LA-14186-PR Progress Report Approved for public release; distribution is unlimited.

2003 Toxic Chemical Release Inventory Report for the Emergency Planning and Community Right-to-Know Act of 1986, Title III, Section 313



The World's Greatest Science Protecting America

The two most recent reports in this unclassified series are LA-14071-PR and LA-14096-PR.

Edited by Hector Hinojosa, Group IM-1

Los Alamos National Laboratory, an affirmative action/equal opportunity employer, is operated by the University of California for the United States Department of Energy under contract W-7405-ENG-36.

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the Regents of the University of California, the United States Government nor any agency thereof, nor any of their employees make any warranty, express or implied, or assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represent that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the Regents of the University of California, the United States Government, or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the Regents of the University of California, the United States Government, or any agency thereof. Los Alamos National Laboratory strongly supports academic freedom and a researcher's right to publish; as an institution, however, the Laboratory does not endorse the viewpoint of a publication or guarantee its technical correctness.

LA-14186-PR Progress Report Issued: December 2004

2003 Toxic Chemical Release Inventory Report for the Emergency Planning and Community Right-to-Know Act of 1986, Title III, Section 313

RRES-MAQ (Meteorology and Air Quality Group)





The World's Greatest Science Protecting America

Abstra	ct	1
1.0	INTRODUCTION	2
2.0	Activity Determinations, Exemptions, and Qualifiers	3
2.1	Activity Determinations	3
2.2	Exemptions	4
2.3	Qualifiers	5
3.0	ANALYSIS FOR THRESHOLD DETERMINATIONS	6
3.1	Threshold Determinations for Chemical Use	7
3.2	Threshold Determination Results	8
4.0	ADDITIONAL EVALUATION OF CERTAIN TOXIC CHEMICALS	9
4.1	Sulfuric Acid	9
4.2	Hydrochloric Acid	10
4.3	Polycyclic Aromatic Compounds	12
4.4	Dioxins	15
4.5	Nitrate Compounds	
5.0	LEAD AND FORM R REPORTING	20
5.1	Threshold Determination	20
5.2	Environmental Releases and Offsite Disposal	24
5.3	Other Information Provided on Form R Report	
6.0	MERCURY AND FORM R REPORTING	
6.1	Threshold Determination	
6.2	Environmental Releases and Offsite Disposal	
6.3	Other Information Provided on Form R Report for Mercury	
7.0	NITRIC ACID AND FORM R REPORTING	
7.1	Threshold Determination	
7.2	Environmental Releases and Offsite Disposal	
7.3	Other Information Provided on Form R Report for Nitric Acid	
8.0	EPCRA 313 SUMMARY AND TRENDS	41
Refere	nces	
Appen	dix A: EPCRA Section 313 Chemicals Used or Procured in 2003	47
Appen	dix B: Form R Reports for Lead, Mercury, and Nitric Acid	53

LIST OF TABLES

2-1	Examples of EPCRA Section 313 Chemical Qualifiers	5
3-1	Top 10 EPCRA Section 313 Chemicals Procured in 2003	9
4-1	Sulfuric Acid Threshold Determinations for 2003	10
4-2	Hydrochloric Acid Threshold Determinations for 2003	12
4-3	PACs Threshold Determinations for 2003	15
4-4	Dioxins Threshold Determinations for 2003	18
4-5	Nitrate Compounds Threshold Determinations for 2003	20
5-1	Lead Threshold Determinations for 2003	23
5-2	Lead Compound Threshold Determinations for 2003	24
5-3	Lead Air Emissions from LANL in 2003	25
5-4	Summary of 2003 Lead Discharges to Receiving Streams by Canyon	27
5-5	Summary of Lead Waste Sent Offsite from LANL in 2003	28
6-1	Mercury Threshold Determinations for 2003	31
6-2	Mercury Air Emissions from LANL in 2003	32
6-3	Summary of 2003 Mercury Discharges to Receiving Streams	
	by Canyon	33
6-4	Summary of Mercury Waste Sent Offsite from LANL in 2003	34
7-1	Nitric Acid Threshold Determinations for 2003	36
7-2	Emission Factors and Emissions from Nitric Acid Use in	
	Plutonium Processing	38
7-3	Nitric Acid Air Emissions from LANL in 2003	38
7-4	Summary of Nitric Acid Waste Sent Offsite from LANL in 2003	39
A-1	EPCRA Section 313 Chemicals Used or Procured in 2003	47

LIST OF FIGURES

3-1	Flowchart of Process of Analysis for EPCRA Section 313 Reporting	6
4-1	Diagram of Air Curtain Destructor	17
7-1	Nitric Acid Tank at LANL	37
7-2	Nitric Acid Recycling System at LANL	41
8-1	Trends in LANL's Reported Releases to EPA TRI	43
8-2	Trends in TRI Reportable Chemical Use at LANL	43

2003 Toxic Chemical Release Inventory Report

for the

Emergency Planning and Community Right-to-Know Act of 1986,

Title III, Section 313

RRES-MAQ (Meteorology and Air Quality Group)

Abstract

For reporting year 2003, Los Alamos National Laboratory (LANL or the Laboratory) submitted Form R reports for lead, mercury, and nitric acid as required under the Emergency Planning and Community Right-to-Know Act (EPCRA), Section 313. No other EPCRA Section 313 chemicals were used in 2003 above the reportable thresholds. This document was prepared to provide a description of the evaluation of EPCRA Section 313 chemical use and threshold determinations for LANL for calendar year 2003, as well as provide background information about data included on the Form R reports.

Section 313 of EPCRA specifically requires facilities to submit a Toxic Chemical Release Inventory Report (Form R) to the U.S. Environmental Protection Agency (EPA) and state agencies if the owners and operators manufacture, process, or otherwise use any of the listed toxic chemicals above listed threshold quantities. EPA compiles this data in the Toxic Release Inventory database. Form R reports for each chemical over threshold quantities must be submitted on or before July 1 each year and must cover activities that occurred at the facility during the previous year.

In 1999, EPA promulgated a final rule on persistent bioaccumulative toxics (PBTs). This rule added several chemicals to the EPCRA Section 313 list of toxic chemicals and established lower reporting thresholds for these and other PBT chemicals that were already reportable under EPCRA Section 313. These lower thresholds became applicable in reporting year 2000. In 2001, EPA expanded the PBT rule to include a lower reporting threshold for lead and lead compounds. Facilities that manufacture, process, or otherwise use more than 100 lb of lead or lead compounds must submit a Form R. The new lead threshold became applicable with reporting year 2001.

1.0 INTRODUCTION

On April 21, 2000, President Clinton signed Executive Order (EO) 13148, which requires all federal facilities to comply with the provisions of the Emergency Planning and Community Right-to-Know Act (EPCRA), or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986. EO 13148 supersedes EO 12856 of 1995. Section 313 of EPCRA specifically requires facilities to submit a Toxic Chemical Release Inventory report (Form R) to the U.S. Environmental Protection Agency (EPA) and state agencies if the owners and operators manufacture, process, or otherwise use any of the listed toxic chemicals above listed threshold quantities. On October 19, 1999, EPA promulgated a final rule on persistent bioaccumulative toxics (PBTs). This rule added several chemicals to the EPCRA Section 313 list of toxic chemicals and established lower reporting thresholds for these and other PBT chemicals that were already reportable under EPCRA Section 313. These lower thresholds became applicable in reporting year 2000. On January 17, 2001, the PBT rule was amended to include lead and lead compounds. The rule lowered the reporting threshold for lead and lead compounds to 100 lb. The lower threshold for lead became applicable in reporting year 2001.

EPA compiles the data submitted on the Form R reports in a Toxic Release Inventory (TRI) database. The TRI database provides the public with information on the releases of EPCRA Section 313 chemicals in their communities as well as provides EPA with release information to assist in determining the need for future regulations (http://www.epa.gov/tri/). A Form R must be submitted on or before July 1 each year and must cover activities that occurred at the facility during the previous calendar year. Even though federal facilities were not required to report under EPCRA Section 313 until 1995, Los Alamos National Laboratory (LANL) has been voluntarily reporting under EPCRA Section 313 since 1987. For reporting year 2003, LANL submitted Form R reports for lead, mercury, and nitric acid. No other EPCRA Section 313 chemicals were used in 2003 above the reportable thresholds. Toxic chemicals used in exempt activities as defined by the regulation are excluded from the threshold determinations and release calculations. Descriptions of these exempt activities are included in Section 2.2 of this report.

This report summarizes the data evaluation, exemption analysis, activity determinations, and threshold determinations for toxic chemical use at LANL in 2003, and describes the environmental release data reported on the Form R reports. Individual sections for certain toxic chemicals used at LANL are included in this report. Appendix A presents a summary table of EPCRA Section 313 chemicals procured at LANL in 2003. Appendix B includes copies of Form R reports submitted to EPA and the New Mexico Environment Department.

Facility Information and Contacts

LANL is located at latitude of 35°49'51" and longitude of 106°14'15" in Los Alamos County, New Mexico. LANL is owned by the U.S. Department of Energy (DOE) and is operated by the University of California (UC). Because the Laboratory is owned and operated by different entities, duplicate Form Rs are submitted by the DOE and UC. Facility information is as follows:

- LANL UC
 - o TRI facility identification number: 87545LSLMSLOSAL
 - o UC technical contact: Ms. Jean Dewart at (505) 665-0239
 - UC public contact: Mr. Dennis Armstrong at (505) 667-6211
- Los Alamos DOE complex
 - The TRI facility identification number: 87544SDLSL52835
 - DOE technical and public contact: Mr. Gene Turner at (505) 667-5794.

2.0 Activity Determinations, Exemptions, and Qualifiers

2.1 Activity Determinations

EPCRA Section 313 chemical usage is evaluated against three activity determinations. For listed chemicals that are not PBTs, the thresholds are described below.

Manufacture

The term manufacture means to produce, prepare, compound, or import an EPCRA Section 313 chemical. The term manufacture also includes coincidental production of an EPCRA Section 313 chemical as a result of the manufacture, processing, otherwise use, or treatment of other chemical substances. The threshold for reporting manufactured chemicals is 25,000 lb.

Process

The term process means the preparation of a listed EPCRA Section 313 chemical, after its manufacture, for distribution in commerce. Processing is usually the intentional incorporation of an EPCRA Section 313 chemical into a product. The threshold for reporting processed chemicals is 25,000 lb.

Otherwise Use

The term otherwise use usually means any use of an EPCRA Section 313 chemical, including in a mixture or trade name product or waste that is not covered by the terms manufacture or process. The threshold for reporting otherwise used chemicals is 10,000 lb.

Persistent Bioaccumulative Toxics (PBTs)

For the subset of chemicals listed as PBTs, lower reporting thresholds have been established for individual chemicals ranging from 100 lb to 0.1 gram. These lower thresholds apply to each of the activity determinations: manufacture, process, and otherwise use. Although the threshold for each activity is the same, each chemical must be evaluated against the activity determinations to determine which activity the chemical is used under. Threshold determinations for PBTs are evaluated separately against the manufacture, process, and otherwise use activities described above.

2.2 Exemptions

Exemptions from EPCRA Section 313 toxic chemical reporting applicable to LANL are discussed below.

Laboratory Activities Exemption

EPCRA Section 313 chemicals that are manufactured, processed, or otherwise used in laboratory activities at a covered facility under the direct supervision of a technically qualified individual do not have to be considered for threshold determinations and release calculations. However, pilot plant scale, specialty chemical production, or the use of chemicals for laboratory support activities do not qualify for this laboratory activities exemption.

Otherwise Use Exemption

Certain activities involving EPCRA Section 313 chemicals qualify as otherwise used and are specifically exempted. These include the following:

- otherwise use as a structural component of the facility,
- otherwise use in routine janitorial or facility grounds maintenance,
- personal uses by employees or other persons,
- otherwise use of products containing EPCRA Section 313 chemicals for the purpose of maintaining motor vehicles operated by the facility, or
- otherwise use of EPCRA Section 313 chemicals contained in intake water (used for processing or noncontact cooling) or in intake air (used either as compressed air or for combustion).

Article Exemption

EPCRA Section 313 chemicals contained in articles that are processed or otherwise used are exempt from threshold determinations and release calculations. For an item to be exempt as part of an article, it must satisfy the following three criteria:

• be a manufactured item that is formed to a specific shape or design during manufacture,

- have end-use functions dependent in whole or in part on its shape or design during end use, and
- must not release an EPCRA Section 313 chemical under normal circumstances of processing or otherwise use of the item at the facility. Total releases from any item or like items qualifying as article exempt must be equal to or less than 0.5 lb to remain exempt as articles.¹

De Minimis Exemption

The *de minimis* exemption allows facilities to exempt certain minimal concentrations of EPCRA Section 313 chemicals contained in mixtures or other trade name products when making threshold determinations and release calculations. The *de minimis* concentrations are set by EPA at either 1% or 0.1%, depending on whether the chemical is a carcinogen or suspected carcinogen.

EPA eliminated the *de minimis* exemption for the list of PBT chemicals. This means that facilities must include all amounts of PBTs in threshold determinations and release and other waste management calculations regardless of the concentration of the PBTs in mixtures or trade name products.

2.3 Qualifiers

In addition to exemptions, certain EPCRA Section 313 chemicals have qualifiers. Qualifiers indicate that these chemicals are subject to the reporting requirements only if manufactured, processed, or otherwise used in a specific form or when a certain activity is performed. Examples of qualifiers are shown in Table 2-1.

Chemical Name Chemical Abstract		Qualifier
	Service (CAS)	
	Number	
Aluminum	7429-90-5	Only if it is a fume or dust form.
Hydrochloric Acid	7647-01-0	Only if it is an aerosol form.
Isopropyl Alcohol	67-63-0	Only if it is being manufactured by the
		strong acid process.
Sulfuric Acid	7664-93-9	Only if it is an aerosol form.
Nitrate Compounds	NA	Only when in aqueous solution.
Vanadium	7440-62-2	Except when contained in an alloy.

Table 2-1. Exam	ples of EPCRA	Section 313	Chemical	Qualifiers
				· ·

NA = not applicable

3.0 ANALYSIS FOR THRESHOLD DETERMINATIONS

There are several steps in determining when a chemical triggers reporting under EPCRA 313. When a chemical is manufactured, processed, or otherwise used in amounts greater than the threshold quantity, a Form R report and release calculations are required. Figure 3-1 presents a flowchart that shows the steps LANL performs to determine which chemicals must be reported under EPCRA Section 313.



Figure 3-1. Flowchart of Process of Analysis for EPCRA Section 313 Reporting

3.1 Threshold Determinations for Chemical Use

Chemicals are purchased at the Laboratory through a variety of procurement systems. These systems include Just-In-Time, Purchase Orders, Local Vendor Agreements, and STOREs (onsite gas facility). In 2002, LANL converted their chemical management to new software called ChemLog. The ChemLog system replaced the Automated Chemical Inventory System (ACIS) database for tracking chemicals brought onsite at the Laboratory. ChemLog captures the majority of procured chemicals and provides relevant data (e.g., chemical name, CAS number, quantity, etc.) to assist in threshold determinations. The underlying assumption used in the preliminary threshold determinations for reporting under EPCRA 313 is that chemicals are purchased and used in the same calendar year. If unusually large purchases are noted in this preliminary analysis, further investigation is done to determine if bulk chemicals were purchased and only a portion of them used in the calendar year.

Inventory

For calendar year 2003, a total of 43,702 records were added to ChemLog and evaluated; 24,923 were pure chemicals and 18,779 records were mixtures. Individual items with identifiable CAS numbers in ChemLog were considered pure chemicals. These items were matched by CAS number to the list of EPCRA Section 313 chemicals. The resulting records were summed in pounds for each pure chemical.

Individual items that did not have CAS numbers in ChemLog were considered mixtures. The exemptions discussed in Section 2.2 of this report were applied to the mixtures and each qualifying item was classified according to the applicable exemption. Material Safety Data Sheets (MSDSs) for the remaining mixtures purchased in quantities greater than 50 lb were reviewed to determine the presence and amount of EPCRA Section 313 constituents. This was done to ensure that the chemicals with thresholds greater than 100 lb would be identified. Chemicals with thresholds less than 100 lb were examined individually, based on process knowledge and known potential sources. Each mixture that contained an EPCRA Section 313 chemical was further evaluated to determine the weight of each constituent. The totals for these amounts were then added to the quantities of pure EPCRA Section 313 chemicals.

Procurement

In previous years, purchasing procurement systems were evaluated in order to capture chemicals that may not have been entered into the chemical tracking system. The purchasing procurement systems include the Chemical Order Report (Just-in-Time and Purchase Orders), Local Vendor Agreements, and purchase cards. In previous years the chemical tracking system, ACIS, contained a Purchase Order Number field that was used to match to the Purchase Order Number field in the purchasing procurement systems. All matches could be eliminated from further analysis of the purchasing procurements because they had already been captured in the chemical tracking system. However, a Purchase Order Number field was not added to the ChemLog system until January 5,

2004. Therefore, the ChemLog records for 2003 did not have a purchase order number associated with them and could not easily be matched with purchasing procurement records. Without the ability to eliminate the majority of the records, the task of analyzing the purchasing procurements would require significantly more time and effort. For EPCRA 313 2003, the analysis of purchasing procurement systems to identify chemicals not captured in ChemLog was not done for the following reasons: without a purchase order number and the ability to eliminate records already captured in Chemlog, the time and effort to analyze the purchasing procurements records increases significantly; with the new chemical tracking system, and increased management attention and training, the switch from ACIS to Chemlog has increased the overall percentage of chemicals captured; historically, the additional quantity of EPCRA 313 chemicals identified via purchasing procurements has always been very small; and it is a requirement in the Laboratory's Chemical Management Laboratory Implementation Requirement (LIR 402-510-01) that, "timely updates of location and ownership of newly arrived chemicals must be performed" and "chemicals arriving without ChemLog barcodes shall have them applied, and the necessary data must be entered into ChemLog."

An assessment was made of chemicals brought onsite through contractors. For example, KSL, the Site Support Contractor, purchased 134,000 lb of sulfuric acid in liquid form that was not captured in ChemLog. This amount was added to the sum of listed chemicals.

Additional Analysis

Certain high-usage chemicals, as well as chemicals with low thresholds (i.e., PBTs), were evaluated beyond inventory and procurement (e.g., operational processes) and are addressed in Section 4.0 of this report.

3.2 Threshold Determination Results

Procurement Totals

The amounts of EPCRA Section 313 chemicals identified through inventory and procurement were summed together to develop preliminary threshold determinations. The resulting totals for the top 10 EPCRA Section 313 chemicals procured in 2003 are summarized in Table 3-1.

The total amounts of lead and mercury procured are not shown in Table 3-1. Because both lead and mercury are PBTs, their thresholds for reporting were lowered to 100 lb and 10 lb, respectively. Detailed analyses of lead and mercury and the Form R reporting are discussed in later sections of this report.

Sulfuric acid was the only EPCRA Section 313 chemical purchased above the 10,000-lb otherwise used threshold and required further investigation. Hydrochloric acid and nitric acid were evaluated separately with additional operational information not available in ChemLog. Although less than 5,000 lb of nitric acid was purchased in 2003, almost

50,000 lb was actually used. This is due to a large nitric acid storage tank that was full at the beginning of the year and the majority of the contents used in 2003. The analysis for nitric acid is described in Section 7 of this report. Section 4 provides individual analyses of other chemicals that did not trigger reporting for 2003.

CAS Number	Chemical Name	Total Procured
		(lb)
7664-93-9	Sulfuric acid (liquid form)	7,166 ^(a)
NA	Zinc compounds	5,565
7697-37-2	Nitric acid	4,969 ^(b)
7647-01-0	Hydrochloric acid (liquid form)	4,932
NA	Manganese compounds	4,503
NA	Polychlorinated Alkanes	1,796
75-09-2	Dichloromethane	1,538
67-56-1	Methanol	1,472
10222-01-2	2,2-Dibromo-3-nitrilopropionamide	1,285
75-05-8	Acetonitrile	1,182

Table 3-1. Top 10 EPCRA Section 313 Chemicals Procured in 2003

NA = Not applicable

(a) Additional 134,000 lb of sulfuric acid purchased and used by Site Support Contractor.

(b) Additional 49,780 lb of nitric acid used in 2003 from inventory.

4.0 ADDITIONAL EVALUATION OF CERTAIN TOXIC CHEMICALS

The toxic chemicals described below are either used in relatively high volumes at LANL, have very low reporting thresholds, are of special interest, or have been reported in the past. Additional analyses were required to determine total usage of these chemicals. None of the chemicals presented in this section exceeded any of the applicable thresholds in 2003 and therefore no reporting was required.

4.1 Sulfuric Acid

EPCRA Section 313 reporting guidelines state that sulfuric acid must be reported only if it is in an aerosol form, including mists, vapors, gas, fog, and other airborne forms of any particle size. This would include acid aerosols generated in storage tanks and from fuel combustion. Large purchases of sulfuric acid are used in liquid form for demineralizer regeneration and for sample analysis at the Sanitary Waste Systems Consolidation (SWSC) Plant. Because this sulfuric acid is used in liquid form, it is not subject to EPCRA 313 reporting. Sulfuric acid aerosols are generated as a result of storage tank emissions and fuel combustion byproducts. The total amount of sulfuric acid mist generated for both of these activities is less than the 25,000-lb manufacture threshold and is not reportable.

Based on EPA guidance for fuel oil combustion, it is assumed that all sulfur trioxide (SO_3) emissions are in the form of sulfuric acid.² For natural gas combustion, it is conservatively assumed that all sulfur oxides emissions are in the form of sulfuric acid

mist because separate SO_3 emission factors are not available. Procurements of sulfuric acid captured in ChemLog are assumed to be in aerosol form since the specific usage is unknown. Total purchases do not exceed the otherwise use reporting threshold. A summary of the threshold determinations for sulfuric acid is provided in Table 4-1.

Description	Amount of Sulfuric Acid (lb)	Data Source	EPCRA Section 313 Activity	EPCRA Section 313 Activity Threshold (lb)
Demineralizer Regeneration	134,000	Site Support Contractor Logs	Determination	
Water Analysis at the SWSC Plant	100.5	Site Support Contractor Logs	Not in aerosol form and not subject to EPCRA Section 313	NA
Procurement	7,166*	Procurement Data	Otherwise Used	10,000
Storage Tank Air Emissions	0.002	EPA, Tanks 4.0 Software		
Fuel Combustion Byproducts	715	AP-42 and fuel use records ²	Manufactured	25,000

Table 4-1. Sulfuric Acid Threshold Determinations for 2003

*Assumed to be in aerosol form.

4.2 Hydrochloric Acid

Hydrochloric acid is purchased for numerous processes and is also generated as a combustion byproduct. The total amount of hydrochloric acid procured in 2003 was 4,933 lb. This includes hydrochloric acid from pure chemicals and mixtures in ChemLog. Additionally, the air curtain destructors (ACDs) generated 3,193 lb of hydrochloric acid emissions. The total hydrochloric acid from chemical usage and the ACDs for 2003 is 8,126 lb, which is below the 10,000-lb EPCRA threshold for hydrochloric acid. However, because the initial evaluation was above 75% of the reporting threshold, based on guidance in LANL Meteorology and Air Quality Group Procedure No. 310, hydrochloric acid purchases and emissions were analyzed further.

In 1995, EPA added a modifier to the listing of hydrochloric acid to exclude nonaerosol forms. The listing now reads "hydrochloric acid (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)."³ Therefore, if hydrochloric acid is present in the form of a gas, fog, vapor, mist, or any other airborne form, then it is considered to be in the aerosol form and is covered by the EPCRA Section 313 hydrochloric acid aerosols listing.

Procurement of Hydrochloric Acid

Facility and Waste Operations Division Waste Facility Management purchased approximately 2,535 lb of aqueous hydrochloric acid in 2003. This hydrochloric acid was used for heat exchanger scale cleaning and for cleaning of electrodialysis reversal membranes and is considered exempt under the routine maintenance exemption. However, the use of the aqueous hydrochloric acid does generate a small amount of aerosol mist. The amount of hydrochloric acid aerosol generated from these particular activities was estimated to be 0.24 lb based on specific process information and engineering calculations. This quantity of hydrochloric acid is considered manufactured and is subject to the 25,000-lb manufactured threshold.

The amount of hydrochloric acid evaluated against the 10,000-lb otherwise used threshold was the total amount of hydrochloric acid procured (4,933 lb), minus the aqueous hydrochloric acid used by Waste Facility Management discussed above (2,535 lb), which is 2,398 lb. This quantity of hydrochloric acid likely includes aqueous forms of hydrochloric acid, not just aerosol forms. To be conservative, the entire amount of 2,398 lb was assumed to be in aerosol form and was evaluated against the 10,000-lb otherwise use threshold, which it does not exceed.

Hydrochloric Acid from Combustion Sources

In 2003, LANL operated three ACDs to burn piles of downed trees, stumps, and slash from forest thinning projects. The ACDs work by blowing a curtain of air over materials as they burn within a semi-enclosed environment. The fan-driven curtain of air introduces a steady oxygen supply into the fuel and helps ensure that nearly all fuel and gasses are consumed.

A total of 18,671 tons of wood and brush generated from forest thinning activities was burned in the ACDs in 2003. An AP-42 emission factor for hydrochloric acid emissions for burning wood residue in boilers was used to estimate emissions from the wood burning in the ACDs.⁴ An emission factor of 1.90×10^{-2} lb per MMBtu heat input was used. Assuming an average heat content of the wood at 0.0045 MMBtu/lb wood, emissions of hydrochloric acid were estimated to be 3,193 lb. The creation of hydrochloric acid as a byproduct from wood combustion is considered manufactured and is compared to the 25,000-lb EPCRA threshold.

Table 4-2 summarizes the analysis for hydrochloric acid.

Description	Amount of Hydrochloric Acid (lb)	Data Source	EPCRA 313 Activity Determination	EPCRA 313 Activity Threshold (lb)
Aqueous	2,535	Procurement	Exempt based	NA
liyarocinone acia		and interviews	qualifier	
Other	2,398*	Procurement	Otherwise Used	10,000
procurement		records		
Aerosol generated from use of	0.24	Engineering calculations	Manufactured	25,000
aqueous				
hydrochloric acid				
Air curtain	3,193	Operating logs	Manufactured	25,000
destructors		and AP-42		
		emission factors		

 Table 4-2. Hydrochloric Acid Threshold Determinations for 2003

*Assumed to be in aerosol form.

4.3 Polycyclic Aromatic Compounds

Polycyclic aromatic compounds (PACs) are a chemical category added to the EPCRA Section 313 list in 2000 as part of the PBT rule. The threshold for reporting PACs is 100 lb. Benzo(g,h,i)perylene is a PAC that has its own separate threshold. The threshold for benzo(g,h,i)perylene is 10 lb.

According to EPA's "EPCRA Section 313 Guidance for Reporting Toxic Chemicals: Polycyclic Aromatic Compounds Category,"⁵ fuel oil and paving asphalt contain PACs. In addition, PACs may be generated from the combustion of natural gas, fuel oil, and wood and the manufacture of asphalt. Each of these sources of PACs was evaluated and is described below.

Procurement of PACs

The total amount of materials potentially containing PACs procured from ChemLog in 2003 was approximately 626 lb. Under EPCRA 313, the PAC category includes 21 specific chemicals and an additional 51 chemical mixtures that are listed as <u>may</u> contain PACs. The 626 lb procured in 2003 were entirely from the purchase of two chemical mixtures, Trim E 190 and Trim Sol. Both chemicals are used as a cutting fluid for machine tools and both contain petroleum oil (CAS # 8002-05-9), which is listed as one of the 51 chemical mixtures that may contain PACs. The MSDSs for both Trim E 190 and Trim Sol do not list the petroleum oil mixture contained in the chemicals as the type listed as one of the 51 chemicals that may contain PACs. The manufacturer of both chemicals was contacted to obtain more information about the petroleum oil in these compounds. The manufacturer confirmed that neither Trim E 190 nor Trim Sol contain the type of petroleum oil that contains PACs. Therefore, total PACs from the chemical procurement analysis is zero.

PACs from Air Curtain Destructors

As described in Section 4-2, LANL burned a total of 18,671 tons of wood and brush generated from forest thinning activities in ACDs in 2003. EPA guidance provides an emission factor for PACs of 1.35×10^{-4} lb/ton wood burned and an emission factor for benzo(g,h,i)perylene of 1.2×10^{-6} lb/ton wood burned.⁶ Using these emission factors it was estimated that approximately 2.5 lb of PACs and 0.022 lb of benzo(g,h,i)perylene were manufactured from the burning of wood in 2003.

PACs from Asphalt Production

In 2003, LANL produced approximately 1,204 tons of asphalt and used 23,543 gallons (213,070 lb) of asphalt tar. This was much lower than previous years, as the onsite asphalt plant was shutdown in June 2003, and a new asphalt plant is planned. However, the new asphalt plant was not constructed or operational in 2003. For the second half of 2003, contractors were hired to bring asphalt onsite for LANL's paving needs. A review of records for 2003 identified projects that involved the purchase of asphalt from outside contractors. Work tickets and project management records were reviewed to identify asphalt jobs that qualify as routine facility maintenance and are exempt under EPCRA 313. Routine facility maintenance includes patching of potholes, repair of roads and parking lots, and resurfacing of existing parking lots. After reviewing these records, only two projects were identified that did not fall under the facility maintenance exemption. These projects were for construction of new roads and parking lots. The two projects accounted for 7,420 tons of asphalt.

According to EPA guidance, asphalt tar may contain as high as 178 ppm of PACs.⁵ However, Chevron-Texaco, the supplier of the asphalt tar provided information specific to their product.⁷ The information indicated the PACs concentration in the asphalt tar was significantly lower than that listed as a default value in the EPA's PACs guidance. These manufacturer-supplied values were used in the LANL calculation of PACs. The concentration of PACs in the asphalt tar is 8 ppm (versus EPA default value of 178 ppm).

Using the 8-ppm concentration, the total amount of PACs otherwise used at LANL in asphalt brought in from offsite is 2.13 lbs. The concentration of benzo(g,h,i)perylene in asphalt, from EPA's Guidance on PACs, is 1.2 ppm.⁸ This figure gives 0.9 lb of benzo(g,h,i)perylene reportable towards its 10 lb otherwise use threshold. All use of asphalt from the LANL-owned asphalt plant was determined to be exempt from threshold calculations.

In addition, the use of asphalt generates emissions of PACs that apply to the manufacture threshold. Using AP-42 emission factors,⁹ it was calculated that 9.5×10^{-4} lb of PACs and 2.5×10^{-6} lb of benzo(g,h,i)perylene were generated. This is applied to the manufactured threshold.

PACs from Fuel Oil Combustion

The main power plant at LANL used 25,500 gallons of fuel oil in 2003. An additional 8,000 gallons is estimated to have been used in diesel-fired generators throughout LANL, 279 gallons in the Technical Area (TA) 21 boilers, and 1,053 gallons in the ACDs, totaling 34,832 gallons. According to EPA guidance, fuel oil may contain 10 ppm of PACs.⁵ However, data provided by Chevron-Texaco indicate diesel may contain 22 ppm of PACs.⁷ The 22 ppm was used in our calculations. This equates to 5.40 lb of PACs that applies to the otherwise use threshold. The value for benzo(g,h,i)perylene was found to be 0.05 ppm according to EPA guidance.⁸ The data provided by Chevron-Texaco indicated concentrations of 9 ppm. The 9 ppm was used in our calculations and results in 2.21 lb of this particular PAC, applicable to the 10-lb otherwise use threshold.

In addition, combustion of fuel oil generates emissions of PACs that apply to the manufacture threshold. Using AP-42 emission factors,² these amounts were calculated to be 0.001 lb for total PACs and 0.0002 lb for benzo(g,h,i)perylene.

PACs from Natural Gas

Approximately 1,149.7 million standard cubic feet of natural gas was burned at LANL facilities in 2003. Using AP-42 emission factors¹⁰ and fuel records, approximately 0.019 lb of PACs was produced from natural gas combustion, which is applied to the manufacture threshold. Approximately 0.001 lb of benzo(g,h,i)perylene applies toward the 10-lb manufacture threshold. Due to the absence of information regarding total PAC and benzo(g,h,i)perylene concentrations in natural gas, it was assumed that these substances are negligible in natural gas before combustion.

Summary of PACs

Diesel fuel combustion accounts for 5.4 lb of PACs toward the otherwise used threshold. Concentrations of PACs in asphalt account for 2.13 lb. The total is 7.53 lb, well below the otherwise used reporting threshold of 100 lb.

The ACDs accounted for 2.52 lb of PACs towards the manufactured threshold. Other sources that contribute to this threshold include fuel-burning processes. The amount of PACs applied toward the manufactured threshold through all the combustion processes equals less than 3 lb, well below the 100 lb manufactured reporting threshold.

Both threshold quantities for otherwise used and manufactured were below the 100-lb threshold, therefore, it was determined that reporting of PACs under EPCRA Section 313 was not necessary.

Benzo(g,h,i)perylene concentrations in asphalt tar and diesel fuel totaled 3.11 lb towards the otherwise used threshold. Combustion processes accounted for 0.022 lb, which is considered to be manufactured. These values are well below the reporting threshold of 10 lb. Therefore, benzo(g,h,i)perylene reporting was not necessary under EPCRA Section 313.

Table 4-3 summarizes the PACs and benzo(g,h,i)perylene threshold determinations.

