Massachusetts Department of ENVIRONMENTAL PROTECTION

Toxics Use Reduction Reporting Instructions

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Developed in collaboration with:

Office of Technical Assistance for Toxics Use Reduction
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Table of Contents

Appendices

Chapter 1: GUIDE TO COMPLETING THE TOXICS USE REPORT

Introduction

This document explains the substance of TURA reporting and the information you need to report. An additional document, Changes to TURA Reporting explains what has changed in TURA reporting requirements since the previous reporting year.

The Toxics Use Reduction Act (TURA) requires that large quantity users of toxic materials:

1. report annually on their use of toxic materials and pay a toxics use fee; and

2. engage every other year in a planning process designed to help uncover opportunities to reduce their use and waste of toxic chemicals, water, energy or materials use. As an alternative, the company may implement an environmental management system, provided the EMS addresses toxics. Resource conservation planning is allowed every other planning cycle.

Under TURA, the preferred means of reducing toxic chemical use and toxic wastes is "toxics use reduction" (TUR). TUR can be achieved by a variety of means, including input substitution (or replacing chemicals used in production), redesigning or modernizing production processes, improving storage and handling practices, training employees in more efficient production techniques, and in-process reuse or recycling.

Across Massachusetts, many facilities have found that TUR has helped them improve production efficiency, cut chemical purchase costs, and improve worker health and safety. Along with those benefits, facilities are reducing the risk of chemical releases to the environment in a cost-effective way.

The key to identifying TUR opportunities is having a clear idea of what chemicals are being used, how and why they are being used, and in knowing what wastes are being produced. One of the main purposes of TURA reporting is to gather this information.

These instructions include tips for how to avoid some common mistakes. Those mistakes are highlighted throughout the instructions as well as in Appendix **D**. Examples are provided to help clarify potentially confusing issues.

Who Must File the Toxics Use Report?

A facility is required to file the Toxics Use Report if it:

1. **was a Large Quantity Toxics User (LQTU),** that is, the facility manufactured, processed or otherwise used a TURA-regulated chemical in excess of a reporting threshold in the reporting year. (Reporting thresholds are listed below. See Appendix **J** for definitions of manufactured, processed, and otherwise used.)

2. **employed the equivalent of at least 10 full-time employees (FTEs) in the reporting year** (see Appendix **J** and EPA's TRI Forms and Instructions); AND

3. **conducted <u>any</u> business in any of the activities described by the North American Industrial Classification System Codes (NAICS) which correspond to Standard Industrial Classification (SIC) codes 10 - 14, 20 - 39, 40, 44 - 51, 72, 73, 75 and 76** (see Appendix **A** for a cross-reference from SIC to NAICS codes); AND

All three criteria must be met before a facility is required to file under TURA. If one of the above statements is not true, a facility is not required to file under TURA (see *Chapter 2, Completing Section 3 of the Cover Sheet* of these instructions if your facility reported previously, but is exempt this year).

What are the Contents of a Toxics Use Report?

The annual toxics use report contains information about toxics use and waste during the previous calendar year.

A complete toxics use report includes the following:

- ✓ TURA Form S Cover Sheet
- ✓ A Federal or State Only Toxics Release Inventory (TRI) Form R or Form A for each chemical
  Note: unless a State Only Form R is required (as explained below), submitting a federal Form R to the EPA TRI ME electronic system fulfills this component of the TUR report.
- ✓ TURA Form S for each chemical
- ✓ TURA Fee Worksheet/Invoice

TURA reporting supplements federal annual Toxic Release Inventory (TRI) reporting to the U.S. Environmental Protection Agency (EPA) under Section 313 of the federal Emergency Planning and Community Right to Know Act (EPCRA).

Many of TURA's reporting definitions and concepts are the same as those of EPCRA. You will need to refer to EPA's TRI Forms and Instructions to complete a Massachusetts toxics use report. EPA's TRI instructions provide in-depth definitions and guidance for determining whether your facility meets any of the federal reporting thresholds. EPA provides GuideME guidance to assist you with TRI reporting.

What Toxic Substances Are Subject to TURA Reporting?

The *MA Toxics Use Reduction Act Chemical List* includes the chemicals that are subject to TURA reporting requirements. The Complete List of TURA Chemicals is comprised of substances on the EPCRA Toxics Release Inventory (TRI) list and the CERCLA or "Superfund" List as modified by regulations adopted by the TURA Administrative Council to delist or add substances.

What Are The Threshold Quantities For Reporting?

The threshold amounts for a facility to be a Large Quantity Toxics User (LQTU) are:

- **25,000** pounds for a toxic substance that was **manufactured** or **processed** during the reporting year; or
- **10,000** pounds for a toxic substance that was **otherwise used** during the reporting year;
- **1,000** pounds for a **higher hazard substance** during the reporting year;
- **100 lbs, 10 lbs, or 0.1 gram, for PBT Substances**, depending on the specific PBT chemical, during the reporting year.

The list of higher hazard substances and PBT Substances with their applicable threshold can be found in Appendix **B**.

Note: TURA Form S's should only be submitted for chemicals that exceed the reporting threshold.

Under What Circumstances are State Only Forms R/A Required?

TURA regulates more chemicals than EPCRA (all CERCLA chemicals are reportable under TURA), has qualifiers that differ from EPCRA for certain chemicals, has lower reporting thresholds for chemicals that have been designated "higher hazard", and covers a broader range of NAICS codes. As a result, some facilities have TURA-only reporting obligations that are either not required under EPCRA or are different than what are required under EPCRA. (The list of substances with different reporting requirements under TURA than TRI can be found in Appendix **B**.) You must submit a State Only Form R/A in these instances, and eDEP will automatically generate a State Only Form R/A for these substances.

Since the State Only Form R/A asks for the same data as the federal Form R, refer to EPA's TRI Forms and Instructions.

Note: Do not send State Only Form Rs/As to EPA.

When Can I File a Form A (Federal or State Only) Instead of a Form R?

Unless the chemical is a PBT, the simplified Form A may be used, instead of a Form R, provided:

- ✓ A facility may use a Form A if the total of the amounts treated, recycled, disposed, released, used for energy recovery on-site and off-site is less than 500 pounds AND the amount manufactured, processed, or otherwise used does not exceed 1 million pounds. These volumes correspond to the sum of amounts reportable for data elements in Section 8, the summary of the report: Section 8.1 (quantity released), Section 8.2 (quantity used for energy recovery on-site), Section 8.3 (quantity used for energy recovery off-site), Section 8.4 (quantity recycled on-site), Section 8.5 (quantity recycled off-site), section 8.6 (quantity treated on-site), and Section 8.7 (quantity treated off-site). If more than a total of 500 pounds is reported in Section 8, the facility must report a State Only Form R.

See EPA's TRI Forms and Instructions for additional guidance on eligibility for Form A reporting.

Note: Form As are not permitted for PBTs.

If you are filing a Form A to meet TURA-only reporting requirements, fill in just the Form A section of the State Only Form R/A.

What Are the Exemptions to TURA Reporting?

Some of the exemptions to TURA reporting are the same as those of EPCRA. These include exemptions for certain chemical uses, the de minimis exemption (the de minimis exemption does not apply to PBTs) and the article exemption. These exemptions are summarized below. (Please refer to TRI Forms and Instructions for more detail on when an exemption applies).

