As a result of the initiative, 62 facilities in EPA Region 6 submitted 908 reporting forms for chemicals other than nitrate compounds. The distribution of these reporting forms across the 4-reporting years is shown on Figure 3. About one-third of the reporting forms were first-time submittals, consisting of 57 Form As and 278 Form Rs. Data from the new reports addressed 60 chemicals.

The other 573 reporting forms were revisions to previous submittals to the TRI. These revised reporting forms addressed a total of 78 chemicals. A summary of the changes in transfer and release quantities from all non-nitrate reports is shown in Table 4. The most significant change to the TRI from these reports was an additional 2.6 million pounds of phosphoric acid reported as transferred off-site by one facility for reporting years 1995 through 1998.

FIGURE 3

NON-NITRATE REPORTING FORMS SUBMITTED

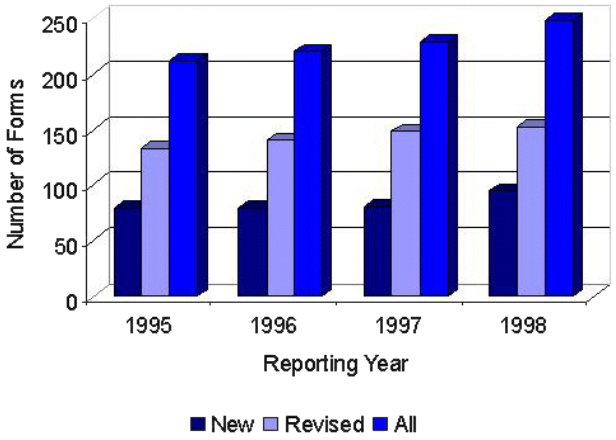


TABLE 4

CHANGES IN RELEASES AND WASTE MANAGEMENT TRANSFERS REPORTED FOR TOP FIVE CHEMICALS BASED ON TOTAL CHANGES IN RELEASES AND TRANSFERS (REPORTING YEARS 1995 THROUGH 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)
7664-38-2	Phosphoric Acid	-3,149	2,629,367
67-56-1	Methanol	345,833	1,185,692
7697-37-2	Nitric acid	1,448,128	-57,528
—	Barium compounds	1,384,862	0
79-10-7	Acrylic Acid	29,629	1,317,354
—	All other chemicals	10,069,980	216,412
Total		13,275,283	5,291,297

ADDITIONAL INFORMATION

Additional information on nitrate releases and transfers reported to TRI from facilities in EPA Region 6 is presented in the Nitrate Initiative Fact Sheet for this region. The fact sheet also identifies the EPA Region 6 contact that can be reached for further information and state contacts for EPA Region 6 that can provide further information about individual state TRI programs.

For further information on chemical releases and transfers reported to TRI, access the TRI Explorer and Envirofacts databases through the following EPA websites:

- http://www.epa.gov/triexplorer
- http://www.epa.gov/enviro/html/ef_overview.html

The TRI Explorer database will generate reports based on facilities, chemicals, geographic areas, or industry type (SIC code) at the county, state, and national levels. The Envirofacts database provides environmental information from other EPA databases on air, chemicals, facility information, grants and funding, hazardous waste, risk management plans, Superfund, TRI, and other EPA databases.

These databases are publicly available and contain information on specific toxic chemical releases and other waste management activities reported annually by certain covered industry groups as well as federal facilities. Reporting year 1999 is the most recent TRI data available. Please access the EPA Envirofacts database for the most recent TRI data.

NITRATE INITIATIVE:
CHANGES TO THE TOXIC RELEASE INVENTORY
EPA REGION 7

BACKGROUND

Through its National Nitrate Compliance Initiative (Nitrate Initiative), the U.S. Environmental Protection Agency (EPA) has achieved significantly improved compliance rates for nitrate reporting to the Toxic Release Inventory (TRI). The TRI is a database of specific toxic chemical releases and other waste management activities in the United States. The TRI was created through the Emergency Planning and Community Right-to-Know Act (EPCRA). EPCRA empowers national, state, and local governments; industry; public-interest and environmental groups and organizations; and the public in dialogues about environmental and human health impacts from the manufacture and use of toxic chemicals in the United States.

Facilities submit one of two types of reporting forms to EPA for the TRI: Form R and Form A. Form R is an extensive report that provides information on releases, transfers, and other waste management activities of a toxic chemical. The Form A can be used by a facility when it uses less than 1 million pounds of a chemical and releases or otherwise manages less than 500 pounds of that chemical; it certifies that the facility is not subject to the more extensive reporting requirements on the Form R.

The Nitrate Initiative used various compliance and enforcement tools to improve known compliance rates by facilities for the period of 1995 through 1998 for water-dissociable nitrate compounds. Nitrate reporting is important because nitrates are toxic chemicals that at sufficient doses can cause serious risks or death to humans and significant damage to the environment.

The Nitrate Initiative began on March 1, 2000; it combined the use of an enforcement alert and show cause letters. The enforcement alert described the lack of compliance with nitrate reporting for coincidentally-manufactured nitrate compounds and urged facilities to self-disclose violations. The show cause letters offered facilities the opportunity to demonstrate that there were no violations as alleged or to negotiate a settlement with a greatly reduced penalty.

Although the enforcement alert for the Nitrate Initiative was published in March 2000, some facilities became aware of the enforcement effort before its publication and submitted nitrate reporting forms to the TRI after December 31, 1999, under EPA's audit policy. Therefore, the TRI data as of December 31, 1999, is designated as baseline data and is used to evaluate the effect of the Nitrate Initiative on the TRI database. This document summarizes the impact of the Nitrate Initiative for nitrate reporting to the TRI in EPA Region 7.

PARTICIPATION

Prior to the Nitrate Initiative, the TRI contained data from 222 nitrate reporting forms from facilities in EPA Region 7. About 50 facilities in EPA Region 7 submitted a total of 157 reports for nitrates during the Nitrate Initiative. Fourteen of these facilities submitted reporting forms in response to the enforcement alert.

As shown in Table 1, the majority of these forms are "new reports," which are reports that were submitted for the first time during the Nitrate Initiative. These new reports increased by over 60 percent the number of nitrate reporting forms in the TRI database from facilities in EPA Region 7. Only 14 reports were submitted as revisions to nitrate reports filed prior to the Nitrate Initiative.

TABLE 1

NUMBER OF NITRATE REPORTING FORMS

Reporting Year	Number of Reports			
	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Nitrate Reports
1995	50	2	33	83
1996	55	2	36	91
1997	58	2	34	92
1998	59	8	40	99
1995-1998	222	14	143	365

The reporting forms were fairly evenly distributed across the 4 reporting years covered by the Nitrate Initiative. TRI Form A reporting forms represented only 5 of the 157 forms submitted. The remaining 152 Form R reporting forms resulted in a 86 percent increase in reported on-site and off-site releases of nitrates and a 78 percent increase in reported transfers off-site of nitrates for further waste management. As shown on Figures 1 and 2 below, food industries were responsible for most of the increases in EPA Region 7.

FIGURE 1

PERCENT CHANGES IN NITRATE RELEASES REPORTED BY INDUSTRY SECTOR

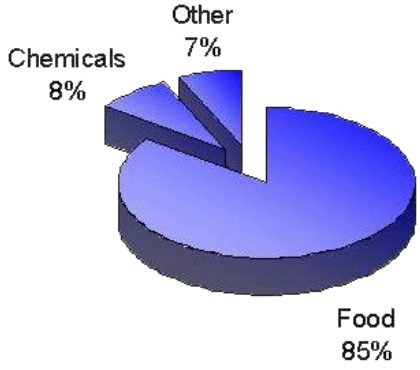
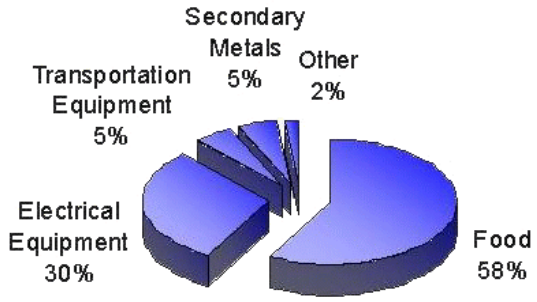


FIGURE 2

PERCENT CHANGES IN NITRATE WASTE MANAGEMENT TRANSFERS REPORTED BY INDUSTRY SECTOR



EPA Region 7 assessed $71,000 in penalties under the Nitrate Initiative.

CHANGES IN NITRATE RELEASE AND TRANSFER DATA BY MEDIA

As a result of the Nitrate Initiative, an additional 25 million pounds of nitrates were reported as released to surface water in EPA Region 7 from 1995 through 1998. This represents a correction of 98 percent to the baseline data. Almost 1 million pounds of nitrates were added to the quantity released to land on-site, a correction of 1,435 percent. Changes in nitrate releases through underground injection or releases off-site were minimal or nonexistent.

Nearly 15 million pounds of nitrates were reported for the first time as released to publicly owned treatment works. This resulted in a correction of 263 percent to the TRI database. The amount of nitrates reported as transferred off-site to other types of facilities for further waste management was reduced by about 2.3 million pounds. This quantity represents a correction of 20 percent to the TRI database. The quantity of nitrates reported as treated on-site increased by about 37 million pounds, a correction of over 2,000 percent.

Table 2 lists the top ten facilities in EPA Region 7 that responded to the initiative, ranked on total changes in releases. Table 3 lists the top ten facilities ranked on total changes in transfers.

TABLE 2

CHANGES IN RELEASES OF NITRATES FOR TOP TEN FACILITIES IN EPA REGION 7 RANKED ON TOTAL CHANGES IN RELEASES (REPORTING YEARS 1995 THROUGH 1998)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal		
Farmland Foods, Inc. Crete, NE	No	Yes	6,009,972	0	0	6,009,972	0
Simmons Foods, Inc. South West City, MO	No	Yes	5,260,431	0	0	5,260,431	4,266
IBP, Inc., Lexington, NE	No	No	5,100,000	0	0	5,100,000	0
Excel Corporation Schuyler, NE	No	Yes	2,822,967	0	0	2,822,967	363
America Cynamid Company, Hannibal Plant, Palmyra, MO	No	No	1,877,000	0	0	1,877,000	0
Biokyowa, Inc. Cape Girardeau, MO	No	Yes	1,626,000	0	0	1,626,000	5,600
Excel Corporation Dodge City, KS	No	Yes	0	0	958,662	958,662	0
Maytag Appliances NLP 2, Newton, IA	No	Yes	918,000	0	0	918,000	0
Farmland Industries, Inc., Coffeyville, KS	No	Yes	580,700	0	0	580,700	0
IBP, Inc. West Point, NE	No	Yes	260,000	0	0	260,000	1,000

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

TABLE 3

CHANGES IN TRANSFERS OF NITRATES FOR TOP TEN FACILITIES IN EPA REGION 7 RANKED ON TOTAL CHANGES IN TRANSFERS FOR WASTE MANAGEMENT (REPORTING YEARS 1995 THROUGH 1998)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
MEMC Electronic Materials, Inc., St. Peters Plant O'Fallon, MO	No	Yes	4,155,000	0
Farmland Foods, Inc., Denison, IA	No	Yes	3,518,000	0
Excel Corporation, Marshall, MO	No	Yes	2,828,594	0
National Starch & Chemical Company, North Kansas City, MO	No	Yes	913,961	0
Midland Brake, Inc., Iola, KS	No	Yes	389,800	0
Dairy Farmers of America, Inc., Cabool, MO	Yes	Yes	339,068	0
Air Capitol Plating, Inc., Wichita, KS	No	Yes	231,014	0
Anodizing, Inc. - Extrusions, Inc., Fort Scott, KS	No	Yes	224,682	0
Boeing Company, Saint Louis, MO	No	Yes	179,000	40,424
TFS Commercial Solutions Group-Decorah Ops., Decorah, IA	No	No	216,000	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

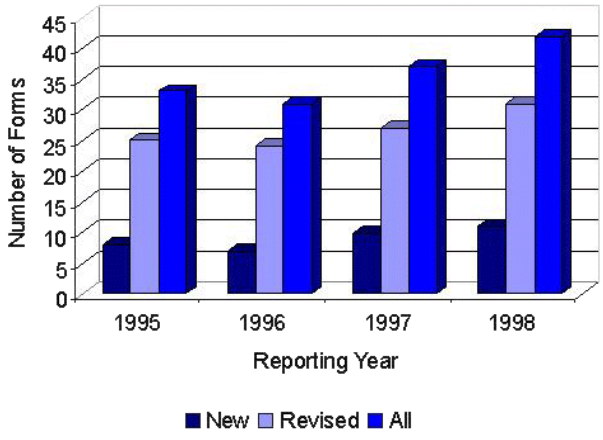
(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

CHANGES IN TRI DATA FOR CHEMICALS OTHER THAN NITRATE COMPOUNDS

As a result of the initiative, 26 facilities in EPA Region 7 submitted 143 reporting forms for chemicals other than nitrate compounds. The distribution of these reporting forms across the 4 reporting years is shown on Figure 3. Approximately one-fourth of the reporting forms were first-time submittals, consisting of 3 Form As and 33 Form Rs. Data from the new reports addressed 15 chemicals.

FIGURE 3

NON-NITRATE REPORTING FORMS SUBMITTED



The other 107 reporting forms were revisions to previous submittals to the TRI. These revised reporting forms addressed a total of 19 chemicals. A summary of the changes in transfer and release quantities from all non-nitrate reports is shown in Table 4. The most significant change to the TRI from these reports was an additional 680,000 pounds of sodium nitrite reported as released to surface water by one facility for reporting years 1995 through 1998.

TABLE 4

CHANGES IN RELEASES AND WASTE MANAGEMENT TRANSFERS REPORTED FOR TOP FIVE CHEMICALS BASED ON TOTAL CHANGES IN RELEASES AND TRANSFERS (REPORTING YEARS 1995 THROUGH 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)
7632-00-0	Sodium nitrite	678,128	0
7440-50-8	Copper	4,624	249,112
—	Copper compounds	2,118	102,220
—	Chromium compounds	34,979	33,833
108-88-3	Toluene	34,897	25,104
—	All other chemicals	80,266	-232,197
Total		835,012	178,072

ADDITIONAL INFORMATION

Additional information on nitrate releases and transfers reported to TRI from facilities in EPA Region 7 is presented in the Nitrate Initiative Fact Sheet for this region. The factsheet also identifies the EPA Region 7 contact that can be reached for further information and state contacts for EPA Region 7 that can provide further information about individual state TRI programs.

For further information on chemical releases and transfers reported to TRI, access the TRI Explorer and Envirofacts databases through the following EPA websites:

- http://www.epa.gov/triexplorer
- http://www.epa.gov/enviro/html/ef_overview.html

The TRI Explorer database will generate reports based on facilities, chemicals, geographic areas, or industry type (SIC code) at the county, state, and national levels. The Envirofacts database provides environmental information from other EPA databases on air, chemicals, facility information, grants and funding, hazardous waste, risk management plans, Superfund, TRI, and other EPA databases.

These databases are publicly available and contain information on specific toxic chemical releases and other waste management activities reported annually by certain, covered industry groups as well as federal facilities. Reporting year 1999 is the most recent TRI data available. Please access the EPA Envirofacts database for the most recent TRI data.