Description	Used in/Produced from	Amount (lb)	Total (lb)	EPCRA Section 313 Activity	EPCRA Section 313 Activity	
				Determination	Threshold (lb)	
	Natural Gas	0				
	Asphalt	2.13	7.53	Otherwise Used	100	
	Fuel Oil	5.4				
Total PACs	Natural Gas	0.019		Manufactured	100	
	Asphalt	9.5×10^{-4}	2 5 2			
	Fuel Oil	0.001	2.33			
	ACDs	2.52				
	Natural Gas	0		Otherwise Used	10	
	Asphalt	0.9	3.1			
Donzo(a h i)	Fuel Oil	2.2				
Delizo(g,ii,i)	Natural Gas	0.001		Manufactured		
peryiene	Asphalt	2.5×10^{-6}	0.022		10	
	Fuel Oil	0.0002	0.022		10	
	ACDs	0.022				

 Table 4-3. PACs Threshold Determinations for 2003

4.4 Dioxins

Dioxins are a group of PBTs formed during combustion processes. The EPCRA 313 reporting threshold for the dioxins category was established as 0.1 gram manufactured, processed, or otherwise used. This limit applies to toxic-equivalent compounds, a category of dioxins consisting of 17 specific dioxin and dioxin-like compounds. These "compounds with chlorine substitution in the 2, 3, 7, 8-positions on the molecule are reportable under the EPCRA Section 313 dioxin and dioxin-like compounds category."¹¹

Activities at LANL that were evaluated for dioxins include explosives activities, fuel combustion, and use of the ACDs. Each is described below.

Explosives Activities

Dioxins are formed by burning chlorine-based chemical compounds with hydrocarbons producing an unintentional byproduct in many industrial processes involving chlorine. One potential source of dioxin formation at LANL is open burn/open detonation (OB/OD) of high explosives (HE). This is because many binders and plasticizers found in HE materials have chlorine in their chemical make-up. Therefore, analysis of HE materials and associated binders/plasticizers was performed to estimate dioxin emissions.

Information on the various HE materials, such as explosive type, explosive name and composition, and chemical formula, was obtained from laboratory personnel and

textbooks. Several HE materials contain binders and plasticizers. These binders and plasticizers were evaluated and screened for those that contained chlorine. For those chlorine-containing binders/plasticizers, the weight percent chlorine in each was determined and the HE materials having chlorine-containing binders were further evaluated. Knowing the weight percent binder/plasticizer in these explosives and the weight percent chlorine in each binder, the amount of binder and amount of chlorine in each HE material containing chlorine was determined. Due to the unique nature of these materials, no specific dioxin emission factors are available. Therefore, a dioxin emission factor for burning of polyvinyl chloride in accidental fires was used to estimate dioxin emissions from burning of the chlorine-containing materials.¹² An emission factor of 4 ug dioxin emitted/ton of material burned was used.

Based on available information, estimated emissions from dioxins formed by OB/OD of HE materials totaled 2.45×10^{-7} g/yr. Furthermore, burning of HE materials was evaluated separately for dioxin formation. Based on estimated emissions from the materials containing chlorine, dioxin emissions were 3.08×10^{-9} g/yr. Combining estimated emissions from HE expended and HE burned, total dioxin emissions were 2.48×10^{-7} g/yr.

Fuel Combustion

LANL burns natural gas and diesel fuel in numerous boilers, heaters, and generators. No emission factors for dioxins were found for natural gas combustion. However, the EPA EPCRA guidance for dioxins provides an emission factor of 3,178.6 picograms/liter of diesel fuel burned.¹¹ The Laboratory burned a total of 34,832 gallons (131,839 Liters) of diesel fuel in 2003. Multiplying by the dioxin emission factor, a total of 4.19 × 10^8 picograms (0.0004 grams) of dioxin was formed due to fuel combustion.

Air Curtain Destructors

As described in earlier sections, in 2003 LANL burned 18,671 tons of wood and brush from fire mitigation and tree thinning activities in three ACDs. The ACDs potentially emit dioxins during the wood burning process. No specific information is available on dioxin emissions from ACDs.

In order to determine a reasonable dioxins emission factor, a literature review was conducted. Several factors influence dioxin formation during the combustion of wood. These factors include the following: temperature of the burn, amount of air available to the fire, and specific properties of the material being burned. In a letter from Air Burners LLC, which manufactures the ACDs, the company addresses the production of dioxins from use of the ACDs. It states that the following conditions are present when the ACDs are in use:

- 1. Over-oxygenation of fire
- 2. Very turbulent environment in firebox
- 3. Very high temperatures (1,200 °C to 1,500 °C)
- 4. Very long retention time

Higher-temperature burns result in more complete combustion and lower dioxin formation rates. Within a temperature range of 200 $^{\circ}$ C to 450 $^{\circ}$ C, the concentration of dioxins increases to some maxima; outside this range, the concentration diminishes. The ACDs burn at extremely high temperatures. Assuming the fire spends very little time between 200 and 450 $^{\circ}$ C when cooling, it can be concluded that production of dioxins would be particularly low due to the ACD's high burning temperatures.

The amount of oxygen available to the fire also affects the amount of dioxins formed during the combustion process. Decreases in oxygen during combustion generally increases dioxin yield. The ACDs increase the flow of oxygen to the combustion chamber by constantly directing a high-velocity airflow onto the fire, thus continually circulating the air within the ACD chamber. This flow of air helps keep the combustion products in the heat for a longer time, allowing for more complete combustion of the wood and fewer environmentally degrading emissions, including dioxins. Figure 4-1 illustrates the airflow within the ACD.



- 1 Air curtain machine manifold and nozzles directing high velocity air flow into refractory lined fire box or earthen trench.
- 2 Refractory lined wall as on the S-Series machines, or earthen wall as used with the T-Series trench burners.
- 3 Material to be burned.
- 4 Initial airflow forms a high velocity "curtain" over fire.
- 5 Continued air flow over-oxygenates fire keeping temperatures high. Higher temperatures provide a cleaner and more complete burn.⁴

Figure 4-1. Diagram of Air Curtain Destructor

Within the EPA's "Database of Sources of Environmental Releases of Dioxin-like Compounds in the United States,"¹³ the dioxin emission factor given for industrial wood combustion is 0.5952 ng/kg. This value is based on an average of several source tests for industrial wood-fired boilers and incinerators. The ACDs only burn clean wood while the wood burned by the industrial boilers and incinerators contains more treated wood, causing the emission factor to be larger for industrial wood combustion. Also, the boilers and incinerators operate at lower temperatures and with less air available to the fire.

As a result of researching the factors that affect emissions of dioxins and comparing them to the burning parameters of the ACDs, an emissions factor was determined. An emission factor of 0.5 ng/kg wood burned was used to estimate dioxins emissions from the ACDs. Using the tons of wood burned by the ACDs in 2003 (18,671 tons), and the chosen emission factor, the amount of dioxins emitted in 2003 was calculated to be 0.0085 grams.

Table 4-4 summarizes the amount of dioxins formed from all sources characterized for 2003.

Description	Amount of Dioxin Formed (grams)	EPCRA 313 Activity Determination	EPCRA 313 Threshold (grams)
HE Expended	2.45×10^{-7}	Manufactured	0.1
HE Burned	3.08×10^{-9}	Manufactured	0.1
Fuel Combustion	4.19×10^{-4}	Manufactured	0.1
Wood Combustion in ACDs	0.0085	Manufactured	0.1
Total Dioxin Formed	0.009		0.1

 Table 4-4. Dioxins Threshold Determinations for 2003

4.5 Nitrate Compounds

According to EPA's EPCRA Section 313 Guidance, "List of Toxic Chemicals within the Water Dissociable Nitrate Compounds Category and Guidance for Reporting,"¹⁴ nitrate compounds may be manufactured through the elemental neutralization of nitric acid and through the collection and treatment of sanitary wastewater. The reporting thresholds for nitrate compounds are 25,000 lb for manufacture or process and 10,000 lb for otherwise used. The EPA guidance provides a list of approximately 50 nitrate compounds that are included as water-dissociable nitrate compounds. Although this list is not exhaustive, it provides commonly identified nitrate compounds. Only those compounds in aqueous solution (>50% water) are required to be reported.

After a thorough examination of the various sources of nitrate compounds at LANL, it was determined that reporting was not required. For the manufacture threshold, sources reviewed included waste nitric acid treated at the Radioactive Liquid Waste Treatment Facility (RLWTF), which uses sodium hydroxide in an elementary neutralization process. The other source was the SWSC. The nitrate compounds that were applied to the otherwise used threshold included nitrate compounds purchased or used during 2003. Other nitrate compounds evaluated were determined to be nonaqueous and were not required to be included in threshold determinations.

Procurement of Nitrate Compounds

A query of the LANL chemical tracking system (ChemLog) was performed to determine the amount of nitrate compounds applied to the otherwise used threshold. Without determining if the various nitrate compounds were water dissociable, or if they fell under the nonaqueous exemption, it was determined that the threshold was not met. Less than 200 lb of nitrate compounds were identified through purchasing during 2003. No additional sources were identified that would contribute to this threshold.

Explosives Activities

For several years LANL reviewed explosives activities, including OB/OD, and prepared detailed calculations to estimate the amount of nitrate compounds manufactured, processed, or otherwise used in these activities. The amounts were always very low, on the order of a couple hundred pounds. In 1998 it was determined that none of the nitrate compounds associated with these activities are in aqueous form and are not reportable under EPCRA. Therefore, these detailed calculations were discontinued.

Sanitary Wastewater

The SWSC collects the sanitary waste (sewage and other allowable discharges) from several LANL facilities and treats the waste in a standard primary (physical), secondary (biological) treatment system. EPA guidance for nitrate compounds provides information on calculating nitrate compounds in sanitary wastewater. Information was collected from the SWSC on nitrate influent concentrations and flow rates. The average nitrate concentration was 1.25 mg/L and total flow into the system during 2003 was 70,754,000 gallons. Using this data and EPA guidance, the total amount of sodium nitrate was calculated to be 937 lb in 2003. Although the nitrate values from the influent do not reflect what was manufactured at the SWSC, they are the only analytical data available for nitrate compounds. It is assumed that 937 lb is a conservative number. There is a possibility that other nitrogen species are converted to nitrate compounds during the treatment process, but the mass of nitrogen/nitrate is assumed to remain fairly constant. During processing at the SWSC, most of the nitrogen-containing materials are broken down and released as nitrogen gas in the digestion process. Requests were made for analytical data of the sludge from the process, but this analysis did not contain information on nitrates.

Nitric Acid Neutralization

The amount of nitric acid used in plutonium processing was significantly higher than in previous years at 23,000 liters (see Section 7). This increase was due to the ramping up of a process for purification of old weapons-grade plutonium into material that can be used in generating electrical power. The process is called mixed oxide (MOx) fuels. Nitric acid is used to dissolve plutonium and to regenerate ion exchange beds.

Waste acid from the MOx process and from the Nitric Acid Recycling System (NARS), also located at the plutonium processing facility, is sent to the RLWTF for treatment. The quantity of nitric acid received at the RLWTF in 2003 was 43,000 liters. The difference in the amount used versus the amount of waste acid treated is due to dilution. The acid used is 70% nitric acid and the waste is 9.5% (approximately 7 molar) nitric acid. The amount of nitric acid in the waste stream that was treated at the RLWTF was calculated using a formula from the EPA Nitrate Compound Guidance document.¹⁴ The total amount of nitric acid treated was calculated to be 13,500 lb. The nitrate compounds (sodium nitrate) generated from the neutralization process totaled 18,200 lb.

Summary

Table 4-5 summarizes the threshold determination for nitrate compounds for 2003.

	Amount of	EPCRA 313	EPCRA 313
Description	Nitrate	Activity	Threshold
	Compounds	Determination	(lbs)
	(lbs)		
Procurement	163	Otherwise	10,000
		Used	
Explosives	Not calculated	Not in aqueous	
Activities		form	
SWSC	937		
RLWTF	18,200		
Total Manufactured	19,137	Manufactured	25,000

Table 4-5. Nitrate Compounds Threshold Determination for 2003

5.0 LEAD AND FORM R REPORTING

5.1 Threshold Determination

Lead and lead compounds are used in various places throughout LANL. Procurement records were evaluated and users of large quantities of lead were interviewed to gain an understanding of how lead was actually used in 2003. As part of the PBT rule, the threshold for EPCRA Section 313 reporting of lead was reduced to 100 lb starting calendar year 2001. In 2003, lead was used at several locations within the Laboratory and exceeded the otherwise used threshold for EPCRA 313 reporting. Each use is described below.

Lead Procurements

A listing of all procurements in 2003 of lead and lead compounds was extracted from ChemLog. Line items containing a CAS number for lead (7439-92-1) were included, as well as any line items containing the word "lead" or the symbol "Pb" in the text description.

The total amount of lead and lead compounds added to ChemLog in 2003 was 36.3 and 1.6 lb, respectively. According to EPCRA 313 guidance documents, the laboratory exemption is applied to the quantity of a listed toxic chemical that is manufactured, processed, or otherwise used in a laboratory under the supervision of a technically qualified person. Line items in ChemLog that were clearly described as *lead standards* were assumed to be used in a laboratory setting and exempt from reporting. This accounted for 33.4 lb. The total amount of lead from procurements applied to the otherwise used threshold is 2.9 lb.

Lead Use at the Firing Range

Lead is a component in various types of bullets. LANL maintains an onsite firing range for training security personnel. The firing range at LANL keeps detailed records of the amount and type of munitions expended. The U.S. Department of Defense developed software for estimating usage and releases of EPCRA 313 chemicals from various munitions activities,¹⁵ The TRI-Data Delivery System (TRI-DDS) software was used to calculate the amounts of toxic chemicals associated with munitions used at LANL for comparison with EPCRA 313 reporting thresholds and calculation of environmental releases. Some ammunition used at LANL was not represented in TRI-DDS. In these cases, the manufacturer was contacted to obtain specific information on lead for that ammunition. Using this software and manufacturer data, it was determined that 5,832 lb of lead were shot at the firing range in 2003. For EPCRA threshold determinations the amount of pure lead used, as well as the amount of any lead compounds "coincidentally manufactured," was evaluated. This resulted in approximately 5.8 lb of lead compounds emitted to the air and 5,832 lb of lead released to land, both of which are included in the Form R report.

Lead-Bismuth Test Loop

There are two lead-bismuth test loops located at LANL. The smaller loop was not operated or opened and no new lead-bismuth was added or used in 2003. A new lead-bismuth test loop was filled with approximately 8,000 lb of the lead-bismuth alloy in late 2001. No additional lead-bismuth was added to this test loop in 2003. The lead-bismuth in the test loops is contained in a closed system and no environmental releases of lead occurred in 2003. Therefore, the article exemption applies to this equipment.

Air Curtain Destructors

As described in previous sections, in 2003, LANL burned a total of 18,671 tons of wood and wood scrap in ACDs. EPA guidance for reporting releases of lead and lead compounds states that the typical concentration of lead in wood is 20 ppm.¹⁶ Using this lead concentration it was calculated that 747 lb of lead were processed from the burning of wood in the ACDs. The 747 lb were applied to the otherwise use threshold. Additionally, the burning of wood generates lead compound emissions. Emissions of lead compounds from the ACDs totaled 8.1 lb, which applies to the manufactured threshold.

Fuel Combustion

Lead can be found in trace amounts in many materials. Fuel oil and natural gas are two materials used at LANL that contain trace quantities of lead. Because lead is one of the PBTs and the *de minimis* exemption does not apply, these trace quantities must also be evaluated against the 100-lb lead threshold. According to EPA guidance,¹⁶ the concentration of lead in diesel fuel is 0.5 ppm and 0.05 mg/m³ in natural gas. In 2003, LANL used 1,149.7 million standard cubic feet of natural gas, which contained 3.58 lb of lead. LANL also burned 34,832 gallons of diesel fuel, which contained 0.07 lb of lead.

Therefore, a total of 3.65 lb is applied to the otherwise used threshold for lead. Additionally, during fuel combustion, lead in the fuel is converted into various lead compounds, which is considered to be coincidental manufacture. In 2003, LANL emitted lead compound emissions from the following combustion sources: the TA-21 steam plant, the asphalt plant, the TA-3 power plant, and numerous small natural gas-fired boilers. The lead compound emissions from these sources totaled 0.58 lb toward the manufactured threshold.

Lead Bricks and Lead Shielding

LANL continues to maintain an inventory of lead shielding and lead bricks throughout the Laboratory. Based on a 2001 wall-to-wall inventory, LANL has an inventory of approximately 879,500 lbs of lead shielding and lead bricks. This lead is considered article exempt and does not count towards any EPCRA 313 thresholds unless it is processed in some way (melting, cutting, grinding, etc.) that would result in 0.5 lb or greater releases to the environment. In 2003, there was no onsite processing of lead bricks or shielding.

Lead Melting and Lead Shielding Decontamination

Historically at LANL, lead has been melted and formed into specific shapes for glove box and exposure shielding. Lead melting as an activity is applied to the otherwise used threshold and subject to the 25,000-lb threshold. No lead melting activities occurred onsite at LANL in 2003. Lead shielding decontamination was discontinued at LANL. The activity did not operate in 2003.

Summary

Based on the firing range activities and wood burning in the ACDs, LANL otherwise used more than 100 lb of lead in 2003. LANL did not trigger reporting for lead compounds. The thresholds for the different activity determinations involving lead and lead compounds are summarized in Tables 5-1 and 5-2.

Description	Amount of Lead (lb)	Data Source	EPCRA Section 313 Activity Determination	EPCRA Section 313 Activity Threshold (lb)
Purchasing of Lead Standards and Instruments	33.4	Procurement data and interviews with facility representatives	Laboratory Exempt	NA
Lead Melting	0	Facility Representatives		
Lead Shielding Decontamination	0	Facility Representatives		
Fuel Use	3.65	Fuel Use Records and EPA Guidance		100
Firing Range	5,832	Firing Range Logbooks and TRI-DDS	Otherwise Used	
Procurement	2.9	Procurement Data		
Air Curtain Destructors	747	ACD Operating Records and EPA Guidance		
Total Lead Otherwise Used	6,585			100

Table 5-1. Lead Threshold Determinations for 2003

Description	Amount of Lead Compounds (lb)	Data Source	EPCRA Section 313 Activity Determination	EPCRA Section 313 Activity Threshold (lb)
Fuel Combustion	0.58	Fuel Use Records and EPA AP-42		
Firing Range	5.8	Firing Range Logbooks and TRI- DDS	Manufactured	100
Air Curtain Destructors	8.1	ACD Operating Records and EPA AP-42		
Procurement	1.6	Procurement Data	Otherwise Used	100
Lead-Bismuth Test Loop	0	Procurement and Facility Interviews	other wise osed	100
Total Lead Compound Use	16.1			100

 Table 5-2. Lead Compound Threshold Determinations for 2003

5.2 Environmental Releases and Offsite Disposal

Air Emissions

Lead emissions were calculated from three operations at the Laboratory: the firing range, the ACDs, and fuel combustion. Lead air emissions from the firing range were calculated using the TRI DDS.¹⁵ Using this model, the total amount of lead released as fugitive air emissions was 5.8 lb.

The ACDs at LANL burned 18,671 tons of wood and slash from forest thinning activities and 1,053 gallons of diesel fuel used as a fire starter. Using AP-42 emission factors for wood burning in boilers,⁴ emissions of lead compounds from the ACDs were calculated to be 8.1 lb. These are considered fugitive emissions.

In 2003, LANL emitted lead compound emissions from the following combustion sources: TA-21 steam plant, asphalt plant, TA-3 power plant, stand-by stationary generators, and numerous small boilers and heaters. Using fuel use records and AP-42 emission factors, emissions from these combustion sources totaled 0.58 lb of lead compounds. Table 5-3 summarizes lead air emissions from LANL as reported on the Form R.

Emission Source	Total Lead Emissions (lbs)	Fugitive or Stack
Firing Range	5.8	Fugitive
Air Curtain Destructors	8.1	Fugitive
Fuel Combustion	0.58	Stack

Table 5-3. Lead Air Emissions from LANL in 2003

Releases to Water

Releases to receiving streams are a result of storm water run-off and wastewater released from various LANL sites through permitted National Pollutant Discharge Elimination System (NPDES) outfalls.

Wastewater Discharges

Data collected as part of the 2003 NPDES Outfall Monitoring Program were used to calculate the mass of lead discharged. The tabular data from LANL's NPDES program include total annual flows and analytical results for numerous parameters from samples collected at a number of NPDES outfalls. Samples for lead were collected once annually from 16 outfall locations and multiple samples were collected from NPDES Outfalls 021, 048, and 051. Data for each of these three outfalls were averaged. For each NPDES outfall, lead discharges were calculated by multiplying total yearly flow by the average concentration of lead from that outfall. The resulting mass from each outfall was then summed, resulting in a total discharge of 0.12 lb of lead from NPDES outfalls in 2003.

One of the permitted outfalls (051), the RLWTF, pretreats the influent to remove a large portion of the lead (and other metals) prior to discharge. Analytical data for influent prior to treatment compared with analytical data after treatment indicate the facility is removing approximately 76% of lead prior to discharge based on 2003 analytical results. Water is treated at the facility through precipitation, filtration, and reverse osmosis.

Storm Water

Lead concentration data for storm water released to receiving streams during calendar year 2003 were obtained from the Water Quality Database Reports web site (http://wqdbworld.lanl.gov/) using the Chemistry/Metals/Surface Water Runoff lookup tables. The data set provided location name, sample type, date sample was collected, and analytical results in µg/L. For many of the sample locations, total annual flow in acre-feet was obtained from the report titled "Surface Water Data at Los Alamos National Laboratory, 2003 Water Year."¹⁷ For samples collected from locations not included in LANL's water year report, LANL's Water Quality and Hydrology Group provided estimates of total discharge.

In 2003, a correction was made for the volume of water released from the Los Alamos County Municipal Wastewater Treatment Facility in Pueblo Canyon. This County facility is just upstream of the LANL sampling/flow station "Pueblo at SR-502." It was assumed that all of the flow recorded at the "Pueblo at SR-502" station was attributable to treated municipal wastewater effluent and not representative of release from LANL. While this flow adjustment was made for the sampling station downstream of the wastewater treatment plant, sampling stations upstream of the wastewater treatment facility were included in the analysis.

Additionally, analytical results from surface water samples collected at locations upstream from or outside the potential zone of impact from LANL releases were not included in total calculated amounts of lead released from LANL in 2003. The locations include those outside Laboratory property boundaries where no known Laboratory activities or operations have occurred or upstream of current or historic Laboratory activities. Data from stations located within Frijoles Canyon were excluded. Portions of Guaje/Rendija and Pueblo Canyons, which are not located on Laboratory property but are known to have been impacted by historical Laboratory activities, were included in this analysis.

As mercury and lead are naturally occurring elements and previous LANL studies have established background concentrations for mercury and lead in various media including sediment, the analytical concentrations were adjusted to account for background concentrations. Background concentrations, or upper threshold levels (UTL), for sediments in canyons within the LANL boundary are 0.1 µg/g and 19.7 µg/g for mercury and lead, respectively (Bruce Gallaher, Water Quality and Hydrology Group, personal communication). Water samples collected as part of LANL's annual surveillance program always contain a significant amount of solid particulate entrained within the surface water stream at the time of sampling. This particulate mass contains a natural amount, or background concentration, of mercury and lead. As this natural amount of mercury and lead is not attributable to LANL operations, it is necessary to estimate the amount of natural mercury and lead in each sample by multiplying the weight of solids in each sample, as represented by total suspended solids, by the LANL UTL. Following estimation of background concentrations of mercury and lead in each sample in each sample, the background amount was subtracted from the analytical metal concentration for each sample.

Once background-adjusted concentrations for each applicable location were established, the concentration was then multiplied by the measured or estimated annual flow at each sampling location. A single mass value for each sampling location was then derived by averaging all samples collected from each location during 2003. The average mass for each location was used as representative in calculating a total LANL release to the environment.

Once the average mass was calculated for each sampling location, the mass from all locations was summed. Based on this sum, the total estimated mass of lead released from LANL in base flow and storm water during 2003 was 120 lb. Results were then summed by major drainage on the Pajarito Plateau. Each major drainage area is comprised of several tributary drainages.

For Form R reporting, the total amount of lead released to each receiving stream is reported. For both permitted outfall and storm water data, the receiving stream was determined by finding the monitoring site on a map and determining the nearest canyon. All canyons were assumed to be tributaries of the Rio Grande. Total lead released to canyon tributaries from LANL property was 120 lb in calendar year 2003. Table 5-4 summarizes lead releases to receiving streams by canyon as reported on the Form R.

Canyon	Storm water	NPDES Discharges (lb)	Total (lb)
Ancho Canvon Tributary to Rio Grande	8.80	0.0	8.80
Cañada del Buey	0.29	0.0	0.29
Los Alamos Canyon Tributary to Rio	25.21	0.023	25.22
Grande			
Mortandad Tributary to Rio Grande	1.43	0.045	1.48
Pajarito Canyon Tributary to Rio Grande	0.09	0.0	0.09
Sandia Canyon Tributary to Rio Grande	83.91	0.081	83.99
Water Canyon Tributary to Rio Grande	0.0	0.001	0.001
Totals	119.74	0.12	119.86

Table 5-4. Summary of 2003 Lead Discharges to Receiving Streams by Canyon

Releases to Land

Lead releases to land occur onsite at LANL as a result of firing range activities. Lead releases to land are based on the amount of munitions used during the year and the lead content of the munitions used. Lead content for munitions used at LANL was estimated by matching the munitions types with those listed in the TRI-DDS. A total of 5,832 lb of lead was released to land at the firing range at LANL in 2003.

Offsite Waste Disposal

LANL performed no onsite waste disposal of lead-contaminated wastes in 2003. All leadcontaminated waste was sent offsite to EPA-approved facilities for disposal or recycling. Data, including shipment weight and lead concentration, were obtained for all lead-contaminated wastes sent offsite for disposal in 2003. Waste disposal records were evaluated to determine any waste shipments exempt from reporting. Intact light bulbs sent offsite for disposal are exempt under the article exemption. Waste generated in a laboratory under the direct supervision of a technically qualified individual is also exempt from reporting.

In 2003, LANL completed a large decontamination and decommission (D&D) project of the Omega West Reactor. This D&D project resulted in disposal of 38,700 lb of radioactively contaminated lead. This legacy lead waste was shipped to Envirocare of Utah, Inc., where it was macroencapsulated with grout, coated with a plastic layer, and placed in a landfill disposal cell.

Total reportable lead weight from all nonexempt waste disposal was calculated to be 50,790 lb. Table 5-5 provides a summary of lead waste streams that were sent offsite to various disposal and recycling companies in 2003. For the purposes of Form R reporting, each

receiving facility was contacted to determine final disposition of lead in the waste that was shipped offsite.

Company	Location	Facility EPA ID	Ultimate Fate of	Total Lead (lb)
			Waste	
Clean Harbors, Aragonite, LLC. (Formerly Safety Kleen)	Aragonite, UT	UTD981552177	Landfill	1,090
Envirocare of Utah, Inc.	Clive, UT	UTD982598898	Landfill	49,559
Diversified Scientific Services, Inc.	Kingston, TN	TND982109142	Landfill	0.3
Material and Energy Corporation	Oak Ridge, TN	TNR000005397	Landfill	5.29×10^{-7}
Onyx Environmental Services, LLC.	Henderson, CO	COD980591184	Recycled for liquids; Landfill for Solids	127
Onyx Environmental Services, LLC. (Formerly Superior Special Services)	Phoenix, AZ	AZ0000337360	Recycled	7.5
Perma-Fix, Inc.	Gainesville, FL	FLD980711071	Landfill	0.5
Phibro-Tech, Inc.	Santa Fe Springs, CA	CAD008488025	Recycled	4.1
Waste Control Specialists	West, Andrews County, TX	TXD988088464	Landfill	2.6
Los Alamos County Landfill	Los Alamos, NM	NA	Landfill	1.24
		Total		50,792

 Table 5-5. Summary of Lead Waste Sent Offsite from LANL in 2003

5.3 Other Information Provided on Form R Report

Environmental releases of lead as air emissions, to surface waters, and onsite land releases were reported to be 14.5 lb, 120 lb, and 5,832 lb, respectively. These values are included in Section 5 of the Form R, *Quantity of the Toxic Chemical Entering Each Environmental Medium Onsite*. A total of 50,792 lb of lead was reported in Section 6.2 of the Form R, *Transfers to Other Offsite Locations*.

Methods of treating lead in wastewater effluent prior to discharge were included in Section 7A of the Form R. This section details onsite waste treatment methods and efficiency. Wastewater from industrial processes at LANL is discharged to the RLWTF prior to discharge to NPDES permitted Outfall 051. The RLWTF conducts a series of treatment steps that reduce the amount of metals in the effluent prior to discharge. The wastewater stream goes through precipitation, filtration, and reverse osmosis treatment. All wastewater is sampled for lead before and after treatment. Based on analytical results for 2003, the RLWTF resulted in a 76% treatment efficiency of lead in the wastewater. Sections 7B and 7C of the Form R relate to onsite energy recovery and recycling. LANL performed no onsite processes applicable to these sections for lead in 2003.

Section 8 of the Form R refers to source reduction and recycling activities. The information provided by EPA for this section states that no energy recovery is possible for lead, either onsite or offsite. LANL also reported no onsite recycling or treatment. Approximately 11 lb of the lead shipped offsite were recycled. Estimates based on this year's releases were given for the subsequent two reporting years. In addition to lead released to the environment for offsite disposal, air, and water emissions, LANL reported 42,575 lb of lead in waste shipped offsite for disposal as a result of one-time activities such as the D&D of the Omega West Reactor.

Section 8.9 of the Form R reports the production or activity ratio, an estimated measure of production or activity involving the reported chemical, as compared to the previous year. Because LANL is not a production facility, a surrogate measure was needed to complete this section of the Form R. To determine this value, the firing range was used as a representative activity that would maintain a consistent use of lead. The amount of lead munitions used in 2003 was divided by the amount used in 2002 to obtain an activity ratio of 0.7.

6.0 MERCURY AND FORM R REPORTING

6.1 Threshold Determination

Mercury and mercury compounds are used in various places throughout LANL. Procurement records were evaluated and users of large quantities of mercury were interviewed to gain an understanding of how mercury was actually used in 2003. As part of the PBT rule, the threshold for reporting mercury was reduced to 10 lb starting calendar year 2000. In 2003, mercury use at the Laboratory exceeded the otherwise used threshold for EPCRA 313 reporting. Each use is described below.

Mercury Procurements

A listing of 2003 procurements of mercury and mercury compounds was extracted from ChemLog. Line items containing a CAS number for mercury (7439-97-6) were included, as well as line items containing the word "mercury" or the symbol "Hg" in the text description. The total amount of mercury and mercury compounds added to ChemLog in 2003 was 47.6 lb. However, upon investigation of these mercury-containing purchases, many of the purchases were actually for laboratory standards containing parts per million quantities of mercury and other metals. Additionally, according to EPCRA Section 313 guidance documents, the laboratory exemption applies to the quantity of a listed toxic chemical that is manufactured, processed, or otherwise used in a laboratory under the supervision of a technically qualified person. Line items in ChemLog described as *mercury standards* or *instruments* were assumed to be used in a laboratory setting and exempt from reporting. This accounted for 46.7 lb. The total amount of mercury from procurements applied to the otherwise used threshold is 0.9 lbs.

Los Alamos Neutron Science Center Shutter System

The largest use of mercury at the Laboratory is in the Los Alamos Neutron Science Center (LANSCE) shutter system. Reservoirs of mercury are used as shields on the neutron beam shutter system. When the beam is operated, pressurized helium is forced into the mercury reservoir, pushing the mercury up into a headspace and allowing the neutron beam to pass through the shutter. LANSCE maintains 12 neutron beam shutter systems, each with a reservoir of mercury. The total amount of mercury in these reservoirs is approximately 12,000 lb. Each reservoir is a closed system and only opened occasionally when minor repairs or maintenance are needed.

During 2003, several of the mercury shutter systems were dismantled and replaced with new closed systems. Mercury was drained from the systems during the upgrade project, stored in temporary storage containers, and then added back into the retrofitted shutters. The total amount of mercury removed and added to mercury shutter systems in 2003 is 2,200 lb, which is above the 10-lb EPCRA 313 otherwise used threshold for reporting.

Fuel Combustion

In 2003, LANL emitted mercury emissions from the following combustion sources: TA-21 steam plant, asphalt plant, TA-3 power plant, and numerous small boilers that used approximately 1,149.7 million standard cubic feet of natural gas. Mercury emissions from these sources totaled 0.31 lb towards the manufactured threshold. Additionally, mercury is found in diesel fuel as an impurity. According to EPA guidance, the concentration of mercury in diesel fuel is 0.001 ppm.¹⁸ LANL burned 34,832 gallons of diesel fuel in 2003 and this equates to 0.00025 lb of mercury.

Air Curtain Destructors

As described in previous sections, in 2003 LANL burned 18,671 tons of wood and wood scrap in ACDs. Wood burning generates a small quantity of mercury compound
emissions. An AP-42 emission factor for mercury compound emissions for burning wood residue in boilers was used to estimate emissions from the wood burning in the ACDs.⁴ An emission factor of 3.5×10^{-6} lb per MMBtu heat input was used. Assuming an average heat content of the wood at 0.0045 MMBtu/lb wood, emissions of mercury compounds from wood burning were estimated to be 0.6 lb.

Table 6-1 summarizes uses of mercury at LANL in 2003.