Full Exemptions:

1. Exempt Uses
A regulated chemical is exempt when it is **otherwise used** in:

- ❑ Janitorial or grounds maintenance
- ❑ Maintenance of motor vehicles operated by a facility
- ❑ Structural components of a facility
- ❑ Personal items (office supplies, food, drugs, cosmetics, etc.)
- ❑ Intake air or water

The facility maintenance and structural components exemptions DO NOT apply to chemicals used in association with process equipment.

2. De Minimis Exemption
The de minimis exemption allows facilities to disregard certain minimal concentrations of a regulated chemical found in mixtures or trade name products. Under EPA's rules, the chemical must be processed or otherwise used. The de minimis quantity levels are:

- ❑ < 0.1% by weight for OSHA carcinogens
- ❑ < 1% by weight for other chemicals

3. Article Exemption
The exemption DOES NOT apply to chemicals that are manufactured, intentionally or coincidentally, by the

Listed chemicals in an "article" are exempt if the item meets certain criteria. The article must be a manufactured item which:

- is formed to a specific shape or design during manufacture;
- has end use functions dependent in whole or in part on its shape or design; and
- does not release a listed chemical under normal processing or otherwise use.

The exemption only applies to articles that are processed or otherwise used. (For example, a firm that buys and attaches metal arms to chairs could be eligible for the exemption. The firm that manufactured the arms generally would not be eligible.) Also, to qualify for the exemption, the article must retain its initial thickness or diameter.

4. Chemicals used in laboratories under the direction of a technically qualified individual as defined under the federal EPCRA program (40 CFR part 372.38(d) and 40 CFR part 720.3(ee) Exemption
Chemicals used in laboratories are not counted toward facility-wide usage, and TUR reports do not need to cover the manufacture, process or otherwise use of a chemical in a laboratory.

Note: The laboratory exemption does NOT apply to specialty chemical production, manufacture, processing, or use of toxic substances in pilot plant scale operations, or activities conducted outside the laboratory.

Note: Reporting is required on all non-laboratory uses of that chemical if it is used in those processes above the threshold.

Partial Exceptions: Facility-Wide Reporting Only

TUR reports include both facility-wide and production unit level information. Only facility-wide reporting (amount manufactured, processed, otherwise used, shipped in product, generated as byproduct and TRI information) is required in the following circumstances:

- **Waste Treatment Chemicals**: If a chemical is used solely for the purpose of waste treatment, that chemical use is counted toward the reporting threshold, and use and byproduct amounts must be included on the facility-wide information portion of the Form S. Production unit level reporting is not required for chemicals used in waste treatment. Note, that production unit level reporting IS required for those non waste treatment processes in which the chemical is used at the facility.
- **Pilot Plants:** The facility-wide reporting explanation for chemicals used in wastewater treatment also applies to chemicals used in pilot plants.
- **Start-up Production Units**: The facility-wide reporting explanation for chemicals used in waste treatment also applies to chemicals used in start-up production units. Note, that the exemption for production unit level reporting and planning applies only for the shorter amount of time it takes to get the production working at the desired efficiency, or two years from initial operation.

What If We Reported Last Year but Are Exempt This Year?

If your facility does not have to report this year, but reported in a previous year, MassDEP recommends that you notify MassDEP in writing and explain why. This will help MassDEP distinguish facilities that are exempt from those that are out of compliance.

Note: You are encouraged to complete the toxics use report Form S Cover Sheet (Section 3) if your facility is newly exempt from reporting (see *Chapter 2, Completing Section 3 of the Cover Sheet*, page 9 in this guidance). Alternatively, you may send a letter to MassDEP explaining why your facility is newly exempt.

Online TURA Filings

If this is the first time you are filing under TURA, you must complete the TURA New Filer Form **and submit a scan of the completed and signed form to** tura.program@mass.gov**, then register** online at Toxics Use Reduction (TUR) Online Reporting and click on eDEP Online filing. It takes about 15 minutes to sign up online and receive confirmation by email. To register, you will need your MassDEP Facility ID# and TAX ID# (FEIN/TIN). Please email tura.program@mass.gov if you need to obtain your ID numbers.

Information Regarding Filing Form Rs:

If you submit federal TRI Form Rs to EPA via the TRI-ME web, these forms are sent directly to the Department via EPA's Central Data Exchange (CDX). Using the TRI-ME system fulfills the TURA Form R filing requirement. You must still submit Form Rs to MassDEP IF your facility:

- Is a first time TRI federal Form R filer
- Is required to submit a "State Only Form R" to MassDEP. State Only Form Rs are required when the facility:
    - Is in an industrial sector (NAICS code) that is covered by TURA, but not the federal TRI program.
    - Uses a chemical that is covered by TURA, but not the federal TRI program. (Remember to submit a separate federal Form R to the EPA TRI program.)
    - Uses a chemical that is covered by both TURA and the Federal TRI, but where the qualifiers differ. (Remember to submit a separate Federal Form R to the EPA TRI program.)
    - Uses a TURA "higher hazard" chemical in an amount greater than the TURA reporting threshold, but less than the Federal reporting threshold. (The TURA threshold for higher hazard chemicals is 1,000 pounds.)

If one of the factors listed above applies, a State Only Form R (or A) will be presented to you. If the substance is also reportable under TRI, you will need to file a separate federal TRI Form R with EPA.

Many of the fields in the eDEP TURA forms will pre-fill themselves, based on previous TURA submissions (if applicable), and on other existing databases.

For **eDEP assistance**, email eea.servicedesk@mass.gov or call 617-626-1111. (The Service Desk is available during business hours only.).

If you need additional information on eDEP TURA reporting, email tura.program@mass.gov.

Payment for Toxics Use Fee

Facilities that file their toxics use report via eDEP will be sent a paper invoice. Payment is due 30 days after the invoice due date. Late payment will be subject to a $1,000 late fee.

How Do I File Federal TRI Form Rs with MassDEP to Comply with EPCRA and TURA?

EPCRA requires that facilities file federal Form Rs with the state as well as with EPA. TURA also requires that facilities include Form Rs in the toxics use report. Facilities can meet both requirements by electronically filing a federal Form R for each chemical reported. MassDEP will receive federal Form Rs directly from EPA via EPA's Central Data Exchange (CDX). Therefore, if your facility electronically files Forms Rs with EPA, do not file another copy of your federal Form Rs with MassDEP. For more detailed instructions on how to fill out the Form R, please refer to EPA's TRI Forms and Instructions.

Facilities need to file State Only Form Rs with MassDEP if they are reporting CERCLA-only chemicals, chemicals with qualifiers, or thresholds that are not the same under TURA and federal TRI.

Note: Facilities in industrial sectors or filing for chemicals that are not covered by TRI, must file State Only Forms Rs/As with MassDEP. The eDEP system will automatically present State Only Form R/A when they are required.

When Are the Toxics Use Reports Due?

The toxics use reports must be submitted via eDEP by **July 1st of the year following the calendar year for which the report is being filed.**

Note: MassDEP is no longer accepting paper filed TURA reports. All filers must file their TURA reports through eDEP.

When is the Toxics Use Fee Due?

The toxics use report includes a fee worksheet/invoice (see Chapter 5 of this guidance) that must be submitted with your toxics use report by July 1st of the year after the year that is being reported.