NITRATE INITIATIVE
CHANGES TO THE TOXIC RELEASE INVENTORY
EPA REGION 8

BACKGROUND

Through its National Nitrate Compliance Initiative (Nitrate Initiative), the U.S. Environmental Protection Agency (EPA) has achieved significantly improved compliance rates for nitrate reporting to the Toxic Release Inventory (TRI). The TRI is a database of specific toxic chemical releases and other waste management activities in the United States. The TRI was created through the Emergency Planning and Community Right-to-Know Act (EPCRA). EPCRA empowers national, state, and local governments; industry; public-interest and environmental groups and organizations; and the public in dialogues about environmental and human health impacts from the manufacture and use of toxic chemicals in the United States.

Facilities submit one of two types of reporting forms to EPA for the TRI: Form R and Form A. Form R is an extensive report that provides information on releases, transfers, and other waste management activities of a toxic chemical. The Form A can be used by a facility when it uses less than 1 million pounds of a chemical and releases or otherwise manages less than 500 pounds of that chemical; it certifies that the facility is not subject to the more extensive reporting requirements on the Form R.

The Nitrate Initiative used various compliance and enforcement tools to improve known compliance rates by facilities for the period of 1995 through 1998 for water-dissociable nitrate compounds. Nitrate reporting is important because nitrates are toxic chemicals that at sufficient doses can cause serious risks or death to humans and significant damage to the environment.

The Nitrate Initiative began on March 1, 2000; it combined the use of an enforcement alert and show cause letters. The enforcement alert described the lack of compliance with nitrate reporting for coincidentally-manufactured nitrate compounds and urged facilities to self-disclose violations. The show cause letters offered facilities the opportunity to demonstrate that there were no violations as alleged or to negotiate a settlement with a greatly reduced penalty.

Although the enforcement alert for the Nitrate Initiative was published in March 2000, some facilities became aware of the enforcement effort before its publication and submitted nitrate reporting forms to the TRI after December 31, 1999, under EPA's audit policy. Therefore, the TRI data as of December 31, 1999, is designated as baseline data and is used to evaluate the effect of the Nitrate Initiative on the TRI database. This document summarizes the impact of the Nitrate Initiative for nitrate reporting to the TRI in EPA Region 8.

PARTICIPATION

Prior to the Nitrate Initiative, the TRI contained data from 154 nitrate reporting forms from facilities in EPA Region 8. About 20 facilities in EPA Region 8 submitted a total of 45 reports for nitrates during the Nitrate Initiative. Seven of these facilities submitted reporting forms in response to the enforcement alert.

As shown in Table 1, the majority of these forms are “new reports,” which are reports that were submitted for the first time during the Nitrate Initiative. These new reports increased by 25 percent the number of nitrate reporting forms in the TRI database from facilities in EPA Region 8. Fewer than 10 reports were submitted as revisions to nitrate reports filed prior to the Nitrate Initiative.

TABLE 1

NUMBER OF NITRATE REPORTING FORMS

Reporting Year	Number of Reports			
	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Nitrate Reports
1995	36	1	7	43
1996	38	1	9	47
1997	36	1	11	47
1998	44	4	11	55
1995-1998	154	7	38	192

The reporting forms were fairly evenly distributed across the 4 reporting years covered by the Nitrate Initiative. No TRI Form A reporting forms were submitted. The 45 Form R reporting forms resulted in a 10 percent increase in reported on-site and off-site releases of nitrates and a 36 percent increase in reported transfers off-site of nitrates for further waste management. As shown on Figure 1 below, food industries were responsible for most of the increases in releases in EPA Region 8. Miscellaneous manufacturing and food industries were responsible for the majority of the increases in transfers, as shown in Figure 2.

FIGURE 1

PERCENT CHANGES IN NITRATE RELEASES REPORTED BY INDUSTRY SECTOR

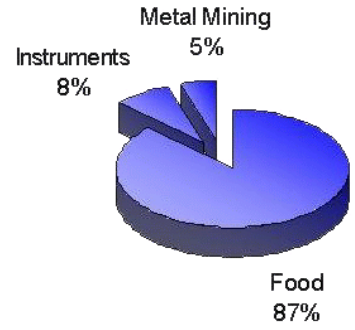
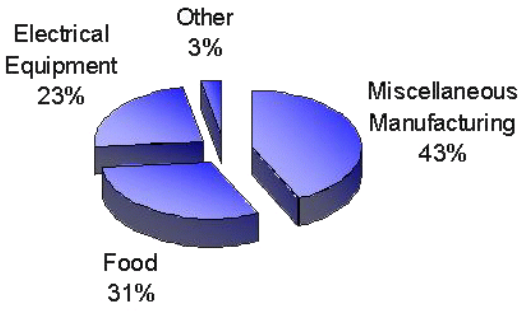


FIGURE 2

PERCENT CHANGES IN NITRATE WASTE MANAGEMENT TRANSFERS



EPA Region 8 assessed $11,000 in penalties under the Nitrate Initiative.

CHANGES IN NITRATE RELEASE AND TRANSFER DATA BY MEDIA

As a result of the Nitrate Initiative, an additional 3.9 million pounds of nitrates were reported as released to surface water in EPA Region 8 from 1995 through 1998. This represents a correction of 25 percent to the baseline data. Over 329,000 pounds of nitrates were added to the quantity released to land on-site, a correction of 6 percent. Changes in nitrate releases to land or through underground injection were nonexistent.

About 2.4 million pounds of nitrates that were reported for the first time as released to publicly owned treatment works. This resulted in a correction of 37 percent to the TRI database. An additional 98,000 pounds of nitrates were reported as transferred off-site to other types of facilities for further waste management. This quantity represents a correction of 22 percent to the TRI database. The quantity of nitrates reported as treated on-site increased by about 8.6 million pounds, a correction of 106 percent.

Table 2 lists the facilities in EPA Region 8 that responded to the initiative and reported changes in releases of nitrates. Table 3 lists the top ten facilities in EPA Region 8 that responded to the initiative, ranked on total changes in transfers.

TABLE 2

CHANGES IN RELEASES OF NITRATES FOR FACILITIES IN EPA REGION 8 RANKED ON TOTAL CHANGES IN RELEASES (REPORTING YEARS 1995 THROUGH 1998)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal		
Excel Corporation Fort Morgan, CO	No	Yes	3,596,262	0	0	3,596,262	0
Kodak, Colorado Division, Windsor, CO	No	Yes	335,000	0	-15	334,985	0
Wharf Resources (U.S.A.), Inc., Lead, SD	No	No	4,150	0	229,000	233,150	0
Saputo Cheese USA, Inc., Big Stone City, SD	Yes	Yes	0	0	99,705	99,705	0
Easton Technical Products Salt Lake City, UT	Yes	Yes	0	0	1,000	1,000	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

TABLE 3

CHANGES IN TRANSFERS OF NITRATES FOR TOP TEN FACILITIES IN EPA REGION 8 RANKED ON TOTAL CHANGES IN TRANSFERS FOR WASTE MANAGEMENT (REPORTING YEARS 1995 THROUGH 1998)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
Easton Technical Products, Salt Lake City, UT	Yes	Yes	1,066,856	0
Dairy Farmers of America, Inc., Amalga, UT	Yes	Yes	381,769	0
Meadow Gold Dairies, Englewood, CO	Yes	Yes	262,027	0
Viktron Utah, Salt Lake City, UT	Yes	Yes	168,000	0
Compeq International, Salt Lake City, UT	No	Yes	156,374	0
LSI Logic, Inc., Colorado Springs, CO	No	Yes	109,998	0
Anheuser-Busch, Inc., Fort Collins, CO	No	Yes	0	98,711
Front Range Investors, Inc., Front Range Plating Englewood, CO	No	Yes	78,257	0
Conexant Systems, Inc., Colorado Springs, CO	No	Yes	61,024	0
Merix Corporation, Loveland, CO	No	Yes	42,000	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

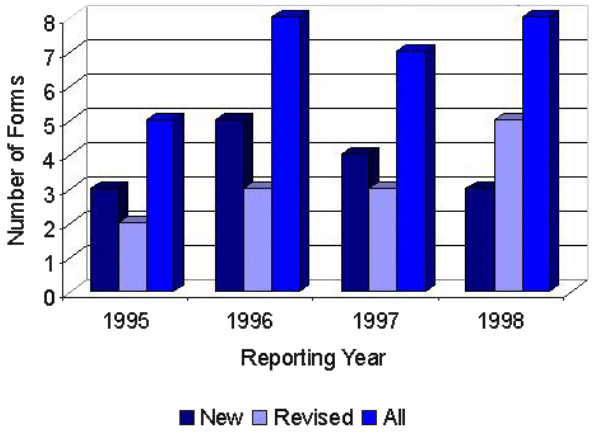
(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

CHANGES IN TRI DATA FOR CHEMICALS OTHER THAN NITRATE COMPOUNDS

As a result of the initiative, 6 facilities in EPA Region 8 submitted 28 reporting forms for chemicals other than nitrate compounds. The distribution of these reporting forms across the 4 reporting years is shown on Figure 3. Over half of the reporting forms were first-time submittals, consisting of one Form A and 14 Form Rs. Data from the new reports addressed 6 chemicals.

FIGURE 3

NON-NITRATE REPORTING FORMS SUBMITTED



The other 13 reporting forms were revisions to previous submittals to the TRI. These revised reporting forms addressed a total of 4 chemicals. A summary of the changes in transfer and release quantities from all non-nitrate reports is shown in Table 4. The most significant change to the TRI from these reports was an additional 600,000 pounds of ethylene glycol reported as transferred off-site by one facility for reporting years 1995 through 1998.

TABLE 4

CHANGES IN RELEASES AND WASTE MANAGEMENT TRANSFERS REPORTED FOR TOP FIVE CHEMICALS BASED ON TOTAL CHANGES IN RELEASES AND TRANSFERS (REPORTING YEARS 1995 THROUGH 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)
107-21-1	Ethylene glycol	-6,923	600,000
7697-37-2	Nitric acid	93,583	-750
7439-96-5	Manganese	18,001	4,120
7440-02-0	Nickel	12,234	1,482
7440-47-3	Chromium	3,091	8,257
—	All other chemicals	419	5,825
Total		120,405	618,934

ADDITIONAL INFORMATION

Additional information on nitrate releases and transfers reported to TRI from facilities in EPA Region 8 is presented in the Nitrate Initiative Fact Sheet for this region. The fact sheet also identifies the EPA Region 8 contact that can be reached for further information and state contacts for EPA Region 8 that can provide further information about individual state TRI programs.

For further information on chemical releases and transfers reported to TRI, access the TRI Explorer and Envirofacts databases through the following EPA websites:

- http://www.epa.gov/triexplorer
- http://www.epa.gov/enviro/html/ef_overview.html

The TRI Explorer database will generate reports based on facilities, chemicals, geographic areas, or industry type (SIC code) at the county, state, and national levels. The Envirofacts database provides environmental information from other EPA databases on air, chemicals, facility information, grants and funding, hazardous waste, risk management plans, Superfund, TRI, and other EPA databases.

These databases are publicly available and contain information on specific toxic chemical releases and other waste management activities reported annually by certain covered industry groups as well as federal facilities. Reporting year 1999 is the most recent TRI data available. Please access the EPA Envirofacts database for the most recent TRI data.

NITRATE INITIATIVE:
CHANGES TO THE TOXIC RELEASE INVENTORY
EPA REGION 9

BACKGROUND

Through its National Nitrate Compliance Initiative (Nitrate Initiative), the U.S. Environmental Protection Agency (EPA) has achieved significantly improved compliance rates for nitrate reporting to the Toxic Release Inventory (TRI). The TRI is a database of specific toxic chemical releases and other waste management activities in the United States. The TRI was created through the Emergency Planning and Community Right-to-Know Act (EPCRA). EPCRA empowers national, state, and local governments; industry; public-interest and environmental groups and organizations; and the public in dialogues about environmental and human health impacts from the manufacture and use of toxic chemicals in the United States.

Facilities submit one of two types of reporting forms to EPA for the TRI: Form R and Form A. Form R is an extensive report that provides information on releases, transfers, and other waste management activities of a toxic chemical. The Form A can be used by a facility when it uses less than 1 million pounds of a chemical and releases or otherwise manages less than 500 pounds of that chemical; it certifies that the facility is not subject to the more extensive reporting requirements on the Form R.

The Nitrate Initiative used various compliance and enforcement tools to improve known compliance rates by facilities for the period of 1995 through 1998 for water-dissociable nitrate compounds. Nitrate reporting is important because nitrates are toxic chemicals that at sufficient doses can cause serious risks or death to humans and significant damage to the environment.

The Nitrate Initiative began on March 1, 2000; it combined the use of an enforcement alert and show cause letters. The enforcement alert described the lack of compliance with nitrate reporting for coincidentally-manufactured nitrate compounds and urged facilities to self-disclose violations. The show cause letters offered facilities the opportunity to demonstrate that there were no violations as alleged or to negotiate a settlement with a greatly reduced penalty.

Although the enforcement alert for the Nitrate Initiative was published in March 2000, some facilities became aware of the enforcement effort before its publication and submitted nitrate reporting forms to the TRI after December 31, 1999, under EPA's audit policy. Therefore, the TRI data as of December 31, 1999, is designated as baseline data and is used to evaluate the effect of the Nitrate Initiative on the TRI database. This document summarizes the impact of the Nitrate Initiative for nitrate reporting to the TRI in EPA Region 9.

PARTICIPATION

Prior to the Nitrate Initiative, the TRI contained data from 286 nitrate reporting forms from facilities in EPA Region 9. About 100 facilities in EPA Region 9 submitted a total of 310 reports for nitrates during the Nitrate Initiative. Twenty-three of these facilities submitted reporting forms in response to the enforcement alert.

As shown in Table 1, the majority of these forms are “new reports,” which are reports that were submitted for the first time during the Nitrate Initiative. These new reports more than doubled the number of nitrate reporting forms in the TRI database from facilities in EPA Region 9. Fewer than 20 reports were submitted as revisions to nitrate reports filed prior to the Nitrate Initiative.

TABLE 1

NUMBER OF NITRATE REPORTING FORMS

Reporting Year	Number of Reports			
	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Nitrate Reports
1995	49	2	67	116
1996	58	3	73	131
1997	67	3	73	140
1998	112	8	81	193
1995-1998	286	16	294	580

The number of reporting forms increased across the 4 reporting years covered by the Nitrate Initiative, with a large increase in submittals for reporting year 1998. TRI Form A reporting forms represented only 3 of the 310 forms submitted. The remaining 307 Form R reporting forms resulted in a 17 percent increase in reported on-site and off-site releases of nitrates and a 126 percent increase in reported transfers off-site of nitrates for further waste management. As shown on Figure 1 below, food industries were responsible for most of the increases in EPA Region 9. Figure 2 shows that food industries and industries that manufacture electronic and electrical equipment and components were responsible for most of the increases in transfers for waste management.