Description	Amount of	Data Source	EPCRA 313	EPCRA 313
_	Mercury		Activity	Activity
	(lb)		Determination	Threshold (lb)
Purchasing of Mercury Standards and Instruments	46.7	Procurement data and facility personnel interviews	Laboratory Exempt	NA
Other Procurement	0.9	Procurement Records		
LANSCE Shutter System	2,200	LANSCE Facility Records	Otherwise Used	10
Fuel Combustion	0.00025	Fuel Use Records and EPA Guidance		
Fuel Combustion	0.3	Fuel Use Records and EPA AP-42	Manufacturad	10
Air Curtain Destructors	0.6	ACD Operating logs and EPA AP-42	Manufactured	10

 Table 6-1. Mercury Threshold Determinations for 2003

6.2 Environmental Releases and Offsite Disposal

Air Emissions

Mercury emissions were calculated from three operations at the Laboratory: LANSCE shutter system activities, the ACDs, and fuel combustion.

In April 2002, a mercury monitor was installed at LANSCE in the area near the mercury shutters. This monitor collects five-minute readings of mercury concentrations in room air in nanograms of mercury per cubic meter. Concentration data recorded from this monitor were used to develop an average concentration of mercury in room air during work days, i.e., days when the shutters were opened for maintenance, and an average concentration for non-work days, i.e., days when the shutter systems remained closed. The flow rate from the stack at the Lujan Center at LANSCE is 12,000 cubic feet per

minute. This stack includes ventilation from two different rooms at the Lujan Center. As a conservative assumption, the total 12,000 cubic feet per minute flow was assumed to have mercury concentrations similar to those monitored in the room air near the shutters. The total concentration of mercury for each day was calculated with the following formula:

$\sum [(monitor reading)*(flow rate)*(5 min. interval)]$

The sum of all daily monitoring results equates to 0.096 lb for a conservative estimate of mercury stack emissions from LANSCE activities in 2003.

In 2003, LANL burned 18,671 tons of wood, and 1,053 gallons of diesel fuel in the ACDs. Using AP-42 emission factors,⁴ emissions of mercury from the ACDs for 2003 were calculated to be 0.6 lb. These are considered fugitive emissions.

In 2003, LANL emitted mercury emissions from the following combustion sources: TA-21 steam plant, asphalt plant, TA-3 power plant, and numerous small boilers. The emissions from these sources totaled 0.3 lb of mercury stack emissions.

Table 6-2 summarizes mercury air emissions from LANL, as reported on the Form R.

Emission Source	Total Mercury Emissions	Fugitive or Stack
	(lbs)	
LANSCE Shutter System Activities	0.096	Stack
Air Curtain Destructors	0.6	Fugitive
Fuel Combustion	0.3	Stack

Table 6-2. Mercury Air Emissions from LANL in 2003

Releases to Water

Releases to receiving streams are a result of storm water run-off and from wastewater released from various LANL sites through permitted NPDES outfalls. The methodology used to calculate releases of mercury to receiving streams is the same as that described in Section 5.2 for lead releases. Refer to Section 5.2 of this report for a detailed description of how water discharges were calculated.

Wastewater Discharges

A total discharge of 0.0001 lbs of mercury from NPDES outfalls was reported on the Form R for 2003.

Storm Water

A total discharge of 1.36 lb of mercury from storm water was reported on the Form R for 2003.

For Form R reporting, the total amount of mercury released to each receiving stream is reported. For both permitted outfall and storm water data, the receiving stream was determined by finding the monitoring site on a map and determining the nearest canyon. All canyons were assumed to be tributaries of the Rio Grande. The total amount of mercury released to canyon tributaries from LANL property was 1.36 lb in calendar year 2003. Table 6-3 summarizes mercury releases to receiving streams by canyon, as reported on the Form R.

	Storm water	NPDES Outfall	Total
Canyon	(lb)	Discharges (lb)	(lb)
Ancho Canyon Tributary to Rio Grande	8.97×10^{-05}	0.00	8.97×10^{-05}
Los Alamos Canyon Tributary to Rio	0.02	0.00	0.02
Grande			
Mortandad Tributary to Rio Grande	0.029	0.00014	0.029
Pajarito Canyon Tributary to Rio Grande	0.0026	0.00	0.003
Pueblo Canyon Tributary to Rio Grande	0.035	0.00	0.035
Sandia Canyon Tributary to Rio Grande	1.28	0.00	1.28
Water Canyon Tributary to Rio Grande	0.0	0.00	0.00
Total	1.37	0.00014	1.37

Table 6-3. Summary of 2003 Mercury Discharges to Receiving Streams by Canyon

Releases to Land

There were no onsite releases of mercury to land.

Offsite Disposal of Waste

LANL performed no onsite waste disposal of mercury-contaminated wastes in 2003. All mercury-contaminated waste is sent offsite to EPA-approved facilities for disposal or recycling. Data, including shipment weight and mercury concentration, were obtained for all mercury-contaminated wastes sent offsite for disposal in 2003. The waste disposal records were evaluated to determine any waste shipments that were exempt from reporting. Intact light bulbs or thermometers sent offsite for disposal are exempt under the article exemption. Waste generated in a laboratory under the direct supervision of a technically qualified individual is also exempt from reporting.

Total reportable mercury weight from all nonexempt waste disposal was calculated to be 6,958 lb. Of this, 6,907 pounds of pure mercury were due to an inventory cleanout at the LANSCE facility. The 6,907 pounds of mercury were shipped offsite for recycle and reuse and were not ultimately released to the environment. Table 6-4 provides a summary of

mercury waste streams sent offsite to various disposal and recycling companies in 2003. For the purposes of Form R reporting, each receiving facility was contacted to determine final disposition of the mercury in the waste shipped offsite.

	T 4*		TTLA"	T (]
Company	Location	Facinity EPA	Ultimate	I otal
		ID	Fate of	Mercury
			Waste	(lb)
Clean Harbors,	Aragonite, UT	UTD981552177	Landfill	19.2
Aragonite, LLC.				
(Formerly Safety Kleen)				
Envirocare of Utah, Inc.	Clive, UT	UTD982598898	Landfill	5.3
Diversified Scientific				
Services, Inc.	Kingston, TN	TND982109142	Landfill	5.55×10^{-5}
Onyx Environmental	Henderson, CO	COD980591184	Landfill	26.96
Services, LLC.			for Solids	
Onyx Environmental	Phoenix, AZ	AZ0000337360	Recycle	6,907
Services, LLC. (Formerly			-	
Superior Special				
Services)				
Perma-Fix, Inc.	Gainesville, FL	FLD980711071	Landfill	0
Waste Control Specialists	Andrews	TXD988088464	Landfill	0.05
	County, TX			
		Total		6,958

Table 6-4. Summary of Mercury Waste Sent Offsite from LANL in 2003

6.3 Other Information Provided on Form R Report for Mercury

Environmental releases of mercury as air emissions and to surface waters were reported to be 1.0 lb and 1.4 lb, respectively. These values are included in Section 5 of the Form R, *Quantity of the Toxic Chemical Entering Each Environmental Medium Onsite*. A total of 6,958 lb of mercury was reported in Section 6.2 of the Form R, *Transfers to Other Offsite Location*, with 6,907 lb of this being shipped offsite for recycle.

Methods of treating NPDES outfall mercury amounts were included in Section 7A of the Form R. This section details onsite waste treatment methods and efficiency. Wastewater from industrial processes at LANL is discharged to the RLWTF prior to discharge to NPDES permitted Outfall 051. The RLWTF conducts a series of treatment steps that reduce the amount of metals in the effluent prior to discharge. The wastewater stream goes through precipitation, filtration, and reverse osmosis treatment. All wastewater is sampled for mercury before and after treatment. Based on analytical results for 2003, the RLWTF resulted in a 99% treatment efficiency of mercury in the wastewater. Sections 7B and 7C of the Form R relate to

onsite energy recovery and recycling. LANL performed no onsite processes applicable to these sections for mercury in 2003.

Section 8 of the Form R refers to source reduction and recycling activities. The information provided by EPA for this section states that no energy recovery is possible for mercury, either onsite or offsite. LANL also reported no onsite recycling or treatment. Approximately 6,907 lb of the mercury shipped offsite were recycled. Estimates based on this year's releases were given for the subsequent two reporting years.

Section 8.9 of the Form R reports the production or activity ratio, an estimated measure of the production or activity of the reported chemical at the facility, as compared to the previous year. Because LANL is not a production facility a surrogate measure was used to complete this section of the Form R. The mercury in shutter systems at LANSCE is the largest amount of mercury at LANL. When the beam operates, mercury is moved through the shutter system. Therefore, the operation of the beam at LANSCE was chosen to estimate the activity ratio for mercury. Comparing beam operations in 2002 to 2003, an activity ratio of 0.85 was calculated.

7.0 NITRIC ACID AND FORM R REPORTING

In general, nitric acid is used in high volume at the Laboratory every year. The main uses are research and development activities, sample preparation, plutonium processing, and the Laboratory's bioassay program. Small amounts of nitric acid are used for cleaning glassware. The total amount of nitric acid used at LANL in 2003 exceeded the EPCRA Section 313 otherwise used threshold of 10,000 lb.

7.1 Threshold Determination

Procurement

In 2003, a total of 5,291 lb of nitric acid was procured at the Laboratory based on queries of the ChemLog system. Some of the purchase records indicate nitric acid is actually 69% to 71% nitric acid in an aqueous solution or more dilute solutions. After taking into account the percent nitric acid in solution, the total amount of nitric acid purchased was determined to be 4,969 lb.

Large users of nitric acid were contacted to determine how the nitric acid was used. Relatively large quantities of nitric acid continue to be used for the bioassay program (monitoring employees for radioactive elements). In 2003 this accounted for 2,804 lb of the nitric acid. Numerous other users within the Chemistry Division were contacted and verified the use of nitric acid for sample preparation and analysis. In 2003, this use totaled 585 lb. Both of these activities qualify as laboratory exempt. Based on conversations with laboratory personnel, it was assumed approximately 10% of the nitric acid used for sample preparation and analysis (58.5 lb) was used for cleaning laboratory glassware. The quantity of nitric acid used by personnel that were not contacted, or that described their use of nitric acid as non-laboratory related, totaled 1,639 lb. As a conservative assumption, this amount is assumed to be otherwise used. The quantity of nitric acid that was verified as qualifying for the laboratory exemption is 3,330.5 lb (2,804 + 585 - 58.5). The amount of nitric acid not verified, or determined to be non-laboratory related, is 1,639 lb.

Plutonium Processing

In 2003, the plutonium processing facility ramped up operation of a process called MOx fuels.¹⁹ The MOx project uses existing equipment in the plutonium processing facility. The goal of the project is to demonstrate that surplus plutonium can be used in the form of mixed-oxide fuel to generate electricity in existing commercial reactors. The phase of the project being done at LANL is polishing, or final purification of plutonium oxide, to provide material for fabrication of MOx lead test assemblies to support fuel qualification and licensing.

The MOx process uses nitric acid to dissolve impure plutonium oxide and it is then run through ion exchange beds. The ion exchange beds are also washed using nitric acid. The ion exchange removes impurities in the metals. The facility operates a nitric acid recycle loop that was installed in 2001. However the MOx process is not currently able to use the recycled nitric acid because confirmation testing has not been completed to demonstrate that it meets the quality standards for MOx fuels. Although very little new nitric acid was purchased in 2003, the MOx process used virtually all inventory of nitric acid that was in the nitric acid tank. Table 7-1 provides a summary, and Figure 7-1 shows the nitric acid tank. Facility records indicate 23,000 liters of 70% nitric acid were used in 2003. This equates to 49,780 lbs of pure nitric acid.

Description	Amount of Nitric Acid (lb)	Data Source	EPCRA Section 313 Activity Determination	EPCRA Section 313 Activity Threshold (lb)
Laboratory Use	3,330	Procurement Records and Interviews	Laboratory Exempt*	NA
Plutonium Processing	49,780	Facility Records	Otherwise Used	10,000
Other Procurement	1,639	Procurement Records and Interviews		10,000
Total Otherwise Used	51,419			10,000

*EPCRA 313 laboratory exempt for chemicals used in a laboratory setting under the supervision of a technically qualified individual.



Figure 7-1. Nitric Acid Tank at LANL

7.2 Environmental Releases and Offsite Disposal

Air Emissions

There are two sources of nitric acid air emissions from plutonium processing: storage tank emissions and process emissions. Storage tank emissions were estimated using the EPA Tanks 4.0 software and site-specific information on the nitric acid tank. Total air emissions from the nitric acid storage tank were estimated to be 9.5 lb for 2003.

Emissions from plutonium processing were estimated using emission factors for each processing step and the amount of nitric acid processed in each step in 2003. The amount of nitric acid processed in each step was provided from facility operating logs and is shown in Table 7-2. LANL reported under EPCRA 313 for nitric acid for many years in the 1990s. Research and test data were collected to develop methods for estimating emissions from the various processing steps. The process steps and equipment at the facility have not changed, and therefore the emission factors developed in the 1990s were used to estimate 2003 emissions. The emission factors and resulting emissions are shown in Table 7-2.

 Table 7-2. Emission Factors and Emissions from Nitric Acid Use in Plutonium

 Processing

Process	Amount of Nitric Acid Used ^a (b)	Emissio	on Factors	(lb/lb)	Control (led Emis (lb/yr)	ssions
	(10)	HNO3	NO	NO2	HNO3	NO	NO2
Waste	41	0	0.001	0.0047	0.00	0.04	0.19
Immobilization							
Cascade	4,000	0.00136	0.00109	0.003	5.44	4.36	12.00
Dissolution 1							
Cascade	0	0.075	0.0099	0.095	0.00	0.00	0.00
Dissolution 2							
Distillation	13,295	0.0016	0.0012	0.0034	21.27	15.95	45.20
Alpha Counting	12	0	0.015	0.0442	0.00	0.18	0.53
Residue Leaching	70	0.15	0.0104	0.112	10.50	0.73	7.84
Scrap Dissolution	365	0.027	0.00675	0.0185	9.86	2.46	6.75
Anion Exchange	49,470	0.0012	0	0	59.36	0.00	0.00
ICP ^b	12	0	0.01	0.03	0.00	0.12	0.36
MPD ^b	291	0.15	0.0104	0.112	43.65	3.03	32.59
OH Cake	0	0.014	0.0069	0.019	0.00	0.00	0.00
Dissolution							
Filtrate	14	0.0016	0.0012	0.0034	0.02	0.02	0.05
Concentration							
ATLAS ^b	650	0.0138			8.97		
Metallography	9	0.0099	0	0	0.09	0.00	0.00
TOTAL	54,920				159.2	26.9	105.5

(a) The sum of nitric acid used in each process is greater than the total amount of nitric acid used, as shown in Table 7-1. This is because some nitric acid is used in more than one process.

(b) ICP = Inductively Coupled Plasma Atomic Emission Spectroscopy; MPD = multipurpose dissolution; ATLAS = Advanced Testing Line for Actinide Separation.

Table 7-3 provides a summary of nitric acid air emissions at LANL in 2003.

Nitric Acid Air Emissions	Amount (lb)	Stack or Fugitive
Storage Tank	9.5	Stack
Plutonium Processing	159.2	Stack
TOTAL	168.7	

Table 7-3. Nitric Acid Air Emissions from LANL in 2003

Water Releases

According to EPA guidance, "discharges of listed acids (hydrochloric acid, nitric acid, etc.) may be reported as zero if the discharges have been neutralized to a pH of 6 or above."¹ All wastewater monitoring data for LANL water discharges in 2003 show pH greater than 6. Therefore, zero was entered on the Form R for nitric acid discharges to water.

Releases to Land

There were no onsite releases of nitric acid to land.

Offsite Waste Disposal

LANL performed no onsite waste disposal of nitric acid-contaminated wastes in 2003. All nitric acid waste is sent offsite to EPA-approved facilities for disposal or recycling. Data, including shipment weight and nitric acid concentration, were obtained for all nitric acid-contaminated wastes sent offsite for disposal in 2003. The waste disposal records were evaluated to determine any waste shipments that were exempt from reporting such as waste generated in a laboratory under the direct supervision of a technically qualified individual.

Total reportable nitric acid from all non-exempt waste disposal was calculated to be 162 lb. Table 7-4 provides a summary of the nitric acid waste streams that were sent offsite to various disposal and recycling companies in 2003. For the purposes of Form R reporting, each receiving facility was contacted to determine the disposition of the nitric acid in the waste shipped offsite.

Company	Location	Facility EPA	Ultimate	Total
		ID	Fate of	Nitric
			Waste	Acid (lb)
Clean Harbors,	Aragonite, UT	UTD98155217	Incineration	14.15
Aragonite, LLC.		7		
Onyx	Henderson, CO	COD98059118	Incineration	143.55
Environmental		4		
Services, LLC.				
Waste Control	Andrews County, TX	TXD98808846	Stabilized in	4.20
Specialists		4	cement and	
_			landfilled	
			Total	161.9

Table 7-4. Summary of Nitric Acid Waste Sent Offsite from LANL in 2003

7.3 Other Information Provided on Form R Report for Nitric Acid

Environmental releases of nitric acid as air emissions and to surface waters were reported to be 169 lb and 0 lb, respectively. These values are included in Section 5 of the Form R, *Quantity of the Toxic Chemical Entering Each Environmental Medium Onsite*. A total of 162

lb of nitric acid was reported in Section 6.2 of the Form R, *Transfers to Other Offsite Location*.

Methods of treating nitric acid in wastewater effluent prior to discharge were included in Section 7A of the Form R. This section details onsite waste treatment methods and efficiency. Wastewater from industrial processes at LANL is discharged to the RLWTF prior to discharge to NPDES permitted Outfall 051. The RLWTF conducts wastewater treatment processes to neutralize the effluent prior to discharge. The wastewater stream is treated with sodium hydroxide to neutralize pH. All wastewater is sampled for pH before and after treatment and is only discharged if pH is greater than 6. Therefore, treatment of nitric acid is considered 100%, and this information is included in Section 7A of the Form R. Sections 7B and 7C relate to onsite energy recovery and recycling. LANL performed no onsite processes applicable to these sections for nitric acid in 2003.

Section 8 of the Form R includes information on source reduction and recycling activities. Nitric acid does not have a significant energy recovery value, and therefore no energy recovery activities were claimed from offsite incineration of the waste nitric acid streams. However, LANL conducts onsite recycling of nitric acid. In 2003, 5,400 lb of nitric acid were recycled for reuse in the plutonium processing facility. LANL also conducts wastewater treatment to neutralize nitric acid in the wastewater as described above. A total of 13,000 lb of nitric acid was treated through neutralization. This is included in Section 8.6 of the Form R.

Section 8.9 of the Form R reports the production or activity ratio, an estimated measure of the production or activity associated with the use of the reported chemical at the facility, as compared to the previous year. Plutonium processing is the largest user of nitric acid and results in the largest releases. Therefore, this process was used to develop a production/activity ratio. Because nitric acid is actually what is processed, the total amount of nitric acid processed each year was used to develop the activity ratio.

In 2002, 3,153 liters of new nitric acid and approximately 9,000 liters of recycled nitric acid were used, totaling 12,153 liters. Due to the start-up of the MOx project, in 2003 a total of 23,000 liters of new nitric acid was used, plus an additional 2,500 liters of recycled nitric acid used in other plutonium processing activities, totaling 25,500 liters. An activity ratio of 2.1 was calculated and reported on Section 8.9 of the Form R.

Finally, Section 8.10 of the Form R provides an opportunity to describe source reduction activities accomplished during the reporting year. The NARS, shown in Figure 7-2, is included in this section of the Form.



Figure 7-2. Nitric Acid Recycling System at LANL

8.0 EPCRA 313 SUMMARY AND TRENDS

LANL has submitted EPCRA Section 313 data to EPA since 1987. From 1987 to 1994, this information was submitted by the UC, operator of LANL. Starting with reporting year 1995, EO 12856 required all federal facilities to comply with EPCRA Section 313 requirements. As of 1995, EPCRA Section 313 information for LANL has been submitted by the DOE. Historical information on LANL-reported Section 313 releases is included in the EPA TRI and can be accessed at: http://www.epa.gov/tri

On April 21, 2000, EO 13148 was signed, which, in addition to requiring all federal facilities to comply with EPCRA Section 313 requirements, also requires federal facilities to reduce releases of EPCRA Section 313 chemicals to the environment. In response to EO 13148, the DOE developed Pollution Prevention Leadership Goals that include the following:

• Reduce release of toxic chemicals subject to Toxic Chemical Release Inventory (EPCRA 313) reporting by 90% by 2005, using a 1993 baseline.

LANL has implemented numerous pollution prevention projects to reduce use and releases of EPCRA Section 313 chemicals. However, two regulatory changes have been made by EPA in recent years that impact EPCRA Section 313 reporting:

• On October 19, 1999, EPA promulgated a final rule on PBTs. This rule added several chemicals to the EPCRA Section 313 list and established lower reporting thresholds for PBT chemicals. These lower thresholds became applicable in reporting year 2000.

• On January 17, 2001, EPA expanded the PBT rule to reduce the EPCRA Section 313 reporting threshold for lead and lead compounds to 100 lb (from 10,000 lb). The new lead threshold became applicable with reporting year 2001.

As a result of these regulatory changes, LANL has triggered EPCRA Section 313 reporting for lead and mercury. The regulatory changes resulted in reporting thresholds of 10 lb for mercury and 100 lb for lead. Therefore, for the past two years LANL has submitted environmental release data on these two chemicals. Figure 8-1 provides a summary of LANL reported releases for the period from 1993 through 2003. Several points are worth noting from this chart:

- In the early 1990s LANL implemented a new wastewater disinfection system that eliminated the use of chlorine. Chlorine gas was replaced with bromine tablets and mixed oxidants generated from sodium chloride. This pollution prevention project decreased use of chlorine to well below reporting thresholds.
- In the late 1990s LANL implemented NARS to reduce the amount of new nitric acid needed for plutonium processing. This closed-loop recycle system greatly reduced the need to purchase nitric acid, and due to recycling efforts, nitric acid use has been below reporting thresholds for several years. However, in 2003 a new process to produce MOx fuels was implemented and, due to quality specifications, was not able to use recycled nitric acid. Therefore, nitric acid was reportable in 2003.
- Although the use of lead and lead compounds has been relatively constant over the years at LANL, the threshold for reporting was lowered to 100 lb in 2001. LANL first began EPCRA 313 reporting on lead in that year. About that same time, LANL made a concerted effort to reduce onsite inventory of lead bricks and shielding that is no longer needed. Much of this lead shielding is radioactively contaminated and cannot be recycled. Therefore, large amounts of legacy lead were shipped offsite for disposal and reported on the Form Rs.
- The reported releases of mercury in 2003 are actually inventory cleanout of mercury no longer needed that was shipped offsite to a metal recycling facility.

Another metric used at LANL is tracking of EPCRA 313 reportable chemical use. Figure 8-2 shows the amount of reportable chemicals used at LANL from 1993 through 2003. The UC, operator of LANL, set a pollution prevention goal of reducing the use of EPCRA 313 reportable chemicals by 90% by 2005 using 1993 as a baseline. The straight blue line shows the 90% reduction goal. The pink line shows the actual amount of EPCRA 313 reportable chemical use and uses this information to prioritize pollution prevention projects to reduce use of these chemicals. As shown in Figure 8-2, LANL has made good progress towards the 90% chemical use reduction goal. However, the MOx project in 2003 was not able to recycle nitric acid for reuse and resulted in a substantial increase in use of nitric acid. Work is in progress to complete the laboratory analytical quality assessment requirements to demonstrate the recycled nitric acid meets the quality standards for MOx fuels.



(a) For 2003, one-time waste disposal of lead from D&D activities is not included in this chart.

Figure 8-1. Trends in LANL's Reported Releases to EPA TRI^a



Figure 8-2. Trends in TRI Reportable Chemical Use at LANL

References

- 1. U.S. Environmental Protection Agency, "Toxic Chemical Release Inventory Reporting Form R and Instructions," Revised 2003 Version, EPA 260-B-04-001, March 2004.
- 2. U.S. Environmental Protection Agency, "Compilation of Air Pollutant Emission Factors," AP-42, Chapter 1.3—Fuel Oil Combustion, September 1998.
- 3. U.S. Environmental Protection Agency, "Emergency Planning and Community Right-to-Know Act—Section 313: Guidance for Reporting Hydrochloric Acid," EPA-745-B-014, December 1999.
- 4. U.S. Environmental Protection Agency, "Compilation of Air Pollutant Emission Factors," AP-42, Chapter 1.6—Wood Residue Combustion in Boilers, March 2002.
- 5. U.S. Environmental Protection Agency, "Emergency Planning and Community Right-to-Know Act—Section 313: Guidance for Reporting Toxic Chemicals: Polycyclic Aromatic Compounds Category," EPA 260-B-01-03, June 2001.
- 6. U.S. Environmental Protection Agency, "Locating and Estimating Air Emissions from Sources of Polycyclic Organic Materials," EPA-454/R-98-014, 1998.
- Chevron-Texaco Guidance Recommendations for SARA 313 Reporting of Polycyclic Aromatic Compounds (PACs) and Benzo(g,h,i)perylene. Lyman Young, May 2, 2001.
- 8. U.S. Environmental Protection Agency "Emergency Planning and Community Right-to-Know Act—Section 313: Guidance for Reporting Toxic Chemicals: Pesticides and Other Persistent Bioaccumulative Toxic (PBT) Chemicals," EPA 260-B-01-005, August 2001.
- U.S. Environmental Protection Agency, "Compilation of Air Pollutant Emission Factors," AP-42, Fifth Edition, Section 11.1—Hot Mix Asphalt Plants, December 2000.
- 10. U.S. Environmental Protection Agency, "Compilation of Air Pollutant Emission Factors," AP-42, Fifth Edition, Section 1.4—Natural Gas Combustion, July 1998.
- U.S. Environmental Protection Agency, "Emergency Planning and Community Right-To-Know Act—Section 313: Guidance for Reporting Toxic Chemicals within the Dioxin and Dioxin-like Compounds Category," EPA-745-B-00-021. December 2000.

- American Society of Mechanical Engineers, "Relationship Between Chlorine in Waste Streams and Dioxin Emissions from Combustors," CRTD-Vol. 36. December 1995.
- U.S. Environmental Protection Agency, "Database of Sources of Environmental Releases of Dioxin-like Compounds in the United States," EPA-600-C-01-012, March 2001.
- 14. U.S. Environmental Protection Agency, "List of Toxic Chemicals within the Water Dissociable Nitrate Compounds Category and Guidance for Reporting," EPA 745-R-00-006, December 2000.
- 15. U.S. Department of Defense, TRI-DDS Software, http://www.dod.tridds.org.
- 16. U.S. Environmental Protection Agency, "Emergency Planning and Community Right-to-Know Act—Section 313: Guidance for Reporting Releases and Other Waste Management Quantities of Toxic Chemicals: Lead and Lead Compounds," EPA 260-B-01-027, December 2001.
- 17. Los Alamos National Laboratory. "Surface Water Data at Los Alamos National Laboratory 2003 Water Year," LA-14131-PR, May 2004.
- U.S. Environmental Protection Agency, "Emergency Planning and Community Right-to-Know Act—Section 313: Guidance for Reporting Releases and Other Waste Management Quantities of Toxic Chemicals: Mercury and Mercury Compounds," EPA 260-B-01-004, August 2001.
- 19. Los Alamos National Laboratory, "Actinide Research Quarterly, 1st/2nd Quarter 2003, Nuclear Fuels," LA-LP-03-067, December 2003.

Appendix A:

EPCRA Section 313 Chemicals Used or Procured in 2003

		EPCRA	2003 Amount
CAS Number	Chemical Name	Threshold	Purchased or Used (lbs)
7664-93-9	Sulfuric acid (aerosol forms only)	10000	141,266.5 ^a
7697-37-2	Nitric acid	10000	54,749.3 ^b
Zinc Compounds	Zinc Compounds	10000	5565.4
7647-01-0	Hydrochloric acid (aerosol forms	10000	4932.5
	only)		
Manganese Compounds	Manganese Compounds	10000	4502.6
Polychlorinated Alkanes	Polychlorinated alkanes	10000	1795.6
75-09-2	Dichloromethane	10000	1537.8
67-56-1	Methanol	10000	1471.6
10222-01-2	2,2-Dibromo-3-nitrilopropionamide	10000	1285.2
75-05-8	Acetonitrile	10000	1182.4
120-12-7	Anthracene	10000	1129.1
110-54-3	n-Hexane	10000	1116.4
67-63-0	Isopropyl alcohol (mfg-strong acid	10000	938.7
	process)		
7726-95-6	Bromine	10000	929.7
78-93-3	Methyl ethyl ketone	10000	913.7
872-50-4	N-Methyl-2-pyrrolidone	10000	726.8
7664-38-2	Phosphoric acid	10000	636.8
108-88-3	Toluene	10000	330.8
7632-00-0	Sodium nitrite	10000	322.3
67-66-3	Chloroform	10000	292.8
1344-28-1	Aluminum oxide (fibrous forms)	10000	198.6
Nitrate Compounds	Nitrate compounds (water	10000	149.7
	dissociable)		
7440-47-3	Chromium	10000	137.6
7664-41-7	Ammonia	10000	104.6
Glycol Ethers Compounds	Glycol Ethers	10000	68.8
68-12-2	N,N-Dimethylformamide	10000	68.5
7440-22-4	Silver	10000	58.5
7429-90-5	Aluminum (fume or dust)	10000	50.9
108-10-1	Methyl isobutyl ketone	10000	49.2
7439-97-6	Mercury	10	47.6
7664-39-3	Hydrogen fluoride	10000	45.1
95-50-1	1,2-Dichlorobenzene	10000	40.6
7440-50-8	Copper	10000	39.4
71-43-2	Benzene	10000	39.1
7439-92-1	Lead	100	36.3
Cyanide Compounds	Cyanide Compounds	10000	34.8
110-86-1	Pyridine	10000	33.3
1330-20-7	Xylene (mixed isomers)	10000	28.3
Silver Compounds	Silver Compounds	10000	26.5

(a) 134,000 lbs of the sulfuric acid purchased is in aqueous form, and not reportable under EPCRA 313.(b) 4,969 lbs of nitric acid were purchased in 2003, an additional 49,780 lbs were used from inventory.

		EPCRA	2003 Amount
CAS Number	Chemical Name	Threshold	Purchased
			(lbs)
126-72-7	Tris(2,3-dibromopropyl) phosphate	10000	22.0
Nickel Compounds	Nickel Compounds	10000	21.6
71-36-3	n-Butyl alcohol	10000	21.1
108-90-7	Chlorobenzene	10000	17.3
7440-66-6	Zinc (fume or dust)	10000	16.4
Barium Compounds	Barium Compounds	10000	16.3
79-06-1	Acrylamide	10000	15.8
95-47-6	o-Xylene	10000	15.5
56-23-5	Carbon tetrachloride	10000	14.4
79-01-6	Trichloroethylene	10000	13.2
110-82-7	Cyclohexane	10000	12.1
Chromium Compounds	Chromium Compounds	10000	11.5
121-44-8	Triethylamine	10000	10.9
100-41-4	Ethylbenzene	10000	10.4
Copper Compounds	Copper Compounds	10000	9.8
64-18-6	Formic acid	10000	9.7
7783-06-4	Hydrogen sulfide	10000	8.7
Cadmium Compounds	Cadmium Compounds	10000	8.1
7782-50-5	Chlorine	10000	7.9
7440-28-0	Thallium	10000	7.8
98-82-8	Cumene	10000	7.2
7439-96-5	Manganese	10000	6.4
7440-43-9	Cadmium	10000	5.7
108-95-2	Phenol	10000	5.5
100-42-5	Styrene	10000	4.7
Cobalt Compounds	Cobalt Compounds	10000	4.2
98-95-3	Nitrobenzene	10000	4.2
7440-62-2	Vanadium (fume or dust)	10000	4.2
74-87-3	Chloromethane	10000	4.0
554-13-2	Lithium carbonate	10000	3.9
1313-27-5	Molybdenum trioxide	10000	3.8
7440-38-2	Arsenic	10000	3.7
123-91-1	1,4-Dioxane	10000	3.4
75-15-0	Carbon disulfide	10000	3.3
106-42-3	p-Xylene	10000	3.2
124-40-3	Dimethylamine	10000	3.1
75-56-9	Propylene oxide	10000	3.0
50-00-0	Formaldehyde	10000	2.6
7440-48-4	Cobalt	10000	2.6
79-10-7	Acrylic acid	10000	2.5
74-88-4	Methyl iodide	10000	2.4
80-62-6	Methyl methacrylate	10000	2.2
7550-45-0	Titanium tetrachloride	10000	1.9

		EPCRA	2003 Amount
CAS Number	Chemical Name	Threshold	Purchased
			(lbs)
74-85-1	Ethylene	10000	1.9
75-25-2	Bromoform	10000	1.8
75-65-0	tert-Butyl alcohol	10000	1.7
91-20-3	Naphthalene	10000	1.7
Lead Compounds	Lead Compounds	100	1.6
7440-02-0	Nickel	10000	1.6
7440-36-0	Antimony	10000	1.5
95-63-6	1,2,4-Trimethylbenzene	10000	1.4
107-06-2	1,2-Dichloroethane	10000	1.4
Diisocyanates (includes 20 specific chemicals)	Diisocyanates	10000	1.3
302-01-2	Hydrazine	10000	13
7782-49-2	Selenium	10000	1.5
107-13-1	Acrylonitrile	10000	1.2
7440-41-7	Beryllium	10000	1.2
77-73-6	Dicyclopentadiene	10000	1.2
Chlorophenol Compounds	Chlorophenols	10000	1.2
Selenium Compounds	Selenium Compounds	10000	1.1
123-31-9	Hydroquinone	10000	1.1
541-73-1	1.3-Dichlorobenzene	10000	1.0
60-35-5	Acetamide	10000	0.8
75-44-5	Phosgene	10000	0.7
115-07-1	Propylene	10000	0.7
Antimony Compounds	Antimony Compounds	10000	0.6
108-39-4	m-Cresol	10000	0.6
Mercury Compounds	Mercury Compounds	10	0.5
26628-22-8	Sodium azide	10000	0.5
106-93-4	1,2-Dibromoethane	10000	0.5
87-62-7	2,6-Xylidine	10000	0.5
94-36-0	Benzoyl peroxide	10000	0.4
95-54-5	1,2-Phenylenediamine	10000	0.4
Arsenic Compounds	Arsenic Compounds	10000	0.4
10294-34-5	Boron trichloride	10000	0.3
77-78-1	Dimethyl sulfate	10000	0.3
Beryllium Compounds	Beryllium Compounds	10000	0.3
98-88-4	Benzoyl chloride	10000	0.3
81-88-9	C.I. Food Red 15	10000	0.2
62-53-3	Aniline	10000	0.2
104-94-9	p-Anisidine	10000	0.2
7758-01-2	Potassium bromate	10000	0.2
106-89-8	Epichlorohydrin	10000	0.2
7637-07-2	Boron trifluoride	10000	0.2
100-01-6	p-Nitroaniline	10000	0.2
79-22-1	Methyl chlorocarbonate	10000	0.2

CAS Number	Chemical Name	EPCRA Threshold	2003 Amount Purchased
			(IDS)
108-38-3	m-Xylene	10000	0.2
107-11-9	Allylamine	10000	0.2
Thallium Compounds	Thallium Compounds	10000	0.2
96-09-3	Styrene oxide	10000	0.1
106-51-4	Quinone	10000	0.06
107-30-2	Chloromethyl methyl ether	10000	0.06
105-67-9	2,4-Dimethylphenol	10000	0.05
108-93-0	Cyclohexanol	10000	0.05
989-38-8	C.I. Basic Red 1	10000	0.03
75-07-0	Acetaldehyde	10000	0.02
84-74-2	Dibutyl phthalate	10000	0.01
74-83-9	Bromomethane	10000	0.002

Appendix B: Form R Reports for Lead, Mercury, and Nitric Acid



Department of Energy National Nuclear Security Administration JUN 24 PH 2: 25 Los Alamos Site Office Los Alamos, New Mexico 87544

TRI Data Processing Center c/o Computer Sciences Corporation, Suite 300 8400 Corporate Drive Landover, MD 20785-2294

To Whom It May Concern:

Subject: Toxic Chemical Release Inventory TRI Magnetic Media Submission

Enclosed is one (1) microcomputer diskette containing toxic chemical release reporting information (Form R reports) for Los Alamos National Laboratory (LANL) for mercury, lead, and nitric acid for calendar year 2003. This information is submitted in response to Executive Order 13148 signed April 21, 2000 by President Clinton requiring all federal facilities to comply with the provisions of the Emergency Planning and Community Right-to-Know Act (EPCRA), or Title III of the Superfund Amendments and Reauthorization Act (SARA).