Facilities that file their toxics use report via eDEP will be sent a paper invoice. Payment is due 30 days after the invoice date. Late payment will be subject to a $1,000 late fee.

MassDEP strongly encourages on-time payment of fees. Section 19, subpart F of the TURA statute assesses an administrative fee of $1,000 for any toxics use report that is filed more than 30 days late, and for any toxics use fee that is not paid on time.

What If I Have a Financial Hardship?

In cases of severe financial hardship, a toxics user who employs less than 100 full-time employees may apply to MassDEP for a waiver of the toxics use fee for the year.

MassDEP may waive the fee, in whole or in part, or may extend the time for full or partial payment.

A toxics user who employs more than 100 full time equivalent employees (FTEs) may apply to MassDEP for a payment plan. (FTEs are calculated by totaling the hours worked, including paid leave by all employees and contractors (full or part-time) at the site during the reporting year, and dividing that sum by 2,000. (See EPA's TRI Forms and Instructions for further explanation of calculating FTEs.)

Applications for fee waivers or payment plans are due on July 1st, with the report for which a request is being made.

To request an application for a fee waiver or payment plan, email tura.program@mass.gov.

How Can I Amend A Previously Filed Report in eDEP?

Refer to How to Amend TUR Filings if you would like to amend a previously filed report in eDEP. You may amend a TURA report as far back as reporting year 2016.

Note: MassDEP is no longer accepting paper filed report revisions.

Chapter 2: DETAILED FORM S COVER SHEET INSTRUCTIONS

The Form S Cover Sheet is divided into four sections.

In Section 1, facilities provide general information and state whether they are making any Trade Secret claims; eDEP pre-populates this section for facilities that are filing electronically.

In Section 2, facilities indicate the number of "full time employee equivalents" (FTEs); eDEP pre-populates this section for facilities that are filing electronically.

In Section 3, facilities may elect to provide information about any chemical reported in the previous year that is NOT being reported this year, including the reason(s) why.

In Section 4, facilities provide a facility-wide listing of production units and production process codes. eDEP pre-populates this section for facilities that filed in prior years. First-time eDEP filers will need to complete portions of this section.

Note: These items will pre-populate.

Completing Section 1 of the Cover Sheet: General Information

✓Example

Section 1: General Information

Facility Name and Address:

Jane Smith
a. Name

211 Main Street
b. Street Address

Anytown	MA	02100
c. City	d. State	e. Zip Code

f. Are you making a trade secret claim for any information submitted in this COVER SHEET and/or Form S(s)? Yes ☐ No ☒

g. If YES, attach a statement substantiating the claim. This copy is: Sanitized ☐ Unsanitized ☐

h. Are all chemicals only used to treat wastewater? Yes ☐ No ☒
(if yes, then there are no production units associated with this facility).

i. Taxpayer Identification Number (Federal Employer Identification Number or FEIN)

j. Toxics Release Inventory (TRI) Identification Number

Explanation of Section 1, Items a-through e.

Note: These sections will pre-populate.

Facility Name and Address: Indicate the facility name first, then any division, if applicable. For example: "ACME Electronics, Aerospace Division". Do not leave this section blank.

Explanation of Section 1, Item f

Trade Secret Claim: You may **not** withhold information from MassDEP because it is confidential. You may, however, request that the agency keep the information protected as Trade Secret. MassDEP must determine whether a claim of Trade Secret meets the standards for Trade Secret protection.

Read the MassDEP trade secret regulations (310 CMR 3.00) carefully before you make a claim. There are penalties for frivolous claims.

Explanation of Section 1, Items g through h

Sanitized or Unsanitized Versions of the TUR Report: Filers claiming that certain data elements are trade secret must file two versions of the TURA Report. The "sanitized" version excludes the trade secret information. The trade secret information is included in the "unsanitized" version of the report.

Waste Treatment Chemicals: State whether the chemical is used only in waste treatment. You do not need to assign a production unit number for waste treatment chemicals. In Section 4 of the Cover Sheet, list this operation as "dummy" and choose N/A as the unit of product.

Explanation of Section 1, Items i through j

Note: These sections will pre-populate.

Taxpayer Identification Number: Enter your facility's Federal Employee Identification Number or FEIN.

Toxics Use Release Inventory (TRI) ID Number: Enter your facility's federal TRI number.

Completing Section 2 of the Cover Sheet: FTE Information

Calculate the number of "full-time employee equivalents" (FTEs) that work at your facility. Directions for calculating the number of full time employee equivalents is provided below. Please refer to the TRI Forms and Instructions for further information. If you determine that your FTEs are below 10, then you are not required to submit an annual Toxics Use Report.

Section 2: FTE Information

a. The number of "full time employee equivalents" (FTEs) (2,000 work hours per year = 1 FTE) that work at your facility.

_10-49
_50-99
_100-499
_Greater than 500

This is calculated as the sum of the total number of paid hours (including paid leave) for regular and parttime employees (including drivers, sales, and support staff), the hours spent onsite by contract employees and trades people, and employees from other sites under the same ownership divided by 2000.

If you have fewer than 10 FTEs you do not have to submit an Annual Toxic Use Report.

Completing Section 3 of the Cover Sheet: Chemicals Previously Reported That Are Not Reportable This Year

Complete Section 3 to provide information about any chemical reported in the previous year that is NOT being reported this year, including the reason(s) why. This section indicates that a chemical was not inadvertently omitted from reporting, and that the facility should not be subject to enforcement for failure to report the chemical. The information on substituted chemicals will also help MassDEP, the Office of Technical Assistance (OTA) and the Toxics Use Reduction Institute (TURI) with their industry outreach, technical assistance, research and development efforts.

✓Example

In this section, you may provide information on any chemical reported last year that is not subject to reporting this year. If you substituted a non-listed chemical for a TURA chemical, you may identify the substitution.

The codes to explain why the chemical is not reportable are: [1] Chemical Below Threshold But > 0; [2] No Chemical Use in Reporting Year; [3] Chemical Substitution; [4] Chemical Eliminated (No Substitution); [5] Decline in Business; [6] Other (Explain below in the additional comments section). Check all the codes, up to four, that apply.

a.1 127184 — CAS # of chemical not reportable (if applicable)

a.2 Tetrachloroethylene — Chemical Name

a3. Explanation of why the chemical is not reportable (check codes): ☐ [1] ☐ [2] ☐ [3] ☒ [4] ☐ [5] ☐ [6]

a.4 _____ — CAS # of chemical substituted for TURA chemical

a.5 _____ — Chemical Name

Explanation of Section 3, Items a.1 through a.3

From year to year, some facilities may find that they do not have to report a chemical previously reported. In this section, identify each such chemical and explain why it is not being reported this year, using the codes provided. Enter as many codes as apply.

Note: eDEP submittals will allow only valid MassDEP listed chemicals to be reported as "chemicals not reportable".

Explanation of Section 3, Items a.4 through a.5

If a chemical is not being reported because another chemical was substituted for it, identify the substituted chemical. The form allows you to identify two such chemical substitutions.

Note: CAS #s are entered without dashes.