FIGURE 1

PERCENT CHANGES IN NITRATE RELEASES REPORTED BY INDUSTRY SECTOR

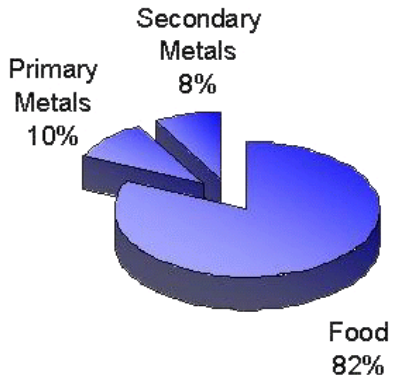
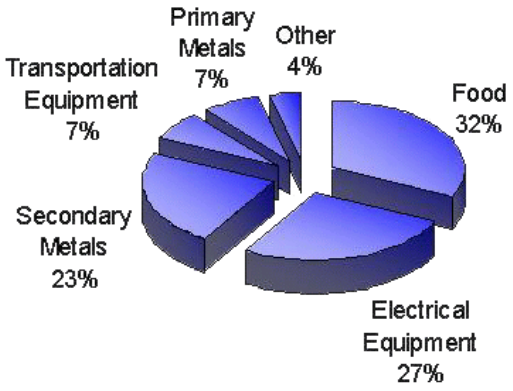


FIGURE 2

PERCENT CHANGES IN NITRATE WASTE MANAGEMENT TRANSFERS REPORTED BY INDUSTRY SECTOR



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PA Region 9 assessed $190,000 in penalties under the Nitrate Initiative.

CHANGES IN NITRATE RELEASE AND TRANSFER DATA BY MEDIA

As a result of the Nitrate Initiative, an additional 196,000 pounds of nitrates were reported as released to surface water in EPA Region 9 from 1995 through 1998. This represents a correction of 2 percent to the baseline data. Over 1.9 million pounds of nitrates were added to the quantity released to land on-site, a correction of 32 percent. Changes in nitrate releases

through underground injection were non-existent. An additional 446,000 pounds of nitrates were reported released off-site, a correction of 291 percent.

Most dramatic was the 31 million pounds of nitrates that were reported for the first time as released to publicly owned treatment works. This resulted in a correction of 127 percent to the TRI database. An additional 776,000 pounds of nitrates were reported as transferred off-site to other types of facilities for further waste management. This quantity represents a correction of 89 percent to the TRI database. The quantity of nitrates reported as treated on-site increased by about 3.3 million pounds, a correction of 703 percent.

Table 2 lists the top ten facilities in EPA Region 9 that responded to the initiative, ranked on total changes in releases. Table 3 lists the top ten facilities ranked on total changes in transfers.

TABLE 2

CHANGES IN RELEASES OF NITRATES FOR TOP TEN FACILITIES IN EPA REGION 9 RANKED ON TOTAL CHANGES IN RELEASES (REPORTING YEARS 1995 THROUGH 1998)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal		
Hilmar Cheese Company, Inc. Hilmar, CA	Yes	Yes	0	0	1,387,105	1,387,105	0
F & A Dairy of California, Inc., Newman, CA	Yes	No	0	0	1,162,765	1,162,765	0
Luxfer Gas Cylinders Riverside, CA	No	Yes	0	0	143,809	143,809	196,629
Alloys Cleaning, Inc. Los Angeles, CA	No	Yes	0	0	0	0	273,538
C & H Sugar Company Inc., Crockett, CA	No	Yes	195,558	0	0	195,558	0
Recot, Inc. Bakersfield, CA	No	Yes	0	0	101,000	101,000	0
Barrick Goldstrike Mine Elko, NV	No	No	0	0	24,300	24,300	0
DK Environmental, Inc. Vernon, CA	No	Yes	0	0	0	0	23,768
Kaiser Aluminum & Chemical Corporation Oxnard, CA	No	Yes	0	0	0	0	6,742
Safety-Kleen, Inc. San Jose, CA	No	Yes	0	0	0	0	1,380

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

TABLE 3

CHANGES IN TRANSFERS OF NITRATES FOR TOP TEN FACILITIES IN EPA REGION 9 RANKED ON TOTAL CHANGES IN TRANSFERS FOR WASTE MANAGEMENT (REPORTING YEARS 1995 THROUGH 1998)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
Dairy Farmers of America, Inc., Corona, CA	Yes	Yes	2,813,050	0
Land O'Lakes, Inc., Tulare, CA	Yes	Yes	2,373,763	0
Indalex West, Watsonville, CA	No	Yes	2,293,788	0
George Industries, Los Angeles, CA	No	Yes	1,885,541	0
United Dairymen of Arizona, Tempe, AZ	No	Yes	1,375,997	0
ITT Industrial Cannon, Santa Ana, CA	No	Yes	1,319,724	0
American Racing Custom Wheels, Gardena, CA	No	Yes	1,214,659	0
Komag, Inc., Building 6, San Jose, CA	No	Yes	1,070,000	0
Gene's Plating Works, Los Angeles, CA	No	Yes	785,299	198,190
Easton Sports, Inc., Van Nuys, CA	Yes	Yes	923,000	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

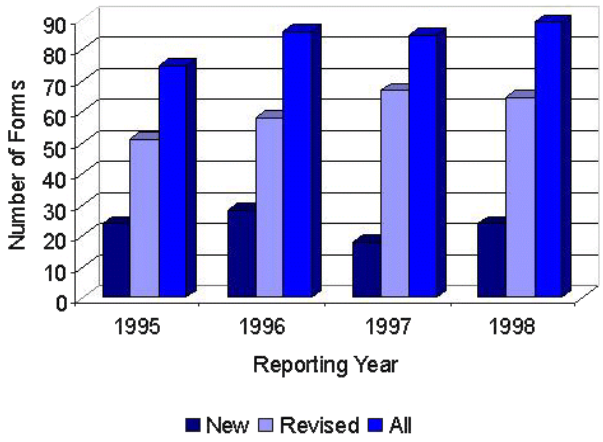
(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

CHANGES IN TRI DATA FOR CHEMICALS OTHER THAN NITRATE COMPOUNDS

As a result of the initiative, 48 facilities in EPA Region 9 submitted 335 reporting forms for chemicals other than nitrate compounds. The distribution of these reporting forms across the 4-reporting years is shown on Figure 3. About one-fourth of the reporting forms were first-time submittals, consisting of 15 Form As and 79 Form Rs. Data from the new reports addressed 23 chemicals.

FIGURE 3

NON-NITRATE REPORTING FORMS SUBMITTED



The other 241 reporting forms were revisions to previous submittals to the TRI. These revised reporting forms addressed a total of 26 chemicals. A summary of the changes in transfer and release quantities from all non-nitrate reports is shown in Table 4. The most significant change to the TRI from these reports was a reduction of almost 3 million pounds of zinc compounds previously reported as transferred off-site by one facility for reporting years 1995 through 1998.

TABLE 4

CHANGES IN RELEASES AND WASTE MANAGEMENT TRANSFERS REPORTED FOR TOP FIVE CHEMICALS BASED ON TOTAL CHANGES IN RELEASES AND TRANSFERS (REPORTING YEARS 1995 THROUGH 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)
—	Copper compounds	10,936	1,452,302
7440-50-8	Copper	910,151	439,825
7664-41-7	Ammonia	1,037	645,661
—	Lead compounds	104	182,900
7697-37-2	Nitric acid	62,708	80,914
—	All other chemicals	-418,461	-3,769,315
Total		566,475	-967,713

ADDITIONAL INFORMATION

Additional information on nitrate releases and transfers reported to TRI from facilities in EPA Region 9 is presented in the Nitrate Initiative Fact Sheet for this region. The fact sheet also identifies the EPA Region 9 contact that can be reached for further information and state contacts for EPA Region 9 that can provide further information about individual state TRI programs.

For further information on chemical releases and transfers reported to TRI, access the TRI Explorer and Envirofacts databases through the following EPA websites:

- http://www.epa.gov/triexplorer
- http://www.epa.gov/enviro/html/ef_overview.html

The TRI Explorer database will generate reports based on facilities, chemicals, geographic areas, or industry type (SIC code) at the county, state, and national levels. The Envirofacts database provides environmental information from other EPA databases on air, chemicals, facility information, grants and funding, hazardous waste, risk management plans, Superfund, TRI, and other EPA databases.

These databases are publicly available and contain information on specific toxic chemical releases and other waste management activities reported annually by certain covered industry groups as well as federal facilities. Reporting year 1999 is the most recent TRI data available. Please access the EPA Envirofacts database for the most recent TRI data.

NITRATE INITIATIVE:
CHANGES TO THE TOXIC RELEASE INVENTORY
EPA REGION 10

BACKGROUND

Through its National Nitrate Compliance Initiative (Nitrate Initiative), the U.S. Environmental Protection Agency (EPA) has achieved significantly improved compliance rates for nitrate reporting to the Toxic Release Inventory (TRI). The TRI is a database of specific toxic chemical releases and other waste management activities in the United States. The TRI was created through the Emergency Planning and Community Right-to-Know Act (EPCRA). EPCRA empowers national, state, and local governments; industry; public-interest and environmental groups and organizations; and the public in dialogues about environmental and human health impacts from the manufacture and use of toxic chemicals in the United States.

Facilities submit one of two types of reporting forms to EPA for the TRI: Form R and Form A. Form R is an extensive report that provides information on releases, transfers, and other waste management activities of a toxic chemical. The Form A can be used by a facility when it uses less than 1 million pounds of a chemical and releases or otherwise manages less than 500 pounds of that chemical; it certifies that the facility is not subject to the more extensive reporting requirements on the Form R.

The Nitrate Initiative used various compliance and enforcement tools to improve known compliance rates by facilities for the period of 1995 through 1998 for water-dissociable nitrate compounds. Nitrate reporting is important because nitrates are toxic chemicals that at sufficient doses can cause serious risks or death to humans and significant damage to the environment.

The Nitrate Initiative began on March 1, 2000; it combined the use of an enforcement alert and show cause letters. The enforcement alert described the lack of compliance with nitrate reporting for coincidentally manufactured nitrate compounds and urged facilities to self-disclose violations. The show cause letters offered facilities the opportunity to demonstrate that there were no violations as alleged or to negotiate a settlement with a greatly reduced penalty.

Although the enforcement alert for the Nitrate Initiative was published in March 2000, some facilities became aware of the enforcement effort before its publication and submitted nitrate reporting forms to the TRI after December 31, 1999, under EPA's audit policy. Therefore, the TRI data as of December 31, 1999, is designated as baseline data and is used to evaluate the effect of the Nitrate Initiative on the TRI database. This document summarizes the impact of the Nitrate Initiative for nitrate reporting to the TRI in EPA Region 10.

PARTICIPATION

Prior to the Nitrate Initiative, the TRI contained data from 235 nitrate reporting forms from facilities in EPA Region 10. About 30 facilities in EPA Region 10 submitted a total of 90 reports for nitrates during the Nitrate Initiative. Six of these facilities submitted reporting forms in response to the enforcement alert.

As shown in Table 1, the majority of these forms are “new reports,” which are reports that were submitted for the first time during the Nitrate Initiative. These new reports increased by over 25 percent the number of nitrate reporting forms in the TRI database from facilities in EPA Region 10. Fewer than 30 reports were submitted as revisions to nitrate reports filed prior to the Nitrate Initiative.

TABLE 1

NUMBER OF NITRATE REPORTING FORMS

Reporting Year	Number of Reports			
	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Nitrate Reports
1995	48	4	16	64
1996	56	5	14	70
1997	61	5	18	79
1998	70	11	17	87
1995-1998	235	25	65	300

The reporting forms were fairly evenly distributed across the 4 reporting years covered by the Nitrate Initiative. TRI Form A reporting forms represented only 2 of the 90 forms submitted. The remaining 88 Form R reporting forms resulted in a 2 percent increase in reported on-site and off-site releases of nitrates and a 14 percent increase in reported transfers off-site of nitrates for further waste management. As shown on Figure 1 below, industries that perform primary smelting and refining of metals were responsible for most of the increases in releases in EPA Region 10. Figure 2 shows industries that manufacture transportation equipment were responsible for most of the increases in transfers.

FIGURE 1

PERCENT CHANGES IN NITRATE RELEASES REPORTED BY INDUSTRY SECTOR

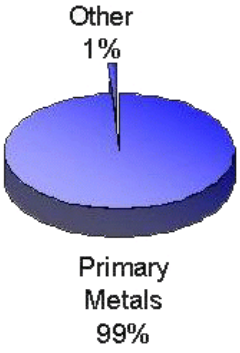
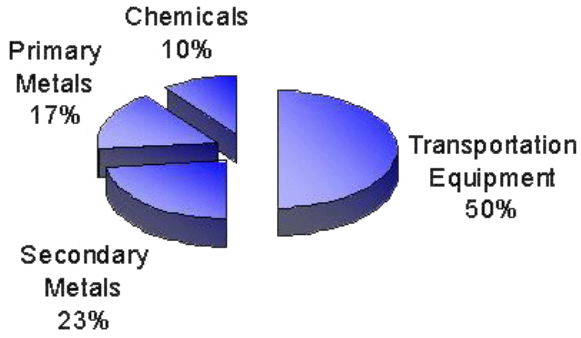


FIGURE 2

PERCENT CHANGES IN NITRATE WASTE MANAGEMENT TRANSFERS REPORTED BY INDUSTRY SECTOR



EPA Region 10 assessed $66,000 in penalties under the Nitrate Initiative.

CHANGES IN NITRATE RELEASE AND TRANSFER DATA BY MEDIA

As a result of the Nitrate Initiative, an additional 475,000 pounds of nitrates were reported as released to surface water in EPA Region 10 from 1995 through 1998. This represents a correction of 2 percent to the baseline data. Changes in nitrate releases to land or to off-site locations or through underground injection were minimal or nonexistent.

Most dramatic was the 2.7 million pounds of nitrates that were reported for the first time as released to publicly owned treatment works. This resulted in a correction of 13 percent to the TRI database. An additional 305,000 pounds of nitrates were reported as transferred off-site to other types of facilities for further waste management. This quantity represents a correction of 64 percent to the TRI database. The quantity of nitrates reported as treated on-site increased by about 1.1 million pounds, a correction of 16 percent.

Table 2 lists the facilities in EPA Region 10 that responded to the initiative and reported changes in releases of nitrates. Table 3 lists the top ten facilities in EPA Region 10 that responded to the initiative, ranked on total changes in transfers.