This report was completed using the latest available information including an electronic download of the Automated Form R provided by the Environmental Protection Agency (EPA) on the Internet at <u>http://www.epa.gov/tri/report/trime</u>. Guidance used to complete the form was obtained from the EPA's Toxic Chemical Release Inventory Reporting Forms and Instructions booklet, Revised 2003 Version, March 2004, EPA 260-B-04-001.

A hard copy and microcomputer diskette of the Form R reports has been submitted to Mr. Jerry Lazzari, the State of New Mexico's EPCRA TRI Coordinator.

I hereby certify that I have reviewed the attached documents and that, to the best of my knowledge and belief, the submitted information is true and complete and that the amounts and values in this report are accurate, based on reasonable estimates using data available to the preparers of this report.

If you have any questions, please contact me at (505) 667-5794 or by email at <u>gturner@doeal.gov</u>.

Sincerely,

Some Fundy

Gene Turner Environmental Permitting Manager Office of Facility Operations

 Las activadas entres entres en las construires de la construir de la c Construir de la construir

OFO:5GT-006

cc: See Page 2

در میں اند

Addressee

> د اوریت ۳۱ مد

التر مندر الانتقاد مير

• .i

.

·· _

- i-

i zeta na k

a da series

an Andra Maria Servere net an an

المعلمين. - المراجع المحالي المراجع من المراجع المحالي المحالي المحالي المحالي المحالي المحالي المحالي المحالي المحالي ا - المراجع المحالي المحالي المحالي محالي المحالي المحالي المحالي المحالي المحالي المحالي المحالي المحالي المحالي

1.1 1.

in a star

این د میروند. از این د معنوند از از

ید بندید. درخورد اور د

....

and in the standard of

. . .

a di seja

Andrew Lawrence, EH-4, HQ/FORS Joseph Vozella, OFO, LASO Beverly Ramsey, RRES-DO, LANL, MS-J591 Deb Woitte, LC-GL, LANL, MS-A187 Jean Dewart, RRES-MAQ, LANL, MS-J978 RRES-MAQ File, MS-J978

an se se se

÷.÷.

. 19 ga

.....

. .

يەي **مەرمىر**ە بىر

يا في الي ال

76...

1

Man - F

į

ing againg a garage a gara

Ĩ÷,

Signature Certification for U.S. EPA Diskette Submission

U.S. DEPARTMENT OF ENERGY, LOS ALAMOS NATIONAL LABORATORY 528 35TH STREET LOS ALAMOS, NM 87544 87544SDLSL52835

June 22, 2004

TRI Data Processing Center c/o Computer Sciences Corportation Suite 300 8400 Corporate Drive Landover, MD 20785

(301) 429-5005

Our

<u>, i</u>

To Whom It May Concern:

Enclosed please find one (1) microcomputer diskette containing toxic chemical release reporting information for:

U.S. DEPARTMENT OF ENERGY, LOS ALAMOS NATIONAL LABORATORY

This information is submitted as required under section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and the Pollution Prevention Act of 1990.

We are submitting a total of 3 chemical report(s) for our facility.

These 3 chemical report(s) are described below:

TRI Chemical or Chemical Category Lead	Reporting Year 2003	CAS Number 7439-92-1	Repo Form	ont NR
Mercury.	2003	7439-97-6	Form	R.
Nitric acid	2003	7697-37-2	Form	nR
echnical point of contact is:		•	-	-
GENE TURNER				
(505) 667-5794	. : .			
GTURNER@LANL.GOV	· · · · · · · ·	5. X. Z. Z.	· •	

and is available should any questions or problems arise in the processing of this diskette.

If the enclosed diskette contains one or more Form R chemicals, then I hereby certify that I have reviewed the enclosed documents and that, to the best of my knowledge and belief, the submitted information is true and complete and that the amounts and values in this report(s) are accurate based on reasonable estimates using data available to the preparers of this report(s).

If the enclosed diskette contains one or more Form A chemicals, then I hereby certify that to the best of my knowledge and belief, for each toxic chemical listed in the Form A statement, the annual reportable amount as defined in 40 CFR 372.27(a) did not exceed 500 pounds for this reporting year and that the chemical was manufactured, processed or otherwise used in an amount not exceeding 1 million pounds during the reporting year.

TRI-ME RY2003 4.4.13

Page 1 of 2

6/22/2004 09:21 AM

87544SDLSL52835 U.S. DEPARTMENT OF ENERGY, LOS ALAMOS NATI

1

1

نې بورې د ور د د

in the second second

- ter <u>í</u>

Line of the

. .

ting der

-, 49

entinge gene entingen

> ***** ****

> > -----

•

11-29-21.

Sincerely, GENE TURNER OFFICE OF FACILITY OPS.

Enclosure: Diskette

TRI-ME RY2003 4.4.13

. . .

Page 2 of 2

6/22/2004 09:21 AM

مشار ومداور المري

· - .

l universita au

um ju

영국의 영광는 것?

. ...

·, ,

· · · ·

1. 12 1947 AT

:_

بالمراجع فتتقدد والمراجع

sin the

* 2

1 -

, .r

									Form Ap	proved OME	3 Numb	er:2070-0093			
MPOR	TANT: Type or pri	nt; read in	struction	s before completi	ng fo	orm)			Approva	Expires: 1/:	31/2006			Page 1 o	f 5
Unite Envir Agen	onmental Protect		Section Know Amer	on 313 of the Er Act of 1986, all adments and Re	ner so k	sency nown a horizat	Plannin as Title ion Act		t Sl na Community of the Superfu	Algni-to-	Toxic C	DLSE52895	ry or G	PA eneric Name	 i
WHERE TO SEND COMPLETED FORMS: 1. TRI Data Processing Center P.O.Box 1513 Lanham, MD 20703-1513 2. APPROPRIATE STATE OFFICE (See instructions in Appendix F) Enter "X" here if this is a revision															
Impo	rtant: See in	structi	ons to	determine	wh	en "N	lot Ap	pli	cable (NA)	" boxes	shou	ld be check	ed.		
			PAF	RT I. FACILI	ΤY	IDE	NTIFI	CA	TION INF	ORMAT	ION				
SEC	TION 1. REPO	ORTING	YEAR	2003		•									-
SEC	TION 2. TRAD	DE SECF	ET IN	FORMATION		1									_
Are you claiming the toxic chemical identified on page 2 trade secret? Is this copy Sanitized Unsanitized 2.1 Yes (Answer question 2.2; Attach substantiation forms) NO (Do not answer 2.2; Go to Section 3) Is this copy Sanitized Unsanitized															
SECT	ION 3. CERT	IFICATI	ON (Im	portant: Read	d ar	nd sig	n afte	r co	mpleting a	ll form se	ction	s.)			
I here inform using	by certify that I han nation is true and c data availble to th	ve reviewe complete a e preparer	d the att nd that t s of this	ached documents he amounts and v report.	and alue	d that, te is in this	o the be s report	st of are a	my knowledge accurate based	and belief, i on reasona	the sub ble esti	mitted mates			
Name	and official title of	owner/ope	rator or	senior manageme	ent o	fficial:				Signature	r:			Date Signe	d:
Gene Turner Office of Facility Ops. 06/2						06/24/2004									
SECTION 4. FACILITY IDENTIFICATION															
4.1								TRI	Facility ID Nur	nber 875	544SDL	SL52835			
Facility	or Establishment Na	me				-		Facili	ity or Establishme	ent Name or M	lailing Ad	dress (if different fr	om stree	address)	
J.S. D	epartment of Ener	gy, LOS A	AMOS	NATIONAL LABO	DRA	TORY .		b.4							
Street Mailing Address 528 35th Street NA															
City/County/State/Zip Code City/State/Zip Code Country (Non-US															
4.2 This report contains information for: (Important:-check a or b; check c or d if applicable) a. A nentire facility b. Part of a facility c. A Federal facility d. GOCO															
4.3	Technical Conte	act Name	Ge	ene Turner		-					Telep (505)	bhone Number (ir) 667-5794	nclude a	area code)	
	Email Address	¢* .	gtı	rner@lanl.gov											
4.4	Public Contact I	Name	Ge	ene Turner		-					Teler (505)	bhone Number (ir) 667-5794	nclude	area code)	-
4.5	SIC Code (s) (4	digits)	a	Primary 9711		» b .	-		C.	d.		ę.	f.		
4.6	Latitude	Degree	;	Minutes 49	_	Sec	conds	_	Longitude	Degrees 106		Minutes 14		Seconds 15	
4. 7	Dun & Bradstre Number(s) (9 dig	pet gits) 4.8	EPA (RCF	Identification Nun RA I.D. No.) (12 ct	nber nara	cters)	4.9	Faci Num	ility NPDES Pe nber(s) (9 cha	ermit racters)	4.10	Underground Underground UIC) I.D. Nu	t Inject umber(:	ion Well Coo s) (12 digits)	le
a. NA a. NM0890010515 a. NM0028355 a. NA							a. NN	1002	8355		a. N	Ą			
a. a. b. b.<							b.				b.				
b.				INCO ON A PLA	N										
b. SEC	TION 5. PARE	NT COM	PANY	INFORMATIC											-
b. SEC [*] 5.1	TION 5. PARE Name of Parent	NT COM	PANY		U.S	. DEPA	RTMEN		FENERGY						
b. SEC [*] 5.1 5.2	TION 5. PARE Name of Parent Parent Compar	NT CON t Company	PANY N Bradstre	INFORMATIC IA et Number	U.S N	. DEPA			F ENERGY						

المرجعة بالأفية

|--|

	PART II. CHEMICAL - SPEC	BO NOT S	TRI Facility ID Nur TRI Facility ID Nur Toxic Chemical, C Lead	nber to EPA ategory or Generic Name					
SEC	TION 1. TOXIC CHEMICAL IDENTITY	(important: DO NOT co	mplete this section if you co	mpleted Section 2 below.)					
1.1	CAS Number (Important: Enter only one number exactly a 7439-92-1	is it appears on the Section 313 list. Enter	category code if reporting a chemic	al category.)					
1.2	Toxic Chemical or Chemical Category Name (Important: E Lead	Enter only one name exactly as it appears	on the Section 313 list.)						
1.3	1.3 Generic Chemical Name (Important: Complete only if Part 1, Section 2.1 is checked "Yes". Generic Name must be structurally descriptive.) NA								
Distribution of Each Member of the Dioxin and Dioxin-like Compounds Category. (If there are any numbers in boxes 1-17, then every field must be filled in with either 0 or some number between 0.01 and 100. Distribution should be reported in percentages and the total should equal 100%. If you do not have speciation data available, indicate NA.) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17									
SEC		NTITY (Important: DO NOT co	omplete this section if you co	mpleted Section 1 above.}					
2.1	Generic Chemical Name Provided by Supplier (Important	: Maximum of 70 characters, including nur	nbers, letters, spaces, and punctual	ion.)					
SEC	FION 3. ACTIVITIES AND USES OF TH (important: Check all that apply.)		IE FACILITY	ـــــــــــــــــــــــــــــــــــــ					
3.1	Manufacture the toxic chemical: 3.	2 Process the toxic chemica	II: 3.3 Otherwise u	ise the toxic chemical:					
a. d. e. f.	a. Produce b. Import If produce or import: a. As a reactant a. As a chemical processing aid c. For on-site use/processing b. As a formulation component b. As a manufacturing aid d. For sale/distribution c. As an article component c. X Ancillary or other use e. As a byproduct d. Repackaging As an impurity E. As an impurity								
SECTION 4. MAXIMUM AMOUNT OF THE TOXIC CHEMICAL ONSITE AT ANY TIME DURING THE CALENDAR YEAR									
-4.1	(Enter two-digit code f	from instruction package.)		nan di Mananana ang sana kana ka sana ka kana ka kana ka					
SEC	TION 5. QUANTITY OF THE TOXIC CH	EMICAL ENTERING EACH	ENVIRONMENTAL MED	DIUM ONSITE					
- 	ne popularia de la companya de la co Nome de la companya de	A. Total Release (pounds/year*) (Enter range code or estimate**)	B. Basis of Estimate (enter code)	C. % From Stormwater					
5.1	air emissions NA	13.9	C						
5.2	Stack or point air emissions		the state of the second se						
5.3	Discharges to receiving streams or water bodies (enter one name per box)								
	Stream or Water Body Name		·						
5.3.1	ANCHO CANYON TRIBUTARY TO RIO GRA	8.8	М	100					
5.3.2	LOS ALAMOS CANYON TRIBUTARY TO RIO	25.2	М	99					
5.3.3	PAJARITO CANYON TRIBUTARY TO RIO G	0.1	М	100					
lf add and ir	itional pages of Part II, Section 5.3 are attached adicate the Part II, Section 5.3 page number in	d, indicate the total number of particular this box. 1 (examp	ges in this box	3					

EPA Form 9350-1 (Rev. 2/2004) - Previous editions are obsolete.

i ch

	Pa	g	e	2	of	5
--	----	---	---	---	----	---

		PA FORN F	BO NOT	Su	TRI Facility, ID Nu 7744 Stel \$15283 Toxic Chemical, C Lead	to EPA ategory or Generic Name		
SEC	TION 1. TOXIC CHEMIC	AL IDENTITY	(Important: DO N	NOT complete	this section if you co	mpleted Section 2 below.)		
1.1	CAS Number (Important: Enter only on	e number exactly as i	it appears on the Section 313 lis	t. Enter category	code if reporting a chemic	el category.)		
1.2	Toxic Chemical or Chemical Category	Name (Important: En	ter only one name exactly as it a	ppears on the Se	ection 313 list.)			
.1.3	Generic Chemical Name (Important: C	omplete only if Part 1	, Section 2.1 is checked "Yes". (Generic Name m	ust be structurally descript	ve.)		
1.4 NA [Distribution of Each Member of (If there are any numbers in boxes 1-1) reported in percentages and the total s 1 2 3 4	f the Dioxin and 7, then every field mu should equal 100%. If 5 6	Dioxin-like Compounds C ist be filled in with either 0 or sor I you do not have speciation date 7 8 9	ategory. ne number betwi a available, indic 10 11	een 0-01 and 100. Distribu ate NA.) 12 13	tion should be 14 15 16 17		
SEC	CTION 2. MIXTURE COMP	ONENT IDEN	TITY (Important: DO	NOT complete	e this section if you co	ompleted Section 1 above.)		
2.1	Generic Chemical Name Provided by	Supplier (Important: N	Aaximum of 70 characters, inclu	ding numbers, le	tters, spaces, and punctua	tion.)		
SEC	TION 3. ACTIVITIES AND (Important: Check a	USES OF THE		AT THE FA		en e		
3.1	Manufacture the toxic cho	emical: 3.2	Process the toxic ch	emical:	3,3 Otherwise	use the toxic chemical:		
a. 	If produce or import: For on-site use/processin For sale/distribution As a byproduct As an impurity	a. Ig b. C. d.	As a reactant As a formulation cor As an article compo Repackaging As an impurity	nponent nent	a. As a chen b. As a man c. Ancillary o	nical processing aid ufacturing aid or other use		
SEC	TION 4 MAXIMUM AMOU	NT OF THE TO	DXIC CHEMICAL ON	SITE AT AN	IY TIME DURING	THE CALENDAR YEAR		
4.1-	Enter two	vo-digit code fro	om instruction package	9.) <u> </u>	「「「「「「」」」 「「」」 「」」 「」」 「」」 「」」 「」」 「」」			
SEC	TION 5. QUANTITY OF TH		A: Total Release - (pounds (Enter range code or estim	ACH ENVIE /year*) B.	RONMENTAL MEI	C. % From Stormwater		
51	Fugitive or non-point	ΝΔ	,,	- ¹¹				
5.2	Stack or point							
5.3	Discharges to receiving stream water bodies (enter one name	ns or per box)						
	Stream or Water Body N	lame				e Calman a handar ata ina tanàna mandritra dia mandritra dia mandritra dia mandritra dia mandritra dia mandritra Ny		
5.3.1	SANDIA CANYON TRIBUTAR	Y TO RIO GRA	84		М	99		
5.3.2	WATER CANYON TRIBUTAR	Y TO RIO GRA	0		M	0		
5.3.3	CANADA DEL BUEY		0.3		М	100		
lf add and ii	5.3.3 CANADA DEL BUEY 0.3 M 100 If additional pages of Part II, Section 5.3 are attached, indicate the total number of pages in this box 3 3 and indicate the Part II, Section 5.3 page number in this box. 2 (example: 1,2,3, etc.) 3							

EPA Form 9350-1 (Rev. 2/2004) - Previous editions are obsolete.

.

PART II. CHEMICAL - SPECIFIC INFORMATION Toxic Chemical, Category or Generic Name Lead SECTION 1. TOXIC CHEMICAL IDENTITY (Important: DO NOT complete this section if you completed Section 2 below.) CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.) 1.1 Toxic Chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.) 1.2 1.3 Generic Chemical Name (Important: Complete only if Part 1, Section 2.1 is checked "Yes". Generic Name must be structurally descriptive.) 1.3 Distribution of Each Member of the Dioxin and Dioxin-like Compounds Category. (If there are any numbers in boxes 1-17, then every field must be filled in with either 0 or some number between 0.01 and 100. Distribution should be 1.4 SECTION 2: MIXTURE COMPONENT IDENTITY (Important: Do NOT complete this section if you completed Section 1 above;) SECTION 2: MIXTURE COMPONENT IDENTITY (Important: Do NOT complete this section if you completed Section 1 above;) Conspan="2">Complete this section if you completed Section 1 above;)	
Toxic Chemical, Category or Generic Name Toxic Chemical, Category or Generic Name Lead SECTION 1. TOXIC CHEMICAL IDENTITY (Important: DD NOT complete this section if you completed Section 2 below.) CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.) 1.1 Toxic Chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.) 1.2 Inter chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.) 1.2 Inter chemical Name (Important: Complete only if Part 1, Section 2.1 is checked *Yes*. Generic Name must be structurally descriptive.) 1.3 Distribution of Each Member of the Dioxin and Dioxin-like Compounds Category. (If there are any numbers in boxes 1-17, then every field must be filled in with either 0 or some number between 0.01 and 100. Distribution should be 1 1 Inter colspan="2">Section 0 at a with able indicate NA.) 1 2 Section 2: MIXTURE COMPONENT IDENTITY <td cols<="" th=""></td>	
Lead SECTION 1. TOXIC CHEMICAL IDENTITY (Important: DO NOT complete this section if you completed Section 2 below.) CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.) 1.1	
SECTION 1. TOXIC CHEMICAL IDENTITY (Important: DO NOT complete this section if you completed Section 2 below.) CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.) 1.1	
SECTION 1. TOXIC CHEMICAL IDENTITY (Important: DO NOT complete this section if you completed Section 2 below.) CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.) 1.1 Toxic Chemical or Chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.) 1.2 1.3 Generic Chemical Name (Important: Complete only if Part 1, Section 2.1 is checked "Yes". Generic Name must be structurally descriptive.) Distribution of Each Member of the Dioxin and Dioxin-like Compounds Category. (If there are any numbers in boxes 1-17, then every field must be filled in with either 0 or some number between 0.01 and 100. Distribution should be 1 1 Distribution of Each Member of the Dioxin and Dioxin-like Compounds Category. (If there are any numbers in boxes 1-17, then every field must be filled in with either 0 or some number between 0.01 and 100. Distribution should be 1 1 SECTION 2. MIXTURE COMPONENT IDENTITY (Important: DO NOT complete this section if you completed Section 1 above:) Centrical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces, and punctuation.)	
CAS Number (Important: Enter only one number exactly as it appears on the Section 313 list. Enter category code if reporting a chemical category.) 1.1	
1.1 Toxic Chemical or Chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.) 1.2 Generic Chemical Name (Important: Complete only if Part 1, Section 2.1 is checked "Yes". Generic Name must be structurally descriptive.) 1.3 Generic Chemical Name (Important: Complete only if Part 1, Section 2.1 is checked "Yes". Generic Name must be structurally descriptive.) Distribution of Each Member of the Dioxin and Dioxin-like Compounds Category. (If there are any numbers in boxes 1-17, then every field must be filled in with either 0 or some number between 0.01 and 100. Distribution should be reported in percentages and the total should equal 100%. If you do not have speciation data available, indicate NA.) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 NA	
Toxic Chemical or Chemical Category Name (Important: Enter only one name exactly as it appears on the Section 313 list.) 1.2 1.3 Generic Chemical Name (Important: Complete only if Part 1, Section 2.1 is checked "Yes". Generic Name must be structurally descriptive.) Distribution of Each Member of the Dioxin and Dioxin-like Compounds Category. (If there are any numbers in boxes 1-17, then every field must be filled in with either 0 or some number between 0.01 and 100. Distribution should be 1.4 reported in percentages and the total should equal 100%. If you do not have speciation data available, indicate NA.) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 NA Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces, and punctuation.)	
1.2 1.3 Generic Chemical Name (Important: Complete only if Part 1, Section 2.1 is checked *Yes*. Generic Name must be structurally descriptive.) Distribution of Each Member of the Dioxin and Dioxin-like Compounds Category. (If there are any numbers in boxes 1-17, then every field must be filled in with either 0 or some number between 0.01 and 100. Distribution should be 1.4 reported in percentages and the total should equal 100%. If you do not have speciation data available, indicate NA.) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 SECTION 2: MIXTURE COMPONENT IDENTITY (Important: Do NOT complete this section if you completed Section 1 above:) 2.1 Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces, and punctuation.)	
1.3 Generic Chemical Name (Important: Complete only if Part 1, Section 2.1 is checked "Yes". Generic Name must be structurally descriptive.) Distribution of Each Member of the Dioxin and Dioxin-like Compounds Category. (If there are any numbers in boxes 1-17, then every field must be filled in with either 0 or some number between 0.01 and 100. Distribution should be reported in percentages and the total should equal 100%. If you do not have speciation data available, indicate NA.) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 NA	
Distribution of Each Member of the Dioxin and Dioxin-like Compounds Category. (If there are any numbers in boxes 1-17, then every field must be filled in with either 0 or some number between 0.01 and 100. Distribution should be 1.4 reported in percentages and the total should equal 100%. If you do not have speciation data available, indicate NA.) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 NA SECTION 2: MIXTURE COMPONENT IDENTITY (Important: DO NOT: complete this section if you completed Section 1 above:) Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces, and punctuation:)	
Distribution of Each Member of the Dioxin and Dioxin-like Compounds Category. (If there are any numbers in boxes 1-17, then every field must be filled in with either 0 or some number between 0.01 and 100. Distribution should be 1.4 reported in percentages and the total should equal 100%. If you do not have speciation data available, indicate NA.) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 NA SECTION 2: MIXTURE COMPONENT IDENTITY (Important:-DO NOT- complete this-section if you completed Section 1 above:) Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces, and punctuation:)	
1.4 reported in percentages and the total should equal 100%. If you do not have speciation data available, indicate NA.) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 NA	
NA	
SECTION 2: MIXTURE COMPONENT IDENTITY (Important:-DO NOT- complete this section if you completed Section 1 above:) Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces, and punctuation:) 2.1	
SECTION 2: MIXTURE COMPONENT IDENTITY (Important: DO NOT: complete this section if you completed Section 1 above;) Generic Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces, and punctuation;) 2.1	
Ceneric Chemical Name Provided by Supplier (Important: Maximum of 70 characters, including numbers, letters, spaces, and punctuation.)	
SECTION 3. ACTIVITIES AND USES OF THE TOXIC CHEMICAL AT THE FACILITY	
3.1 Manufacture the toxic chemical: 3.2 Process the toxic chemical: 3.3 Otherwise use the toxic chemical:	
a. Produce b. Import	
If produce or import: a. As a reactant a. As a chemical processing aid	
c. For on-site use/processing b. As a formulation component b. As a manufacturing aid -As a manufacturing aid	
d. For sale/distribution c. As an article component c. Ancillary or other use	
e. As a byproduct d. Repackaging	
f. As an impurity e. As an impurity	
SECTION 4. MAXIMUM AMOUNT OF THE TOXIC CHEMICAL ONSITE AT ANY TIME DURING THE CALENDAR YEAR	
4.1 (Enter two-digit code from instruction package.)	
SECTION 5. QUANTITY OF THE TOXIC CHEMICAL ENTERING EACH ENVIRONMENTAL MEDIUM ONSITE	
A. Total Release (pounds/year*) B. Basis of Estimate (Enter range code or estimate**) (enter code)	
5.1 Fugitive or non-point NA	
5.2 Stack or point Air emissions NA	
5.3 Discharges to receiving streams or water bodies (enter one name per box)	
Stream or Water Body Name	
5.3.1 MORTANDAD TRIBUTARY TO RIO GRANDE 1.5 M 98	
5.3.2	
5.3.3	
If additional pages of Part II. Section 5.3 are attached, indicate the total number of pages in this hox	
and indicate the Part II, Section 5.3 page number in this box. 3 (example: 1,2,3, etc.)	

EPA Form 9350-1 (Rev. 2/2004) - Previous editions are obsolete.

*

Page 2 of 5

PART		A <u>FOI</u> CIFIC		NOT TION (CON	SU	TRI Facility By 445DL Toxic Cher Lead	L 283	nber	Generic	PA Name
SECTIC	ON 5. QUANTITY OF THE	τοχια	CHEMICAL	ENTERING E	ACH ENVIR	ONMENTAL	. MED	IUM ONS	ITE	(Continued)
		NA	A. Total Release	e (pounds/year*) code** or esti	(enter range mate)	B. Basis of (enter co	Estima de)	te		
5.4.1	Underground Injection onsite to Class I Wells	X			×		•		~	
5.4.2	Underground Injection onsite to Class II-V Wells	X	÷ .			· · · ·				
5.5	Disposal to land onsite					Sec. 2			- A	9
5.5.1.A	RCRA Subtitle C landfills	X	n na si na s				· · · ·	i i i i i i i i i i i i i i i i i i i		a tan a an
5.5.1.B	Other landfills	· X			· · ·	-				
5.5.2	Land treatment/application farming	X		12			er 4 . ¹ 1	. <mark>1</mark>		
5.5.3A	RCRA Subtitle C Surface Impoundments		and a second s	a ya a a a a a a a a a a a a a a a a a	ور فراند. مرتبع میں میں در اور اور اور اور اور اور اور اور اور او	a raina an a	. 8 999.99887999 	······································		en an en
5.5.3B	Other surface impoundments	X		n na ser an		a and a second			r	
5.5.4	Other disposal		5832		n an	C.	ي يحققي تعويدها. مو			
6.1.A To 6.1.A.1.	otal Quantity Transferred to Total Transfers (pounds/ye (enter range code** or estim	POTW ar*) ate)	/s and Basis of	Estimate 6.1.A.2 (Basis of Esti enter code)	mate	· · ·	·		
		NA	1					· ·.		
6.1.B. 1	1. POTW Name NA					(f.)		terre and terre	· .	
POTW A	Address	- Antoneo arrente Si - Di Labar	And the state of the second second second	Mail and the state state of a second						
	and the second	and the second	. പ്രത്യേഷം കടിച്ചില്ലാം പ്രത് ചെയ്യംഗം പാര്ഷം അവേഷം	an and a star is the star of t	واین وکامی از ایشنار کی محمد میشد از مشکر مرابع الام	And Andrew Construction of the second		يرفر المراجع مقد التراجع	ວງ ເງິດ	
City			Sta	ite	unty				Zip	
City 6.1.B.	POTW Näme			1 10	ounty				Zip	
City 6.1.B. POTW A	POTW Name			10	unty				Zip	
City 6.1.B. POTW A City	Address		Sterner Sterner	ile- Cc	iunty				Zip	
City 6.1.B. POTW A City If-additic in this b	POTW Name Address	1.are at Irt II, Se	Ste Ste tached, indicate ction 6.1 page nu	ite Co ite Co the total numbr umber in this bo	ounty ounty ar of pages	(example: 1,2	,3, etc.		Zip	
City 6.1.B. POTW A City If-additic in this b SECTIO	POTW Name Address	1 are at int II, Se DTHEF	Ste Ste ttached, indicate ction 6.1 page nu 2 OFF-SITE LO	Ite Co Ite Co Ite Co Ite Co Ite Ital number Imber in This bo DCATIONS	ounty ounty ar of pages	(example: 1,2	,3; etc.		Zip	
City 6.1.B. POTW A City If-additic in this b SECTIC 6.2. <u>1</u> Off-Site I	POTW Name Address and Indicate the Pa ON 6.2 TRANSFERS TO C Off-Site EPA Identification Name ENVIROCA	1.are at irt II, Se DTHEF lumber RE OF L	Ste Ste ttached, indicate, ction 6.1 page nu R OFF-SITE LO (RCRA ID No.) JTAH, INC.	ate Cc ate Cc fhe total numbs umber in this bo DCATIONS	ounty ounty ar of pages >x T982598898	(example: 1,2	,3; efc.		Zip	
City 6.1.B. POTW A City If-additic in this b SECTIC 6.2.1 Off-Site I	POTW Name Address onal pages of Part II, Section 6 pox and indicate the Pa ON 6.2 TRANSFERS TO 0 Off-Site EPA Identification N Location Name Address I80 EXIT 49 WES	1 are at irt II, Se DTHEF Jumber RE OF L	Ste Ste ttached, indicate ction 6.1 page nu <u>ROFF-SITE LO</u> (RCRA ID No.) JTAH, INC. ALT LAKE CITY	ate Co the total number umber in this bo DCATIONS	Dunty Dunty Ar of pages Dunty T982598898	(example: 1,2	,3; efc.		Zip	
City 6.1.B. POTW A City If-additic in this b SECTIO 6.2. <u>1</u> Off-Site I Off-Site I City C	POTW Näme Address Ponal pages of Part II, Section 6 Pox and indicate the Part ON 6.2 TRANSFERS TO CO Off-Site EPA Identification Name Location Name Address I80 EXIT 49 WES CLIVE	1 are at int II, Se DTHEF Jumber RE OF L T OF S/	Ste Ste thached, indicate, ction 6.1 page m ROFF-SITE LO (RCRA ID Ño.) JTAH, INC. ALT LAKE CITY BUT Coun	ate Co ate Co the total numbrumber in this bo DCATIONS	ounty ounty ar of pages >x T982598898	(example: 1,2	,3; efc.	84083	Zip	Country (Non-US)

EPA Form 9350-1 (Rev. 2/2004) - Previous editions are obsolete.