Completing Section 4 of the Cover Sheet: Facility-Wide Listing of Production Units

Section 4 describes each of the production units used at the facility. A production unit is a combination of the process or activities used to produce a product or a service AND the product or service. Facilities must have at least one production unit, but can have as many as they choose. The only exception is in the case of facilities that are required only to report on chemicals used for the sole purpose of waste treatment. In this case, they would enter "dummy" for the production unit. Do not give this "dummy" a production unit number.

Note: These sections will be pre-populated for prior year filers.

Note: There is one form for each production unit.

✓Example

A PRODUCTION UNIT is best thought of as the combination of the process (or activities) used to produce a product or service and the product or service. In this section, please identify the PRODUCTION UNITS at the facility, then use the production unit number to report on chemical use in the Form S.

If there has been a substantial change in a PRODUCTION UNIT from the previous reporting year, the PRODUCTION UNIT must be given a new, unique number.

1
a. Production Unit #

b. Describe the Process:

Aluminum processing – electropolishing and plating of aluminum parts

Is this production unit IN USE for the reporting year of this submittal?

c. Describe the Product:

Aluminum parts ready for further processing

Enter up to four (4) six-digit NAICS Codes that best describe the Product from this Production Unit:

d. NAICS Code	e. NAICS Code	f. NAICS Code	g. NAICS Code
332813			

h. Check the appropriate description for the unit of product:

☐ area ☐ dollar ☐ hours ☐ kilowatt ☐ length ☐ N/A ☐ number
☒ volume ☐ weight

Production Process Step Information For This Production Unit

i. Enter the production process codes to identify the process steps that involve TURA-reportable chemicals as an input, output or throughput. (See the reporting guidance document for the list of production process codes and instructions on when a given code needs to be listed.)

1. BB-02 Process Code	2. BB-04 Process Code	3. Process Code	4. Process Code
5. Process Code	6. Process Code	7. Process Code	8. Process Code
9. Process Code	10. Process Code	11. Process Code	12. Process Code
13. Process Code	14. Process Code	15. Process Code	16. Process Code
17. Process Code	18. Process Code	19. Process Code	20. Process Code
21. Process Code	22. Process Code	23. Process Code	24. Process Code

List the TURA-reportable chemicals associated with this production unit. If a chemical is associated with ALL the process steps entered in i. above, check ALL. If a chemical is associated with some but not all of the process steps, check the numbers that correspond to the process codes entered in i. above (i.e. box 1 below corresponds to the process code entered in i.1).

j. Production unit number: 01 (Prod. Unit #)

k. TURA Chemical: 766939 (CAS #) Sulfuric acid (Chemical Name)

Check "All" or the numbers that correspond to the process codes entered in i.

All. ☒

1. ☐ 2. ☐ 3. ☐ 4. ☐ 5. ☐ 6. ☐ 7. ☐ 8. ☐ 9. ☐ 10. ☐ 11. ☐ 12. ☐

13. ☐ 14. ☐ 15. ☐ 16. ☐ 17. ☐ 18. ☐ 19. ☐ 20. ☐ 21. ☐ 22. ☐ 23. ☐ 24. ☐

Reporting Guidance

Information on Identifying Production Units for First-Time Filers:

To complete Section 4, you must have identified the production unit(s) at your facility in which each listed chemical is used. A production unit is the combination of the process (or activities) used to produce a product or service and the product or service.

To identify production units, the facility must obtain a complete understanding of its processes or activities that involve reportable chemicals. In thinking about production processes, facilities typically begin by identifying the basic process, operation, or technology used to make the product. In identifying processes, a facility must be sure to account for such intermittent processes, such as equipment cleaning, as well as out-of-process activities, such as materials storage and handling.

It may be difficult to break out chemicals that are being used at very low quantities (i.e., dioxin, mercury as an impurity) into a specific production unit, process, or product. Selection of a production unit, which is the entire facility, is acceptable in these cases.

Except for the operations listed below, which are not considered to be production units, every operation that uses any amount of chemical for which a report is filed, must be included in a production unit:

- pilot plants;
- pilot production units;
- start-up production units for either two years from the date of initial operation or until operational efficiency is achieved, whichever time period is shorter; and
- waste treatment units and pollution control equipment.

Please note that even though these operations are not considered production units, chemical use associated with these operations must be included in the facility-wide totals on the Form S.

Please see Appendix **I** for further in-depth information on defining production units and units of product.

Explanation of Section 4, Items a through p

For filers that have reported previously, *Items a – i,* which describe the processes used in the production unit and the product produced, will be pre-populated.

eDEP will present these questions, production unit by production unit. The chemical information section must be filled out entirely for each chemical used in the production unit before you move on to the next production unit.

Note: for filers reporting on chemicals used ONLY in waste treatment: While waste treatment units are not considered production units**,** facilities will have to create a place holder production unit to complete the Form S. Call that place holder "dummy", but do not assign a number to it.

Items a – i (production unit processes and products)

Because production units are used to track TUR progress over time, they must remain consistent from year to year. Repeat filers must use the same production units and production unit numbers as they used in prior years, unless the production unit is no longer in operation or has been dramatically changed. While changes can be made in the descriptive information about a production unit to reflect changes in facility operations, new production units should be created ONLY if:

- the production process has been changed so significantly that the existing definition is no longer appropriate;
- the facility is producing a new product; or
- the facility has added a new and significantly different production line.

Item a: Assign a Production Unit Number.

If this is your first-time reporting, assign the number 1 to the first production unit, 2 to the second, etc., and check "Yes" to indicate if the production unit is new.

Facilities will find their production units listed sequentially. Any new production units will be assigned the next highest sequential number (i.e. previously used highest number was 14, the new production unit number will be assigned 15).

Assign a new production unit number (one you have never used before) if, 1) your facility has begun the production of a new product; or 2) your facility has redefined production units by changing the products and/or production processes included in the production unit.

AVOID A COMMON MISTAKE

If you eliminated a production unit, do not re-assign its number to an existing or new production unit.

Item b. Describe the Process
Describe the production process(es) included in the production unit.

TURA Production Process Codes Listing by Process Type

Group 1: Processes Typically Used by Facilities that Make and Process Objects or Provide Services

General Guide to Group 1 Process Codes: Codes with the prefix "AA" generally refer to processes that add coatings or other matter to a product. The "BB" codes refer to processes that remove matter from a product. The "CC" codes represent processes by which products are given form, shape, physical dimension or other physical properties.