TABLE 2

CHANGES IN RELEASES OF NITRATES FOR FACILITIES IN EPA REGION 10 RANKED ON TOTAL CHANGES IN RELEASES (REPORTING YEARS 1995 THROUGH 1998)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal		
Wah Chang-Oremet Facility, Albany, OR	No	Yes	1,095,000	0	0	1,095,000	0
Wah Chang Albany Albany, OR	No	No	1,022,000	0	0	1,022,000	0
Simpson Tacoma Kraft Company Tacoma, WA	No	Yes	155,400	0	0	155,400	0
Weyerhaeuser Pulp Mill, Cosmopolis, WA	No	Yes	98,000	0	0	98,000	1,000
Fort James Camas, LLC, Camas, WA	No	Yes	92,400	0	250	92,650	0
Blount, Inc., CCI Operation Lewiston, ID	No	Yes	755	0	0	755	0
Hytek Finishes Company, Kent, WA	No	Yes	0	0	0	0	91

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

TABLE 3

CHANGES IN TRANSFERS OF NITRATES FOR TOP TEN FACILITIES IN EPA REGION 10 RANKED ON TOTAL CHANGES IN TRANSFERS FOR WASTE MANAGEMENT (REPORTING YEARS 1995 THROUGH 1998)

Facility, City, State	Responded to Enforcement Alert?[1]	First Time Reporter?[2]	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
Boeing BCAG Fabrication Division-Auburn, Auburn, WA	Yes	Yes	1,560,000	0
Timet Castings Corporation, Albany, OR	Yes	No	428,000	0
Anodizing Inc., Parts Division, Portland, OR	No	Yes	367,712	0
Solvay Interox, Inc., Longview, WA	No	Yes	0	340,174
Advanced Silicon Materials Inc., Moses Lake, WA	No	Yes	152,299	0
Western Pneumatic Tube Company, Kirkland, WA	No	Yes	141,157	0
Hytek Finishes Company, Kent, WA	No	Yes	113,649	355
Boeing Commercial Airplane Group - Everett, Everett, WA	Yes	Yes	138,000	-35,478
Boeing Company of Portland, Portland, OR	Yes	Yes	38,450	0
Merix Corp., Forest Grove, OR	No	Yes	23,400	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

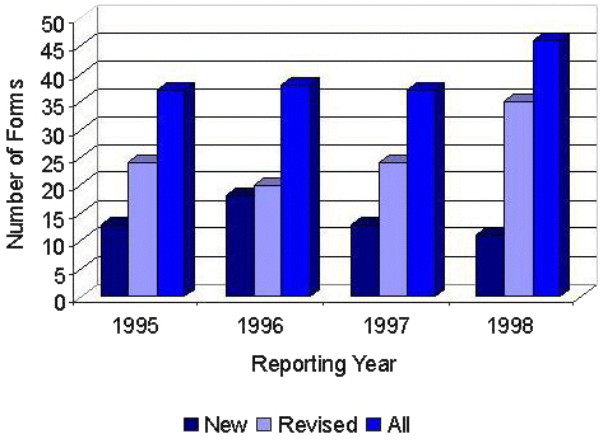
(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

CHANGES IN TRI DATA FOR CHEMICALS OTHER THAN NITRATE COMPOUNDS

As a result of the initiative, 20 facilities in EPA Region 10 submitted 158 reporting forms for chemicals other than nitrate compounds. The distribution of these reporting forms across the 4 reporting years is shown on Figure 3. About one-third of the reporting forms were first-time submittals, consisting of 9 Form As and 46 Form Rs. Data from the new reports addressed 15 chemicals.

FIGURE 3

NON-NITRATE REPORTING FORMS SUBMITTED



The other 103 reporting forms were revisions to previous submittals to the TRI. These revised reporting forms addressed a total of 19 chemicals. A summary of the changes in transfer and release quantities from all non-nitrate reports is shown in Table 4. The most significant change to the TRI from these reports was an additional 1.3 million pounds of copper compounds reported as transferred off-site by one facility for reporting years 1995 through 1998.

TABLE 4

CHANGES IN RELEASES AND WASTE MANAGEMENT TRANSFERS REPORTED FOR TOP FIVE CHEMICALS BASED ON TOTAL CHANGES IN RELEASES AND TRANSFERS (REPORTING YEARS 1995 THROUGH 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)
—	Copper compounds	67,574	1,296,887
—	Lead compounds	87,875	523,784
108-10-1	Methyl Isobutyl Ketone	362,660	0
7632-00-0	Sodium nitrite	321,791	0
7664-41-7	Ammonia	127,580	89,740
—	All other chemicals	74,180	18,272
Total		1,041,660	1,928,683

ADDITIONAL INFORMATION

Additional information on nitrate releases and transfers reported to TRI from facilities in EPA Region 10 is presented in the Nitrate Initiative Fact Sheet for this region. The fact sheet also identifies the EPA Region 10 contact that can be reached for further information and state contacts for EPA Region 10 that can provide further information about individual state TRI programs.

For further information on chemical releases and transfers reported to TRI, access the TRI Explorer and Envirofacts databases through the following EPA websites:

- http://www.epa.gov/triexplorer
- http://www.epa.gov/enviro/html/ef_overview.html

The TRI Explorer database will generate reports based on facilities, chemicals, geographic areas, or industry type (SIC code) at the county, state, and national levels. The Envirofacts database provides environmental information from other EPA databases on air, chemicals, facility information, grants and funding, hazardous waste, risk management plans, Superfund, TRI, and other EPA databases.

These databases are publicly available and contain information on specific toxic chemical releases and other waste management activities reported annually by certain covered industry groups as well as federal facilities. Reporting year 1999 is the most recent TRI data available. Please access the EPA Envirofacts database for the most recent TRI data.

APPENDIX 2

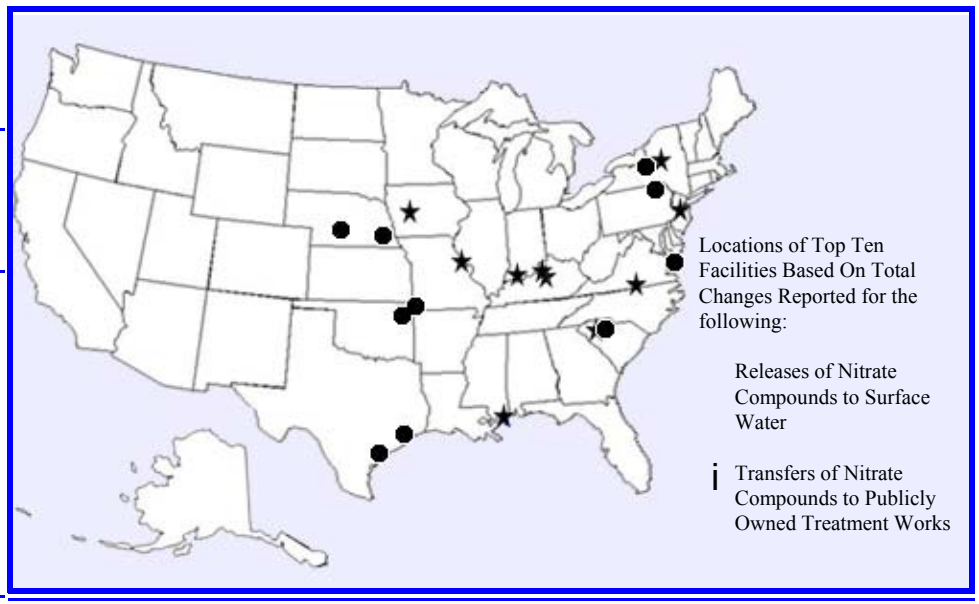
NATIONAL AND REGIONAL FACT SHEETS ON THE NITRATE INITIATIVE'S IMPACT ON THE TOXICS RELEASE INVENTORY

EPA Nitrate Initiative: Changes to the Toxic Release Inventory — ALL EPA REGIONS

Percent Changes in Release, Treatment, and Transfer Baseline Data for Nitrate Compounds (Reporting Years 1995 through 1998)

	Baseline Data [1] (pounds)	Changes from Revised Reports (pounds)	Increases from New Reports [2] (pounds)	Net Change from All Reports (pounds)	Percent Change to Baseline Data
On-Site Releases	741,868,493	15,260,506	137,813,893	153,074,399	21%
Surface Water Discharges	584,802,309	19,882,241	127,037,228	146,919,469	25%
Underground Injection	135,524,966	-4,608,780	306,967	-4,301,813	-3%
On-site Land Releases	21,541,218	-12,955	10,469,698	10,456,743	49%
Off-site Releases	18,053,333	-51,030	2,593,954	2,542,924	14%
Total On- and Off-site Releases	759,921,826	15,209,476	140,407,847	155,617,323	20%
Treated On-site	168,711,455	7,406,317	151,063,582	158,469,899	94%
Transfers to Publicly Owned Treatment Works (POTW)	288,575,876	3,110,154	254,804,991	257,915,145	89%
Other Off-site Transfers	28,621,680	-1,938,833	10,799,380	8,860,547	31%
Total Transfers Off-site for Further Waste Management	317,197,556	1,171,321	265,604,371	266,775,692	84%

(1) The baseline information reflects Toxic Release Inventory data as of December 31, 1999.
(2) "New reports" are reports submitted for the first time after January 1, 2000.



Locations of Top Ten Facilities Based On Total Changes Reported for the following:

Releases of Nitrate Compounds to Surface Water

¡ Transfers of Nitrate Compounds to Publicly Owned Treatment Works

National Nitrate Submission Data

New Nitrate Reports	
Number of Facilities Submitting New Reports	714
Number of New Form As Submitted	29
Number of New Form Rs Submitted	2,177
Revised Nitrate Reports	
Number of Facilities Submitting Revised Reports	140
Number of Revised Form As Submitted	2
Number of Revised Form Rs Submitted	244

Changes in Release and Transfer Data for Nitrate Compounds by Reporting Year (1995 through 1998)

	Number of Reports				Release Quantities Reported [1] (pounds)				Transfer Quantities Reported [2] (pounds)			
Reporting Year	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Reports	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity
1995	831	28	539	1,370	142,025,029	3,463,387	32,336,622	177,825,038	66,915,608	564,374	62,803,621	130,283,603
1996	920	40	555	1,475	176,789,334	1,526,322	38,178,768	216,494,424	77,190,990	-1,008,027	62,764,358	138,947,321
1997	993	53	558	1,551	201,999,901	1,235,063	33,943,735	237,178,699	84,192,722	691,303	70,735,704	155,619,729
1998	1,138	125	554	1,692	239,107,562	8,984,704	35,948,722	284,040,988	88,898,236	923,671	69,300,688	159,122,595

(1) The release quantities shown above include on-site and off-site releases.
(2) The transfer quantities shown above include transfers to publicly owned treatment works and other off-site transfers for further waste management.

Releases and Transfers for Top Five Facilities Ranked on Total Changes in Releases and Transfers of Nitrates (Reporting Years 1995 through 1998)

Facility, City, State	Responded to Enforcement Alert? [1]	First Time Reporter? [2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal				
Hercules Inc. Parlin Plant, Parlin, NJ	No	Yes	0	0	0	0	0	61,576,521	0
Süd-Chemie Inc., West Plant, Louisville, KY	No	Yes	0	0	24	24	0	16,100,000	0
First Chemical Corporation, Pascagoula, MS	No	Yes	0	0	0	0	0	10,484,000	0
Anheuser-Busch Inc., Baldwinsville, PA	No	Yes	10,240,413	0	0	10,240,413	0	0	0
Osram Sylvania Products Inc., Towanda, PA	No	Yes	8,109,372	0	0	8,109,372	0	0	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.
(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

Changes in Toxic Releases Inventory Data for Chemicals Other than Nitrate Compounds

Transfer and Release Quantities Reported for the First Time for Top 5 Chemicals Based on Total Changes in Releases and Transfers (Reporting Years 1995 through 1998)

CAS Number	Chemical	Newly Reported Releases (pounds)	Newly Reported Transfers (pounds)
—	Manganese compounds	25,403,001	3,892,033
7440-50-8	Copper	54,165	17,961,666
—	Copper compounds	2,428,124	10,514,538
—	Chromium compounds	2,344,864	9,636,066
—	Nickel compounds	1,665,772	6,101,252
—	All other chemicals	34,559,632	11,779,256

Changes in Transfer and Release Quantities Previously Reported for Top 5 Chemicals Based on Total Changes in Releases and Transfers (Reporting Years 1995 through 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)
7664-38-2	Phosphoric acid	-319,396	35,135,362
—	Zinc compounds	31,294,804	-2,123,043
—	Methanol	978,993	1,077,183
67-56-1	Barium compounds	2,946,000	-939,685
108-88-3	Toluene	531,045	1,418,172
—	All other chemicals	4,227,420	-60,962,447

For More Information....

National Nitrate Initiative Coordinator
1200 Pennsylvania Avenue
Mail Code 2245A
Washington, D.C. 20460-0001
Fax: (202) 401-2347

To obtain TRI data use assistance, call
TRI User Support Service (TRI-US):
(202) 260-1531
Fax: (202) 401-2347

EPA Nitrate Initiative: Changes to the Toxic Release Inventory

EPA REGION 1

Percent Changes in Release, Treatment, and Transfer Baseline Data for Nitrate Compounds (Reporting Years 1995 through 1998)

	Baseline Data [1] (pounds)	Changes from Revised Reports (pounds)	Increases from New Reports [2] (pounds)	Net Change from All Reports (pounds)	Percent Change to Baseline Data
On-Site Releases	4,407,930	0	1,697,687	1,697,687	39%
Surface Water Discharges	4,407,930	0	1,697,647	1,697,647	39%
Underground Injection	0	0	0	0	0%
On-site Land Releases	0	0	40	40	--
Off-site Releases	1,437,114	0	585,753	585,753	41%
Total On- and Off-site Releases	5,845,044	0	2,283,440	2,283,440	39%
Treated On-site	6,404,978	1,720,000	297,374	2,017,374	31%
Transfers to Publicly Owned Treatment Works (POTW)	13,577,736	-250,000	10,614,478	10,364,478	76%
Other Off-site Transfers	1,308,565	48,304	601,570	649,874	50%
Total Transfers Off-site for Further Waste Management	14,886,301	-201,696	11,216,048	10,858,519	74%

(1) The baseline information reflects Toxic Release Inventory data as of December 31, 1999.
(2) "New reports" are reports submitted for the first time after January 1, 2000.

Locations of Top Ten Facilities Based On Total Changes Reported for the following:

Releases of Nitrate Compounds to Surface Water

Transfers of Nitrate Compounds to Publicly Owned Treatment Works

Regional Nitrate Submission Data

New Nitrate Reports	
Number of Facilities Submitting New Reports	57
Number of New Form As Submitted	3
Number of New Form Rs Submitted	182
Revised Nitrate Reports	
Number of Facilities Submitting Revised Reports	3
Number of Revised Form As Submitted	0
Number of Revised Form Rs Submitted	7

Changes in Release and Transfer Data for Nitrate Compounds by Reporting Year (1995 through 1998)

	Number of Reports				Release Quantities Reported [1] (pounds)				Transfer Quantities Reported [2] (pounds)			
Reporting Year	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Reports	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity
1995	52	1	44	96	1,867,496	0	547,561	2,415,057	3,569,628	4,480	2,531,716	6,105,824
1996	56	2	45	101	1,299,317	0	609,953	1,909,270	3,756,375	9,782	2,848,813	6,614,970
1997	59	2	46	105	1,441,269	0	590,828	2,032,097	3,600,117	14,376	2,917,814	6,532,307
1998	49	2	50	99	1,236,962	0	535,098	1,772,060	3,960,181	-230,334	2,917,705	6,647,552

(1) The release quantities shown above include on-site and off-site releases.
(2) The transfer quantities shown above include transfers to publicly owned treatment works and other off-site transfers for further waste management.