•

* For Dioxin or Dioxin-like compounds, report in grams/year

tά

/11/11 / 11 / 1 te T

sar

· .; /** ç. ĵ,

÷.,

		SPLCIFI			TION	ŕε	ATINGED	JĘ	TRI Facili 7 44 SD Toxic Ch Lead	ty ID N -\$L 2 enical	iumber 83 5 Catego	ly, or Ge	E D Meric Nam	A
SECTION 6.2	TRANSFE	RS TO OTH	IER OFF-S	SITE	LOCAT	ION	S (Continued))						
A. Total Transfe (enter range c	e rs (pounds/ye code** or estima	ear*) ate)	B. Basi (ente	is of E er code	stimate e)			C	. Type of Recycli	Wast ing/En	e Treatm ergy Re	nent/Dis covery	posal/ (enter code)
1. 49566.5			1.			м		1.	M65					
2. NA			2.					2.						
3.			3.				· · · ·	3.	•					
4.			4.			-	a una a la constante da constante Constante da constante da constant	4	,	· •	· · · ·	Ŧ	i en g	
6.2. <u>2</u> Of	f-Site EPA Ide	entification N	lumber (RCI	RA ID	No.)		COD98059118	4	αλαφιστου − α. Αι • ·		1 en.		The Case of the Ca	
Off-Site location	Name ON	YX ENVIRON	MENTAL SEI	RVICE	: S	•		``````````````````````````````````````		· · · · ·	'			1 - 54 5 - 5
Off-site Address	9131 EAS	SI 961H AVE										•	Country	1
City HENDEF	RSON	· ··· · · · · · · · · ·	State CC) [1	County	DEN	WER	P		Zip	80640		(Non-US)	т. е
Is location und	ter control of r	eporting fac	ility or parer	nt com	ipany?		e e e e e e e e e e e e e e e e e e e			Yes	S	X	No	
A. Total Transfe (enter range	ers (pounds/y code** or estim	ear*) nate)	B. Bas (ente	is of E er cod	Estimate e)		· · · · · · · · · · · · · · · · · · ·		. Type of Recycl	f Wast ling/Ei	e Treatr nergy Re	nent/Dis ecovery	posal/ (enter code	3)
1. 122.9	in the state of th		1. M	· · • ·	· .			1	M65	· · · · ·	* .		and standing	
2. 3.9	n an		2. M				·····	2.	M24			·		· · ·
3. NA	and a second s	(A) The same fitter in the set of the set				سم ودن در اد بد د بروی		3,		÷.			्र प्रत्यक्षे र	
4.		به مستثنی و بیرو . در افسانه از بیرو .	4.		na ne sa	t akur	••• · · ·	4.	-		-			
SECTION 7A	A. ONSITE V	NASTE TR	EATMENT	ME	THODS	AN		Y						
Not Apr	nlicable (NA) -	Check here if	no on-site wa	este tre	eatment is	s app	lied to any	••••••				······································		
a. General Waste Stream (enter code)	b. Wast ente	e Treatment M r 3-character (Vethod(s) Sec code(s)]	quence	9		c. Range of Inf Concentratio	luent	d. Wast Effici Estin	te Trea ency nate	tment	e. Bas Ope	ed on erating Dat	a?
7A.1a	7A.1b		Č09	2	P12	e son die Arts TS	7A.1c		- 29. 19. 7	A.1d		· ···	7 A :1	earson Dingen
W	3 P31		NA	5 8	an an fairtean fairte An fairtean f		, water and a set of the set of			76.	5 %		Yes	No
7A 2a	7A.25	1		2	1.5	e eger de l	∞ 7 A.2c		7	7A.2d			7A.2) <u>-</u>
	3 -	4		5			- · ·		4		%		Yes	No
7 <u>4</u> 3a	7A.3b	1		2		. 2	7A.3c			7A.3d			7A.3	
	3		مر قد مربع مربع مربع مربع مربع مربع مربع مربع	5	· · · · · · · · ·				2		% .		Yes	No
78.4	7A.4b	1	an a	2	····	-+-	74.40	×		74.44	w.,			
/ A.4a	-3	4		5			1			(A.40		h	Yas	 No
·	6	7		8		-					%			
		·····		2		+	7A.5c		-	7 A.5 d			7A.5	e
7A.5a	7A.5b	1	1	_										
7A.5a	7 A.5b 3			5							D/		Yes	No

and indicate the Part II, Section 6.2/7A page number in this box:

* For Dioxin or Dioxin-like compounds, report in grams/year

EPA Form 9350-1 (Rev. 2/2004) - Previous editions are obsolete.

** Range Codes: A= 1- 10 pounds; B= 11- 499 pounds; C= 500 - 999 pounds.

(example: 1,2,3, etc.)

		TRI Facility, ID Number 17 44SD L 2835 FPA Toxic Chemicai, Category, or Generic Name Lead
SECTION 6.2 TRANSFERS TO OT	HER OFF-SITE LOCATIONS (Continue	d)
A. Total Transfers (pounds/year*) (enter range code** or estimate)	B. Basis of Estimate (enter code)	C. Type of Waste Treatment/Disposal/ Recycling/Energy Recovery (enter code)
1	1.	1.
2.	2.	2.
3.	3.	3.
4.	4.	. 4
6.2. 3 Off-Site EPA Identification N	lumber (RCRA ID No.) CAD0084880	
Off-Site location Name PHIBRO-TECH,	INC.	
Off-site Address 8851 DICE ROAD	·····	1992 - Carlos Carlos Carlos Carlos
City SANTA FE SPRINGS	State CA County LOS ANGELES	Zip 90670 Country (Non-US)
Is location under control of reporting fac	ility or parent company?	Yes X No
A. Total Transfers (pounds/year*) (enter range code** or estimate)	B. Basis of Estimate (enter code)	C. Type of Waste Treatment/Disposal/ Recycling/Energy Recovery (enter code)
1. 4.1	1. M	1. M65
2. NA	2.	2,
1. 3. Construction of the second sec second second sec	3.	. The second
4. <u>.</u>	4.	4.
SECTION 7A. ONSITE WASTE TR	EATMENT METHODS AND EFFICIENC no on-site waste treatment is applied to any	2 Y
a. Général b. Waste Treatment Waste Stream [enter 3-character (enter code)	a containing the toxic chemical or chemical categories Method(s) Sequence c. Range of a code(s)] Concentra	y. nfluent d. Waste Treatment e. Based on Efficiency Estimate Operating Data ?
7A.6a 7A.6b 1	27A.6c	7A.6d
a 3 <u>4</u>	5	% Yes No
7A 7a 7A.7b 1	- 2 7A.7c	7A.7d 7A.7e
3 4	5	% Yes No
7A.8a 7A.8b 1	2 7A.8c	7A.8d 7A.8e
3	5	% Yes No
7A 02 7A.9b 1	2 74.00	74.9d
3 4	5	Yes No.
6 7	8	70
7A.10a 1	2 7A.10c	7A.10d 7A.10e
3 4 6 7	5 8	% Yes No
If additional pages of Part II, Section 6.2/7/ and indicate the Part II, Section 6.2/7A pag	A are attached, indicate the total number of page and the second se	ges in this box 9 ,2,3, etc.)

EPA Form 9350-1 (Rev. 2/2004) - Previous editions are obsolete.

.*

* For Dioxin or Dioxin-like compounds, report in grams/year

FILE CHEMICAL PPACIFIC	ORMR OF SINFORMATION CONTINUED	TRI Facility, ID Number 1744SD L 283 PPA Toxic Chenhicai, Category, or Generic Name Lead
SECTION 6.2 TRANSFERS TO OTH	ER OFF-SITE LOCATIONS (Continued	
A. Total Transfers (pounds/year*) (enter range code** or estimate)	B. Basis of Estimate (enter code)	C. Type of Waste Treatment/Disposal/ Recycling/Energy Recovery (enter code)
1.	1.	1.
2.	2.	2.
3.	3.	3.
4.	4.	4.
6.2. <u>4</u> Off-Site EPA Identification Nu	Imber (RCRA ID Nc.) TXD98808846	
Off-Site location Name WASTE CONTROL	L SPECIALISTS	
Off-site Address 9998 HIGHWAY 176 WE	ST 、	n an
City	State TX County ANDREWS	Zip 79714 Country (Non-US)
Is location under control of reporting facili	ity or parent company?	Yes X No
A. Total Transfers (pounds/year*) (enter range code** or estimate)	B. Basis of Estimate (enter code)	C. Type of Waste Treatment/Disposal/ Recycling/Energy Recovery (enter code)
1. 2.6	1. M	1. M65
2. NA	2.	
	3	3.
4	4.	4.
SECTION 7A. ONSITE WASTE TRE	ATMENT METHODS AND EFFICIENC	Υ
Not Applicable (NA) - Check here if n waste stream c	to on-site waste treatment is applied to any containing the toxic chemical or chemical category	
a. General b. Waste Treatment Me Waste Stream [enter 3-character co (enter code)	ethod(s) Sequence c. Range of In ode(s)] Concentrati	fluent- d. Waste Treatment on Efficiency Operating Data ? Estimate
7A.11a 7A.11b 1	2 7A.11c	7A.11d 7A.11e
	5 1 1 1 1 1 1	%
7A.12a 7A.12b 1	2 7A.12c	7A.12d 7A.12e
3 4	5	% Yes No
6 7	8	
7A.13a 7A.13b 1	2 7A.13c	7A.13d 7A.13e
	5 	
7 140 7A140 1	2 7A 140	
	5	Yes No
7A.15a 7A.15b 1	2 7A.15c	7A.15d 7A.15e

If additional pages of Part II, Section 6.2/7A are attached, indicate the total number of pages in this box 3 (example: 1,2,3, etc.)

5

8

and indicate the Part II, Section 6.2/7A page number in this box:

3

6

۰.

* For Dioxin or Dioxin-like compounds, report in grams/year

9

%

Yes

No

EPA Form 9350-1 (Rev. 2/2004) - Previous editions are obsolete.

4

7

· • ;

FILE		SPLCIFI	ORM C INF	R		Į£),t.inSelf		44SD bxic Che	ty, ID N L L 2 en licai,	lumber 835 Catego	y, or G	Peneric Nan	A	
SECTION 6.	2 TRANSFER	<mark>s то</mark> от⊦	IER OF	F-SITE	LOCAT	IONS	6 (Continued)								
A. Total Transfers (pounds/year*) (enter range code** or estimate)				B. Basis of Estimate (enter code)					C. Type of Waste Treatment/Disposal/ Recycling/Energy Recovery (enter code)						
1				1.					1.						
2				2.					2.						
3.				3.					3.						
4.				4.					4.						
6.2. <u>5</u> O	ff-Site EPA Ider	ntification N	umber (RCRA I	D No.)		UTD981552177		· .	· · · . ·	· · ·	1 10 an 10			
Off-Site location	Name CLEA	AN HARBOR	RS ARAG	ONITE L	ĹĊ	•						, *	-		
Off-site Address	5 11600 NOF	TH APTUS	ROAD		• • • • •		, hitta	• •• •	· · · ·				ti ti ya sifaa yaa	····. *	
City ARAGONITE				עד	County	тос	ELE	· · · · · ·	· · · · ·	Zip	84029	ه محموريو فر ^{سري} و مرر	Countr (Non-U	y \$)	
Is location under control of reporting facili				arent_co	mpany?		ین یا در ان اور	···		Yes	5	X	No	na i Tara na i	
A. Total Transfers (pounds/year*) (enter range code** or estimate)				Basis of (enter co	Estimate de)			С.	Type of Recycl	Wast ing/Er	e Treatn hergy Re	nent/Di covery	sposal/ (enter co	de)	
1. 1088				-1. M					1. <u>M65</u>						
2. NA				2.					2.						
3.				3.					3.						
4.	wara annawa r tana		4.		* .		· · · · · · · · · · · · · · · · · · ·	4.		• .		·			
SECTION 7	A. ONSITE W	ASTE TR	EATME	ENTIME	THODS	AND	EFFICIENCY	,		a 1.,				· · · ·	
Not Ap	plicable (NA) - w	heck here if	no on-sit	e waste to	treatment is	appli	ed to any		N• <u>-</u>	141	n Naciona	ு காட்சி அன்னே கே	an star Géli Santas	and the second s	
a. General b. Waste Treatment Me Waste Stream [enter 3-character co (enter code)) Sequen	Cé	1. 	c. Range of Influent Concentration		d. Waste Treatment Efficiency Estimate		tment	e. Based on Operating Data ?			
7A.16a	7A.16b	1	• • • •	2			7A.16c	*****	~	A 16d	an in the second	na National States	<u>,7</u> A.	16e	
· · ·	3	• 4 7		5		···· •	n de de la composición de la composición En composición de la c		a ::: ``		%	Yes No			
7 Δ 17a	7A.17b	D [*] ***********************************		-2-			7A.17c	-1	7A.17d			7A.17e			
	3			5				•••	· · · · · · · · · · · · · · · · · · ·		Yes No				
7A 18a	7A.18b	1					7A.18c		- 7	A-18d	e (* * .			18e	
	3	4	- 04-57 - 5' - 5' - 5'	5					- 0/ ···			Yes No.			
·····	6	7		8		:-				~	~~~	1.87 × 75			
7A.19a	7A.19b	1	·····	2 .1			7A.19c		.	A.19d		<u> </u>	7 A ,	19e	
	3			5		-				,t	%		Yes	- No	
7A 20a	7A.20b	1		2			7A.20c		7	'A.20d		.	 7A	.20e	
	3	4		5							%		Yes	No	

* For Dioxin or Dioxin-like compounds, report in grams/year

EPA Form 9350-1 (Rev. 2/2004) - Previous editions are obsolete.

۰.
									Page 4 of 5
	<u></u>		ODME	- h		10.		Facility, ID Number	
<u>-110</u>	Lob		URIVIR	10°	NC	M SL		450-1 L 2835) E PA
ART II. CHI	EIMCAL SI	PJ:CIFI	C INFUr	RMATION	1 100	NINGEDT	foxic	c Chemicai, Catego	ry, or Generic Name
							Lead		
SECTION 6.2	TRANSFERS	то отн	IER OFF-	SITE LOCA	TION	S (Continued)	r		
A. Total Transfer (enter range co	rs (pounds/year*) ode** or estimate)	1	B. Bas (ente	is of Estimat er code)	e		C. Typ Re	e of Waste Treatn cycling/Energy Re	nent/Disposal/ covery (enter code)
1.			1.				1.		
2.			2.				2.		
3.			3.			·	3.		
4.			4.				4.	~	
6.2. <u>6</u> Off-	-Site EPA Identif	ication N	umber (RC	RA ID No.)		TND982109142	•	7 1	
Off-Site location I	Name DIVERS	SIFIED SC	IENTIFIC					· · ·	
Off-site Address	657 GALLAHI	ER RD						n na ser a	a an
	I		State TN		RO/	ANF		Zip 37763	Country
Is location unde	er control of repo	ortino faci	lity or parer	nt company?			· · · · · · · · · · · · · · · · · · ·	Yes	
A. Total Transfe	rs (pounds/year*) ,	B. Bas	sis of Estimat	e da	<u></u>	С. Ту	pe of Waste Treat	ment/Disposal/
1, 03			1. M	er code)		a kala na ji a ada	1 M	65	ecovery (enter code)
2. NA			2.	······································		, 1944-000 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2.	•••	and a second
3.	s na mai		3.				3.	· · · · · · · · · · · · · · · · · · ·	
4.	y n an in a litera i		4.		- X4	<u> </u>	4.		<u> </u>
SECTION 7A	. ONSITE WA	STE TRI	EATMENT	METHOD	S ANI		 		
Not Appl	licable (NA) - Che	ck here if	no on-site w	aste treatmen	t is appl	lied to any		-	
General	b. Waste Tr	te stream eatment N	containing tr lethod(s) Se	auence	cal or c	c. Range of Influ	uent d.	Waste Treatment	e. Based on
Waste Stream (enter code)	[enter 3-c	character c	code(s)]	1		Concentration	n (Efficiency Estimate	Operating Data?
7A.21a	7A.21b	1		. 2		7A.21c	andra An Statistica An Statistica	7A.21d	7A.21e
	3	4		5		· · · ·		~ %	Yes No
- 10	6	7		8		74 00-		76 224	
7A.22a		┑╎┝	<u>.</u>	2 <u></u>	······			17,224	Yes No
	6	+ ,		8		94 2	ŕ	% -	
7A.23a	7A.23b	1		2		7A.23c		7A.23d	.7A.23e
	3	4		5				····· · ··· ··· ··· ··· ··· ··· ··· ··	Yes No
	6	7		8					
7A.24a	7A.24b		· · · · · · · · · · · · · · · · · · ·	2		7A.24c		7A.24d-	7A.24e
	3	4 4		5				%	Yes No
74 65	6 7A.25b			8		74.00-		78.05-	
/A.25a	3	┐╻┝		5		(A.25C		/ A.200	7A.259
	6	1, j		8				%	
	<u> </u>			- 1		1	1		L

If additional pages of Part II, Section 6.2/7A are attached, indicate the total number of pages in this box and indicate the Part II, Section 6.2/7A page number in this box: 5 (example: 1,2,3, etc.)

indicate the Part II, Section 0.2/7A page humber in this box

* For Dioxin or Dioxin-like compounds, report In grams/year

9

EPA Form 9350-1 (Rev. 2/2004) - Previous editions are obsolete.

~ ~ •••.

	-	-			-	-	Lead		
SECTION 6.	2 TRANSFER	б ТО О ТН	ER OFF-SIT	ELOCAT	IONS (Cont	inued)			
• Total Transf (enter range	ers (pounds/yea code** or estimate	(*))	B. Basis ((enter c	of Estimate ode)			C. Type of Was Recycling/E	te Treatme nergy Reco	nt/Disposal/ overy (enter code)
			1.				f		
Σ.			2.			1	2.		-
3.			3.		-		3.	,	a suranna a
I.			4.		, ,		4.		
6.2. <u>7</u> O	ff-Site EPA Iden	tification Nu	mber (RCRA	ID No.)	TNR00	0005397	····		
Off-Site location	Name MATE	RIAL AND E	NERGY		· ·				······································
Off-site Addres	s 2010 HIGH	VAY 58-SUIT	E 1020		· · · · · · · · · · · · · · · · · · ·	· · · ·	· · · · · · · · · · · · · · · · · · ·		
City OAK RI	DGE	na mana y 12 ang taona 1 12 ang taona 1	State TN	County	ANDERSON	ي کې د ده. د يومونو د م	Zip	37830	(Non-US) –
Is location un	der control of re	porting facili	ty or parent of	company?		e any e La seconda	Ye	s [X No
A. Total Trans (enter range	fers (pounds/yea code** or estimat	r*) <u>101 7</u> . e) <u>111 7</u> .	B. Basis (enter	of Estimate code)		ч	C. Type of Was Recycling/E	te Treatme nergy Rec	ent/Disposal/ overy (enter code)
1. 0	Contract No. 2004 Contract Section 11		-1. M	* * *			1. M65	einen auf an	na cara cara cara cara cara cara cara ca
2. NA	· · · · · · · · · · · · · · · · · · ·		2.				2	·····	
3.	and a first strategy whereast		3.				3		ى
4.			4.	·	, utilities and		4		and a constant of the second second
SECTION 7	A. ONSITE W pplicable (NA) - Cl w b. Waste [enter 3	ASTE TRE neck here if n aste stream o Treatment M a-character co	o on-site waste containing the t ethod(s) Seque ode(s)]	e treatment is oxic chemica	AND EFFIC applied to any l or chemical c c. Ran Con	ategory.	it d. Waste Tre Efficiency Estimate	atment	e. Based on Operating Data ?
7A 260	7A.26b	1			7	A 26c		<u></u>	7A 26e
17,200	3		·	5				%	Yes N
74.07-	7A.275	<u> </u>	<u>۲</u>)	7	A.27c	7A.27	d l	7A.27e
(A.2/a	3			; 				**************************************	Yes N
7A.28a	7A.28b	<u> </u>	E	3 2 2	···· ·	A.28c	7A.28	d	
	3	4		;				%	Yes
	6 7A 20b	7	3	3		· · · ·			
7A.29a			2	: 	· <u>~ 7</u> .	A.29c	7A.29	d	7A.29e
	6	- 4 -	⁵	`				%	Yes N
7A.30a	7A.30b	1		2	7	A.30c	7A.30	d	7A.30e
	3	_ ₄ [;				%	Yes N
	1	1 1			11		1	79	

EPA Form 9350-1 (Rev. 2/2004) - Previous editions are obsolete.

For Dioxin or Dioxin-like compounds, report in grams/year

	.01110111				Lead	
ECTION 6.2 TRANSFERS TO	OTHER C	OFF-SITE LO	CATIONS	G (Continued)		
. Total Transfers (pounds/year*) (enter range code** or estimate)	В	. Basis of Estir (enter code)	nate		C. Type of Waste Treatme Recycling/Energy Rec	ent/Disposal/ covery (enter code)
•	1.				1.	
•	2.				2.	
	3.				3.	
	4.				4.	
.2. 8 Off-Site EPA Identifica	ation Number	r (RCRA ID No).)	AZ0000337360		
ff-Site location Name ONYX SP	ECIAL SERVI	CESINC	. .			
ff-site Address 5752 W JEFFEF	SON ST				· · · · · · · · · · · · · · · · · · ·	
	State	AZ Cou	nty MAR	ICOPA	Zip 85043	(Non-US)
s location under control of reporti	ng facility or	parent compa	ny?		Yes	× No
. Total Transfers (pounds/year*) . (enter range code** or estimate)	- B	Basis of Estin (enter code)	mate		C. Type of Waste Treatm Recycling/Energy Re	ent/Disposal/ covery (enter code)
. 7.5	1.	М			1. M24	an a
. NA	2.		×		2.	
	3.			-	3	an a
•	4.			1 F - H	4.	
Not Applicable (NA) - Check waste General b. Waste Trea Waste Stream [enter 3-cha (apter code) [enter 3-cha	here if no on-s stream contair tment Method tracter code(s)	site waste treatn ning the toxic ch (s) Sequence	nent is appli emical or ch	ed to any emical category. c: Range of Influe Concentration	ent d. Waste Treatment Efficiency Estimate	e. Based on Operating Data?
7A 210 7A.31b	1	2 .		7A.31c	7A 31d	74 316
	4	5				Yes No
3	7	8			%~~~~	
6	1	2	· · ·	7A.32c	7A.32d	7A.32e
3 6 7A.32a 7A.32b						Yes No
3 6 7A.32a 7A.32b 3	4	5			· · % = ·~	- 1
3 6 7A.32a 3 6 3 6	4	5 8		· · · · ·		
3 6 7A.32a 7A.32b 3 6 7A.33a	4	5 2		7A.33c	% 7A.33d	7A.33e
3 6 7A.32a 7A.32b 3 6 7A.33a 7A.33b 3 3 6	4 7 1 4 7	5 8 2 5 8		7A.33c	% 7A.33d	7A.33e Yes No
3 6 7A.32a 7A.32b 3 6 7A.33a 7A.33b 3 6 7A.33a 7A.33b 3 6 7A.33a 7A.33b	4 7 1 4 7	5 8 2 5 8 2		7A.33c	7A.33d	7A.33e Yes No 7A 34e
3 6 7A.32a 7A.32b 3 3 6 7A.33b 7A.33a 7A.33b 3 6 7A.33a 7A.34b 3 3 6 7A.34a 3 3	4 7 1 4 7 1 4 4	5 8 2 5 8 2 5 5 5 5 5		7A.33c 7A.34c	% 7A.33d % 7A.34d	7A.33e Yes No 7A.34e Yes No
3 6 7A.32a 7A.32b 3 3 6 7A.33a 7A.33a 7A.33b 3 6 7A.33a 7A.33b 3 6 7A.34a 7A.34b 3 6 6 6	4 7 1 4 7 1 4 7	5 8 2 5 8 2 		7A.33c 7A.34c	%	7A.33e Yes No 7A.34e Yes No
3 6 7A.32a 7A.32b 3 3 6 7A.33a 7A.33a 7A.33b 7A.33a 7A.33b 7A.33a 7A.33b 3 6 7A.34a 7A.34b 3 6 7A.35a 7A.35b	4 7 1 4 7 1 4 7 1 4 7	5 8 2 5 8 2 		7A.33c 7A.34c 7A.35c	% 7A.33d % 7A.34d % 7A.35d	7A.33e Yes No 7A.34e Yes No O
3 6 7A.32a 7A.32b 3 3 6 7A.33b 7A.33a 7A.33b 7A.33a 7A.33b 3 6 7A.34a 7A.34b 3 6 7A.35a 7A.35b 3 3	4 7 1 4 7 1 4 7 1 4 7 1 4 7	5 8 2 5 8 2 5 8 5 8 2 5 5 8 2 5 5 5 5		7A.33c 7A.34c 7A.35c	%	7A.33e Yes No 7A.34e Yes No 7A.35e Yes No

EPA Form 9350-1 (Rev. 2/2004) - Previous editions are obsolete.

• •

* For Dioxin or Dioxin-like compounds, report in grams/year

Page	4	of	5
------	---	----	---

ART IF CHEMICAL SPECI	FIC INFORMATION CONTI	NUED	
SECTION 6.2 TRANSFERS TO O		Lead	
A Total Transfers (pounds/year*)	B. Basis of Estimate	C. Type of Waste Treat	ment/Disposal/
(enter range code** or estimate)	(enter code)	Recycling/Energy R	ecovery (enter code)
1.	1.	1.	
2	2.	2.	
3.	3.	3.	
4.	4.	4.	
6.2. 9 Off-Site EPA Identification	Number (RCRA ID No.) FLD	980711071	
Off-Site location Name			
Off-site Address 1940 NW 67TH PLAC	DE		
City GAINESVILLE	State FL County ALACHU	-Zip 32653	Country (Non-US)
Is location under control of reporting fa	acility or parent company?	Yes	X No
A-Total Transfers (pounds/year*) (enter range code** or estimate)	B. Basis of Estimate (enter code)	C. Type of Waste Treat Recycling/Energy R	ment/Disposal/ tecoverv (enter code)
1. 0.5	1. M	1. M65	
2. NA	2.	2.	
3.	3	3.	
4.	4.	4.	· ·
Not Applicable (NA) - Check here waste stream General b. Waste Treatmer Waste Stream (enter code) [enter 3-character	REATMENT METHODS AND EFF if no on-site waste treatment is applied to a im containing the toxic chemical or chemica it Method(s) Sequence	ICIENCY any I category. ange of Influent oncentration Efficiency Estimate	e. Based on Operating Data?
	where we were service and the service		a state when the second state and a state of the second state of t
7A.36a 7A.36b 1	2	7A.36c 7A.36d	7A.36e
7A.36a 7A36b 1		7A.36c 7A.36d %	7A.36e Yes No
7A.36a 7A.36b 1 3 4 6 7 7A.37b 1		7A.36c 7A.36d %	7A.36e Yes No 7A.37e
7A.36a 7A.36b 1 3 4 6 7 7A.37a 7A.37b 1 3 4 6 7		7A.36c 7A.36d % % 7A.37c 7A.37d % %	7A.36e Yes No 7A.37e Yes No
7A.36a 7A.36b 1 3 4 6 7 7A.37a 7A.37b 1 3 4 6 7 7A.37a 7A.37b 1 3 4 6 7 7A.37a 7A.37b 1 3 4 6 7 7A.38a 7A.38b 1		7A.36c 7A.36d % % 7A.37c 7A.37d % % 7A.38c 7A.38d	7A.36e Yes No 7A.37e Yes No 7A.38e
7A.36a 7A.36b 1 3 4 6 7 7A.37a 7A.37b 1 3 4 6 7 7A.37a 7A.37b 1 3 4 6 7 7A.37a 7A.37b 1 3 4 6 7A.38a 7A.38b 1 3 4 4		7A.36c 7A.36d % % 7A.37c 7A.37d % % 7A.38c 7A.38d	7A.36e Yes No 7A.37e Yes No 7A.37e Yes No 7A.38e Yes No
7A.36a 7A.36b 1 3 4 6 7 7A.37a 7A.37b 1 3 4 6 7 7A.37a 7A.37b 1 3 4 6 7 7A.37a 7A.37b 1 3 4 6 7 7A.38a 7A.38b 1 3 4 6 7		7A.36c 7A.36d % % 7A.37c 7A.37d % % 7A.38c 7A.38d % %	7A.36e Yes No 7A.37e Yes No 7A.37e Yes No 7A.38e Yes No Yes No
7A.36a 7A.36b 1 3 4 6 7 7A.37a 7A.37b 1 3 4 6 7 7A.37a 7A.37b 1 3 4 6 7 7A.38a 7A.38b 1 3 4 6 7 7A.38a 7A.38b 1 3 4 6 7 7A.39a 1		7A.36c 7A.36d % % 7A.37c 7A.37d % % 7A.38c 7A.38d % % 7A.39c 7A.39d	7A.36e Yes No 7A.37e Yes No 7A.37e Yes No 7A.38e Yes No 7A.38e Yes No 7A.38e Yes No 7A.38e Yes Yes No 7A.39e Yes
7A.36a 7A.36b 1 3 4 6 7 7A.37a 7A.37b 1 3 4 6 7 7A.37a 7A.37b 1 3 4 6 7 7A.38a 7A.38b 1 3 4 6 7 7A.38a 7A.38b 1 3 4 6 7 7A.39a 7A.39b 1 3 4		7A.36c 7A.36d % % 7A.37c 7A.37d % % 7A.38c 7A.38d % % 7A.39c 7A.39d % %	7A.36e Yes No 7A.37e Yes No 7A.37e Yes No 7A.38e Yes No 7A.38e Yes Yes No Yes No Yes No Yes No
7A.36a 7A.36b 1 3 4 6 7 7A.37a 7A.37b 1 3 4 6 7 7A.37a 7A.37b 1 3 4 6 7 7A.38a 7A.38b 1 3 4 6 7 7A.39a 7A.39b 1 3 4 6 7 7A.39a 7A.40b 1		7A.36c 7A.36d % 7A.37c 7A.37c % 7A.38c 7A.38c % 7A.39c 7A.39d %	7A.36e Yes No 7A.37e Yes No 7A.37e Yes No 7A.38e Yes No 7A.38e Yes No 7A.38e Yes No Yes No 7A.39e Yes Yes No 7A.39e Yes
7A.36a 7A.36b 1 3 4 6 7 7A.37a 7A.37b 1 3 4 6 7 7A.37a 7A.37b 1 3 4 6 7 7A.37a 7A.37b 1 3 4 6 7 7A.38a 7A.38b 1 3 4 6 7 7A.39a 7A.39b 1 3 4 6 7 7A.40a 7A.40b 1		7A.36c 7A.36d % % 7A.37c 7A.37d % % 7A.38c 7A.38d % % 7A.39c 7A.39d % % 7A.40c 7A.40d	7A.36e Yes No 7A.37e Yes No 7A.37e Yes No 7A.38e Yes No 7A.38e Yes No 7A.39e Yes No 7A.39e Yes No 7A.40e Yes

EPA Form 9350-1 (Rev. 2/2004) - Previous editions are obsolete.

٠.

* For Dioxin or Dioxin-like compounds, report in grams/year

he in lati. Gint

		•		•	•	Lead		
SECTION 6.	2 TRANSFERS	то отн	ER OFF-SITE		NS (Continued)		
. Total Transf (enter range	ers (pounds/year*) code** or estimate)		B. Basis of (enter co	Estimate de)		C. Type o Recyc	f Waste Treatm ling/Energy Red	ent/Disposal/ covery (enter code)
•			1.			1.		
2.			2.			2.		
			3.		<u>,</u>	3.		• · · ·
l,			4.		vå•	4.		·-
5.2. <u>10</u> O	ff-Site EPA Identil	ication Nu	umber (RCRA I	D No.)	NA	s voten i	· · ·	
Off-Site location	Name LOS AL	AMOS CC	UNTŸ LANDFILI	<u>L</u>		· ·		
Off-site Addres	s EAST JEMEZ	ROAD		······	2 5 220	· · · ·	· · · ·	· · · · · · · · · · · · · · · · · · ·
City LOS AL	AMOS		State NM	County LC	SALAMOS	مەدىچىي ئىس بىر دۇر	Zip 87544	Country (Non-US)
s location un	der control of repo	orting facil	ity or parent co	mpany?] Yes	X No
A. Total Trans (enter range	fers (pounds/year* code** or estimate)	B. Basis of (enter co	Estimate de)	and a second and a second and a second	C. Type o Recyc	of Waste Treatm ling/Energy Re	ent/Disposal/ covery (enter code)
l. `1.24			1. M	· · ·	* * *	1. M64		
2. NA			2.	*	•	2.		· · · · · · · · · · · · · · · · · · ·
3.	· · · · ·		3.	· .		3.		
4.		+	4.			4.		
SECTION 7	A. ONSITE WA	STE TRE	EATMENT ME	THODS AN		Y 11		· · · · · · · · · · · · · · · · · · ·
Not Ar	Che	ck here if r	o on-site waste	treatment is ap	plied to any	• •	an a	utan en anteresta.
General Waste Strear (enter code)	b. Waste Tr n [enter 3-0	eatment M character c	ethod(s)-Sequen ode(s)]		chemical category	iflûent d. Was ion Effic Estin	te Treatment siency	e. Based on Operating Data ?
7 A 41a	7A.416	1	2		7A.41c		7A.41d	7A.41e
	3	4	5	1 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		10. 10 ann - 10. 10	0/	Yes No
-	6	7	• 8				· 70	
7A.42a	7A.42b	- 1			7A.42c	······································	7A.42d	7A.42e
	3	· 4	5		-		~~ %	Yes No
· · · ·	6	7	8	-		·		
7A.43a		┑┊╎┝	: <u> 2</u>	- 	· · · · · · · · · · · · · · · · · · ·		7A.43d	. 7A.43e
	6				112 124 13 142 142 142	·	%	
74 442	7A.44b	. 1	-2		7A.44c	-	7A.44d	7A.44e
	3] ₄ [5	· · · · ·				Yes No
	6	7	8				%	
7A.45a	7A.45b	_ 1	2		7A.45c		7A.45d	7A.45e
	3	4	5				%	Yes No
		1 - 1	•	I	1	1		

EPA Form 9350-1 (Rev. 2/2004) - Previous editions are obsolete.