PROCESS and PROCESS CODE	COMMENTS and EXAMPLES
Coating & Painting Processes	Note: firms that use extrusion to coat objects should use the Extruding/Drawing (CC-02)
AA-01: Dip, Flow & Curtain Coating	Example: processes where excess coating material is allowed to flow or drain off
AA-02: Spray Coating	Example: applying coating as a fine mist or spray Note, however, electrostatic spray coating is included under AA-04 rather than this code
AA-03: Knife/Spread/Roll Coating	Example: using a roller, doctor knife or brush to apply coating
AA-04: Electrostatic Coating Methods	Examples: electrostatic spray coating, electrostatic powder coating, electrocoating
Printing Processes	
AA-05: Letterpress & Flexographic	Example: ink applied to a raised surface of printing plate
AA-06: Lithographic	Example: ink adheres to hydrophobic area/fountain solution adheres to hydrophilic area Use this code to describe the lithographic processes used in semiconductor and printed circuit board manufacturing
AA-07: Gravure	Example: ink remains in recessed areas of the plate Includes gravure coating as well as printing
AA-08: Screen Printing	Example: ink forced through open or porous areas of screen or plate
AA-09: Pad Printing	Example: use of a silicone pad to transfer ink from etched/engraved plate to work piece
AA-10: Printing Using Carrier Films or Foils	Examples: hot stamping, in-mold decorating of plastics using films or foils
AA-11: Jet Printing	Example: use of jet(s) to apply text or a pattern
Plating Processes	
AA-12: Electroplating (Barrel) AA-13: Electroplating (Rack)	
AA-14: Electroless (Barrel) AA-15: Electroless (Rack)	
AA-16: Mechanical Plating	Example: coating a substrate by tumbling or other mechanical means, e.g., using metal powders
AA-17: Hot Dip Coating (of metal)	Examples: galvanizing, hot tin dipping

Processes that penetrate surface layer	
AA-18: Anodizing, Conversion Coating and Case Hardening (through diffusion)	Examples: anodizing, black oxide conversion, bright dipping, chromating, passivating, phosphating Includes case hardening through diffusion of substances in the surface layer of metal (e.g., nitriding, nitrocarburizing) For case hardening through the application of energy/heat, see CC-04
AA-19: Deposition	Examples: vacuum metallizing, sputtering, metal (flame) spraying
Processes that add material throughout the mass of a product	
AA-20: Pigmentation/Dyeing	
AA-21: Infiltration/Saturation	Example: kraft paper saturation
AA-22: Impregnation/Implantation	Examples: (from semiconductor industry) - doping (through diffusion), ion implantation, vacuum impregnation
Processes that remove material from product	
Product or Parts Cleaning	Removing dirt, grease and other foreign matter from product For drying that occurs as part of cleaning use BB-09
BB-01: Solvent-Based	
BB-02: Aqueous	Includes rinsing
BB-03: Mechanical	Examples: sand blasting, cleaning with saw dust
Removal of Mass from Substrate (excluding Cleaning)	
BB-04: Removal by Chemical Means	Includes bleaching (in textiles), chemical stripping, electropolishing, etching, pickling (of metals)
BB-05: Removal by Mechanical Means (Gross Mass Removal)	Includes processes that remove pieces or chips from product; can include cutting, drilling, lathing, turning
BB-06: Removal by Mechanical Means (Fine Mass Removal/Size Reduction)	Includes removal methods that produce fine particles/dust; can include abrasive blasting, grinding, milling, polishing (processes that smooth the surface without removing material should be reported as CC-06)
BB-07: Removal by Chemical and Mechanical Means	Example: (in paper making) pulping where mechanical and chemical processes are used
BB-08: Removal by Application of Heat or Energy	Example: laser cutting
BB-09: Drying NOS	Drying not otherwise specified; includes chemical drying

Product Molding/Forming	
CC-01: Casting/Molding	Includes all forms of casting, injection molding, blow molding and similar processes
CC-02: Extrusion/Drawing	Includes processes by which a product is given shape by pushing material through a die or similar device Firms that coat products by extrusion should use this code
CC-03: Forging	
CC-04: Heat Treating NOS	Examples: controlled heating of metal to increase or decrease hardness, improve machinability, relieve stresses etc. (annealing, austempering, tempering and case hardening)
CC-05: Quenching	Example: rapid cooling after heat treating through contact with liquids, gases or solids
CC-06: Forming by Mechanical Means NOS	Forming by Mechanical Means not otherwise specified Examples: bending, cold heading, embossing, rolling
Bonding/Joining	
CC-07: Application of Adhesives	
CC-08: Soldering/Brazing	
CC-09: Welding	
CC-10: Sintering/Powder Metallurgy	
CC-11: Joining through Application of Heat/Energy NOS	Joining through Application of Heat/Energy not otherwise specified
CC-12: Joining through Chemical Means NOS	Joining through Chemical Means not otherwise specifed
CC-13: Joining through Mechanical Means NOS	Joining through Mechanical Means not otherwise specified Examples: cladding

Group 2: Production Processes Typically Used by Facilities that Manufacture and Process Chemicals

PROCESS and PROCESS CODE	COMMENTS and EXAMPLES
SEPARATION/REFINING	
DD-01: Centrifuge/Filtration	
DD-02: Distillation	
DD-03: Drying	
DD-04: Extraction	
DD-05: Precipitation	
DD-06: Refining/Purification	
DD-07: Smelting	
CHEMICAL REACTIONS	
EE-01: Acetalization	
EE-02: Condensation	
EE-03: Curing, Vulcanizing, Cross Linking	
EE-04: Dehydrogenation	
EE-05: Esterification	
EE-06: Hydrogenation	
EE-07: Oxidation/Reduction	
EE-08: pH Adjust	
EE-09: Polymerization	
EE-10: Substitution Reactions	Includes halogenization and chlorination
EE-11: Chemical Reactions NOS	Chemical Reactions not otherwise specified

Group 3: Miscellaneous Processes that Could be Used by any Facility

PROCESS and PROCESS CODE	COMMENTS and EXAMPLES
Production Equipment Cleaning	Examples: cleaning of vessels, process lines, printing plates, such devices as spray guns. Also includes descaling of boilers NOTE: Equipment cleaning includes SANITIZING
FF-01: Solvent-Based	
FF-02: Aqueous	Example: use of caustic solutions to clean production equipment
FF-03: Mechanical	Example: use of wiper blades, squeegees
Materials Storage/Handling	
GG-01: Blending, Mixing, Compounding	
GG-02: Particle Size Reduction	Example: grinding mills
GG-03: Packaging/Filling	Examples: bottling liquid products, repackaging
GG-04: Materials Storage/Handling NOS	Materials Storage Handling not otherwise specified Use for storage and handling processes that generate losses such as spills or evaporative losses
Treatment of Process Water	
HH-01: Deionization, Demineralization	Examples: deionization, water softening, including associated process like regeneration of deionization resins
HH-02: Use of Biocides/Disinfection	Examples: water chlorination, use of algaecides in cooling towers
HH-03: pH Control of Process Water NOS	pH Control of Process Water (including water in boilers), not otherwise specified
Refrigeration/Temperature Control	
II-01: Refrigeration	
II-02: Heat Exchange Unit	
II-03: Contact Cooling NOS	Contact Cooling not otherwise specified Do not use for quenching. Quenching is CC-05
II-04: Noncontact Cooling NOS	Noncontact Cooling not otherwise specified
Power Generation	
JJ-01: Production of Electricity, Steam, Facility Heat	Applies to processes producing electricity, steam or heat through combustion, includes co-generation Note: use an FF code for equipment cleaning associated with power production and a HH code for treatment of cooling or boiler water

Item c. Describe the Product Produced by the Production Unit

Describe the product or family of products produced by the processes (see Appendix **I** for further guidance) entered in *item c*. (If you have filed previously, use the description as reported in earlier years.)

Items d through g. Enter NAICS codes

List the NAICS code that best represents the product or family of products first, followed by other codes that apply. Enter up to four NAICS codes. NAICS codes are listed in Appendix **A**.

Item h. Describe the Unit of Product Associated with the Production Unit

A unit of product is a measure of the product outputs or the amount of work produced by a process. If you are a first time filer, please see Appendix **I** and MassDEP's "Note on Production Units." If you filed previously, you will already have chosen a unit of product for the production unit. Please check the unit of product that applies. Use N/A for waste treatment units.