EPA Nitrate Initiative: Changes to the Toxic Release Inventory — EPA REGION 1

Releases and Transfers for Top Five Facilities Ranked on Total Changes in Releases and Transfers of Nitrates (Reporting Years 1995 through 1998)

Facility, City, State	Responded to Enforcement Alert? [1]	First Time Reporter? [2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal				
Precision Lithograining Corporation, South Hadley, MA	Yes	Yes	0	0	0	0	0	1,371,355	0
National Metal Finishing Corporation, Springfield, MA	No	Yes	0	0	0	0	0	1,101,410	0
Summit Corporation of America, Thomaston, CT	No	Yes	856,147	0	0	856,147	0	0	0
Kodak Polychrome Graphics LLC, Holyoke, MA	Yes	Yes	0	0	0	0	0	719,710	0
Cabot/Agri-Mark Inc., Middlebury, VT	Yes	Yes	0	0	0	0	0	632,321	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.
(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

Changes in Toxic Releases Inventory Data for Chemicals Other than Nitrate Compounds

Transfer and Release Quantities Reported for the First Time (Reporting Years 1995 through 1998)

CAS Number	Chemical	Newly Reported Releases (pounds)	Newly Reported Transfers (pounds)
7647-01-0	Hydrochloric acid (1995 and after, acid aerosols only)	2,115	0

Changes in Transfer and Release Quantities Previously Reported for Top 5 Chemicals Based on Total Changes in Releases and Transfers (Reporting Years 1995 through 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)
7440-50-8	Copper	3,644	514,947
—	Cyanide compounds	-209	13,845
7697-37-2	Nitric acid	18,251	-5,464
—	Chromium compounds	7,757	-7,372
—	Nickel compounds	540	-1,343
—	All other chemicals	76,736	-1,316,958

For More Information....

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Vermont
Paul Van Hollebeke
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Fax: (802) 241-3273
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EPA Regional Contact:

Dwight Peavey
(617) 918-1829
Fax: (617) 918-1810
Email: peavey.dwight@epa.gov

To obtain TRI data use assistance, call TRI User Support Service (TRI-US):
(202) 260-1531
Fax: (202) 401-2347

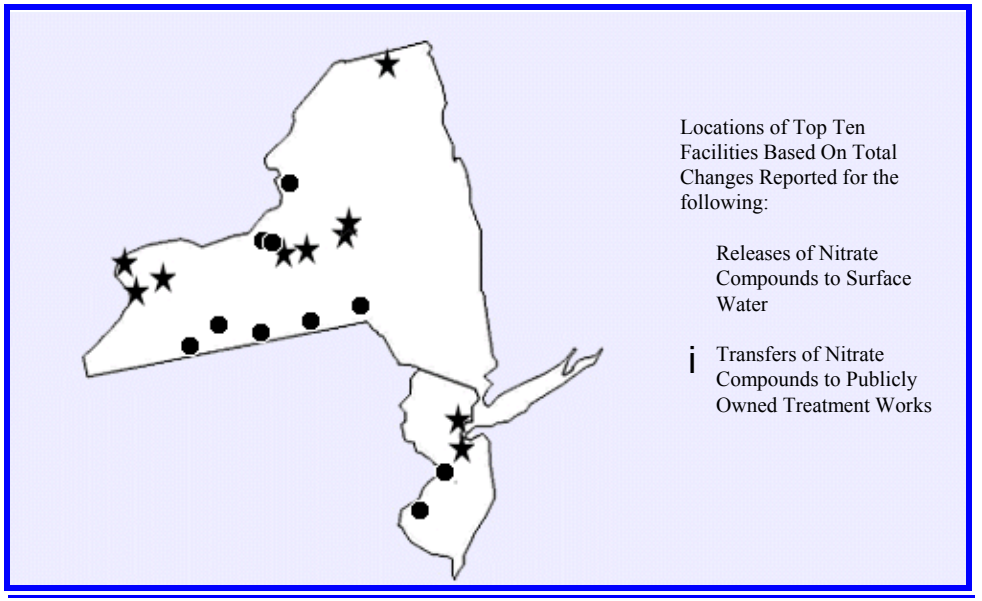
EPA Nitrate Initiative: Changes to the Toxic Release Inventory

EPA REGION 2

Percent Changes in Release, Treatment, and Transfer Baseline Data for Nitrate Compounds (Reporting Years 1995 through 1998)

	Baseline Data [1] (pounds)	Changes from Revised Reports (pounds)	Increases from New Reports [2] (pounds)	Net Change from All Reports (pounds)	Percent Change to Baseline Data
On-Site Releases	35,250,479	500,000	17,846,903	18,346,903	52%
Surface Water Discharges	35,140,557	500,000	17,846,903	18,346,903	52%
Underground Injection	0	0	0	0	0%
On-site Land Releases	109,922	0	0	0	0%
Off-site Releases	927,224	70	190,400	190,470	21%
Total On- and Off-site Releases	36,177,703	500,070	18,037,303	18,531,373	51%
Treated On-site	16,083,011	-500,000	3,076,893	2,576,893	16%
Transfers to Publicly Owned Treatment Works (POTW)	11,866,884	243,717	74,108,908	74,352,625	627%
Other Off-site Transfers	1,986,971	920	467,315	468,235	24%
Total Transfers Off-site for Further Waste Management	13,853,855	244,637	74,576,223	74,820,860	540%

(1) The baseline information reflects Toxic Release Inventory data as of December 31, 1999.
(2) "New reports" are reports submitted for the first time after January 1, 2000.



Locations of Top Ten Facilities Based On Total Changes Reported for the following:

Releases of Nitrate Compounds to Surface Water

¡ Transfers of Nitrate Compounds to Publicly Owned Treatment Works

Regional Nitrate Submission Data

New Nitrate Reports	
Number of Facilities Submitting New Reports	43
Number of New Form As Submitted	0
Number of New Form Rs Submitted	136
Revised Nitrate Reports	
Number of Facilities Submitting Revised Reports	8
Number of Revised Form As Submitted	0
Number of Revised Form Rs Submitted	14

Changes in Release and Transfer Data for Nitrate Compounds by Reporting Year (1995 through 1998)

	Number of Reports				Release Quantities Reported [1] (pounds)				Transfer Quantities Reported [2] (pounds)			
Reporting Year	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Reports	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity
1995	57	3	31	88	7,065,831	290,027	4,862,313	12,218,171	3,214,297	0	18,365,507	21,579,804
1996	65	2	34	99	7,546,044	210,015	4,419,825	12,175,884	3,674,907	0	15,347,428	19,022,335
1997	64	2	38	102	8,664,532	9	4,663,009	13,327,550	3,705,384	0	20,637,337	24,342,721
1998	66	7	33	99	12,901,296	19	4,092,156	16,993,471	3,259,267	244,637	20,225,951	23,729,855

(1) The release quantities shown above include on-site and off-site releases.
(2) The transfer quantities shown above include transfers to publicly owned treatment works and other off-site transfers for further waste management.

EPA Nitrate Initiative: Changes to the Toxic Release Inventory

EPA REGION 2

Releases and Transfers for Top Five Facilities Ranked on Total Changes in Releases and Transfers of Nitrates (Reporting Years 1995 through 1998)

Facility, City, State	Responded to Enforcement Alert? [1]	First Time Reporter? [2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal				
Hercules Inc., Parlin Plant, Parlin, NJ	No	Yes	0	0	0	0	0	61,576,521	0
Anheuser-Busch Inc., Baldwinsville, NY	No	Yes	10,240,413	0	0	10,240,413	0	0	0
Bristol-Myers Squibb Company (Technical Operations), East Syracuse, NY	No	Yes	0	0	0	0	0	8,050,000	0
Du Pont, Repauno Plant, Gibbstown, NJ	No	Yes	3,666,204	0	0	3,666,204	0	0	464,123
Amphenol Corporation, Sidney, NY	No	Yes	2,018,847	0	0	2,018,847	0	0	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.
(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

Changes in Toxic Releases Inventory Data for Chemicals Other than Nitrate Compounds

Transfer and Release Quantities Reported for the First Time for Top 5 Chemicals Based on Total Changes in Releases and Transfers (Reporting Years 1995 through 1998)

CAS Number	Chemical	Newly Reported Releases (pounds)	Newly Reported Transfers (pounds)
—	Nickel compounds	468,324	411,777
7632-00-0	Sodium nitrite	378,786	0
100-41-4	Ethylbenzene	97,793	228,430
—	Copper compounds	239,180	67,092
—	Certain glycol ethers	228	240,160
—	All other chemicals	100,971	328,852

Changes in Transfer and Release Quantities Previously Reported for Top 5 Chemicals Based on Total Changes in Releases and Transfers (Reporting Years 1995 through 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)
7440-02-0	Nickel	6,604	762,657
7440-48-4	Cobalt	8,999	291,364
7440-47-3	Chromium	13,075	172,318
7439-96-5	Manganese	1,806	34,956
7647-01-0	Hydrochloric acid (1995 and after, acid aerosols only)	14,845	-3,971
—	All other chemicals	-53,769	-5,188,928

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Nitrate Initiative: Changes to the Toxic Release Inventory

EPA REGION 3

Percent Changes in Release, Treatment, and Transfer Baseline Data for Nitrate Compounds (Reporting Years 1995 through 1998)

	Baseline Data [1] (pounds)	Changes from Revised Reports (pounds)	Increases from New Reports [2] (pounds)	Net Change from All Reports (pounds)	Percent Change to Baseline Data
On-Site Releases	180,163,290	-393,995	19,925,211	19,531,216	11%
Surface Water Discharges	179,132,374	-393,995	19,922,488	19,528,493	11%
Underground Injection	0	0	0	0	0%
On-site Land Releases	1,030,916	0	2,723	2,723	<1%
Off-site Releases	718,968	-29,346	49,072	19,726	3%
Total On- and Off-site Releases	180,882,258	-423,341	19,974,283	19,550,942	11%
Treated On-site	14,065,544	-1,788,172	3,553,902	1,765,730	13%
Transfers to Publicly Owned Treatment Works (POTW)	35,753,776	507,191	9,510,439	10,017,630	28%
Other Off-site Transfers	871,836	123,900	3,802,065	3,925,965	450%
Total Transfers Off-site for Further Waste Management	36,625,612	631,091	13,312,504	13,943,595	38%

(1) The baseline information reflects Toxic Release Inventory data as of December 31, 1999.
(2) "New reports" are reports submitted for the first time after January 1, 2000.

Locations of Top Ten Facilities Based On Total Changes Reported for the following:

- Releases of Nitrate Compounds to Surface Water
- Transfers of Nitrate Compounds to Publicly Owned Treatment Works

Regional Nitrate Submission Data

New Nitrate Reports	
Number of Facilities Submitting New Reports	49
Number of New Form As Submitted	0
Number of New Form Rs Submitted	144
Revised Nitrate Reports	
Number of Facilities Submitting Revised Reports	13
Number of Revised Form As Submitted	0
Number of Revised Form Rs Submitted	19

Changes in Release and Transfer Data for Nitrate Compounds by Reporting Year (1995 through 1998)

	Number of Reports				Release Quantities Reported [1] (pounds)				Transfer Quantities Reported [2] (pounds)			
Reporting Year	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Reports	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity
1995	70	0	40	110	35,514,604	0	5,619,495	41,134,099	6,641,607	0	3,284,868	9,926,475
1996	78	2	37	115	36,333,531	0	5,302,198	41,635,729	9,947,360	24,655	3,599,006	13,571,021
1997	85	5	38	123	50,503,725	-800,000	5,123,336	54,827,061	11,903,505	83,571	3,124,393	15,111,469
1998	103	12	29	132	58,530,398	376,659	3,929,254	62,836,311	8,133,140	522,865	3,304,237	11,960,242

(1) The release quantities shown above include on-site and off-site releases.
(2) The transfer quantities shown above include transfers to publicly owned treatment works and other off-site transfers for further waste management.

Nitrate Initiative: Changes to the Toxic Release Inventory

EPA REGION 3

Releases and Transfers for Top Five Facilities Ranked on Total Changes in Releases and Transfers of Nitrates (Reporting Years 1995 through 1998)

Facility, City, State	Responded to Enforcement Alert? [1]	First Time Reporter? [2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal				
Osram Sylvania Products Inc., Towanda, PA	No	Yes	8,109,372	0	0	8,109,372	0	0	0
Perdue Farms Inc., Accomac Processing Plant, Accomac, VA	No	Yes	5,660,000	0	1,110	5,661,110	0	0	0
Corning Inc., Danville, VA	No	Yes	0	0	0	0	0	3,555,000	0
Ruetgers Organics Corporation, State College, PA	No	Yes	0	0	0	0	0	0	3,415,138
Georgetown Processing Plant Facility #17, Georgetown, DE	No	Yes	1,563,000	0	640	1,563,640	0	0	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.
(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

Changes in Toxic Releases Inventory Data for Chemicals Other than Nitrate Compounds

Transfer and Release Quantities Reported for the First Time for Top 5 Chemicals Based on Total Changes in Releases and Transfers (Reporting Years 1995 through 1998)

CAS Number	Chemical	Newly Reported Releases (pounds)	Newly Reported Transfers (pounds)
—	Manganese compounds	11,312,625	0
—	Copper compounds	181,859	2,123,000
—	Zinc compounds	1,845,639	16,557
—	Barium compounds	807,882	372,186
1330-20-7	Xylene (mixed isomers)	803,853	117,170
—	All other chemicals	3,668,062	398,712

Changes in Transfer and Release Quantities Previously Reported for Top 5 Chemicals Based on Total Changes in Releases and Transfers (Reporting Years 1995 through 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)
7697-37-2	Nitric acid	71,062	5,473
7440-02-0	Nickel	3,119	24,798
—	Manganese compounds	27,015	-13,926
7440-47-3	Chromium	1,424	8,028
—	Nickel compounds	10,515	-4,517
—	All other chemicals	-677,318	-1,560,053

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EPA Nitrate Initiative: Changes to the Toxic Release Inventory

EPA REGION 4

Percent Changes in Release, Treatment, and Transfer Baseline Data for Nitrate Compounds (Reporting Years 1995 through 1998)

	Baseline Data [1] (pounds)	Changes from Revised Reports (pounds)	Increases from New Reports [2] (pounds)	Net Change from All Reports (pounds)	Percent Change to Baseline Data
On-Site Releases	159,378,190	165,002	42,072,639	42,237,641	27%
Surface Water Discharges	104,585,967	166,176	37,861,083	38,027,259	36%
Underground Injection	53,018,570	0	50,300	50,300	<1%
On-site Land Releases	1,773,653	-1,174	4,161,256	4,160,082	235%
Off-site Releases	5,625,438	-9,933	167,645	157,712	3%
Total On- and Off-site Releases	165,003,628	155,069	42,240,284	42,395,353	26%
Treated On-site	45,059,289	4,392,961	22,485,053	26,878,014	60%
Transfers to Publicly Owned Treatment Works (POTW)	16,816,580	-105,462	43,350,804	43,245,342	257%
Other Off-site Transfers	8,254,336	232,702	2,419,743	2,652,445	32%
Total Transfers Off-site for Further Waste Management	25,070,916	127,240	45,770,547	45,897,787	183%

(1) The baseline information reflects Toxic Release Inventory data as of December 31, 1999.
(2) "New reports" are reports submitted for the first time after January 1, 2000.