* For Dioxin or Dioxin-like compounds, report in grams/year

	8. 		ŧ .		TRI Facility ID Numt)er
	10 CONEPAR	N ~ (A MAR	Int	\mathbf{C}	19794 SELED283	NEPA
PAR	TW. CHEMICAL SPECIFIC	INFORMATION	I/ce/i/	INUED	Ackic Chernicel, Ca	egory, or Generic Name
	k. 🛫			_	Lead	
SECTI	ON 7B. ON-SITE ENERGY REC	OVERY PROCESS	SES			
X	Not Applicable (NA) - Check here stream conta	if no on-site energy reco aining the toxic chemical	very is appli or chemica	ed to any waste category.		
	Energy Recovery Methods [enter 3-charac	cter code(s)]				
	1	2			3	
SECTI	ION 7C. ON-SITE RECYCLING	PROCESSES				
X	Not Applicable (NA) Check here	if no on-site recyling is a	pplied to any	/ waste		
	stream conta	aining the toxic chemical	or chemica	category.		• · · · · · · ·
1	Recycling Methods [enter-3-character cod	ie(s)]	و المربق		i kan ing panganan kan kan sa	
1	2	- 3		4.6.	5	
6	7	8		9	- 11)
SECT	ION 8. SOURCE REDUCTION A		CIIVIIIE	5	t s coltra se se	
		Golumn A Prior Year	Co Current R	lumn B eporting Year	Column C Following Year	Column D - Second Following Year
		(pounds/year*)	(pou	nds/year*)	(pounds/year*)	(pounds/year*)
8.1		なるない。		3743169134	Sector Contractions	and an
8.1a	Total on-site disposal to Class I Underground Injection Wells, RCRA Subtitle C landfills, and other landfills	NA	NA		NA	NA
8.1b	Total other on-site disposal or other releases	9907.8	5966	3	5000	4000
8.1c	Total off-site disposal to Class I Underground Injection Wells, RCRA Subtitle C landfills, and other landfills	113.6 <u>413.6</u>	8238	.1 .	8000	-8000
8.1d	Total other off-site disposal or other releases		NA	د مربع توجه الدار به زندیه از ا	NA	
8.2	Quantity used for energy recovery.	NA STATISTICS	NA		NA	
8.3	Quantity used for energy recovery offsite	NA	NA	*	NA	NA we have
.8.4	Quantity recycled onsite	NA	-NA	galang ana	NA	- NA
8.5	Quantity recycled offsite	30.1	15.	5	- 20	20
8.6	Quantity treated onsite	NA	NA		NA	NA
87	Quantity treated offsite	NA	NA		NA	NA
8.8	Quantity released to the environment as or one-time events not associated with r	a result of remedial action production processes (po	ions, catastr punds/vear)	ophic events,	42544	
8.9	Production ratio or activity index	17 - 75 - 17 -	~ =		0.70	
	Did your facility engage in any source re enter "NA" in Section 8.10.1 and answer	duction activities for this Section 8.11.	chemical d	uring the report	ng year? If not,	an ann
8.10	Source Reduction Activities [enter code(s)]		Methods to	dentify Activity	(enter codes) -	
8.10.1	W42	a . T05		b.	c	· · · · · · · · · · · · · · · · · · ·
8.10.2	NA	a.		b.	c	
8.10.3		a.		b.	c	
8.10.4		а.		b.	c	
		tion recycling or polluti	ion control a	ctivities		Ver No

. -

*For Dioxin or Dioxin-like compounds, report in grams/year

									Form	Approv	ved OMB	Numbe	er:2070-0093		
	TANT: Type or pr	int; re	ad instru	iction	s before complet	ing form	n)(r		Appro	val Exp	pires: 1/3	1/2006			Page 1 of t
Unite Envir Ager	ronmental Prot	ectio) p	Sectio (now Amen	on 313 of the E Act of 1986, a dments and Re) 5 merger Iso kno eautho	OF ncy Plan own as T rization	nnirig a Fitle III o Act	na Conmiur of the Super	ILY R fund		TRI Fac 37544S Toxic C Mercury	ility ID Number DLSL52895 hemical, Category	or Ge	DA neric Name
WHER	E TO SEND CON	PLE	TED FOI	RMS:	1. TRI Data Pro P.O.Box 1513 Lanham, MD	cessing 3 20703	Center	2. APP (See	ROPRIATE S instructions	STATE in App	OFFICE endix F)	· [-	Enter "X" here if th is a revision For EPA use only	nis	
Impo	ortant: See in	nstru	uction	s to	determine	wher	n "Not	Appl	icable (N	A)" b	oxes s	shou	ld be checke	d.	
				PAF	RT I. FACIL	ITY I	DENT	IFIC/	ATION IN	IFOF	RMATI	ON			
SEC	TION 1. REP	DRT	ING YI	EAR	2003	• •		······	× ** , * **		e e e e e e e e e e e e e e e e e e e		· · · · · · · · · · · · · · · · · · ·	ني بين م	
SEC	TION 2. TRAI	DE S	ECRE	T IN	FORMATION			`							
2.1	Are you claiming Yes (Answ Attac	the to er que h sub	xic chen estion 2. stantiation	nical id 2; on for	dentified on page	2 trade 0 (Do r Go to	e secret? not answ o Section	er 2.2; 1 3)	2.2	ls this (Answe	copy er only if	YES"	Sanitized	Un	sanitized
SEC	TION 3. CERT	IFIC		l (Im	portant: Rea	d and	signa	fter c	ompleting	all fo	orm sec	ctions			· · · · · · · · · · · · · · · · · · ·
I here inform using	by certify that I han nation is true and data availble to th	ive re compl ie pre	viewed t lete and parers o	he atta that ti f this	ached document he amounts and report.	s and th values i	nat, to th in this re	e best o port-are	f my knowled accurate bas	ge and ed on	l belief, th reasonab	ne subr ble estir	nitted nates		
Name	and official title of	owne	er/operat	or or i	senior managem	ent offic	cial:	Y chera -	• • • • • • • • • • • • • • • • • • •	S	ignature:				Date Signed:
Gene	Turner Office of F	acility	Ops.								·		en da da la	T2)6/24/2004
SEC	TION 4. FACI	ITY	IDEN'	IFIC	ATION	** .			1			,			- 14 - 14 - 14 - 14 - 14 - 14 - 14 - 14
4.1			1				···	TR	I Facility ID N	lumbe	r 875	44SDL	SL52835		
Facility	or Establishment Ne			MOS				- 120	inty of Establish	inent n				I SILEEL	address)
Street		iyy, L	<u>US ALA</u>	1000				Mai	ling Address			کرد : در در برد وحدود کرد ه	na (alian Anna an an Anna Anna Anna Anna	n yelen olara 1 yelen olara 1 mulany ji ji	ا انی تیمیهریون محد سیم ا ورتام مانی اس
528 35	5th Street			·			क्तकर्स हा	NA	an e e					 	
City/Co	ounty/State/Zip.Code		- à l'		· · · · · · · · · · · · · · · · · · ·	а <u>,</u> 28		. City	/State/Zip Code	8.4	، د معتبر بر . ر	nter meentrien	جد چینیشوند ایک دورا در ای		Country (Non-U
LOS A	LAMOS		LOS AL	.AMO	S.,	M 875	544				anta Pro	- .		and the second s	
4.2	This report con (Important: che	ains i ck a c	nformati or b; che	on for ck c o	: r d if applicable)	a	X	An ei facilit	ntire ty b.	F f	Part of a acility	c [X A Federal facility t	;. [
4.3	Technical Cont	act Na	ame	Ge	ne Tumer	z.		···	***************************************			Telep (505)	hone Number (incl 667-5794	ude a	ea code)
	Email Address			gtu	irner@lanl.gov	,						· -			
4.4	Public-Contact	Name	• •	Ģe	ne Turner		n aanto y kontra k		× ••		н н т	Telep (505)	hone Number (incl 667-5794	ude a	ea code)
4.5	SIC Code (s) (4	digit	5) ^m	-a.	Primary 9711	b	1. <u>1.</u>		с.	- d	•	· · ·	· · · · · · · · · · · · · · · · · · ·	f.	ال المراجع الم المراجع المراجع ا المراجع المراجع
	atitude	De	egrees		Minutes		Second	ts ar	Longitude		Degrees		Minutes		Seconds
4.0	Dun & Brodetre		35	FPA	49		51 I	- Ea		Permit	106		14	niectic	15 Well Code
4.7	Number(s) (9 di	gits)	4.8	RCR	(12 c	haracte	ers) 4 .	.9 Nu	mber(s) (9 cl	haracte	ers)	4.10	(UIC) I.D. Nurr	iber(s	(12 digits)
a. N	Α		a. NM	08900	010515		<u>a.</u>	NM00	28355			a. NA			
b.			b.				b.					b.			
SEC	TION 5. PARE	NT (COMP		INFORMATI	ON									
5.1	Name of Paren	t Con	ipany	<u>N</u>		U.S. D	EPARTI		OF ENERGY						
5.2	Parent Compar	19's D	un & Bra	adstre	et Number	NA									
EPA F	orm 9350-1 (Rev.	2/200	04) - Pr	evious	s editions are ob	solete.	Pri	nted usi	ng <i>TRI-ME</i>	RY20	03 4.4.13	3		6/22	2004 09:39 A

• -

•

<u>ن</u>د.

** 1 # - Tj ÷

------ . -9-22 1-2

F		PAFORN	PO NOT S	TRI Facility ID Nu TRI Facility ID Nu Transport	amber 3to EPA Category or Generic Name
SEC	TION 1. TOXIC CHEMIC	AL IDENTITY	(important: DO NOT co	mplete this section if you co	ompleted Section 2 below.)
1.1	CAS Number (Important: Enter only on 7439-97-6	e number exactly as	it appears on the Section 313 list. Enter	category code if reporting a chemic	cal category.)
1.2	Toxic Chemical or Chemical Category	Name (Important: E	nter only one name exactly as it appears	on the Section 313 list.)	
1.3	Generic Chemical Name (Important: C	omplete only if Part	1, Section 2.1 is checked "Yes". Generic	Name must be structurally descrip	tive.)
1.4 NA	Distribution of Each Member of (If there are any numbers in boxes 1-1) reported in percentages and the total s 1 2 3 4	f the Dioxin and 7, then every field m should equal 100%. 5 6	Dioxin-like Compounds Categor ust be filled in with either 0 or some num If you do not have speciation data availal 7 8 9 10	y. ber between 0.01 and 100. Distribution ble, indicate NA.) 11 12 13	ution should be
SEC	TION 2. MIXTURE COMP		TITY- (Important: DO NOT co	omplete this section if you c	ompleted Section 1 above.)
	Generic Chemical Name Provided by	Supplier (Important:	Maximum of 70 characters, including nur	nbers, letters, spaces, and punctua	ation.)
2.1	NA	т			restance in the second se
SECT	TION 3. ACTIVITIES AND (Important: Check a	USES OF TH	E TOXIC CHEMICAL AT TH		
3:1	Manufacture the toxic che	emical: 3.2	Process the toxic chemica	II: 3.3 Otherwise	use the toxic chemical:
8.	Produce b. In	nport	an hanna an an		n 1999 - San Alexandro and San Alexandr San Alexandro and San Alexandro and San San Alexandro and San
a des	If produce or import:	а.	As a reactant	a. As a cher	mical processing aid
: <u>1.5</u>	For on-site use/processin	ng b.	As a formulation componer	nt b. As a man	ufacturing aid
11 d.	For sale/distribution	с. С.	As an article component	c. X Ancillary	or other use
e.	As a byproduct	. d.	Repackaging		
f.	As an impunity	· · · · · · · · · · · · · · · · · · ·	As an impurity		
SEC	TION 4. MAXIMUM AMOU	NT OF THE T	OXIC CHEMICAL ONSITE	AT ANY TIME DURING	THE CALENDAR YEAR
4.1	[(Enter tw	/o-digit code fr	rom instruction package.)		and an and the state of the state
SEC	LION 5. QUANTITY OF TH	IE TOXIC CH	EMICAL ENTERING EACH	ENVIRONMENTAL ME	DIUM ONSITE
72			A. Total Release (pounds/year*). (Enter range code or estimate**).	B. Basis-of Estimate	C. % From Stormwater
5.1	Fugitive or non-point air emissions	NA	0.6***	n de l'étaire de E rectionen de	
-5.2	Stäck or point air emissions	NA	0.4		
5.3	Discharges to receiving stream water bodies (enter one name	ns or per box)			
-	Stream or Water Body N	lame	·· _		αν (¹ .)
5.3.1	ANCHO CANYON TRIBUTAR	Y TO RIO GRA	0	M	0
5.3.2	LOS ALAMOS CANYON TRIB	UTARY TO RIO	0	M	100
5.3.3	PAJARITO CANYON TRIBUTA	ARY TO RIO G	0	м	100
lf addi and in	itional pages of Part II, Section adicate the Part II, Section 5.3 p	5.3 are attached age number in t	l, indicate the total number of pag his box. 1 (examp	ges in this box [] le: 1,2,3, etc.)	2

EPA Form 9350-1 (Rev. 2/2004) - Previous editions are obsolete.

Noxin or Dioxin-like compounds, r

College Shine was been as a second

	PART II. CHEMICAL - SPECI	RONOT S	Sub	TRI Facility ID N 7744 St L SL 228 Toxic Chemical, Mercury	Category or Generic Name
SEC	TION 1. TOXIC CHEMICAL IDENTITY	(Important: DO NOT o	complete this	section if you c	ompleted Section 2 below.)
1.1	CAS Number (Important: Enter only one number exactly as	it appears on the Section 313 list. Ente	er category code	if reporting a chemi	ical category.)
1.2	Toxic Chemical or Chemical Category Name (Important: E	nter only one name exactly as it appear	s on the Section	313 list.)	
1.3	Generic Chemical Name (Important: Complete only if Part	1, Section 2.1 is checked "Yes". Gener	ic Name must b	e structurally descrip	ptive.)-
1.4 NA [Distribution of Each Member of the Dioxin and (If there are any numbers in boxes 1-17, then every field m reported in percentages and the total should equal 100%. 1 2 3 4 5 6	Dioxin-like Compounds Catego ust be filled in with either 0 or some nur If you do not have speciation data avail 7 8 9 10	D ry. mber between 0 lable, indicate N D 11	01 and 100. District A.) 12 13	Dution should be
SEC	TION 2. MIXTURE COMPONENT IDEN	TITY(Important: DO NOT	complete this	s section if you	completed Section 1 above.)
	Generic Chemical Name Provided by Supplier (Important:	Maximum of 70 characters, including n	umbers, letters,	spaces, and punctu	ation.)
2:1					· · · · · · · ·
SEC	TION 3. ACTIVITIES AND USES OF TH (Important: Check all that apply.)	E TOXIC CHEMICAL AT T	HE FACILI	TY	
3.1	Manufacture the toxic chemical: 3.2	Process the toxic chemic	cal: - 3.3	Otherwise	use the toxic chemical:
а.	Produce b. Import		-		······································
c. d. e.	If produce or import: a. For on-site use/processing b. For sale/distribution c. As a byproduct d.	As a reactant As a formulation compon As an article component Repackaging	ent b.	As a che As a ma Ancillary	mical processing aid nufacturing aid or other use
T.					
<u>SEC</u> 4.1	(Enter two-digit code fr	rom instruction package.)			THE CALENDAR TEAR
SEC.	TION 5. QUANTITY OF THE TOXIC CH	EMICAL ENTERING EACH		MENTAL ME	
· · · · · · · · · · · · · · · · · · ·	n an	A. Total Release (pounds/year* (Enter range code or estimate**) B. Basi) (ente	s of Estimate r code)	C. % From Stormwater
5.1	Fugitive or non-point air emissions		- ***	an a	
5.2	Stack or point air emissions NA				
5.3	Discharges to receiving streams or water bodies (enter one name per box)				
	Stream or Water Body Name		-		
5.3.1	PUEBLO CANYON TRIBUTARY TO RIO GRA	0 -		M	100
5.3.2	SANDIA CANYON TRIBUTARY TO RIO GRA	1.3 .		M	100
5.3.3	MORTANDAD TRIBUTARY TO RIO GRANDE	0		М	99
lf add and ir	itional pages of Part II, Section 5.3 are attached ndicate the Part II, Section 5.3 page number in t	I, indicate the total number of p his box. 2 (exam	ages in this l ple: 1,2,3, et	рох [с.)	2

EPA Form 9350-1 (Rev. 2/2004) - Previous editions are obsolete.

1

* For Dioxin or Dioxin-like compounds, report in grams/year

									Mercury					
SECTIC	ON 5. QUANTITY OF T	ГНЕ ТО		CHEMIC	AL EN	TERING E	ACH E	NVIRO	MENTAL	MED		NSITE	(Cont	inued
		NA	A A	. Total Re	elease (p	ounds/year*)) (enter ra	ange 1	B. Basis of I	Estima	te			
5.4.1	Underground Injection ons to Class I Wells	site X		× .										
5.4.2	Underground Injection ons to Class II-V Wells	site X				. e								
5.5	Disposal to land onsite		12										- 	
5.5.1.A	RCRA Subtitle C landfills	X			`.	·			••••••••••••••••••••••••••••••••••••••	۰. من ۲	•	-		
5.5.1.B	Other landfills	×		- "A" - S		•	******			· ·				
5.5.2	Land treatment/application farming	n X					·			محقہ با می			· · ·	
5.5.3A	RCRA Subtitle C Surface Impoundments	**************************************		وودید وسرولیوسی سرولی اور بر ایس ایس ایش ایش	، المثلثين ويتوسر ب ه . - 1990 منذ -	nite and a second of the second se	n talansaan Internation International		in the second		·	· · · · · · · · · · · · · · · · · · ·		, , , , , , , , , , , , , , , , , , ,
5.5.3B	Other surface impoundme	ents X	1			várstu, ande nie initia	1.00.7 K 7	n na series e se na series e		15	. <u></u>	· · · · · · · · · · · · · · · · · · ·		
5.5.4	Other disposal			0			у Шуша (с.		••••••••••••••••••••••••••••••••••••••			e trate	in in a state of the second se	
SECTIO 6.1 DIS 6.1.A To 6.1.A.1.	ON 6. TRANSFERS O SCHARGES TO PUBL otal Quantity Transferre Total Transfers (pound	F THE T ICLY-OV ed to PO ds/year*)	OXI WNE TWs	C CHEN D TREA and Bas	AICAL I	N WASTE T WORKS timate 6.1.A.2 I	S-TO C (POTV Basis of	OFF-SIT Ns) f Estima	E LOCATI	ONS				2
SECTIO 6.1 DIS 6.1.A TO 6.1.A.1.	ON 6. TRANSFERS O SCHARGES TO PUBL otal Quantity Transferre Total Transfers (pound (enter range code** or en	F THE T ICLY-OV ed to PO ds/year*) stimate)	OXI WNE TWs	C CHEN D TREA and Bas	ATMEN	N WASTE T WORKS timate 6.1.A.2 I	S-TO C (POTV Basis of enter co	DFF-SIT Ws) f Estima ode)	E LOCATI					2
SECTIO 6.1 DIS 6.1.A To 6.1.A.1. 6.1.B. 1	ON 6. TRANSFERS O SCHARGES TO PUBL otal Quantity Transferre . Total Transfers (pound (enter range code** or end POTW Name 1	F THE T ICLY-O ed to PO ds/year*) stimate) N NA	OXI WNE TWs	C CHEN D TREA and Bas	AICAL I	N WASTE T WORKS timate 6.1.A.2 I	S-TO C 	DFF-SIT Ns) f Estima ode)	te	ONS				در مع هرم من هرم من مربع مربور مربور مربه مرا مرا مرا مرا مرا مرا مرا مرا
SECTIO 6.1 DIS 6.1.A To 6.1.A.1. 6.1.B. 1 POTW A	ON 6. TRANSFERS O SCHARGES TO PUBL otal Quantity Transferre Total Transfers (pound (enter range code** or end POTW Name 1	F THE T ICLYOV ed to PO ds/year*) stimate) N NA	OXI WNE TWs	C CHEN D TREA and Bas	AICAL I	N WASTE T WORKS timate 6.1.A.2 I	S-TO C 	DFF-SIT Ws) f Estima ode)	te	ONS				
SECTIC 6.1 DIS 6.1.A TC 6.1.A.1. 6.1.B. 1 POTW A City	ON 6. TRANSFERS O SCHARGES TO PUBL otal Quantity Transferre Total Transfers (pound (enter range code** or e POTW Name 1	F THE T ICLY-OV ed to PO ds/year*) stimate) NA	OXI WNE TWs	C CHEN D TREA and Bas	AICAL I	N-WASTE TWORKS timate 6.1.A.2 I	S-TO C Basis of enter co	DFF-SIT Ns) f Estima ode)	te	ONS		Zip		
SECTIO 6.1 DIS 6.1.A To 6.1.A.1. 6.1.B. 1 POTW A City 6.1.B.	ON 6. TRANSFERS O SCHARGES TO PUBL otal Quantity Transferre Total Transfers (pound (enter range code** or end) POTW Name	F THE T ICLY-OV ed to PO ds/year*) stimate) NA	OXI WNE TWs	C CHEN D TREA and Bas	ATMEN is of Es	N WASTE T WORKS timate 6.1.A.2 I	S-TO C 	DFF-SIT Ns) f Estima ode)	te	ONS		Zip	1	
SECTIO 6.1 DIS 6.1.A TO 6.1.A.1. 6.1.B. 1 POTW A City 6.1.B. POTW A	ON 6. TRANSFERS O SCHARGES TO PUBL otal Quantity Transferre Total Transfers (pound (enter range code** or ex POTW Name 1 Address	F THE T ICLY-OV ed to PO ds/year*) stimate) N NA	OXI WNE TWs	C CHEN D TREA and Bas	ATMEN is of Es	N WASTE T WORKS timate 6.1.A.2 I	S-TO C 	DFF-SIT Ns) f Estima ode)	te	ONS		Zip	1	
SECTIO 6.1 DIS 6.1.A To 6.1.A.1. 6.1.B. 1 POTW A City City City	ON 6. TRANSFERS O SCHARGES TO PUBL otal Quantity Transferre Total Transfers (pound (enter range code** or e POTW Name 1 Address	F THE T ICLY-OV ed to PO Is/year*) istimate) NA	OXI WNE TWs	C CHEN D TREA and Bas	ATMEN is of Es State	N-WASTE TWORKS timate 6.1.A.2 I	S-TO C Genter co county -	DFF-SIT Ns) f Estima ode)				Zip		
SECTIO 6.1 DIS 6.1.A To 6.1.A.1. 6.1.A.1. 6.1.B. POTW A City 6.1.B. POTW A City If additio in this b	ON 6. TRANSFERS O SCHARGES TO PUBL otal Quantity Transferre . Total Transfers (pound (enter range code** or e POTW Name 1 Address POTW Name Address onal pages of Part II, Section on and indicate the	F THE T ICLYOV ed to PO ds/year*) stimate) N NA NA	OXI TWs A e attac Secti	C CHEN D TREA and Bas	ATMEN is of Es State	N WASTE T WORKS timate 6.1.A.2 I () () () () () () () () () () () () ()	S-TO C 	DFF-SIT Ns) f Estima ode)	te te xample: 1,2,	ONS		Zip		
SECTIO 6.1 DIS 6.1.A To 6.1.A To 6.1.A.1. 6.1.B.1 POTW A City 6.1.B. POTW A City If additio SECTIO	ON 6. TRANSFERS O SCHARGES TO PUBL otal Quantity Transferre Total Transfers (pound (enter range code** or e POTW Name 1 Address POTW Name Address Onal pages of Part II, Section on and indicate the ON 6.2 TRANSFERS	F THE T ICLYOV ed to PO ds/year*) stimate) N NA NA on 6.1 are he Part II, TO OTH	OXI WNE TWs A A e attau Secti ER (C CHEN D TREA and Bas ched, ind ion 6.1 pa	AICAL I ATMEN is of Es State State	N-WASTE TWORKS timate 6.1.A.2 I () () () () () () () () () () () () ()	S-TO C S-{POTV Basis of enter co bunty bunty er of pag	DFF-SIT Ns) f Estima ode) ges (e	te xample: 1,2,	ONS 3, etc.		Zip		
SECTIO 6.1 DIS 6.1.A To 6.1.A To 6.1.A.1. 6.1.A.1. 6.1.B.1 POTW A City 6.1.B. POTW A City If additio in this b SECTIO 6.2.1 Off-Site I	ON 6. TRANSFERS O SCHARGES TO PUBL otal Quantity Transferre Total Transfers (pound (enter range code** or e POTW Name 1 Address POTW Name Address POTW Name Address Onal pages of Part II, Section Sox and indicate the ON 6.2 TRANSFERS Off-Site EPA Identification Location Name	F THE T ICLY-OV ed to PO ds/year*) stimate) NA NA NA	OXI WNE TWs A A e attau Secti ER (ber (F F UT,	C CHEN D TREA and Bas ched, ind ion 6.1 pa OFF-SIT RCRA ID AH, INC.	AICAL I ATMEN is of Es State State icate the ige numb E LOC No.)	N-WASTE TWORKS timate 6.1.A.2 I () () () () () () () () () () () () ()	S-TO C G-POTV Basis of enter co builty - builty -	DFF-SIT N/s) f Estima ode) jes (e 8898	te xample: 1,2	ONS		Zip		
SECTIO 6.1 DIS 6.1.A To 6.1.A To 6.1.A.1. 6.1.A.1. 6.1.B.1 POTW A City 6.1.B. POTW A City If additio SECTIO 6.2.1 Off-Site I	ON 6. TRANSFERS O SCHARGES TO PUBLE otal Quantity Transferre . Total Transfers (pound (enter range code** or e POTW Name 1 Address POTW Name Address Onal pages of Part II, Section on and indicate the ON 6.2 TRANSFERS Off-Site EPA Identification Location Name Address I80 EXIT 49	F THE T ICLYOV ed to PO ds/year*) stimate) N NA NA NA NA NA NA NA NA NA NA NA NA N	OXI WNE TWs A A e attau Secti ER (Der (F F UT,	C CHEN D TREA and Bas and Bas ched, ind ion 6.1 pa OFF-SIT RCRA ID AH, INC. T LAKE C	AICAL I ATMEN is of Es State State icate the ige numb E LOC No.)	N-WASTE TWORKS timate 6.1.A.2 I () () () () () () () () () () () () ()	S-TO C S-(POTV Basis of enter co burnty	DFF-SIT N/s) f Estima ode) ges (e	te xample: 1,2,	ONS 3, etc.		Zip		

EPA Form 9350-1 (Rev. 2/2004) - Previous editions are obsolete.

b -

	l	TRI Facility, ID Number		
-ILP (OD PAPORME) O NOT SU	١M	87 44SD_\$ L 2835	}	\mathbf{P}_{i}
ART IN CHEMICAL SPECIFIC INFORMATION CONTINUED	1 1	Toxic Chemical, Category,	or Generic	Name