Note: In most cases, a physical measure will be adequate as a unit of product. Examples of physical measures include number or weight of the product produced.

Item i. Indicate Process Codes to Describe Production Unit

The TURA program has identified a set of process codes to describe the different processing steps that can occur in a production unit. (The complete list of process codes and appropriate definitions can be found in Appendix **H**). In the space provided, list the appropriate code(s) for each processing step that takes place in the production unit, in the order in which each step occurs.

Note: At least one process code must be selected for each production unit.

Items j through o. (how chemicals are used in the production unit)

This section provides information on which chemicals are used in the production unit and how they are used. The information is entered one chemical at a time, for each production unit. Once you have entered the information for each chemical used in that production unit, move on to the next production unit.

-*Item j* has the number assigned to the production unit for which you are entering data on the chemicals used in the production unit.

-*Items k through n,* describe for each chemical used in the production process, the individual processes in which the chemical goes through. *Item k* is for the first chemical, *Item l* is for the second chemical, and so on. (eDEP will provide another sheet if more than four chemicals are used in the production unit).

For each reportable chemical used in the production unit:

1. Enter the name and CAS number in the appropriate box.
2. Fill in the process step number in the appropriate boxes for each individual production process in which the chemical is used. If the chemical is used in all processes in the production unit, check the box marked ALL. Otherwise, enter the number assigned to the production process step in *item i*. (In the example on page 11, the process code BB-02 is listed first in *item i* and is therefore assigned the number 1. If the chemical you are reporting is used in BB-02, enter the number 1 in box #1 in *item k*.)
3. Move on to the next reportable chemical used in the production unit.

The form has place for four chemicals *(items k through n)*. If more than four chemicals are used in the production unit, check the box in *item o*, note the production unit number on the continuation page and add the additional chemicals in the space provided.

Once this section on chemical use has been completed for each reportable chemical used in the production unit, validate the form, and the next production unit will be presented to you.

When the information has been completed for each production unit, proceed to *item p*.

Item p. Have additional production units been added to this facility?

Answer yes or no, as appropriate.

CHAPTER 3: DETAILED FORM S INSTRUCTIONS

A Form S must be completed for each reportable chemical. The Form S is divided into the following four sections:

In Section 1, facilities provide information on the amount of chemical that is manufactured, processed, or otherwise used, the amount generated as byproduct, and the amount shipped in or as product at the facility.

In Section 2, facilities give an explanation if the chemical's reported use does not balance with the amount shipped in product or generated as byproduct.

In Section 3, facilities indicate whether the chemical is used in waste treatment/pollution control.

In Section 4, facilities provide information on the chemical at the production unit level, information about changes in use and byproduct from the previous year.

Completing Section 1 of the Form S: Facility-Wide Use of Listed Chemical

✓Example

Section 1: Facility-Wide Use of Listed Chemical

108883 — a. CAS #

Toluene — b. Chemical Name (Dioxin should be in grams, decimal points may be used)

Facility-wide use of chemical identified in a. Enter the total amount (in POUNDS, except for dioxin) for each applicable category. **NOTE:** 'Generated as byproduct' (item f.) means all waste containing the listed chemical before the waste is handled, transferred, treated, recycled or released. Please refer to the reporting instructions before completing this section.

c. Manufactured:	d. Processed: 25,000
e. Otherwise Used:	f. Generated As Byproduct: 5,000
g. Shipped In Or As Product: 20,000	h. Production Ratio:

Reporting Guidance

To complete Section 1 of the Form S, you need to understand the terms, "manufacture," "process," "otherwise use", "byproduct", and "shipped in or as product".

Explanation of Section 1, Items a and b.

CAS Number and Name: Enter the **chemical abstract service (CAS) number** for the listed chemical from your Form S cover sheet, Section 4. If the chemical is a chemical category, please refer to the CAS # in the Complete List of TURA Chemicals.

Note: CAS#'s are entered without dashes.
Enter the chemical name as it appears on the Form S Cover Sheet, Section 4.

Explanation of Section 1, Items c through g

Facility-Wide Use of Chemical: Enter the total quantity of the toxic chemical that was manufactured, processed, or otherwise used facility-wide during the calendar year covered by the report. Also enter the total quantity of the

chemical generated as byproduct or shipped in or as product. (Please refer to Appendix **D**, Common Reporting Errors).

The total quantity is reported in pounds for all chemicals (except dioxins, which are reported in grams).

Include in these totals, chemical use in pilot plants, pilot production units, start-up production units, and waste treatment units.

Note: eDEP will allow only the entry of whole pounds for non PBT chemicals. Decimal points are allowed only for PBT chemicals.

Chemical Use
Use of each chemical is reported as one or a combination of the following types of use: "manufacture," "process," and "otherwise use". These terms have the same meaning under TURA as under EPCRA, and are defined below. Consult EPA's TRI Forms and Instructions for more detailed guidance.

A *manufactured* chemical is created (or caused to come into being) as a product, impurity, or waste. Manufacturing also includes importing the chemical into the United States. Chemicals that are "coincidentally manufactured" during production, fuel combustion, or waste treatment, are considered "manufactured" under TURA, and are subject to reporting requirements.

A *processed* chemical is intentionally incorporated into your product. This category includes chemicals used as reactants, performance enhancers or components of a product.

The *otherwise used* category applies if your use does not fit the manufacturing or processing categories. Otherwise used is a default category. Examples include use of cleaners, degreasers, and coolants to maintain equipment.

AVOID COMMON MISTAKES

- ✓ The same chemical in the same formulation can be considered processed in some circumstances and otherwise used in others. (For example, when a solvent is mixed with other substances to make a coating that is sold as a product, the solvent is considered processed, since it is being incorporated into a product (the coating). When the company that purchased the coating applies it to another product, however, the solvent is considered "otherwise used" since it is merely serving as a carrier that will evaporate off, rather than remain in the product.)

- ✓ Chemicals brought on-site but held in inventory, rather than used in a production process during the reporting year, should not be reported in the facility-wide total use.

- ✓ When a given listed substance is introduced into production anywhere at the facility, it is counted *only once at the facility level*, regardless of how many times that listed substance is used, recycled or reused on-site. It is reported under the category that first trips the reporting threshold. For example, if 25,000 pounds or more of cyanide compounds are manufactured at the facility -- even coincidentally – that amount is reported as *"manufactured"*. Further use of the manufactured cyanide compounds is not subsequently reported as *"processed"* or *"otherwise used"* because it was already reported as "*manufactured"*. If a facility manufactures or processes between 10,000 to 25,000 pounds of a chemical, and subsequently otherwise uses that manufactured or processed amount, then the chemical is reported as "*otherwise used"* because that was the only threshold that was tripped. Note, however, that *at the production unit level*, total use is calculated as the sum of all uses and reuses (including non-integral recycling).

BYPRODUCT

Byproduct is defined as: "nonproduct outputs of toxic or hazardous substances generated by a production unit, before handling, transfer, treatment or release. Otherwise used substances shall be counted as byproduct when they leave a production unit." (Byproduct is equivalent to the sum of the waste reported on the federal or State Only Form R).

Once a chemical is manufactured, processed, or otherwise used, only three things can happen to it:

- It can become a product or a part of a product.
- It can be consumed or transformed during the production process.
- It can end up as a "byproduct".