Locations of Top Ten Facilities Based On Total Changes Reported for the following:

Releases of Nitrate Compounds to Surface Water

¡ Transfers of Nitrate Compounds to Publicly Owned Treatment Works

Regional Nitrate Submission Data

New Nitrate Reports	
Number of Facilities Submitting New Reports	117
Number of New Form As Submitted	5
Number of New Form Rs Submitted	352
Revised Nitrate Reports	
Number of Facilities Submitting Revised Reports	23
Number of Revised Form As Submitted	1
Number of Revised Form Rs Submitted	44

Changes in Release and Transfer Data for Nitrate Compounds by Reporting Year (1995 through 1998)

	Number of Reports				Release Quantities Reported [1] (pounds)				Transfer Quantities Reported [2] (pounds)			
Reporting Year	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Reports	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity
1995	149	5	87	236	25,432,599	19,294	10,458,512	35,910,405	5,954,706	-443	10,035,900	15,900,163
1996	157	8	94	251	41,425,114	39,982	11,358,614	52,823,710	5,335,060	111,397	10,881,320	16,327,777
1997	177	9	87	264	49,668,349	16,990	9,455,519	59,140,858	5,946,620	149,442	13,104,343	19,200,405
1998	197	23	89	286	48,477,566	78,803	10,967,639	59,524,008	7,834,530	-133,156	11,748,984	19,450,358

(1) The release quantities shown above include on-site and off-site releases.
(2) The transfer quantities shown above include transfers to publicly owned treatment works and other off-site transfers for further waste management.

EPA Nitrate Initiative: Changes to the Toxic Release Inventory

EPA REGION 4

Releases and Transfers for Top Five Facilities Ranked on Total Changes in Releases and Transfers of Nitrates (Reporting Years 1995 through 1998)

Facility, City, State	Responded to Enforcement Alert? [1]	First Time Reporter? [2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal				
Süd-Chemie Inc., West Plant (Formerly United Catalysts Inc.), Louisville, KY	No	Yes	0	0	0	0	0	16,100,000	0
First Chemical Corporation, Pascagoula, MS	No	Yes	0	0	0	0	0	10,484,000	0
MEMC Electronic Materials Inc., Moore, SC	No	Yes	4,235,000	0	0	4,235,000	0	0	0
Ensign-Bickford Company, Graham, KY	No	Yes	0	0	4,048,238	4,048,238	0	0	0
Solutia Inc., Decatur, AL	Yes	Yes	4,000,000	0	0	4,000,000	0	0	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.
(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

Changes in Toxic Releases Inventory Data for Chemicals Other than Nitrate Compounds

Transfer and Release Quantities Reported for the First Time for Top 5 Chemicals Based on Total Changes in Releases and Transfers (Reporting Years 1995 through 1998)

CAS Number	Chemical	Newly Reported Releases (pounds)	Newly Reported Transfers (pounds)
7440-50-8	Copper	15,371	17,561,693
—	Manganese compounds	13,509,341	3,826,449
—	Chromium compounds	1,267,464	9,324,648
—	Nickel compounds	484,123	5,612,135
—	Copper compounds	1,230,064	1,609,618
—	All other chemicals	9,568,478	4,710,369

Changes in Transfer and Release Quantities Previously Reported for Top 5 Chemicals Based on Total Changes in Releases and Transfers (Reporting Years 1995 through 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)
108-88-3	Toluene	445,055	1,310,639
—	Barium compounds	2,195,311	-932,351
7664-38-2	Phosphoric acid	-2,364	1,196,375
7664-41-7	Ammonia	775,269	103,636
7440-50-8	Copper	-133,680	918,842
—	All other chemicals	-16,113	744,788

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EPA Nitrate Initiative: Changes to the Toxic Release Inventory

EPA REGION 5

Percent Changes in Release, Treatment, and Transfer Baseline Data for Nitrate Compounds (Reporting Years 1995 through 1998)

	Baseline Data [1] (pounds)	Changes from Revised Reports (pounds)	Increases from New Reports [2] (pounds)	Net Change from All Reports (pounds)	Percent Change to Baseline Data
On-Site Releases	69,312,218	-340,562	13,756,501	13,415,939	19%
Surface Water Discharges	61,632,244	43,398	12,223,454	12,266,852	20%
Underground Injection	5,699,000	0	126,157	126,157	<1%
On-site Land Releases	1,980,974	-383,960	1,406,890	1,022,930	52%
Off-site Releases	2,401,174	46,325	887,547	933,872	39%
Total On- and Off-site Releases	71,713,392	-294,237	14,644,048	14,349,811	20%
Treated On-site	22,319,618	155,606	20,426,245	20,581,851	92%
Transfers to Publicly Owned Treatment Works (POTW)	82,314,828	1,624,827	50,263,817	51,888,644	63%
Other Off-site Transfers	1,310,449	66,616	2,219,501	2,286,117	174%
Total Transfers Off-site for Further Waste Management	83,625,277	1,691,443	52,483,318	54,174,761	65%

(1) The baseline information reflects Toxic Release Inventory data as of December 31, 1999.
(2) "New reports" are reports submitted for the first time after January 1, 2000.

Locations of Top Ten Facilities Based On Total Changes Reported for the following:

- Releases of Nitrate Compounds to Surface Water
- ¡ Transfers of Nitrate Compounds to Publicly Owned Treatment Works

Regional Nitrate Submission Data

New Nitrate Reports

Number of Facilities Submitting New Reports	204
Number of New Form As Submitted	11
Number of New Form Rs Submitted	597

Revised Nitrate Reports

Number of Facilities Submitting Revised Reports	45
Number of Revised Form As Submitted	1
Number of Revised Form Rs Submitted	75

Changes in Release and Transfer Data for Nitrate Compounds by Reporting Year (1995 through 1998)

	Number of Reports				Release Quantities Reported [1] (pounds)				Transfer Quantities Reported [2] (pounds)			
Reporting Year	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Reports	Quantity from Baseline	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity
1995	225	7	156	381	17,889,140	-13,187	2,765,582	20,641,535	17,493,410	437,923	12,647,525	30,578,858
1996	245	12	153	398	15,362,129	-20,143	4,095,800	19,437,786	18,899,636	387,209	12,372,087	31,658,932
1997	272	20	152	424	15,518,394	11,892	3,805,836	19,336,122	21,740,631	128,759	13,953,296	35,822,686
1998	301	37	147	448	22,943,729	-272,799	3,976,830	26,647,760	25,491,600	737,552	13,510,410	39,739,562

(1) The release quantities shown above include on-site and off-site releases.
(2) The transfer quantities shown above include transfers to publicly owned treatment works and other off-site transfers for further waste management.

Releases and Transfers for Top Five Facilities Ranked on Total Changes in Releases and Transfers of Nitrates (Reporting Years 1995 through 1998)

Facility, City, State	Responded to Enforcement Alert? [1]	First Time Reporter? [2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal				
Miller Plating and Metal Finishing, Evansville, IN	No	Yes	0	0	0	0	0	3,220,000	0
Aluminum Coil Anodizing Corporation, Streamwood, IL	Yes	Yes	0	0	0	0	0	2,534,684	0
Zenith Electronics Corporation - Rauland Division, Melrose Park, IL	No	Yes	0	0	0	0	0	2,485,347	0
Wausau-Mosinee Paper Corporation - Brokaw Mill, Brokaw, WI	No	Yes	2,447,991	0	4,159	2,452,150	44	0	0
First District Association, Litchfield, MN	No	Yes	0	0	0	0	0	2,053,446	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

Changes in Toxic Releases Inventory Data for Chemicals Other than Nitrate Compounds

Transfer and Release Quantities Reported for the First Time for Top 5 Chemicals Based on Total Changes in Releases and Transfers (Reporting Years 1995 through 1998)

CAS Number	Chemical	Newly Reported Releases (pounds)	Newly Reported Transfers (pounds)
—	Copper compounds	116,010	3,551,534
—	Zinc compounds	1,454,011	507,774
108-95-2	Phenol	1,339,751	6,914
7697-37-2	Nitric acid	1,327,843	5,535
—	Barium compounds	1,298,964	2,840
—	All other chemicals	5,034,747	2,773,118

Changes in Transfer and Release Quantities Previously Reported for Top 5 Chemicals Based on Total Changes in Releases and Transfers (Reporting Years 1995 through 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)
—	Zinc compounds	31,499,350	1,352,516
7664-38-2	Phosphoric acid	-338,060	32,368,025
7697-37-2	Nitric acid	34,103	1,256,910
100-41-4	Ethylbenzene	10,530	504,668
78-93-3	Methyl ethyl ketone	-7,420	413,333
—	All other chemicals	-273,972	-60,318,718

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EPA Nitrate Initiative: Changes to the Toxic Release Inventory

EPA REGION 6

Percent Changes in Release, Treatment, and Transfer Baseline Data for Nitrate Compounds (Reporting Years 1995 through 1998)

	Baseline Data [1] (pounds)	Changes from Revised Reports (pounds)	Increases from New Reports [2] (pounds)	Net Change from All Reports (pounds)	Percent Change to Baseline Data
On-Site Releases	184,001,208	8,740,804	15,846,462	24,587,266	13%
Surface Water Discharges	123,700,064	13,238,512	13,813,657	27,052,169	22%
Underground Injection	56,940,946	-4,608,780	130,510	-4,478,270	-8%
On-site Land Releases	3,360,198	111,072	1,902,295	2,013,367	60%
Off-site Releases	54,881	0	126,549	126,549	231%
Total On- and Off-site Releases	184,056,089	8,740,804	15,973,011	24,713,815	13%
Treated On-site	47,883,922	2,120,022	52,642,242	54,762,264	114%
Transfers to Publicly Owned Treatment Works (POTW)	71,076,429	171,243	15,911,357	16,082,600	23%
Other Off-site Transfers	1,348,432	0	41,649	41,649	3%
Total Transfers Off-site for Further Waste Management	72,424,861	171,243	15,953,006	16,124,249	22%

(1) The baseline information reflects Toxic Release Inventory data as of December 31, 1999.
(2) "New reports" are reports submitted for the first time after January 1, 2000.

Locations of Top Ten Facilities Based On Total Changes Reported for the following:

- Releases of Nitrate Compounds to Surface Water
- ¡ Transfers of Nitrate Compounds to Publicly Owned Treatment Works

Regional Nitrate Submission Data

New Nitrate Reports	
Number of Facilities Submitting New Reports	69
Number of New Form As Submitted	0
Number of New Form Rs Submitted	236
Revised Nitrate Reports	
Number of Facilities Submitting Revised Reports	13
Number of Revised Form As Submitted	0
Number of Revised Form Rs Submitted	23

Changes in Release and Transfer Data for Nitrate Compounds by Reporting Year (1995 through 1998)

	Number of Reports				Release Quantities Reported [1] (pounds)				Transfer Quantities Reported [2] (pounds)			
Reporting Year	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Reports	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity
1995	95	3	58	153	31,995,906	2,952,253	3,621,585	38,569,744	16,560,397	0	3,411,435	19,971,832
1996	112	3	60	172	48,238,013	1,133,795	3,725,783	53,097,591	17,700,890	6,272	3,954,505	21,661,667
1997	114	4	61	175	47,220,726	1,754,503	4,384,875	53,360,104	17,183,587	0	4,285,722	21,469,309
1998	137	13	57	194	56,601,444	2,900,253	4,240,768	63,742,465	20,979,987	164,971	4,301,344	25,446,302

(1) The release quantities shown above include on-site and off-site releases.
(2) The transfer quantities shown above include transfers to publicly owned treatment works and other off-site transfers for further waste management.

Releases and Transfers for Top Five Facilities Ranked on Total Changes in Releases and Transfers of Nitrates (Reporting Years 1995 through 1998)

Facility, City, State	Responded to Enforcement Alert? [1]	First Time Reporter? [2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal				
Rohm & Haas Texas Inc., Deer Park, TX	No	No	7,092,909	0	0	7,092,909	0	0	0
Protein Technologies International Inc., Pryor, OK	No	Yes	6,091,690	0	160,250	6,251,940	0	0	0
Gulf Chemical & Metallurgical Corporation, Freeport, TX	No	Yes	2,646,605	0	0	2,646,605	0	0	0
Gerber Products, Fort Smith, AR	No	Yes	0	0	0	0	0	2,572,558	0
Du Pont - Victoria Plant, Victoria, TX	No	No	6,145,040	-4,608,780	0	1,536,260	0	0	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.
(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

Changes in Toxic Releases Inventory Data for Chemicals Other than Nitrate Compounds

Transfer and Release Quantities Reported for the First Time for Top 5 Chemicals Based on Total Changes in Releases and Transfers (Reporting Years 1995 through 1998)

CAS Number	Chemical	Newly Reported Releases (pounds)	Newly Reported Transfers (pounds)
108-95-2	Phenol	1,243,706	0
—	Zinc compounds	1,107,822	1,160
7697-37-2	Nitric acid	642,137	316
—	Barium compounds	640,716	0
—	Copper compounds	580,176	29,316
—	All other chemicals	3,579,147	1,686,924

Changes in Transfer and Release Quantities Previously Reported for Top 5 Chemicals Based on Total Changes in Releases and Transfers (Reporting Years 1995 through 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)
7664-38-2	Phosphoric acid	-3,271	2,629,361
79-10-7	Acrylic acid	29,629	1,317,354
67-56-1	Methanol	125,636	1,069,070
1330-20-7	Xylene (mixed isomers)	720,934	99,074
—	Manganese compounds	748,743	0
—	All other chemicals	3,859,908	-1,541,278

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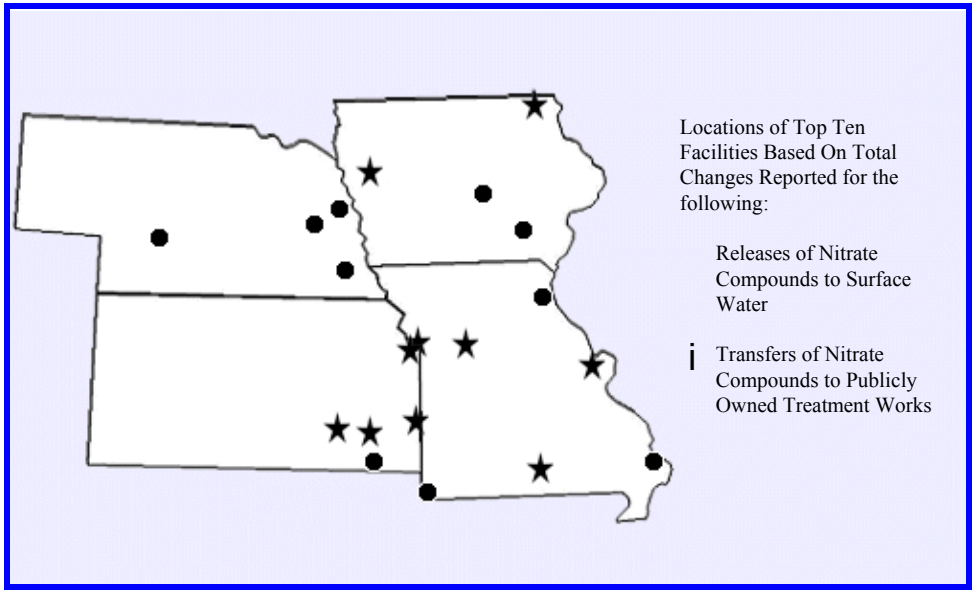
EPA Nitrate Initiative: Changes to the Toxic Release Inventory

EPA REGION 7

Percent Changes in Release, Treatment, and Transfer Baseline Data for Nitrate Compounds (Reporting Years 1995 through 1998)

	Baseline Data [1] (pounds)	Changes from Revised Reports (pounds)	Increases from New Reports [2] (pounds)	Net Change from All Reports (pounds)	Percent Change to Baseline Data
On-Site Releases	25,979,660	6,977,000	19,375,013	26,352,013	101%
Surface Water Discharges	25,910,365	6,977,000	18,416,351	25,393,351	98%
Underground Injection	2,500	0	0	0	0%
On-site Land Releases	66,795	0	958,662	958,662	1,435%
Off-site Releases	4,902,809	0	81,134	81,134	2%
Total On- and Off-site Releases	30,882,469	6,977,000	19,456,147	26,433,147	86%
Treated On-site	1,773,916	282,000	36,643,713	36,925,713	2,082%
Transfers to Publicly Owned Treatment Works (POTW)	6,254,116	1,871,780	14,584,191	16,455,971	263%
Other Off-site Transfers	11,756,563	-2,382,209	48,751	-2,333,458	-20%
Total Transfers Off-site for Further Waste Management	18,010,679	-510,429	14,632,942	14,122,513	78%

(1) The baseline information reflects Toxic Release Inventory data as of December 31, 1999.
(2) "New reports" are reports submitted for the first time after January 1, 2000.