--

Į

			1									
A. Total Transfer (enter range or	rs (pounds/year ode** or estimate)	*)	B. Bas (ent	sis of Est ter code)	timate			C. Type Recy	of Waste Trea cling/Energy I	tment/Dis Recovery	posal/ (enter code)	
. 5.3			1.		M			1. M65				
. NA			2.					2.				
} .		* var	3.				~	3.		· .	•	
l.			4.		çi an a	s = ² =		4.				
6.2. <u>2</u> Off	Site EPA Ident	ification N	umber (RC	RAIDN	lo.)	COD98	0591184	••• شعر.		•• ·	······································	
Off-Site location	Name ONYX L.L.C.	ENVIRONI	MENTAL SE	RVICES	- 						n a statement a constatement	
Off-site Address	9131 EAST 1	OTH AVEN	1UE	·		-	•. • •-		• * *		v	
City HENDER	SON	, an and a second s	State C	o c	ounty DE	NVER	u Š. U testu je		Zip 8064	Q	Country (Non-US)	
Is location und	er control of rep	orting faci	lity or pare	nt comp	anv?		• • • • • •		Yes		Ňo	
A. Total Transfe (enter range /	code** or estimate	*) · · · · · · · · · · · · · · · · · · ·	B. Ba (en	sis of Es ter code)	timate		······································	C. Type Recy	of Waste Treat	atment/Dis Recovery	sposal/ (enter code)	
1. 1.8	errentitionen en an anna an		1. M		-		- 1939 -	-1. M24	eetings p		n a Fan Ska Maria	
2. 25	ى يېرىغىنى شەرىكىنى ئېزىكىنى تېرىكى تەرىپى بىرى ئېرىكى ئېرىكى ئېرىكى ئېرىكى ئېرىكى ئېرىكى ئېرىكى ئېرىكى ئېرىكى ئېرىكى ئېرىكى	الإيلىق مى مىلا 1911 - مىلا	2. M	مە رىيى مە ر بىرى ب	مېزىمەمىرى _{بىل} ەمەمە سەر مەرىيى سەر بىلىرى			2. M65		ې د د د د د د د د ۲ د د د د د د د د د د د		
3. NA-	an Berlin i na marificada i com						· · · · · · · · · · · · · · · · · · ·					
		1997 - 1997 -	3.	e e e e Harristo e e e e e e e e e e e e e e e e e e e				9 . (1)	all i shekara	المعجب المكان	n parties and the main of the standing of the	n na h Trans Trans
4.	Fig. 1. Sec. Sec. Sec. Sec. Sec. Sec. Sec. Sec	الله المراجع ا المراجع المراجع	4.	-			in det Teacht in i	<u>9: 00 19:</u> 4.		1. in	an a	र सम्पर्देश - १९४१ - १९४४ - १९४४ - २
4. SECTION 7A			3. 4. EATMEN	ТМЕТІ				4.		in a second s	and the second sec	n tering an anna an tering an tering
4. SECTION 7A		ASTE TRI eck here if	4. EATMEN no on-site w	T METI	HODS AN	ID EFFIC	IENCY	4.				n dar in 19 and 19 19 and 19 20 and
4. SECTION 7A	Dicable (NA) - wa	ASTE TRI eck here if ste stream	4. EATMEN no on-site w containing t	T METI vaste trea he toxic c	HODS AN tment is app themical or t	ID EFFICI plied to any chemical ca	IENCY	4 .				anteria Traditi Traditional Traditional Traditional
4. SECTION 7A Not App General Waste Stream (enter code)	b. Waste T [enter 3	ASTE TRI eck here if ste stream reatment M -character c	4. EATMEN no on-site w containing t Aethod(s) Secode(s)]	T METH vaste tréa he tôxic c equence	HODS AN trment is app themical or i	ID EFFIC plied to any chemical ca c. Rang Conc	IENCY ategory. Je of Influe centration	4. Int d. Wa Eff Esi	iste Treatment ciency imate	e. Bas	erating Data ?	1.1 m in 1
4. SECTION 7A Not App General Waste Stream (enter code) 7A.1a	Dilicable (NA) - Ch b. Waste T [enter 3 7A.1b	ASTE TRI eck here if ste stream reatment M character c	4. EATMEN no on-site w containing t Method(s) Se code(s)]	T METH vaste trea he toxic c equence 2	HODS AN tment is app themical or of P12	ID EFFICI plied to any chemical ca c. Rang Conc	IENCY ategory. je of Influe centration	4. Int d. Wa Eff Est	iste Treatment iciency imate 7A.1d	e. Bas Opr	ed on erating Data ? 7A.1e	4.4 m 2 m 2 m 2 m 2 m 2 m 2 m 2 m 2 m 2 m
4. SECTION 7A Not App General Waste Stream (enter code) 7A.1a	Dilcable (NA) - Ch waste T [enter 3 7A.1b 3 P31 6	ASTE TRI eck here if ste stream reatment M -character c	4. EATMEN no on-site w containing.tl Method(s) Se code(s)] C09 NA	T METH vaste trea he toxic c equence 2 5 8	HODS AN trment is app themical or of P12	ID EFFIC plied to any chemical ca c. Rang Conc 74	IENCY ategory: pe of Influe centration	4. Int d. Wa Eff Esi	iste Treatment clency imate 7A.1d 99.1 %	e. Bas Op	ed on erating Data ? 7A.1e Yes	
4. SECTION 7A Not App General Waste Stream (enter code) 7A.1a W	ONSITE WA	ASTE TRI eck here if ste stream reatment M character c	4. EATMEN no on-site w containing t Method(s) Se code(s)] C09 NA	T METH vaste trea he toxic c equence 2 5 8 2	HODS AN tment is appr hemical or of P12	ID EFFICI plied to any chemical ca c. Rang Conc 74	IENCY Ategory. Je of Influe centration	4. Int d. We Eff Est	inste Treatment ciency imate 7A.1d 99.1 % 7A.2d	e. Bas Op	ed on erating Data ? 7A.1e Yes N X 7A.2e	
4. SECTION 7A One App General Waste Stream (enter code) 7A.1a W 7A.2a	Dilcable (NA) - Ch b. Waste T [enter 3 7A.1b 3 P31 6 7A.2b 3	ASTE TRI eck here if ste stream reatment M ccharacter c	4. EATMEN no on-site w containing th Aethod(s) Se code(s)]	T METH vaste trea he toxic c equence 2 5 8 2 5	HODS AN trment is app themical or of P12	ID EFFICI plied to any chemical ca c. Rang Conc 74	IENCY Ategory. Je of Influe centration	4. Int d. Wa Eff Esi	iste Treatment ciency iimate 7A.1d 99.1 % 7A.2d	e. Bas	erating Data ? 7A.1e Yes M X 7A.2e Yes I	
4. SECTION 7A Not App General Waste Stream (enter code) 7A.1a W	ONSITE WA blicable (NA) - Ch wa b. Waste T [enter 3 7A.1b 3 7A.1b 3 7A.2b 3 6 3 6	ASTE TRI eck here if ste stream reatment M ccharacter c 4 4 7 1 4 7	4. EATMEN no on-site w containing t Method(s) Se code(s)] C09 NA	T MET I vaste trea he toxic c equence 2 5 8 2 5 8 2 5 8	HODS AN trment is app chemical or P12	ID EFFICI plied to any chemical ca c. Rang Conc 74	IENCY Ategory. Je of Influe centration	4. ant d. Wz Eff Esi	iste Treatment clency imate 7A.1d 99.1 % 7A.2d %	e. Bas Op	red on erating Data ? 7A.1e Yes 1 7A.2e Yes 1	
4. SECTION 7A General Waste Stream (enter code) 7A.1a W 7A.2a	ONSITE W/ bilicable (NA) - wa b. Waste T [enter 3- 7A.1b 3 7A.1b 3 7A.2b 3 6 7A.3b	ASTE TRI eck here if ste stream reatment M character c	4. EATMEN no on-site w containing t Aethod(s) Se code(s)]	T METH vaste trea he tōxic c equence 2 5 8 2 5 8 2 5 8 2 5 8 2 2 5 8 2 2 5 8 2 2 5 8 2 2 5 8	HODS AN tment is app themical or of P12	ID EFFICI plied to any chemical ca c. Rang Conc 7A	IENCY Ategory. Je of Influe centration A.1c 04 A.2c	4. Int d. Wa Eff Est	iste Treatment iciency imate 7A.1d 99.1 % 7A.2d % 7A.3d	e. Bas Op	ed on erating Data ? 7A.1e Yes X 7A.2e Yes Yes	
4. SECTION 7A Not App General Waste Stream (enter code) 7A.1a W 7A.2a	ONSITE WA	ASTE TRI eck here if ste stream reatment M character c 4 7 4 7 7	4. EATMEN no on-site w containing t Method(s) Se code(s)] C09 NA	T MET I vaste trea he.toxic c equence 2 5 8 2 5 8 2 5 8 2 5 5 5 5 5 5 5 5 5 5	HODS AN trment is appreciation of the	ID EFFICI plied to any chemical ca c. Rang Conc 74	IENCY Ategory. Je of Influe centration A.1c 04 A.2c	4. ant d. Wa Eff Esi	inste Treatment clency imate 7A.1d 99.1 % 7A.2d % 7A.3d	e. Bas Op	red on erating Data ? 7A.1e Yes X 7A.2e Yes 7A.3e Yes	
4. SECTION 7A General Waste Stream (enter code) 7A.1a W 7A.2a	ONSITE WA blicable (NA) - wa b. Waste T [enter 3 7A.1b 3 7A.1b 3 7A.1b 3 7A.1b 3 6 7A.2b 3 6 7A.3b 3	ASTE TRI eck here if ste stream reatment M character c	4. EATMEN no on-site w containing the Aethod(s) Se code(s)]	T METH vaste trea he toxic c equence 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 8 2 5 8 8 2 5 8 8 2 5 8 8 2 5 8 8 2 5 8 8 2 5 8 8 8 8	HODS AN tment is app themical or of P12	ID EFFICI plied to any chemical ca c. Rang Conc 7A	IENCY Ategory: je of Influe centration A.1C 04 A.2c	4. Int d. We Eff Est	inste Treatment ciency imate 7A.1d 99.1 % 7A.2d % 7A.3d	e. Bas	ed on erating Data ? 7A.1e Yes 1 X 7A.2e Yes 1 7A.3e Yes 1	
4. SECTION 7A Not App General Waste Stream (enter code) 7A.1a W 7A.2a 7A.3a 7A.3a	ONSITE WA	ASTE TRI eck here if ste stream reatment M character c 4 7 4 7 7 1 1 7 7 7 7 1 1 7 7 7 7	4. EATMEN no on-site w containing.tt Aethod(s) Se code(s)] C09 NA	T METI vaste trea he toxic c equence 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 8 2 5 8 8 2 5 5 8 8 2 5 5 8 8 2 5 5 8 8 5 5 5 5	HODS AN trment is app themical or of P12	ID EFFICI plied to any chemical ca c. Rang 74 74	IENCY Ategory. Je of Influe centration A.1c 04 A.2c A.3c A.4c	4. ant d. Wa Eff Esi ant d. Wa ant d. W	iste Treatment clency imate 7A.1d 99.1 % 7A.2d % 7A.3d %	e. Bas	ed on erating Data ? 7A.1e Yes X 7A.2e Yes Yes Yes Yes	
4. SECTION 7A General Waste Stream (enter code) 7A.1a W 7A.2a 7A.3a	ONSITE WA bilicable (NA) - Ch b. Waste T [enter 3 7A.1b 3 7A.1b 3 7A.1b 3 7A.1b 3 6 7A.2b 3 6 7A.3b 3 6 7A.4b 3	ASTE TRI eck here if ste stream reatment M character c	4. EATMEN no on-site w containing the Method(s) Se code(s)]	T METH vaste trea he toxic c equence 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 5 8 2 5 5 5 5	HODS AN tment is appresented on the second s	ID EFFICI plied to any chemical ca c. Rang 74 74 74	IENCY Ategory: je of Influe centration A.1C 04 A.2C A.3C	4. A. A. A. A. A. A. A. A. A. A	inte rate 7A.1d 99.1 % 7A.2d % 7A.3d	e. Bas Op	ed on erating Data ? 7A.1e Yes Yes Yes Yes Yes Yes Yes	
4. SECTION 7A Not App General Waste Stream (enter code) 7A.1a W 7A.2a 7A.3a 7A.3a	ONSITE WA	ASTE TRI eck here if ste stream reatment M character c 4 7 4 7 1 1 7 1 1 7 1 1 7 1 1 7 1 1 7 1 1 7 1 1 7 7 1 1 7 7 7 7 7 7 7	4. EATMEN no on-site w containing t Method(s) Se code(s)] C09 NA	T METI vaste trea he toxic c equence 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 8 2 5 8 8 2 5 8 8 2 5 8 8 2 5 8 8 2 5 8 8 8 2 5 8 8 8 8	HODS AN trment is app themical or of P12	ID EFFICI plied to any chemical ca c. Rang 74 74	IENCY Ategory. Je of Influe centration A.1c 04 A.2c A.3c A.4c	4. ant d. Wa Eff Esi and and and and and and and and and and	iste Treatment clency imate 7A.1d 99.1 % 7A.2d % 7A.3d % 7A.4d	e. Bas	ed on erating Data ? 7A.1e Yes X Yes Yes Yes Yes Yes Yes Yes	
4. SECTION 7A General Waste Stream (enter code) 7A.1a W 7A.2a 7A.3a 7A.3a	ONSITE WA bilicable (NA) - wa b. Waste T [enter 3 7A.1b 3 7A.1b 3 7A.1b 3 6 7A.2b 3 6 7A.3b 3 6 7A.4b 3 6 7A.5b	ASTE TRI eck here if ste stream reatment M character c 4 7 7 4 7 4 7 7 4 7 7 4 7 7 4 7 7 1	4. EATMEN no on-site w containing the Method(s) Se code(s)] C09 NA	T METH vaste trea he toxic c equence 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 8 2 5 5 8 8 2 5 5 8 8 2 5 5 8 8 2 5 5 8 8 2 5 5 8 8 8 8	HODS AN tment is appresented on the second s	ID EFFICI plied to any chemical ca c. Rang 74 74 74 74 74	IENCY Ategory: je of Influe centration A.1C 04 A.2C A.3C A.4C A.5C	4. A. A. A. A. A. A. A. A. A. A	ste Treatment ciency imate 7A.1d 99.1 % 7A.2d % 7A.3d % 7A.3d % 7A.3d	e. Bas op op op op op op op op op op op op op	ed on erating Data ? 7A.1e Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	
4. SECTION 7A Not App General Waste Stream (enter code) 7A.1a W 7A.2a 7A.3a 7A.3a 7A.3a	ONSITE WA bilicable (NA) - Ch b. Waste T [enter 3- 7A.1b 3 7A.1b 3 7A.1b 3 7A.1b 3 6 7A.2b 3 6 7A.3b 3 6 7A.4b 3 6 7A.5b 3	ASTE TRI eck here if ste stream reatment M character c 4 7 4 7 7 1 4 7 7 1 4 7 1 4 7	4. EATMEN no on-site w containing t Method(s) Se code(s)] C09 NA	T METI vaste trea he toxic c equence 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 5 8 2 5 5 8 2 5 5 5 5	HODS AN tment is appresented on the second s	ID EFFICI plied to any chemical ca c. Rang 74 74 74 74 74 74 74	IENCY Ategory. Je of Influe centration A.1c 04 A.2c A.3c A.4c A.5c	4. A. A. A. A. A. A. A. A. A. A	ste Treatment clency imate 7A.1d 99.1 % 7A.2d % 7A.3d % 7A.3d % 7A.4d % 7A.4d %		ed on erating Data ? 7A.1e Yes Yes Yes Yes Yes Yes Yes Yes Yes	

EPA Form 9350-1 (Rev. 2/2004) - Previous editions are obsolete.

* For Dioxin or Dioxin-like compounds, report in grams/year

Page	4	of	5
		•••	•

PARTIE CHEMICAL BP		MATION	UNTINGED	Toxic Chemical, Calego	ry, or Generic Name
				Mercury	
SECTION 6.2 TRANSFERS TO	OTHER OFF-S	ITE LOCATION	IS (Continued)		
A. Total Transfers (pounds/year*) (enter range code** or estimate)	B. Basi (ente	s of Estimate r code)		C. Type of Waste Treatm Recycling/Energy Re	nent/Disposal/ covery (enter code).
1.	1.			1.	
2.	2.			2.	
3.	. 3.	***************************************		3.	
4.	4			4.	
6.2. 3 Off-Site EPA Identificat	on Number (RCF	RA ID No.)	TXD988088464		
Off-Site location Name WASTE CC	NTROL SPECIALI	STS			
Off-site Address 9998 HIGHWAY 1	76 WEST	* <u>.</u>			* *** · · · · · · · · · · · · · · · · ·
City ANDREWS	State TX	County AN	DREWS	Zip 79714	Country (Non-US)
Is location under control of reportin	g facility or paren	t company?		Yes	X No
A. Total Transfers (pounds/year*). (enter range code** or estimate)	B. Basi (ente	is of Estimate er code)	e de la companya de	C. Type of Waste Treatr Recycling/Energy Recycling/Energy	nent/Disposal/ acovery (enter code)
1. <u>0</u>	1. м	· · · · · · · · · · · · · · · · · · ·		1. M65	<u>.</u> <u>.</u>
2. NA	2.			2. Summer and the second second second	agan kalanga ang ang ang ang ang ang ang ang ang
3	3.				دې ور د ور دو د ور د ور د و د و
, 4.	4.	-	. 4	4	
SECTION 7A. ONSITE WAST	TREATMENT	METHODS AN	D EFFICIENCY	· · · · · · · · · · · · · · · · · · ·	
Not Applicable (NA) - Check h	ere if no on-site wa ream containing th	ste treatment is app e toxic chemical or o	blied to any	· · · · · · · · · · · · · · · · · · ·	
a, Geheral b. Waste Treath Waste Stream [enter 3-chara (enter code)	nent Method(s) Sec acter code(s)]	Juence	c. Range of Influ Concentration	ent d. Waste Treatment Efficiency Estimate	e. Based on Operating Data ?
7A 6a 7A.6b	1	2	7A.6c	7A.6d	7A.6e
3	4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	5			Yes No
6 [7	8	7476	7A 7d	74.70
7A.7a		5		and the second	Yes No
	7	8		% ··· ··	
7A 8a 7A.8b	1	2	7A.8c	7A:8d	7A.8e
3 	4	-5		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Yes No
6 7A.9b	7	8			
/A.9a		5	(A.9c	· 7AC90 · ··	7A.9e .
6	7	8		%	
7A.10a 7A.10b	1	2	7A.10c	7A.10d	7A.10e
3	4	5			Yes No
6	7	8		%	
If additional pages of Part II, Section (5.2/7A are attached	d, indicate the tota	I number of pages	in this box	5

* For Dioxin or Dioxin-like compounds, report in grams/year

EPA Form 9350-1 (Rev. 2/2004) - Previous editions are obsolete.

2

Page	4	of	5	
------	---	----	---	--

FIRE			ORM C INF	R			NTINGED	TRI Facili 27 44 SD Foxic Che	y ID Number L 2835 mica, Catego	
								Mercury		
SECTION 6.2	TRANSFE	ERS TO OTH	IER OF	F-SITE	LOCAT	ION	S (Continued)			
A. Total Transfe (enter range co	rs (pounds/ ode** or estin	year*) nate)	В.	Basis of (enter co	Estimate de)			C. Type of Recycli	Waste Treatm ng/Energy Re	ent/Disposal/ covery (enter code)
1.			1.					1.		
2.			2.					2.		
3.			3.					. 3.		
4.		, , , , , , , , , , , , , , , , , , ,	4.					4.		
6.2. <u>4</u> Off	-Site EPA lo	dentification N	umber ((RCRA I	D No.)		UTD981552177	ن بر المراجع	· · ·	
Off-Site location	Name C	LEAN HARBOR	S ARAG	ONITE L	LC	··	· ·	-	-	
Off-site Address	11600 N	ORTH APTUS	ROAD		•		5.5 A 1995		· · · · · · · · · · · · · · · · · · ·	The Construction of the Co
City ARAGON			State	UT	County	TÕC	DELE	0015 Januar 1995 B. 1972 B. 1972 B. 197	Zip 84029	Country (Non-US)
Is location und	er control of	reporting faci	lity or p	arent co	mpany?	-			Yes	XNo
A Total Transfe (enter range	ers (pounds/ code** or esti	'year*) mate)	B.	Basis of (enter co	Estimate de)	ran Britishi Si ^{an}		C. Type of Recycl	Waste Treatming/Energy Re	nent/Disposal/ covery (enter code)
1. 19.2	· · · · · · · · · · · · · · ·		-1.	М				1. M65		աներք չանդ անհանգել եր շարեստ է ։ Հայուստությունները
2. NA	-		2.				ر د . محمد جد بی	2.		
3.		· · · ·	3.		م مساد		-	3.	ie na mereza	n
4.	9 M. 11		4.					4.		i in the second se
SECTION 7Å	ONSITE	WASTE TR	EATM	ENT ME	THODS	AN	DEFFICIENCY	· · · · ·		
Not App	licable (NA) -	Check here if	no on-sil	te waste	treatment is	s appl	ied to any	, , , , , , , , , , , , , , , , , , ,	e aers e e	
a. General Waste Stream (enter code)	b. Wa [ent	ste Treatment M ter 3-character o	Aethod(s code(s)]) Sequen	Ce		c. Range of Influ Concentration	uent d. Wast Efficie Estim	e Treatment ency ate	e. Based on Operating Data ?
7A.11a	7A.11b	1	-	2			7A.11c	7	A.11d	7A.11e
· · · · ·	3	4		5		_	- , t 2 - 4	•	- %- ··	Yes No
70 129	7A.12b	1		$\frac{1}{2}$			7A.12c	7	A.12d	7A.12e
	3			5		<u>, -</u> ,	-	• • • • • • •		Yes No
Sec. 14	6	7		8			مىيەرىيەن قىقىد			
7A.13a	7A.13b	1		2:	-			- 7	Â.13d -	7A.13e
	3	4		5			2		%	Yes No
74.44-	7A.14b			2		- 1	70.140		<u>ма на на</u>	78 446
/A.14a				- 5		\neg	/A.140	· · · ·	A.140	Ves No
	6					\neg		•	%	
7A.15a	7A.15b	1	,e.,	2	1		7A.15c	7	A.15d	7A.15e
	3	4		5					£1	Yes No
	6	7		8					70	
If additional pag	es of Part II,	Section 6.2/7 A	are atta	ched, in	dicate the	total	number of pages	in this box		5
and indicate the	Part II, Sect	ion 6.2/7A page	e numbe	er in this	box:	3	(example: 1,2,3	3, etc.)		

* For Dioxin or Dioxin-like compounds, report in grams/year

EPA Form 9350-1 (Rev. 2/2004 $\,$) - Previous editions are obsolete.

2

FILE CAPPERATO		NOTINEDU	TRI Facility ID Number 87 4450 L 2835 Toxic Chemical, Category, or Mercury	
SECTION 6.2 TRANSFERS TO OTHI	ER OFF-SITE LOC	ATIONS (Continued)		
A. Total Transfers (pounds/year*) (enter range code** or estimate)	B. Basis of Estima (enter code)	ite	C. Type of Waste Treatment/ Recycling/Energy Recover	Disposal/ ry (enter code)
1.	1.	1	•	
2.	2.	2	•	
3.	3.	3	•	~ · ·
4.	4.	4	• <u>-</u>	
6.2. 5 Off-Site EPA Identification Nu	imber (RCRA ID No.)	TND982109142		······
Off-Site location Name DIVERSIFIED SCI SERVICES INC	ENTIFIC			· · · · · · · · · · · · · · · · · · ·
Off-site Address 657 GALLAHER RD			· · · · · · · · · · · · · · · · · · ·	Country
City KINGSTON	State TN Count	y ROANE	Zip 37763	(Non-US)
Is location under control of reporting facili	ity or parent company	?	Yes] No
A. Total Transfers (pounds/year*) (enter range code** or estimate)	B. Basis of Estima (enter code)		C. Type of Waste Treatment Recycling/Energy Recov	/Disposal/ ery (enter code)
1. 0	. 1. M		L M65	
2. NA	2.		2	
3.	-3.	, azz **********************************	3	о ⁴ т Мариа — 27 бар бола набарана устана.
SECTION 7A. ONSITE WASTE TRE Not Applicable (NA) - Check here if n waste stream c (enter 3-character cc	ATMENT METHOL to on-site waste treatme containing the toxic chen ethod(s) Sequence ode(s)]	DS AND EFFICIENCY Int is applied to any nical or chemical category. C. Range of Influent Concentration	t d. Waste Treatment e. Efficiency Estimate	Based on Operating Data ?
7A.16a 7A.16b 1	2	7A.16c	7A.16d	7A.16e
3 4	5			Yes No
6 7	8		%	
7A.17a 7A.17b 1	2	7A.17c	7A.17d	7A.17e
	5.		·· % · ·	Yes No
	. 8		A tray to a second s	
7A.18a 7A.18b 1	8		7A.18d	7A.18e
7A.18a 7A.18b 1 3 4	8 2 5 5		7A.18d	7A.18e
7A.18a 7A.18b 1 3 4 6 7 7A.18a 7A.18b 1 3 2 4 6 7 7A.19b 1	8 2 5 8	7A.18c	7A.18d	7A.18e
7A.18a 7A.18b 1 3 4 6 7 7A.19a 7A.19b 1 3 3 4	8 -2 5 8 -2 5 8 -2 5 5 5 5 5 5		7A.18d_ %	7A.18e Yes No 7A.19e Yes No
3 4 6 7 7A.18a 7A.18b 3 4 6 7 7A.19a 7A.19b 1 3 3 4 6 7	8 2 5 8 -2 5 8 -2 5 8		7A.18d_ %	7A.18e Yes No 7A.19e Yes No
7A.18a 7A.18b 1 7A.18a 7A.18b 1 3 4 6 7 7A.19a 7A.19b 1 3 3 4 6 7 7A.19a 7A.19b 1 3 3 4 6 7 7A.20a 7A.20b	8 2 5 8 -2 5 8 -2 5 8 2		7A.18d_ %	7A.18e Yes No 7A.19e Yes No 7A.20e
7A.18a 7A.18b 1 7A.18a 7A.18b 1 3 4 6 7 7A.19a 7A.19b 1 3 4 6 7 7A.19b 7A.19a 7A.19b 1 3 4 6 7 7A.20a 3 4 4 6 7 7A.20a	8 2 5 8 -2 5 8 -2 5 8 2 5 5 5 5 5 5 5 5 5 5 5 5		7A.18d_ %	7A.18e Yes No 7A.19e Yes No 7A.20e Yes No
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	8 2 5 8 -2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8		7A.18d_ %	7A.18e Yes No 7A.19e Yes No 7A.20e Yes No

EPA Form 9350-1 (Rev. 2/2004) - Previous editions are obsolete.

;

* For Dioxin or Dioxin-like compounds, report in grams/year

Page	4	of	5
------	---	----	---

ŝ

ARTI	HEMICR	SPECIF					NUED		7 44SE Toxic Cher Mercury	\$L.2 nicai,	835 Catego	ny, or G	eneric N	ame	<i>\</i>
SECTION 6	5.2 TRANSFE	RS TO OTH	IER OF	F-SITE		IONS (Co	ontinued	l)							
A. Total Trans	sfers (pounds/y	vear*) ate)	B. I	Basis of	Estimate			C.	Type of N Recyclin	Naste	e Treatr	nent/Dis	sposal/ (enter ci	nde)	
1.			1.					1.					(oncor of		
2.			2.					2.							
3.		<i>,</i>	3.					3.							
4.	·····		4.					4.	-						
6.2. <u>6</u>	Off-Site EPA Id	entification N	lumber (l	RCRAI	ID No.)	AZC	00033736	0							
Off-Site locati	on Name	NYX SPECIAL	SERVICE	SINC		* -	<u></u>	-		÷			-	217.081 117	
Off-site Addre	ss 5752 W .	FFFFRSONS	ST T		×						<u></u>			A.K. 120	
			Ctoto	A.72	Country		Δ .			71			Coun	try -	*
			Siale	PAC.	County	IVIARICOP	Α	· · · ·		2.ip	00043		(Non-l	JS)	
Is location u	nder control of	reporting fac	llity or pa	Basis of	mpany?		· · · ·			Yes	a Troat		No	'zr,	
enter rang	ge code** or estir	nate)		(enter co	ode)	- ₂₅₁ с. – т.,.			Recycli	ng/Er	ergy R	ecovery	enter c	odė)	ء . و هر .
1. 6906.	4		1.	M		· · ·		1.	M24			•••			1.
2. NA			2.			-		2.	·	÷.,			- · ·		
			1						. e						لأفستعد
3.			3.		- مېچې د. د مېچې د ۲۰۱۵ و.			3.							ندگەستەد
3. 4.			3.			···		3.		<u></u>	. <u></u>			ка уч.	· · · · · ·
3. 4. SECTION	7A. ONSITE	WASTE TR	3. 4. EATME	INT MI	ETHODS		ICIENC	3. 4. Y				······································			
3. 4. SECTION	7A. ONSITE	WASTE TR Check here if waste stream	3. 4. EATME no on-site containin	ENT MI	ETHODS treatment i xic chemic	AND EFF	FICIENC any al category	3. 4. Y					بعد مربع روی مرب ع ر مربع	2000 2000 2000 2000 2000 2000 2000 200	
3. 4. SECTION Not A a. General Waste Streat (enter code)	7A. ONSITE Applicable (NA) - b. Was am	WASTE TR Check here if waste stream ste Treatment I er 3-character	3. 4. EATME no on-site containin Method(s) code(s)]	ENT MI e waste ng the to: Sequer	ETHODS treatment i xic chemic nce	AND EFF s applied to al or chemica c. F	FICIENC any al category tange of in Concentrat	3. 4. Y	d. Waste Efficie Estim	Treancy	tment	e. Ba Op	sed on erating	Date?	
3. 4. SECTION Not A a. General Waste Streat (enter code) 7A.21a	7A. ONSITE Applicable (NA) - b. Was am 7A.21b	WASTE TR Check here if waste stream ste Treatment f er 3-character	3. 4. EATME no on-site containin Method(s) code(s)]	NT MI e waste ig the to Sequer 2	ETHODS treatment i xic chemica nce	AND EFF s applied to al or chemica c. F	FICIENC any al category tange of in Concentrat	3. 4. Y influent	d. Waste Efficie Estima 7/	Trea ncy ate	tment	e. Ba Op	sed on erating	Data?	
3. 4. SECTION Not A a. General Waste Streat (enter code) 7A.21a	7A. ONSITE Applicable (NA) - b. Was am 7A.21b 3	WASTE TR Check here if waste stream ste Treatment f er 3-character	3. 4. EATME no on-site containin Method(s) code(s)]	INT MI e waste ig the to: Sequer 2 2 5	ETHODS treatment i xic chemic: nce	AND EFF s applied to al or chemica c. F C	FICIENC any al category ange of in Concentrat	3. 4. Y	d. Waste Efficie Estima 7/	Trea ncy ate	tment	e. Ba Op	sed on erating 7/ Yes	Data?	
3. 4. SECTION Not A a. General Waste Streat (enter code) 7A.21a	7A. ONSITE Applicable (NA) - b. Was am [ente 7A.21b] 3 6	WASTE TR Check here if waste stream ste Treatment i er 3-character 1 4 7	3. 4. EATME no on-site containin Method(s) code(s)]	NT MI e waste ig the to Sequer 2 5 8	ETHODS treatment i xic chemic nce	AND EFF s applied to al or chemica c. F	FICIENC any al category tange of in Concentrat	3. 4. Y	d. Waste Efficie Estima 7/	Trea ncy ate A.21d	tment	e. Ba Op	sed on erating 1 7/ Yes	Data??	
3. 4. SECTION Not A a. General Waste Streat (enter code) 7A.21a 7A.22a	7A. ONSITE Applicable (NA) - b. Was am 7A.21b 3 6 7A.22b	WASTE TR Check here if waste stream ste Treatment f er 3-character 1 4 7 1	3. 4. EATME no on-site containin Method(s) code(s)]	NT MI e waste ig the to Sequer 2 5 8 2 2	ETHODS treatment i xic chemica nce	AND EFF s applied to al or chemica c. F C	FICIENC any al category Range of In Concentrat	3. 4. Y	d. Waste Efficie Estim 7/ 7/	Trea ncy ate A.21d	tment	e. Ba Op	sed on erating 7/ Yes 7/	Data??	
3. 4. SECTION Not A a. General Waste Streat (enter code) 7A.21a 7A.22a	7A. ONSITE Applicable (NA) - b. Was am [ente 7A.21b 3 6 7A.22b 3	WASTE TR Check here if waste stream ste Treatment f er 3-character 1 4 7 1 4	3. 4. EATME no on-site containin Method(s) code(s)]	NT MI e waste ig the to: Sequer 2 2 5 8 2 2 5	ETHODS treatment i xic chemic: nce	AND EFF s applied to al or chemica c. F C	FICIENC any al category ange of in Concentrat	3. 4. Y	d. Waste Efficie Estima 7/ 7/	Trea ncy ate A.21d	tment %	e. Ba Op	sed on erating 7/ Yes 7/ Yes	221e	
3. 4. SECTION Not A a. General Waste Strea (enter code) 7A.21a 7A.22a	7A. ONSITE Applicable (NA) - b. Was am [entr 7A.21b 3 6 7A.22b 3 6 7A.22b 3 6 7A.22b	WASTE TR Check here if waste stream ste Treatment f er 3-character 1 4 7 1 4 7	3. 4. EATME no on-site containin Method(s) code(s)]	NT MI e waste g the to: Sequer 2 2 5 8 2 5 8 2 5 8	ETHODS treatment i xic chemica nce	AND EFF s applied to al or chemica c. F C	FICIENC any al category tange of in Concentrat 7A.21c 7A.22c	3. 4. Y	0. Waste Efficie Estim 7/ 7/	Trea ncy ate A.21d	tment %	e. Ba Op	sed on erating 7/ Yes	Data??	
3. 4. SECTION Not A a. General Waste Streat (enter code) 7A.21a 7A.22a 7A.23a	7A. ONSITE Applicable (NA) - b. Was am [enter 7A.21b 3 6 7A.22b 3 6 7A.23b 3 6 7A.23b	WASTE TR Check here if waste stream ste Treatment f er 3-character 1 4 7 1 4 7 1 4 7	3. EATME no on-site containin Method(s) code(s)]	INT MI e waste ig the to Sequer 2 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8	ETHODS treatment i xic chemica nce	AND EFF s applied to al or chemica c. F C	FICIENC any al category cange of in Concentrat 7A.21c 7A.22c	3. 4. Y	d. Waste Efficie Estima 7/ 7/ 7/ 7/	Trea ncy ale A.21d A.22d	tment %	e. Ba Op	sed on erating 7/ Yes 7/ Yes	221e	
3. 4. SECTION Not A a. General Waste Streat (enter code) 7A.21a 7A.22a 7A.23a	7A. ONSITE Applicable (NA) - b. Was am [entername 7A.21b 3 6 7A.22b 3 6 7A.22b 3 6 7A.22b 3 6 7A.23b 3 6	WASTE TR Check here if waste stream ste Treatment i er 3-character 1 4 7 1 4 7 1 4 7	3. 4. EATME no on-site containin Method(s) code(s)]	NT MI e waste g the to Sequer 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 8 2 5 8 8 2 5 8 8 2 5 8 8 2 5 8 8 8 2 5 8 8 8 8	ETHODS treatment i xic chemica nce	AND EFF s applied to al or chemica c. F	FICIENC any al category tange of in concentrat 7A.21c 7A.22c 7A.22c	3. 4. Y	d. Waste Efficie Estima 7/ 7/ 7/ 7/	A.22d	**************************************	e. Ba Op	sed on erating 1 7/ Yes 7/ Yes 7/ Yes	221e A 22e A 22e A 23e	
3. 4. SECTION Not A a. General Waste Streat (enter code) 7A.21a 7A.22a 7A.23a	7A. ONSITE Applicable (NA) - b. Was am 7A.21b 3 6 7A.22b 3 6 7A.22b 3 6 7A.23b 3 6 7A.23b 3 6 7A.24b	WASTE TR Check here if waste stream ste Treatment i er 3-character 1 4 7 1 4 7 1 4 7 1 4 7 1 4 7 1 4 7 1 1 4 7	3. 4. EATME no on-site containin Method(s) code(s)]	NT MI e waste g the to Sequer 2 5 8 2 5 8 2 5 8 2 5 8 2 2 5 8 2 2 5 8 2 2 5 8 2 2 5 8 2 2 5 8 2 2 5 8 2 2 5 8 2 2 5 8 2 2 5 8 2 2 2 5 5 8 2 2 5 5 8 2 2 5 5 8 10 10 10 10 10 10 10 10 10 10 10 10 10	ETHODS treatment i xic chemica nce	AND EFF s applied to al or chemica c. F C	FICIENC any al category Range of In Concentration 7A.21c 7A.22c 7A.22c	3. 4. Y	0. Waste Efficie Estim 7/ 7/ 7/ 7/ 7/	A.23d	**************************************	e. Ba Op	sed on erating 7/ Yes 7/ Yes 7/ Yes 7/ 7/	Data:? Data:? A.21e A.22e A.23e A.23e	
3. 4. SECTION Not A a. General Waste Streat (enter code) 7A.21a 7A.22a 7A.23a 7A.23a	7A. ONSITE Applicable (NA) b. Was am [enter 7A.21b 3 6 7A.22b 3 6 7A.23b 3 6 7A.23b 3 6 7A.24b 3 3 6 7A.24b 3	WASTE TR Check here if waste stream ste Treatment f er 3-character 1 4 7 1 4 7 1 4 7 1 4 7 1 4 7 1 4 7 1 4 7	3. EATME no on-site containin Method(s) code(s)]	NT MI e waste ig the to: Sequer 2 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 5 8 2 5 5 8 2 5 5 8 2 5 5 8 2 5 5 8 5 5 8 5 5 8 5 5 5 8 5 5 5 5	ETHODS treatment i xic chemic: nce	AND EFF s applied to al or chemica c. F C	FICIENC any al category ange of in Concentrat 7A.21c 7A.22c 7A.22c 7A.23c	3. 4. Y influent ion	d. Waste Efficie Estima 7/ 7/ 7/ 7/ 7/	A.23d	**************************************	e. Ba Op	Sed on erating 7/ Yes 7/ Yes 7/ Yes 7/ Yes	A 23e	40 10
3. 4. SECTION Not A a. General Waste Strea (enter code) 7A.21a 7A.22a 7A.23a 7A.23a	7A. ONSITE Applicable (NA) b. Was am 7A.21b 3 6 7A.22b 3 6 7A.21b 3 6 7A.22b 3 6 7A.23b 3 6 7A.24b 3 6	WASTE TR Check here if waste stream ste Treatment f er 3-character 1 4 7 1 4 7 1 4 7 1 4 7 1 4 7 1 4 7	3. EATME no on-site containin Method(s) code(s)]	NT MI e waste g the to: Sequer 2 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 8 2 5 8 8 2 5 8 8 2 5 8 8 2 5 8 8 8 2 5 8 8 8 8	ETHODS treatment i xic chemica ce	AND EFF	FICIENC any al category Range of In Concentration 7A.21c 7A.22c 7A.22c	3. 4. Y	0. Waste Efficie Estim 7/ 7/ 7/ 7/ 7/ 7/	A.22d	**************************************	e. Ba Op	Sed on erating 7/ Yes 7/ Yes 7/ Yes	A 23e	
3. 4. SECTION A. General Waste Streat (enter code) 7A.21a 7A.22a 7A.23a 7A.23a 7A.24a	7A. ONSITE Applicable (NA) - b. Was am 7A.21b 3 6 7A.22b 3 6 7A.23b 3 6 7A.23b 3 6 7A.23b 3 6 7A.23b	WASTE TR Check here if waste stream ste Treatment f er 3-character 1 4 7 1 4 7 1 4 7 1 4 7 1 4 7 1 4 7 1 4 7 1 1 4 7 1 1 4 7 1 1 4 7 1 1 4 7 1 1 4 7 1 1 4 7 1 1 1 4 7 1 1 1 1	3. 4. EATME no on-site containin Method(s) code(s)]	NT MI e waste ig the to: Sequer 2 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 2 5 8 2 2 5 8 2 2 5 8 8 2 2 5 8 2 2 5 8 8 2 2 5 8 8 2 2 5 8 8 2 5 8 8 2 5 8 8 2 5 5 8 8 2 5 5 8 8 8 8	ETHODS treatment i xic chemica nce	AND EFF s applied to al or chemica c. F c	TICIENC any al category cange of in Concentration 7A.21c 7A.22c 7A.22c 7A.23c	3. 4. Y	d. Waste Efficie Estima 7/ 7/ 7/ 7/ 7/ 7/ 7/ 7/ 7/ 7/	A.23d	**************************************	e. Ba Op	Sed on erating 7/ Yes 7/ Yes 7/ Yes 7/ Yes 7/ 7/ 7/ 7/ 7/ 7/ 7/ 7/ 7/ 7/ 7/ 7/ 7/	A.25e	40 10
3. 4. SECTION Not A a. General Waste Streat (enter code) 7A.21a 7A.22a 7A.23a 7A.23a 7A.24a	7A. ONSITE Applicable (NA) b. Was an [enternolsente	WASTE TR Check here if waste stream ste Treatment i er 3-character 1 4 7 1 4 7 1 4 7 1 4 7 1 4 7 1 4 7 1 4 7 1 4 7	3. 4. EATME no on-site containin Method(s) code(s)]	NT MI e waste g the to: Sequer 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 8 2 5 5 8 2 5 5 8 2 5 5 8 2 5 5 8 2 5 5 8 8 2 5 5 8 8 5 5 8 8 5 5 8 8 7 5 8 8 7 5 8 8 8 7 5 8 8 8 7 8 8 8 8	ETHODS treatment i xic chemica nce	AND EFF	FICIENC any al category cange of in Concentration 7A.21c 7A.22c 7A.22c 7A.23c	3. 4. Y	d. Waste Efficie Estima 7/ 7/ 7/ 7/ 7/ 7/ 7/ 7/ 7/ 7/ 7/ 7/ 7/	A.22d	**************************************	e. Ba Op	sed on erating 1 7/ Yes 7/ Yes 7/ Yes 7/ Yes	A 23e	

EPA Form 9350-1 (Rev. 2/2004) - Previous editions are obsolete.