If a chemical does not become a product, and it is not consumed or transformed in the production process, as a rule it is a "byproduct". Generally, byproduct encompasses all the "non-products" or wastes that leave the production unit.

However, the following are not byproducts:

1. Materials that are reused in a process in their current form without any type of treatment or recovery are not byproducts. They are an input, but their subsequent use is not counted in the amount manufactured, processed, or otherwise used.

2. Any substances that are recycled through a process that is "integral" to the production unit are not byproducts because they never leave the production process (see Appendix **G** for further guidance on integral recycling).

3. Untreated materials that are shipped off-site for reuse without any type of treatment or recovery are not byproducts but are products.

AVOID A COMMON MISTAKE

When MassDEP reviews the byproduct numbers, MassDEP compares the amount reported in the Form S with the amounts reported in Sections 5, 6, 7 and 8 of the Form R. Section 8 is the summary of sections 5, 6, and 7 of the Form R. In general, the **sum** of items in **Sections 5, 6, 8.2, 8.4 and 8.6 of the Form R** should equal the amount of **byproduct** reported on the Form S.

Explanation of Section 1, Items h through i

Item h, Production Ratio: Enter the production ratio for this chemical in *item h*. This is the same production ratio that is reported on the federal Form R. It is the current year production amount in those production units in which the chemical is used, divided by the previous year's production level.

Note: The production ratio should never be a negative number. If the production level decreased from the previous year, the production ratio should be a decimal number less than one (e.g., a production ratio of 0.80 means that the production level in the reporting year was 20% less than the production level in the previous year). If the production level has increased from the previous year, the production ratio should be a decimal number greater than one (e.g., a production ratio of 1.2 means that the production level in the reporting year was 20% greater than the production level in the previous year).

What Variable is Used to Calculate the Production Ratio?
To calculate a production ratio, you must first select the variable(s) on which the ratio will be based. In all cases, the production ratio must be based on the variable(s) that best reflect the output or outcome of the process(es) in which the chemical is involved.

Production Ratio
A production ratio is a ratio of reporting year production to prior year production. Calculate a production ratio when the chemical is involved in production processes. The equation for calculating a production ratio is as follows:

$$\textit{Production Ratio} = \frac{\text{[Production Variable] Current Year}}{\text{[Production Variable] Prior Year}}$$

If a chemical is used in the production of refrigerators, for example, the production ratio would be based on the number of refrigerators produced.

$$\textit{Example P.R.} = \frac{\text{\# of refrigerators produced Current Year}}{\text{\# of refrigerators produced Prior Year}}$$

✓Example

Your facility's only use of toluene is as a paint carrier for a painting operation. You painted 12,000 refrigerators in the current reporting year and 10,000 refrigerators during the preceding year. The production ratio for toluene in this case is **1.2** (12,000/10,000) because refrigerator production levels best reflect the output of the processes in which toluene is used.

Completing Section 2 of the Form S: Materials Balance

Reporting Guidance

MATERIALS BALANCE

In general:

Manufactured + Processed + Otherwise Used *should equal* **Byproduct + Shipped in Product**

You can think of the amount of a chemical that is manufactured, processed, or otherwise used as an input. Generally, the byproduct and the amount shipped in product can be viewed as the outputs. Unless a chemical undergoes a chemical reaction during production that transforms it into another substance or substances, the amount of the chemical "used" equals the amount contained in the product plus the amount generated as byproduct. This concept of a "materials balance" is incorporated into the design of the Form S.

Note: Filers that do not have a mass balance with their chemical use must respond to at least one of the materials balance options in Section 2. Providing this information may avoid follow-up inquiries from MassDEP to ascertain the accuracy of your reported information.

✓Example

Section 2: Materials Balance

When the amounts reported in c, d and e in Section 1 are added together, the sum will in many cases equal the sum of f and g. In other words, lines c, d and e will often form a "materials balance." If lines c,d and e are not in approximate balance, you must use this section to explain why. Indicate all the reasons that apply by entering the number of pounds on the appropriate line below (e.g., 4,000 Chemical was held in inventory).

a. Chemical Was Recycled On Site	b. Chemical Was Consumed or Transformed
4,000	
c. Chemical Was Held in Inventory	d. Chemical Is A Compound
e. Other	

f. Did anything non-routine occur at your facility during the reporting year that affected the data reported? Yes ☐* No ☐ *If your answer is Yes, you may explain in Section 5 on Page 3.

🗣Reporting Guidance

If the Form S report does not indicate that there is a mass balance (i.e. manufacture, process, or otherwise use do not equal the sum of shipped and byproduct), you will receive a validation message in the eDEP system, asking you to double-check the data for errors. You will need to respond to at least one of the options in Section 2 to explain why there is not a mass balance. If the answer is "other," please explain in Section 5 on page 3 of the Form S.

There are circumstances in which the amounts in lines c, d, and e of Section 1 will not be in balance with lines f and g. Section 2 provides several options to explain the imbalance. *It is important to complete this item because it will clarify what might otherwise be considered a reporting error.* Indicate all the reasons that apply, including the number of pounds on the appropriate line.

Section 2 lists four of the most common reasons and "other" category. The four most common reasons are:

Chemical Was Recycled On-site (in a method that is not integral to the production process): With non-integral recycling, the chemical is counted as a byproduct each time it leaves the production unit for recycling. Facilities report only the amount of the chemical newly added during the year as manufactured, processed, or otherwise used. In these cases, the sum of byproduct and shipped in product will exceed the facility's total use, and a materials imbalance will result. Please record the quantity of chemical that was recycled on-site, so that the apparent imbalance can be reconciled. (See Appendix **G**, Integral Recycling Guidance Under the Toxics Use Reduction Act, for further explanation).

Chemical Was Consumed or Transformed: If a chemical is consumed or transformed during production, either partially or totally, the amount generated as byproduct, plus the amount shipped in or as product may be less than the amount manufactured, processed or otherwise used.

Chemical Was Held in Inventory: Year-to-year inventory changes can affect the apparent materials balance. The Form S requires that a facility report the amount of chemical shipped in or as product during the reporting year. Some products manufactured in one year might not be shipped until the next.

Chemical is a Compound: For metals reported as compounds, the total weight of the compound in the amount manufactured, processed or otherwise used is counted. However, only the weight of the parent metal being reported is counted in calculating byproducts. Refer to Appendix **B** for more information on metals reporting

and planning. (This category would also apply to nitrate compounds, in which case the nitrate ion only is reported as byproduct.)

Explanation of Section 2, Item f

If there was a non-routine occurrence that would affect information in the report, please note it here, and explain it in Section 5 on page 3 of the Form S. An example of a non-routine occurrence is a major chemical spill that led to an unusual increase in byproduct for the year.

Note: Filers that check 'yes' for this option will be required to provide an explanation regarding the non-routine occurrence in Section 5.

Completing Section 3 of the Form S: Chemicals Used in Waste Treatment Units

✓Example

Section 3: Chemicals Used in Waste Treatment Units

a. Is this chemical used to treat waste or control pollution?

☐ Yes ☐ No* *If your answer is No, please skip ahead to Section 4 Toxics Use By Production Unit.

b. Enter the amount of the chemical (in pounds) used to treat waste or control pollution.