Regional Nitrate Submission Data

New Nitrate Reports	
Number of Facilities Submitting New Reports	44
Number of New Form As Submitted	5
Number of New Form Rs Submitted	138
Revised Nitrate Reports	
Number of Facilities Submitting Revised Reports	8
Number of Revised Form As Submitted	0
Number of Revised Form Rs Submitted	14

Changes in Release and Transfer Data for Nitrate Compounds by Reporting Year (1995 through 1998)

	Number of Reports				Release Quantities Reported [1] (pounds)				Transfer Quantities Reported [2] (pounds)			
Reporting Year	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Reports	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity
1995	50	2	33	83	9,631,178	438,000	3,099,239	13,168,417	3,204,657	105,443	3,798,759	7,108,859
1996	55	2	36	91	6,785,376	384,000	5,982,064	13,151,440	7,292,820	-1,190,114	3,817,839	9,920,545
1997	58	2	34	92	6,552,502	513,000	4,080,248	11,145,750	5,229,839	451,919	3,407,452	9,089,210
1998	59	8	40	99	7,913,413	5,642,000	6,294,596	19,850,009	2,283,363	122,323	3,608,892	6,014,578

(1) The release quantities shown above include on-site and off-site releases.
(2) The transfer quantities shown above include transfers to publicly owned treatment works and other off-site transfers for further waste management.

EPA Nitrate Initiative: Changes to the Toxic Release Inventory

EPA REGION 7

Releases and Transfers for Top Five Facilities Ranked on Total Changes in Releases and Transfers of Nitrates (Reporting Years 1995 through 1998)

Facility, City, State	Responded to Enforcement Alert? [1]	First Time Reporter? [2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal				
Farmland Foods Inc., Crete, NE	No	Yes	6,009,972	0	0	6,009,972	0	0	0
Simmons Foods Inc., South West City, MO	No	Yes	5,260,431	0	0	5,260,431	4,266	0	0
IBP Inc., Lexington, NE	No	No	5,100,000	0	0	5,100,000	0	0	0
MEMC Electronic Materials Inc. - St. Peters Plant, O'Fallon, MO	No	Yes	0	0	0	0	0	4,155,000	0
Farmland Foods Inc., Denison, IA	No	Yes	0	0	0	0	0	3,518,000	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.
(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

Changes in Toxic Releases Inventory Data for Chemicals Other than Nitrate Compounds

Transfer and Release Quantities Reported for the First Time for Top 5 Chemicals Based on Total Changes in Releases and Transfers (Reporting Years 1995 through 1998)

CAS Number	Chemical	Newly Reported Releases (pounds)	Newly Reported Transfers (pounds)
7632-00-0	Sodium nitrite	678,128	0
7440-50-8	Copper	4,657	249,112
—	Copper compounds	2,096	102,225
—	Zinc compounds	44,124	0
7664-93-9	Sulfuric acid (1994 and after, acid aerosols only)	43,800	0
—	All other chemicals	36,868	47,460

Changes in Transfer and Release Quantities Previously Reported for Top 5 Chemicals Based on Total Changes in Releases and Transfers (Reporting Years 1995 through 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)
108-88-3	Toluene	34,897	25,104
—	Chromium compounds	25,279	33,833
75-56-9	Propylene oxide	1,447	0
—	Manganese compounds	1,339	62
100-41-4	Ethylbenzene	9,139	-8,268
—	All other chemicals	-46,762	-271,456

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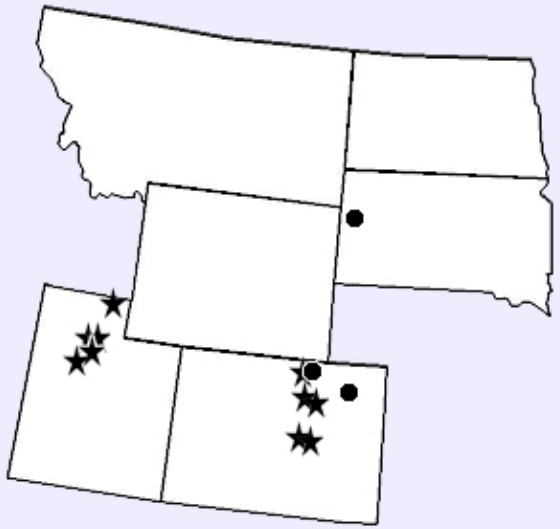
EPA Nitrate Initiative: Changes to the Toxic Release Inventory

EPA REGION 8

Percent Changes in Release, Treatment, and Transfer Baseline Data for Nitrate Compounds (Reporting Years 1995 through 1998)

	Baseline Data [1] (pounds)	Changes from Revised Reports (pounds)	Increases from New Reports [2] (pounds)	Net Change from All Reports (pounds)	Percent Change to Baseline Data
On-Site Releases	41,279,454	568,135	3,696,967	4,265,102	10%
Surface Water Discharges	15,976,064	339,150	3,596,262	3,935,412	25%
Underground Injection	19,862,000	0	0	0	0%
On-site Land Releases	5,441,390	228,985	100,705	329,690	6%
Off-site Releases	7,762	0	0	0	0%
Total On- and Off-site Releases	41,287,216	568,135	3,696,967	4,265,102	10%
Treated On-site	8,066,425	1,009,000	7,543,433	8,552,433	106%
Transfers to Publicly Owned Treatment Works (POTW)	6,393,451	0	2,395,646	2,395,646	37%
Other Off-site Transfers	441,666	-95	98,711	98,616	22%
Total Transfers Off-site for Further Waste Management	6,835,117	-95	2,494,357	2,494,262	36%

(1) The baseline information reflects Toxic Release Inventory data as of December 31, 1999.
(2) "New reports" are reports submitted for the first time after January 1, 2000.



Locations of Top Ten Facilities Based On Total Changes Reported for the following:

Releases of Nitrate Compounds to Surface Water

¡ Transfers of Nitrate Compounds to Publicly Owned Treatment Works

Regional Nitrate Submission Data

New Nitrate Reports	
Number of Facilities Submitting New Reports	14
Number of New Form As Submitted	0
Number of New Form Rs Submitted	38
Revised Nitrate Reports	
Number of Facilities Submitting Revised Reports	4
Number of Revised Form As Submitted	0
Number of Revised Form Rs Submitted	7

Changes in Release and Transfer Data for Nitrate Compounds by Reporting Year (1995 through 1998)

	Number of Reports				Release Quantities Reported [1] (pounds)				Transfer Quantities Reported [2] (pounds)			
Reporting Year	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Reports	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity
1995	36	1	7	43	5,427,915	257,000	99,955	5,784,870	1,217,065	-41	552,015	1,769,039
1996	38	1	9	47	11,856,786	-4	1,111,885	12,968,667	1,447,859	-54	566,133	2,013,938
1997	36	1	11	47	12,070,404	-8	1,229,205	13,299,601	2,103,222	0	718,468	2,821,690
1998	44	4	11	55	11,932,111	311,147	1,255,922	13,499,180	2,066,971	0	657,741	2,724,712

(1) The release quantities shown above include on-site and off-site releases.
(2) The transfer quantities shown above include transfers to publicly owned treatment works and other off-site transfers for further waste management.

EPA Nitrate Initiative: Changes to the Toxic Release Inventory

EPA REGION 8

Releases and Transfers for Top Five Facilities Ranked on Total Changes in Releases and Transfers of Nitrates (Reporting Years 1995 through 1998)

Facility, City, State	Responded to Enforcement Alert? [1]	First Time Reporter? [2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal				
Excel Corporation, Fort Morgan, CO	No	Yes	3,596,262	0	0	3,596,262	0	0	0
Easton Technical Products, Salt Lake City, UT	Yes	Yes	0	0	1,000	1,000	0	1,066,856	0
Dairy Farmers of America Inc., Amalga, UT	Yes	Yes	0	0	0	0	0	381,769	0
Kodak - Colorado Division, Windsor, CO	No	Yes	335,000	0	-15	334,985	0	0	-95
Meadow Gold Dairies, Englewood, CO	Yes	Yes	0	0	0	0	0	262,027	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.
(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

Changes in Toxic Releases Inventory Data for Chemicals Other than Nitrate Compounds

Transfer and Release Quantities Reported for the First Time (Reporting Years 1995 through 1998)

CAS Number	Chemical	Newly Reported Releases (pounds)	Newly Reported Transfers (pounds)
7439-96-5	Manganese	18,001	4,120
7440-02-0	Nickel	12,234	1,482
7440-47-3	Chromium	3,091	8,257
7440-50-8	Copper	164	5,575
50-00-0	Formaldehyde	255	250

Changes in Transfer and Release Quantities Previously Reported (Reporting Years 1995 through 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)
107-21-1	Ethylene Glycol	-6,923	600,000
7697-37-2	Nitric Acid	93,583	-750

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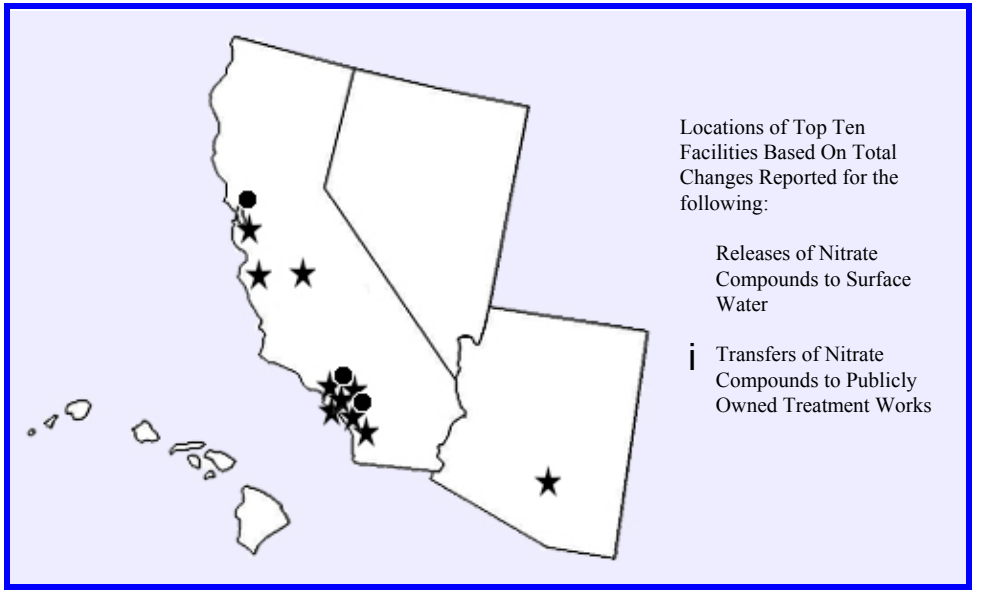
EPA Nitrate Initiative: Changes to the Toxic Release Inventory

EPA REGION 9

Percent Changes in Release, Treatment, and Transfer Baseline Data for Nitrate Compounds (Reporting Years 1995 through 1998)

	Baseline Data [1] (pounds)	Changes from Revised Reports (pounds)	Increases from New Reports [2] (pounds)	Net Change from All Reports (pounds)	Percent Change to Baseline Data
On-Site Releases	15,326,579	32,122	2,132,705	2,164,827	14%
Surface Water Discharges	9,102,494	0	195,828	195,828	2%
Underground Injection	1,200	0	0	0	0%
On-site Land Releases	6,222,885	32,122	1,936,877	1,968,999	32%
Off-site Releases	153,455	-58,146	504,763	446,617	291%
Total On- and Off-site Releases	15,480,034	-26,024	2,637,468	2,611,444	17%
Treated On-site	473,212	0	3,326,135	3,326,135	703%
Transfers to Publicly Owned Treatment Works (POTW)	24,061,377	-858,023	31,395,568	30,537,545	127%
Other Off-site Transfers	865,442	7,266	758,752	766,018	89%
Total Transfers Off-site for Further Waste Management	24,926,819	-850,757	32,154,320	31,303,563	126%

(1) The baseline information reflects Toxic Release Inventory data as of December 31, 1999.
(2) "New reports" are reports submitted for the first time after January 1, 2000.



Locations of Top Ten Facilities Based On Total Changes Reported for the following:

- Releases of Nitrate Compounds to Surface Water
- ¡ Transfers of Nitrate Compounds to Publicly Owned Treatment Works

Regional Nitrate Submission Data

New Nitrate Reports

Number of Facilities Submitting New Reports	95
Number of New Form As Submitted	3
Number of New Form Rs Submitted	291

Revised Nitrate Reports

Number of Facilities Submitting Revised Reports	10
Number of Revised Form As Submitted	0
Number of Revised Form Rs Submitted	16

Changes in Release and Transfer Data for Nitrate Compounds by Reporting Year (1995 through 1998)

	Number of Reports				Release Quantities Reported [1] (pounds)				Transfer Quantities Reported [2] (pounds)			
Reporting Year	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Reports	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity
1995	49	2	67	116	2,591,094	0	1,058,480	3,649,574	5,204,576	23,562	7,680,069	12,908,207
1996	58	3	73	131	2,692,843	268,677	541,991	3,503,511	5,299,450	-247,029	8,530,795	13,583,216
1997	67	3	73	140	2,516,611	268,677	532,279	3,317,567	6,974,808	-332,299	7,865,236	14,507,745
1998	112	8	81	193	7,679,486	-563,378	504,718	7,620,826	7,447,985	-294,991	8,078,220	15,231,214

(1) The release quantities shown above include on-site and off-site releases.
(2) The transfer quantities shown above include transfers to publicly owned treatment works and other off-site transfers for further waste management.