2

* For Dioxin or Dioxin-like compounds, report in grams/year

								Pag	e 5 of 5
Personal P	EPA F			. n	TRI Facility ID	Numbe	er	• • •••	*
			NAI		A ANAL STELED	5283 			A
PAR			I PUENS		Mercury		gary, or an	WOILE INGIN	e x.
0507					INBIOLIY				
SECII	Check berg		eou is annii	ed to any waste					
	Not Applicable (NA) - stream con	taining the toxic chemical	or chemica	l category.					
	Energy Recovery Methods [enter 3-chara	icter code(s)]					·······	-	1
	1	_			3				
SECT	ION 7C. ON-SITE RECYCLING	PROCESSES	* •		,				
X	Not Applicable (NA) - Check here stream con	If no on-site recyling is a taining the toxic chemical	pplied to an or chemica	y waste I category.	107			, ** ,.	
н н. м	Recycling Methods [enter 3-character co	de(s)]	·		· · · ·	• 53			
1	2	3		_		5			
·				⊥		19 19 10 19 10 10	*		
					,	10			
SECT	ION 8. SOURCE REDUCTION	AND RECYCLING A	CTIVITIE	S		·		an a	-
the set for the set	and a second s	Column A	Current	blumn B	Column C			olumn D	
يني سر 		prior y ear (pounds/year*)	Current-H	(eporting rear- nds/year*)	pounds/year	ar)	Secona (po	rollowing unds/year.)	Y CAL
8.1									
8.1a	Total on-site disposal to Class I	NA	NA		NA	والعقار والسارة	NA		
	Subtitle C landfills, and other landfills			1.1 · · · · · · · · · ·			na start of a	energi sana ayongo	د بالينو بالا <u>لم</u> امورون المور
8.1b	Total other on-site disposal or other releases	0.6	2.4		2		2	-	·.
8.1c	Total off-site disposal to Class I Underground Injection Wells, RCRA Subtitle C landfills, and other landfills	149.5	49.	6		in an	50.		i na i
8.1d	Total other off-site disposal or other releases		NA		NA	923 2 Ton 11	NA	an and an and a second se	
8,2	Quantity used for energy recovery		-NA*	್ ೮೭ ಕರ್ಷಾಣ <u>ಯಾರ್</u> ಎ	NA		NA	je u strene na voje v u	ی درمین معمد ا این این درمین معمد ا این این این این این این این این این این
8.3	Quantity used for energy recovery offsite	NA	NA	میرید. ۲۰) ۲۰ میل بر	NA	•	NA	و هې ا	2
8.4	Quantity recycled onsite	NA	NA	∎g ska barrinna (jagbb)a Ska	NA	•	=-NA	· . · · · · · · ·	na interaction States Anna interaction
8.5	Quantity recycled offsite	26.7	6908	3.2	140	· · · ·	140	5	
8.6	Quantity treated onsite	NA	NA		NA		NA		
8.7	Quantity treated offsite	NA	NA		NA	цанина 14 г. ана 1927 г. 1911 г. ж. Бак, ал. 1911	NA		· · · ·
8.8	Quantity released to the environment a or one-time events not associated with	s a result of remedial action production processes (po	ons, catasti ounds/vear)	rophic events,	NA		<u>1</u>	- ۲ میرید. مربع	ي (1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -
8.9	Production ratio or activity index			• x 177 . 7,	0.85		• •	ал он. Ч е	and a second
, 19	Did your facility engage in any source re enter "NA" in Section 8 10 1 and answe	eduction activities for this	chemical d	uring the reporti	ng year? If not,				
8.10	Source Reduction Activities [enter code(s)]		Methods to	Identify Activity	(enter codes)	w.			
8.10.1	NA	a.		b.		c.			
8.10.2		a.		b.					
8.10.3		a.		b.					
8 10 A		a.		ь.					
0.10.4	Is additional information on source redu	iction, recycling, or polluti	on control				Var	No	
0.11	included with this report ? (Check one	Box)						X	

*For Dioxin or Dioxin-like compounds, report in grams/year

- ;

THE ABOVE

ţ **...**

An an angle of American an American American and

					Form A	pproved OM	B Numbe	r:2070-0093	
MPORTANT: Type or p	orint; read instru	uctions before co	mpleting form	(ו	Approv	al Expires: 1/	/31/2006		Page 1 of 5
Environmental Pro		Section 313 of t Know Act of 19 Amendments a	he Emerge 36, also kno nd Reautho	OFRM ncy Planni own as Title rization Ac	iy and Commun III of the Superf	hy Right-tb-	TRI Faci 87544SI Toxic Cf Nitric aci	lity ID Number DLSE52865 nemical, Category	PA or Generic Name
VHERE TO SEND CO	MPLETED FO	RMS: 1. TRI Dat P.O.Bo Lanham	a Processing (1513 , MD 20703	Center 2.	APPROPRIATE S (See instructions in	TATE OFFIC n Appendix F	E F) - F	Enter "X" here if th is a revision for EPA use only	is
mportant: See i	nstructior	ns to determ	ine wher	ו "Not A	oplicable (NA	A)" boxes	shoul	d be checke	d. ~
17 (max)		PART I. FA	CILITY I	DENTIF	ICATION IN	FORMAT	TION		
SECTION 1. REF	ORTING Y	EAR 2003	. – es		5 - 11 19 - 12 - 12 - 12 - 12 - 12 - 12 - 12 -				
SECTION 2. TRA	DE SECRE	T INFORMAT	ION					-	
Are you claiming	the toxic cher wer question 2. ch substantiati	nical identified or 2; on forms)	NO (Do r Go to	e secret? not answer 2 o Section 3)	2.2; 2.2 ()	s this copy Answer only i	If "YES" ir	Sanitized	Ünsanitized
SECTION 3. CER	TIFICATION	N (Important:	Read and	sign afte	er completing	all form se	ections.	.)-	·· · · · .
I hereby certify that I h information is true and using data availble to	have reviewed to a complete and the preparers of	the attached docu that the amounts of this report.	iments and th and values.	nat, to the b in this repor	est of my knowledg are-accurate base	e and belief, ed on reasona	the subm able estim	itted	en e
lame and official title	of owner/opera	tor or senior man	agement offic	cial:	And a second	Signatur	e: -		Date Signed:
ene Turner Office of I	acility Ops.						در معنی میں در میں در م		06/24/2004
ECTION 4. FAC	LITY IDEN	TIFICATION		an the second	a an	n na na sana sa	3 and 1 mar3.4 m 		and south the second
.1			· · ·	*	TRI Facility ID N	umber 87	544SDLS	L52835	
acility or Establishment N	lame	• . 	- , 14 		Facility or Establishr	nent Name or M	Mailing Add	ress (if different from	street address)
J.S. Department of En	ergy, LOS ALA	MOS NATIONAL	LABORATC	DRY	*			- Contraction of the second	anda an
ize 35th Street	1 1 1				Mailing Address	1971 - Stalinia 1972 - Stalinia 1973 - Stalinia	1000 (1000) (100		· · · · · · · · · · · · · · · · · · ·
City/County/State/Zip Cod	9		a station and	2011-00-04-0	City/State/Zip Code		1. ₁₈ 2011		Country (Non-US
OS ALAMOS -	LOS A		NM 87	544	· · · · · · · · · · · · · · · · · · ·	411 B., 1999-94 A		and a second	
4:2 This report condition (Important: ch	ntains informat eck a or b; che	ion for: ick c or d if applic	able) ^a		An entire acility b.	Part of a facility	-c []	A Federal facility d	
C3 Technical Cor	tact Name	Gene Turner	4 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 1	-	₹ * 	- A fail i Australian ann ann a I I I I I I I I I I I I I I I I I I I	- Teleph (505) 6	one Number (incli 667-5794	ude area code)
Email Address	3	gturner@lanl.	gov						
4.4 Public Contac	t Name	Gene Turner	· · · · · · · · · · · · · · · · · · ·	······································	1997 - 1997 - 1997 - 1997 - 1997 1997 - 1997 - 1997 - 1997 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1	· · · · · · · · · · · · · · · · · · ·	Teleph (505) 6	one Number (incl 667-5794	ude area code)
1.5 SIC Code (s)	4 digits)	Primar a. 9711	<u>у </u>),		d.		e	
	Degrees	Minute	s	Seconds	Longitude	Degrees	5	Minutes	Seconds
4.6 Latitude	35		- <u> </u>	1	Facility NPDES F	Permit aracters)	4.10		ijection Well Code
4.6 Latitude Dun & Bradst	reet d.8	EPA Identificatio	on Number (12 characte	ers) 4.9	TADINDENSI ISI'N				DONOITZ URINAL
4.6 Latitude 4.7 Dun & Bradst Number(s) (9 c a. NA NA	igits) 35 a. NM	EPA Identificatio (RCRA I.D. No.) 10890010515	on Number (12 characte	ers) 4.9 a. N	M0028355		a. NA		
Latitude	35 reet iigits) a. b.	EPA Identificatio (RCRA I.D. No.) 10890010515	on Number (12 characte	ers) 4.9 a. N b.	M0028355		a. NA b.		
Latitude Lat	igits) 4.8 a. NM b. ENT COMP	EPA Identificatio (RCRA I.D. No.) 10890010515 ANY INFORM	IATION	ers) 4.9 a. N b.	M0028355		a. NA b.		
4.6 Latitude 4.7 Dun & Bradst Number(s) (9 c a. NA b. SECTION 5. PAR 5.1 Name of Pare	a. NM b. ENT COMP	EPA Identificatio (RCRA I.D. No.) 10890010515 ANY INFORM	IATION	effs) 4.9 a. N b.	M0028355		a. NA b.		
4.6 Latitude 4.7 Dun & Bradst Number(s) (9 c a. NA Dun & Bradst b. SECTION 5. PAR 5.1 Name of Pare 5.2 Parent Compare	35 reet ligits) 4.8 a. NM b. ENT COMP nt Company any's Dun & Br.	EPA Identificatio (RCRA I.D. No.) 40890010515 ANY INFORM NA adstreet Number	IATION	ers) 4.9 a. N b. DEPARTME	M0028355		a. NA b.		

÷

.....

		FORM	Do Not S		
£: ₩¥	PARTII. CHEMICAL	- SPECII	FIC INFORMATION	Toxic Chemical, C	Category or Generic Name
SEC	TION 1. TOXIC CHEMICAL I	DENTITY	(Important: DO NOT co	mplete this section if you co	ompleted Section 2 below.)
	CAS Number (Important: Enter only one num	ber exactly as	it appears on the Section 313 list. Enter	category code if reporting a chemic	category.)
1.1	7697-37-2				
	Foxic Chemical or Chemical Category Name	(Important: En	ter only one name exactly as it appears	on the Section 313 list.)	•
1.2	Nitric acid		т. <u>не</u>		-
1.3	Generic Chemical Name (Important: Comple	te only if Part 1	I, Section 2.1 is checked "Yes". Generic	Name must be structurally descript	live.)
1.4 NA [Distribution of Each Member of the (If there are any numbers in boxes 1-17, the reported in percentages and the total should 1 2 3 4	Dioxin and b every field mu equal 100%. 1 5 6	Dioxin-like Compounds Categor ust be filled in with either 0 or some numi If you do not have speciation data availat 7 8 9 10	y. ber between 0.01 and 100. Distribu ble, indicate NA.) 11 12 13	ution should be 14 15 16 17
SEC	TION 2 MIXTURE COMPON		TITY (Important: DO NOT co	omplete this section if you c	ompleted Section 1 above.)
	Generic Chemical Name Provided by Suppl	er (Important: I	Maximum of 70 characters, including nur	nbers, letters, spaces, and punctua	tion.)
2.1	NA				in the second
SEC1	TION 3. ACTIVITIES AND USI (Important: Check all the	ES OF THI	E TOXIC CHEMICAL AT TH	IE FACILITY	
3.1	Manufacture the toxic chemic	al: 3.2	Process the toxic chemica	il: 3.3 Otherwise t	use the toxic chemical:
	Produce b. Import				a constant and a second and a se
	If produce or import:	а.	As a reactant	a. As a cher	nical processing aid
c.	For on-site use/processing	b	As a formulation component	nt b. As a man	ufacturing aid
	For sale/distribution	c.	As an article component	c. X Ancillary	or other use
e .	As a byproduct	- d.	Repackaging	i wa ci wa ka ili i	
• f. -	As an impurity		As an impurity	ار این این می میرد. کار های این این این این میرد این این میرد این	(1) A start of a st
SEC	ION 4. MAXIMUM AMOUNT	OF THE T	OXIC CHEMICAL ONSITE	AT ANY TIME DURING	THE CALENDAR YEAR
4.1	04 (Enter two-di	git code fr	om instruction package.)		
SEC	TION 5. QUANTITY OF THE T		MICAL ENTERING EACH	ENVIRONMENTAL MEI	
- - 	an a		A. Total Release (pounds/year*) (Enter range code or estimate**)	B. Basis of Estimate . (enter code)	C. % From Stormwater
5.1	Fugitive or non-point	A	مىسومىتىتى بىلى بىلى بېزىر	0 a 7 4 1 a	
5.2	Stack or point	A		E	
5.3	Discharges to receiving streams or water bodies (enter one name per l	oox) - (xoo			
-	Stream or Water Body Name	9			
5.3.1	MORTANDAD TRIBUTARY TO RIC	GRANDE	0	м	NA
5.3.2		**			
5.3.3					
lf add	tional pages of Part II, Section 5.3 a	re attached,	, indicate the total number of page	ges in this box	

Burrows E 1.	~		1		i. f		~	TRI Facili	ty ID Nu	nþer		Page 3 of 5
	e Cop∜	A FO	RMR)	0		Dt S	<u>5</u> U	67:4450	\$ L 283	ŧ0	E	PA
PART	II. CHEMICAL - SPE	CIFIC	CINFOR	RMATI	ON (C	ONTIN	UED)	Toxic Che	emical, C	ategory,	or Gener	ic Name
								Nitric acio	1			
SECTIO	N 5. QUANTITY OF THE	τοχι	C CHEMI	CAL EN	TERIN	G EACH	ENVIR	ONMENTA	LMED	IUM OI	NSITE	(Continued
		NA	A. Total I	Release (pounds/y code** o	rear*) (ente r estimate)	r range	B. Basis o (enter c	f Estima :ode)	te		• •
5.4.1	Underground Injection onsite to Class I Wells	X										······
5.4.2	Underground Injection onsite to Class II-V Wells	X						-			á an	
5.5	Disposal to land onsite				244 p. 49	4Q					annat chead an an	
5.5.1.A	RCRA Subtitle C landfills	X			े . 				· · ·	نر ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹ - ۱۹۹۹		
5.5.1.B	Other landfills	X				• • •				-		
5.5.2	Land treatment/application farming	X						, an 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	+ 47 (* [*]			
5.5.3A	RCRA Subtitle C Surface	X		الله الله والقلب الماريكية. وهي الماريكية الماريكي ماريكية الماريكية الم		ann ar se an an search a s 	a trans	a sense a construction de la construcción de	·	r mri 1		•
5.5.3B	Other surface impoundments	X				1		n de Frank anna anna anna anna anna anna anna	na ny araa		1	n and an
5.5.4	Other disposal		0					0			· · · · ·	
SECTIC	ON 6. TRANSFERS OF TH	IE TO	XIC CHE	MICAL	N WAS	STES TO	OFF-S	ITE LOCA	TIONS			
6.1 DIS	CHARGES TO PUBLICLY	OW		ATMEN	T WOF	KS (PO	TWs)	an ann an tao an tao Tao an tao an			······································	بېرىم <u>بەر يە</u> تە تە
6.1.A To	otal Quantity Transferred to	POTV	Vs and Ba	sis of Es	timate	-						
6.1.A.1.	Total Transfers (pounds/yea (enter range code** or estimation	ar*) ate)			6.1./	A.2 Basis (enter	of Estin code)	nate	. , ,	÷		• •
		NA	•	دين دين ۽ ور پوريو								
61P 4	POTW Name NA				 	-	*			-		,
POTW A	ddress	· · ·				. 1	مانور شور الم مانور من مانور مانور مانور مانور	en an an an an Artan Artana (1877) Artana		· · · · · · · · · · · · · · · · · · ·		
City		· · · ·		State	register Her so	County		an a			Zip	1
64P	POTW Name				n n n n n n n n n n n n n n n n n n n				· · · · · ·	n an	F	L
POTM A	ddress				990000	**************************************				- **	••• ·	
		<u>.</u>	inter a ser a	State		County		а Саналана арайн ар амин Аран арайн ар ар ар			Zin	
If additio	nal pages of Part II Section 6	1-are-9	ttached in	dicate the	-total n	imber of n	ades -	r estructure <u> </u>	- ' 	· ·	 *	L
in this be	ox and indicate the Pa	rt-II, Se	ection 6.1 p	age númi	ber in th	is box		(example: 1,	2,3, etc.); 		
SECTIO	ON 6.2 TRANSFERS TO C	THE	R OFF-SI	TE LOC	ATION	IS				* ***********************************		
6.2. 1	Off-Site EPA Identification N	umbe	r (RCRA II	D No.)		COD980	591184	_ ·				
Off-Site L	ocation Name ONYX ENVII	RONMI	ENTAL SEP	RVICES		<u> </u>			× .	=		
Off-site A	Address 9131 EAST 96TH	AVEN	UE									
City H	ENDERSON	Stat	e CO	County	DENV	ER			Zip	80640		Country (Non-US)
is locatio	n under control of reporting facilit	y or pa	irent compa	ny?						/es	X	No
								L			L	

EPA Form 9350-1 (Rev. 2/2004) - Previous editions are obsolete.

* For Dioxin or Dioxin-like compounds, report in grams/year

		At Cul	TRI Facility, ID Number	EDA
	IC INFORMATION C		foxic Chemical, Caledon	or Generic Name
			Nitric acid	
SECTION 6.2 TRANSFERS TO OT	HER OFF-SITE LOCATION	NS (Continued)		
A. Total Transfers (pounds/year*)	B. Basis of Estimate	, c	C. Type of Waste Treatme	ent/Disposal/
(enter range code** or estimate)	(enter code)		Recycling/Energy Rec	overy (enter code)
1. 144	1. <u>M</u>	1.	M04	
J.		J.	· · · ·	
6.2.2 Off-Site EPA Identification	Number (RCRA ID No.)	TXD988088464	and the second sec	
Off-Site location Name WASTE CONT	ROL SPECIALISTS		renter and a set of the	
Off-site Address 9998 HIGHWAY 176	WEST T	· · · · · · · · · · · · · · · · · · ·		-Country la
City ANDREWS	State TX County AN	NDREWS	Zip 21 797.14	(Non-US)
Is location under control of reporting fa	cility or parent company?	-	Yes	X No
A Total Transfers (pounds/year*) (enter range code** or estimate)	B. Basis of Estimate (enter code)	د. بر معین از معنون از معالی از معالی از معالی معالی معالی از معالی معالی معالی معالی معالی معالی معالی معالی معال معالی معالی معال	C. Type of Waste Treatm Recycling/Energy Rec	ent/Disposal/ covery (enter code)
1. 4	-1. M	-1.	M65	
2. NA	-2	2.		میں میں میں ایک
3.	a 3.	3.		
4.	4.	4.		
SECTION 7A. ONSITE WASTET	REATMENT METHODS AN	ND EFFICIENCY		
Not Applicable (NA) - waste strea	if no on-site waste treatment is ap m containing the toxic chemical or	plied to any chemical category:	n na ser en	n na sana na s
a. General b. Waste Treatmen Waste Stream [enter 3-characte (enter code)	Method(s) Sequence r code(s)]	c, Range of Influent Concentration	d. Waste Treatment Efficiency Estimate	e. Based on Operating Data?
7A.1a 7A.1b 1	C11 2 NA	7A.1c	7A.1d	7A.1e
W 3 4	5		100 % ^{***}	Yes No
7A 20 7A2b 1		7A.2c	7A.2d	7A.2e
3				Yes
6 7	8		/•	
7A.3a 7A.3b 1	2	7A.3c	7A.3d	7A.3e
	5 5 1 1	<pre>Stranger automotive coupon (20) =</pre>	<u>%</u>	Yes No
7A.4a 7A.4b 1	· · · · · 2	7A.4c	7A.4d	7A.4e
3 4	5		~ %	Yes No
7 Fo 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	8	74.60	74.54	74 6-
(A.5a		/ A.JC	/ ALDO	(A.Se
3			_	100 110
3 4 6 7	8		%	

* For Dioxin or Dioxin-like compounds, report in grams/year

Page	4	of	5
I QYE	-	υ.	÷

		C INFORM	RTION C	ONTINUED	Toxic Chemical, Category Nitric acid	, or Generic Name	
SECTION 6.2 TRANS	FERS TO OTH	IER OFF-SIT	E LOCATION	S (Continued)			
. Total Transfers (pound (enter range code** or es	s/year*) timate)	B. Basis o (enter c	of Estimate :ode)		C. Type of Waste Treatme Recycling/Energy Rec	ent/Disposal/ overy (enter code)	
1. 1.				1.			
-		2.			2.		
3.					3.		
•		- 4.			4.		
5.2. <u>3</u> Off-Site EPA	Identification N	umber (RCRA	ID No.)	UTD981552177			
Off-Site location Name	CLEAN HARBOR	S ARAGONITE	LLC	· · ·	анан алар алар алар алар алар алар алар		
Off-site Address 11600	NORTH APTUS	ROAD	 	<u>,</u> ,		1	
	· · · · · · · · · · · · · · · · · · ·	State UT	County TO	OELE	Zíp 84029	Country (Non-US)	
s location under control	of reporting faci	lity or parent c	ompany?		Yes	X No	
Total Transfers (pound (enter range code** or e	ls/year*) stimate)	B. Basis (enter d	of Estimate		C: Type of Waste Treatme Recycling/Energy Rec	ent/Disposal/ overy (enter code)	
		1. M	ـــــــــــــــــــــــــــــــــــــ		1. M65	Gradina Antonio Antonio Antonio Antonio Antonio	
. NA		2.			2:		
		3.			3.		
l.		4.			4.		
Not Applicable (NA General b. V Waste Stream	Check here if waste stream Vaste Treatment M anter 3-character of	no on-site waste containing the to lethod(s) Seque code(s)]	 treatment is app oxic chemical or c ince 	lied to any hemical category. c. Range of Influ Concentration	ent d. Waste Treatment Efficiency Estimate	e. Based on Operating Data ?	
(enter code)		2	- 1 a Tao - 1 a 1 a 1	74.60		74.60	
(enter code) 7A.6a 7A.6b	<u></u> + U_1+ [17.00	7A.6d		
(enter code) 7A.6a 7A.6b 3	4		5 <u> </u>		7A.6d %	Yes No	
(enter code) 7A.6a 3 6 7A.7a 7A.7b	4	5 8 2		7A.7c	7A.6d %	Yes No 7A.7e	
(enter code) 7A.6a 7A.6a 7A.7a 7A.7b 7A.7a 3 6		<u>د</u> و د د د د د د د د د د د د د د د د د د د		7A.7c	7A.6d %	Yes No 7A.7e Yes No	
(enter code) 7A.6a 7A.6b 7A.7a 7A.7b 7A.7a 7A.7b 7A.8a 7A.8b	1 4 7 1 4 7 7 1	ε ε ε ε ε ε ε ε ε ε ε ε ε ε ε ε ε ε ε	3	7A.7c	7A.6d % 7A.7d % 7A.8d	Yes No 7A.7e Yes No 7A.8e	
(enter code) 7A.6a 7A.6b 7A.7a 7A.7a 7A.7b 7A.7a 3 6 7A.8a 7A.8b 3	1 4 7 1 4 7 7 1 7 1 4 7	۲ دول دول دول دول دول دول دول دول دول دول		7A.7c	7A.6d % 7A.7d % 7A.8d	Yes No 7A.7e Yes No 7A.8e Yes No	
(enter code) 7A.6a 7A.6b 7A.7a 7A.7a 7A.7b 7A.7a 3 6 7A.8a 7A.8b 7A.8a 7A.8b	1 4 7 1 4 7 7 1 4 7 7	ε ε 2 ε ε 8 2 ε ε 8 2 2 5 8 8 8		7A.7c	7A.6d % 7A.7d % 7A.8d	Yes No 7A.7e Yes No 7A.8e Yes No	
(enter code) 7A.6a 7A.6b 7A.7a 7A.7a 7A.7b 7A.7a 7A.7b 7A.8a 7A.8b 7A.8a 7A.8b 7A.8a 7A.8b 7A.9a		ε ε ε ε ε ε ε ε ε ε ε ε ε ε ε ε ε ε ε		7A.7c	7A.6d % 7A.7d % 7A.8d %	Yes No 7A.7e Yes No 7A.8e Yes No 7A.8e Yes No 7A.9e	
(enter code) 7A.6b 7A.6a 7A.6b 3 6 7A.7a 7A.7b 3 6 7A.7a 7A.7b 3 6 7A.8a 7A.8b 7A.9a 3 6 7A.9b 3 6	1 4 7 1 4 7 7 1 4 7 1 4 7 1 4 7	ξ ξ 2 ξ 2 ξ 2 ξ 2 2 2 3 3 2 3		7A.7c 7A.8c 7A.9c	7A.6d % 7A.7d % 7A.8d 7A.8d %	Yes No 7A.7e Yes No 7A.8e Yes No 7A.8e Yes No 7A.9e Yes No	
(enter code) 7A.6b 7A.6a 7A.6b 7A.7a 3 6 7A.7b 7A.7a 7A.7b 7A.8a 3 6 7A.9a 3 6 7A.10a 7A.10b		ε ε ε ε ε ε ε ε ε ε ε ε ε ε ε ε ε ε ε		7A.7c 7A.7c 7A.8c 7A.9c 7A.10c	7A.6d % 7A.7d % 7A.8d % 7A.8d % 7A.9d % 7A.9d	Yes No 7A.7e Yes No 7A.8e Yes No 7A.9e Yes No 7A.9e Yes No 7A.9e	
(enter code) 7A.6a 7A.6b 7A.7a 7A.7b 7A.7a 7A.7b 7A.7b 7A.7b 7A.7b 7A.7b 7A.7b 7A.7b 7A.7b 7A.7b 7A.7b 7A.7b 3 6 7A.8b 7A.8b 7A.8b 7A.8b 7A.8b 7A.8b 7A.9b 3 6 7A.9b 3 6 7A.10b 3 6	1 4 7 1 4 7 1 4 7 1 4 7 1 4 7 1 4 7 1 4 7	ξ ξ 2 ξ 2 ξ 2 ξ 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 2 5 8 10 10 10 10 10 10 10 10 10 <td< td=""><td></td><td>7A.7c 7A.7c 7A.8c 7A.9c 7A.10c</td><td>7A.6d % 7A.7d % 7A.8d 7A.8d % 7A.9d %</td><td>Yes No 7A.7e Yes Yes No 7A.8e Yes Yes No 7A.9e Yes Yes No 7A.9e Yes Yes No 7A.9e Yes Yes No Yes No Yes No</td></td<>		7A.7c 7A.7c 7A.8c 7A.9c 7A.10c	7A.6d % 7A.7d % 7A.8d 7A.8d % 7A.9d %	Yes No 7A.7e Yes Yes No 7A.8e Yes Yes No 7A.9e Yes Yes No 7A.9e Yes Yes No 7A.9e Yes Yes No Yes No Yes No	

1

			i (🙈	TRI Facility ID Nu	mber	
PAR	CHEMICAL CIFIC		VONTINUESU	ickic Chemioal, C	ato EPA	
			()	Nitric acid		
SECTI	ON 7B. ON-SITE ENERGY REC	OVERY PROCESS	ES			
X	Not Applicable (NA) - Check here stream cont	if no on-site energy recov aining the toxic chemical	very is applied to any waste or chemical category.			
E	Energy Recovery Methods [enter 3-chara	cter code(s)]	······································			
	1	2		3		
SECTI	ON 7C. ON-SITE RECYCLING	PROCESSES		·		
	Not Applicable (NA) - Check here stream cont	If no on-site recyling is an aining the toxic chemical.	pplied to any waste or chemical category;	• • • • • • • • • • • • • • • • • • •		
l	Recycling Methods [enter 3-character coo	de(s)]	······································		· · ·	
1	R40 2	3		······································	5	
6	. 7		9		10	
SECT	ON 8. SOURCE REDUCTION A	ND RECYCLING A	CTIVITIES	in and a second se	and the second	
- 1400	andar an		Column B	Column E	Column D	
اریند د ایوستا موسد	n an	Prior Year (pounds/year*)	(pounds/year*)	(pounds/year)	(pounds/year*)	
8.1						
8.1a	Total on-site disposal to Class I Underground Injection Wells, RCRA Subtitle C landfills, and other landfills	NA	NA	NA		
8.1b	Total other on-site disposal or other releases	85	169	170	170	
8.1c	Total off-site disposal to Class I Underground Injection Wells, RCRA Subtitle C landfills, and other landfills	10		20 -	20 · · · · · · · · · · · · · · · · · · ·	
8.1d	Total other off-site disposal or other releases	NA		NA	-NA	
8.2	Quantity used for energy recovery onsite	NA	NA	NA	NĂ	
8.3	Quantity used for energy recovery offsite	NA	NA	NA	NA	
8.4	Quantity recycled onsite		5400	- 10000	20000	
8.5	Quantity recycled offsite	NA	NA	NA	NA	
8.6	Quantity treated onsite	4000	13000	10000	5000	
8.7	Quantity treated offsite	NA	. 144	NA	NA	
8.8	Quantity released to the environment as or one-time events not associated with	s a result of remedial action production processes (po	ons, catastrophic events, punds/year)	NA	······································	
8.9	Production ratio or activity index 2.10					
	Did your facility engage in any source reduction activities for this chemical during the reporting year? If not, enter "NA" in Section 8.10.1 and answer Section 8.11.					
8.10	Source Reduction Activities [enter code(s)]		Methods to Identify Activity	(enter codes)		
8.10.1	W51	a. T04	b.		с.	
8.10.2	NA	а.	b.		с.	
8.10.3		a.	b.		Ç.	
8.10.4		а.	b.		C	
8.11	Is additional information on source redu included with this report? (Check one I	iction, recycling, or polluti Box)	on control activities		Yes No	
	00000 4 /D 00004) D 1 111			- DI I DI I II		

4

~/

*For Dioxin or Dioxin-like compounds, report in grams/year

Page 5 of 5

This report has been reproduced directly from the best available copy. It is available electronically on the Web (<u>http://www.doe.gov/bridge</u>).

Copies are available for sale to U.S. Department of Energy employees and contractors from: Office of Scientific and Technical Information P.O. Box 62 Oak Ridge, TN 37831 (865) 576-8401

Copies are available for sale to the public from: National Technical Information Service U.S. Department of Commerce 5285 Port Royal Road Springfield, VA 22161 (800) 553-6847