EPA Nitrate Initiative: Changes to the Toxic Release Inventory

EPA REGION 9

Releases and Transfers for Top Five Facilities Ranked on Total Changes in Releases and Transfers of Nitrates (Reporting Years 1995 through 1998)

Facility, City, State	Responded to Enforcement Alert? [1]	First Time Reporter? [2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal				
Dairy Farmers of America Inc., Corona, CA	Yes	Yes	0	0	0	0	0	2,813,050	0
Land O'Lakes Inc., Tulare, CA	Yes	Yes	0	0	0	0	0	2,373,763	0
Indalex West, Watsonville, CA	No	Yes	0	0	0	0	0	2,293,788	0
George Industries, Los Angeles, CA	No	Yes	0	0	0	0	0	1,885,541	0
Hilmar Cheese Company Inc., Hilmar, CA	Yes	Yes	0	0	1,387,105	1,387,105	0	0	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.
(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

Changes in Toxic Releases Inventory Data for Chemicals Other than Nitrate Compounds

Transfer and Release Quantities Reported for the First Time for Top 5 Chemicals Based on Total Changes in Releases and Transfers (Reporting Years 1995 through 1998)

CAS Number	Chemical	Newly Reported Releases (pounds)	Newly Reported Transfers (pounds)
—	Copper compounds	11,165	1,734,866
—	Lead compounds	104	182,900
7632-00-0	Sodium nitrite	98,518	0
—	Zinc compounds	82,198	0
120-80-9	Catechol	3,521	39,637
—	All other chemicals	126,626	44,628

Changes in Transfer and Release Quantities Previously Reported for Top 5 Chemicals Based on Total Changes in Releases and Transfers (Reporting Years 1995 through 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)
7440-50-8	Copper	910,151	439,825
7664-41-7	Ammonia	1,037	645,661
7697-37-2	Nitric acid	61,692	80,914
—	Nickel compounds	42,939	-119
128-04-1	Sodium dimethyldithiocarbamate	60,740	53,063
—	All other chemicals	-832,216	-4,082,962

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Nitrate Initiative: Changes to the Toxic Release Inventory

EPA REGION 10

Percent Changes in Release, Treatment, and Transfer Baseline Data for Nitrate Compounds (Reporting Years 1995 through 1998)

	Baseline Data [1] (pounds)	Changes from Revised Reports (pounds)	Increases from New Reports [2] (pounds)	Net Change from All Reports (pounds)	Percent Change to Baseline Data
On-Site Releases	26,769,485	-988,000	1,463,805	475,805	2%
Surface Water Discharges	25,214,250	-988,000	1,463,555	475,555	2%
Underground Injection	750	0	0	0	0%
On-site Land Releases	1,554,485	0	250	250	<1%
Off-site Releases	1,824,508	0	1,091	1,091	<1%
Total On- and Off-site Releases	28,593,993	-988,000	1,464,896	476,896	2%
Treated On-site	6,581,540	14,900	1,068,592	1,083,492	16%
Transfers to Publicly Owned Treatment Works (POTW)	20,460,699	-95,119	2,669,783	2,574,664	13%
Other Off-site Transfers	477,420	-36,237	341,323	305,086	64%
Total Transfers Off-site for Further Waste Management	20,938,119	-131,356	3,011,106	2,879,750	14%

(1) The baseline information reflects Toxic Release Inventory data as of December 31, 1999.
(2) "New reports" are reports submitted for the first time after January 1, 2000.

Locations of Top Ten Facilities Based On Total Changes Reported for the following:

Releases of Nitrate Compounds to Surface Water

¡ Transfers of Nitrate Compounds to Publicly Owned Treatment Works

Regional Nitrate Submission Data

New Nitrate Reports

Number of Facilities Submitting New Reports	22
Number of New Form As Submitted	2
Number of New Form Rs Submitted	63

Revised Nitrate Reports

Number of Facilities Submitting Revised Reports	13
Number of Revised Form As Submitted	0
Number of Revised Form Rs Submitted	25

Changes in Release and Transfer Data for Nitrate Compounds by Reporting Year (1995 through 1998)

	Number of Reports				Release Quantities Reported [1] (pounds)				Transfer Quantities Reported [2] (pounds)			
Reporting Year	Baseline Reports	Revised Reports Submitted	New Reports Submitted	Total Reports	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity	Quantity from Baseline Reports	Changes from Revised Reports	Increases from New Reports	Updated Database Quantity
1995	48	4	16	64	4,609,266	-480,000	203,900	4,333,166	3,855,265	-6,550	495,827	4,344,542
1996	56	5	14	70	5,250,181	-490,000	1,030,655	5,790,836	3,836,633	-110,145	846,432	4,572,920
1997	61	5	18	79	7,843,389	-530,000	78,600	7,391,989	5,805,009	195,535	721,643	6,722,187
1998	70	11	17	87	10,891,157	512,000	151,741	11,554,898	7,441,212	-210,196	947,204	8,178,220

(1) The release quantities shown above include on-site and off-site releases.
(2) The transfer quantities shown above include transfers to publicly owned treatment works and other off-site transfers for further waste management.

Nitrate Initiative: Changes to the Toxic Release Inventory

EPA REGION 10

Releases and Transfers for Top Five Facilities Ranked on Total Changes in Releases and Transfers of Nitrates (Reporting Years 1995 through 1998)

Facility, City, State	Responded to Enforcement Alert? [1]	First Time Reporter? [2]	Changes in On-site Releases (pounds)			Total Changes in On-site Releases (pounds)	Total Changes in Off-site Releases (pounds)	Total Changes in Transfers to POTWs (pounds)	Total Changes in Other Off-site Transfers (pounds)
			Surface Water Discharges	Underground Injection	Land Disposal				
Boeing BCAG Fabrication Division - Auburn, Auburn, WA	Yes	Yes	0	0	0	0	0	1,560,000	0
Wah Chang-Oremet Facility, Albany, OR	No	Yes	1,095,000	0	0	1,095,000	0	0	0
Wah Chang Albany, Albany, OR	No	No	1,022,000	0	0	1,022,000	0	0	0
Timet Castings Corporation, Albany, OR	Yes	No	0	0	0	0	0	428,000	0
Anodizing Inc. Parts Division, Portland, OR	No	Yes	0	0	0	0	0	367,712	0

(1) Facilities that submitted nitrate reports after December 31, 1999, but before the enforcement mailing in April 2000, are considered to have responded to the enforcement alert.

(2) A facility is identified as a first time reporter if the facility did not submit nitrate reports for these reporting years prior to January 1, 2000.

Changes in Toxic Releases Inventory Data for Chemicals Other than Nitrate Compounds

Transfer and Release Quantities Reported for the First Time for Top 5 Chemicals Based on Total Changes in Releases and Transfers (Reporting Years 1995 through 1998)

CAS Number	Chemical	Newly Reported Releases (pounds)	Newly Reported Transfers (pounds)
—	Copper compounds	67,574	1,296,887
—	Lead compounds	55,969	555,674
108-10-1	Methyl isobutyl ketone	362,660	0
7632-00-0	Sodium nitrite	321,791	0
—	Zinc compounds	573	83,188
—	All other chemicals	134,253	14,271

Changes in Transfer and Release Quantities Previously Reported for Top 5 Chemicals Based on Total Changes in Releases and Transfers (Reporting Years 1995 through 1998)

CAS Number	Chemical	Changes in Reported Releases (pounds)	Changes in Reported Transfers (pounds)
7664-41-7	Ammonia	102,735	89,740
7440-50-8	Copper	509	133,599
108-88-3	Toluene	-3,695	123,495
7697-37-2	Nitric acid	11,718	0
67-56-1	Methanol	21,447	10,682
—	All other chemicals	-33,874	-357,489

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APPENDIX 3

NITRATE INITIATIVE: ESTIMATED INSPECTION AND ENFORCEMENT COSTS SAVED

NITRATE INITIATIVE: ESTIMATED INSPECTION AND NITRATE-ENFORCEMENT COSTS SAVED

AVOIDED COSTS

Based on an analysis of reporting data under the National Nitrate Compliance Initiative (Nitrate Initiative), 670 facilities were discovered to be potentially in violation of reporting requirements for nitrate. The noncompliance rate for nitrate reporting to the Toxic Release Inventory (TRI) was expected to be about 25 percent. Therefore, to identify the same number of potential violators without analyzing any data, the U.S. Environmental Protection Agency (EPA) would have had to conduct 2,680 inspections and review the results of the inspections. For facilities found to be in noncompliance, EPA would have to expend additional costs for case review officers and attorneys to implement traditional enforcement methods.

EPA's costs for conducting these inspections and enforcement follow-up were estimated assuming the following:

- Senior employees (SEE) would conduct 80 percent of the inspections.
- EPA employees, referred to as full-time equivalents (FTE), would conduct 20 percent of the inspections.
- The hourly cost for an SEE employee is $15.
- The hourly cost for an FTE for inspection activity is $25, for case review is $27, and for attorney fees is $35.
- Overnight travel would be required for 80 percent of the inspections.

For the 25 percent or 670 facilities that would be in noncompliance, the cost estimate assumes that only three inspections would be completed in 1 week. For the 75 percent or 2,010 facilities that would be found in compliance, the cost estimate assumes that an average of 4.25 inspection would be completed in a week.

Using traditional inspection and enforcement methods, an estimated $1.7 million would be incurred for facilities that would be found in noncompliance. An estimated $1.1 million would be incurred for inspecting facilities that would be found in compliance. See Table 1 for a breakdown of the cost estimate. The total estimated costs for achieving the results of the Nitrate Initiative using traditional inspection and enforcement methods would be about $2.8 million. Assuming a 10 percent variability in this cost estimate, the avoided costs are estimated to range between $2.5 million and $3.1 million.

INCURRED COSTS

The Nitrate Initiative started in March 2000, when the enforcement alert was issued. Activity continued in April 2000 when Show Cause letters were mailed. EPA regional and headquarters employees were actively involved in the Nitrate Initiative through October 2000. Therefore, the estimate for incurred costs is based on an implementation period of 9 months. EPA regional and headquarters employee time expended in support of the Nitrate Initiative was estimated in terms of FTE, or the fraction of a year. One FTE is equivalent to 2,000 hours. EPA's cost for implementing the Nitrate Initiative was developed assuming (1) an hourly cost of $30 for employees in regional TRI programs and headquarters employees in the Toxics, Pesticides, and Enforcement Division, and (2) an hourly cost of $35 for EPA regional employees in the Office of Regional Counsel.

Based on these assumptions, EPA estimates that about $496,000 was expended to support the Nitrate Initiative. See Table 2 for a breakdown of this cost estimate. Assuming a 10 percent variability in this cost estimate, the costs incurred are estimated to range between $545,600 and $446,400.

TABLE 1
ESTIMATED COSTS FOR TRADITIONAL INSPECTION AND ENFORCEMENT METHODS

Activity	Number of Inspections	Cost Factors	Cost
Facilities in Noncompliance: 670			
Inspection Travel	536 (80%)	(1 week/3 inspections) × ($400/week)	$71,467
Inspection by SEE	536 (80%)	(1 week/3 inspections) × (40 hours/week) × ($15/hour)	$107,200
Inspection by FTE	134 (20%)	(1 week/3 inspections) × (40 hours/week) × ($25/hour)	$44,667
Report Writing by SEE	536 (80%)	(32 hours/inspection) × ($15/hour)	$257,280
Report Writing by FTE	134 (20%)	(32 hours/inspection) × ($25/hour)	$107,200
Case Review by Case Review Officer FTE	670 (100%)	(30 hours/inspection) × ($27/hour)	$542,700
Enforcement Support by Attorney FTE	670 (100%)	(25 hours/inspection) × ($35/hour)	$586,250
Postage and other Materials	NA	NA	$10,000
Total Estimated Inspection and Enforcement Costs for Facilities in Noncompliance			**$1,726,763**
Facilities in Compliance: 2,010			
Inspection Travel	1,608 (80%)	(1 week/4.25 inspections) × ($400/week)	$214,400
Inspection by SEE	1,608 (80%)	(1 week/4.25 inspections) × (40 hours/week) × ($15/hour)	$321,600
Inspection by FTE	402 (20%)	(1 week/4.25 inspections) × (40 hours/week) × ($25/hour)	$134,000
Report Writing by SEE	1,608 (80%)	(7 hours/inspection) × ($15/hour)	$168,840
Report Writing by FTE	402 (20%)	(7 hours/inspection) × ($25/hour)	$70,350
Review by Case Review Officer FTE	2,010 (100%)	(4 hours/inspection) × ($27/hour)	$217,080
Postage and other Materials	NA	NA	$5,000
Total Estimated Inspection and Enforcement Costs for Facilities in Compliance			**$1,131,270**

ESTIMATED COSTS SAVED

The difference between the avoided costs and the incurred costs ranges between $2 million and $2.7 million, or about $2.35 million. The ratio of avoided costs to incurred costs is calculated as follows:

($2.8 million avoided costs) / ($496,000 incurred costs) = $5.65

Therefore, for every dollar spent in support of the Nitrate Initiative, about $6 was saved.

TABLE 2
ESTIMATED COSTS INCURRED

EPA Program	FTEs Spent	Cost Factors	Cost
Headquarters TPED and TRI	1	(2000 hours/FTE) × ($30/hour)	$60,000
Region 1 TRI	0.2	(2000 hours/FTE) × ($30/hour)	$12,000
Region 1 ORC	0.1	(2000 hours/FTE) × ($35/hour)	$7,000
Region 2 TRI	0.3	(2000 hours/FTE) × ($30/hour)	$18,000
Region 2 ORC	0.2	(2000 hours/FTE) × ($35/hour)	$14,000
Region 3 TRI	0.3	(2000 hours/FTE) × ($30/hour)	$18,000
Region 3 ORC	0.2	(2000 hours/FTE) × ($35/hour)	$14,000
Region 4 TRI	0.4	(2000 hours/FTE) × ($30/hour)	$24,000
Region 4 ORC	0.3	(2000 hours/FTE) × ($35/hour)	$21,000
Region 5 TRI	0.6	(2000 hours/FTE) × ($30/hour)	$36,000
Region 5 ORC	0.4	(2000 hours/FTE) × ($35/hour)	$28,000
Region 6 TRI	0.3	(2000 hours/FTE) × ($30/hour)	$18,000
Region 6 ORC	0.2	(2000 hours/FTE) × ($35/hour)	$14,000
Region 7 TRI	0.7	(2000 hours/FTE) × ($30/hour)	$42,000
Region 7 ORC	0.2	(2000 hours/FTE) × ($35/hour)	$14,000
Region 8 TRI	0.1	(2000 hours/FTE) × ($30/hour)	$6,000
Region 8 ORC	0.1	(2000 hours/FTE) × ($35/hour)	$7,000
Region 9 TRI	0.6	(2000 hours/FTE) × ($30/hour)	$36,000
Region 9 ORC	0.4	(2000 hours/FTE) × ($35/hour)	$28,000
Region 10 TRI	0.2	(2000 hours/FTE) × ($30/hour)	$12,000
Region 10 ORC	0.1	(2000 hours/FTE) × ($35/hour)	$7,000
Consultant Costs			$60,000
Estimated Total Costs Incurred			$496,000

Notes:

FTE Full-time Equivalent
ORC Office of Regional Counsel
TPED Toxics and Pesticides Enforcement Division
TRI Toxic Release Inventory