_____
Pounds

c. Did the use of this chemical for waste treatment or pollution control increase or decrease by 10 percent or more compared with the previous reporting year?

☐ Yes* ☐ No *If your answer is Yes, you may explain in Section 5.

Explanation of Section 3, Items a-c

a Is this chemical used to treat waste or control pollution? If your answer is no, skip to Section 4. If your answer is yes, continue to Section 3.b.

b. Enter the amount of the chemical (in pounds) used to treat waste or control pollution.

c. Answer whether or not the use of the waste treatment chemical increased or decreased by 10 percent or more since the previous reporting year. If yes, provide an explanation in Section 5 on page 3 of the Form S.

Completing Section 4 of the Form S: Toxics Use by Production Unit

Please refer to Appendix **C** for examples in completing Section 4 of the Form S, Toxics Use by Production Unit. This section is filled out for each production unit associated with the chemical that is reported on the Form S.

Section 4: Toxics Use by Production Unit

_____ _____

a. Production Unit # b. Chemical Name

c.Quantity of Chemical Use Code:

☐ 1. ≤5,000 lbs.
☐ 2. > 5,000 ≤10,000 lbs.
☐ 3. > 10,000 lbs. ≤100,000 lbs.
☐ 4. > 100,000 lbs. ≤500,000 lbs.
☐ 5. > 500,000 lbs.

d. Did the use of this chemical in this production unit increase or decrease by 10 percent or more compared with the previous reporting year and/or did you implement toxics use reduction?

☐ *Yes* ☐ *No** **If your answer is No, skip ahead to g. below.*

Explanation of Section 4, Items 4a through d

In Section 4, provide information on chemical use and byproduct in each production unit. You also report your progress in reducing use and byproduct generation. First time filers need only fill out *item 4.b*.

a. Production Unit Number: Enter the production unit number from the Form S Cover Sheet.

b. Chemical Name: Enter the chemical name from the Form S.

c. Quantity of Chemical Use Code: Enter the quantity of chemical code, to indicate the amount of the toxic substance that was manufactured, processed, or otherwise used in the production unit during the reporting year. Please refer to Appendix **G** for guidance on determining the quantity of chemical to report if it was integrally or non-integrally recycled.

d. Change in Use: *Item c* is a screening question designed to determine if you need to complete *items d–f.* Answer yes and proceed to *items d –f* only if the amount of the chemical used in the production unit changed by 10% or more between the current and previous reporting years, or if you implemented toxics use reduction.

> For example, if your previous year's use was 50,000 lbs., then a 10% increase would be equal or greater than your current year's use, 55,000 lbs. (50,000 * 1.1). A 10% decrease would be equal to or less than 45,000 lbs. (50,000 * .9).

If you did not report a chemical in the production unit in the previous year because you either used it below threshold or did not use it at all, you must still complete this question.

If your use of the chemical in the prior year was 0, and you are reporting use of the chemical this year, then check yes for 4.c. and complete *items e–g*.

Process code(s) where most significant changes occurred (up to three in descending order)	Type of Change (Enter "I" for Increase, "D" for Decrease)	Technique Code(s) (up to three per process code)		
e.1.	2.	3a.	3b.	3c.
f.1.	2.	3a.	3b.	3c.
g.1.	2.	3a.	3b.	3c.

Explanation of Section 4, Items 4e-g

Items e–g identify the processes in which chemical use changed, and the techniques or reasons why the amount of the chemical used in the production unit changed. Complete this section if your answer to *item 4.d* is yes (use changed by 10% or greater than 10%), OR if you implemented TUR.

Use *items e-g*, to list the first, second and third process code(s).

1. List the process code(s) associated with the chemical use in this production unit in the Form S Cover Sheet (up to three in descending order) in *items e, f, and g.*

2. Indicate the type of change in chemical use (I for Increase or D for Decrease).

3. Indicate the applicable technique code(s) listed below in Sections 3a, 3b, and 3c. You may list up to three technique codes per process code. The technique codes explain the factors that contributed to the increase or decrease in use. If reporting more than one code, enter them in the order of the most significant impact first, the second most significant impact second, and so on.

Description of Technique or Reason for Change	**Technique Code**
TUR Techniques	
Input substitution	10
Product reformulation	20
Production unit redesign	30
Production unit modernization	40
Improved operation and maintenance	50
Integral recycling/reuse	60
Waste Minimization	
Byproduct sold in commerce as product	63
Byproduct used in onsite waste treatment	64
Byproduct reused in manufacturing	65
Non-integral onsite recycling	66
Off-site recycling	67
Other Activity	
Production increased	68
Production decreased	69
Reporting threshold was lowered	70
Change in definition of byproduct otherwise used	71
Production/process step outsourced	72
Chemical replaced a more toxic chemical	73
Chemical required by customer or specification	74
Returned to using toxic chemical because safer alternative did not meet technical requirement	75
Returned to using toxic chemical because safer alternative did not meet customer preference	76

Description of Technique or Reason for Change	Technique Code
Byproduct increase because of cleanup, decommissioning or spill	77
Improved operation of waste treatment unit	78
Increase due to installation of pollution control device	79
Other	80

h. Was byproduct generated for this chemical less than 1 percent of use in this production unit?

☐ Yes* ☐ No *If your answer is Yes, skip ahead to Section 5.

Explanation of Section 4, Item h

Item h is a screening question designed to establish whether or not *items j-l* need to be completed. You need to proceed to *item i* if the amount of byproduct generated in the production unit was equal to or greater than one percent of the amount of the chemical used in the production unit.

For example, if you used 15,000 pounds of a chemical in the production unit, you would answer YES and skip to *Section 5* on page 3 of the Form S, if you generated less than 150 pounds of byproduct (15,000* .01). You would answer NO to *item h* and proceed to *item i,* if you generated 150 pounds or more of byproduct in that production unit.

i. Did the byproduct generated for this chemical in this production unit increase or decrease by 10 percent or more compared with the previous reporting year and/or did you implement toxics use reduction?

☐ Yes ☐ No* *If your answer is No, skip ahead to Section 5.

Explanation of Section 4, Item i

Item i is a screening question to determine if you need to answer *items j–l. Items j–l* need to be answered if the amount of the chemical generated as byproduct in the production unit changed by 10% or more between the current and previous reporting years or you implemented toxics use reduction.

For example, if your previous year's byproduct was 5,000 lbs., then a 10% increase would be 5,500 (5,000 * 1.1) lbs. or greater, or a 10% decrease would be 4,500 (5,000 * .9) lbs.or less.

Complete this item even if you did not report a chemical in the production unit in the previous year, because you either used it below threshold or did not use it at all.

Note: If your byproduct from the chemical in the prior year was 0, and there is byproduct in the production unit in the current year then you should check yes for *item i*. and complete *items j-l,* because your change in byproduct generation must be greater than 10%.

Note: If you implemented TUR, you must provide information in *items j-l,* even if your decrease is less than 10%.

Process code(s) where most significant changes occurred (up to three in descending order)	Type of Change (Enter "I" for Increase, "D" for Decrease)	Technique Code(s) (up to three per process code)		
j.1.	2.	3a.	3b.	3c.
k.1.	2.	3a.	3b.	3c.
l.1.	2.	3a.	3b.	3c.

Explanation of Section 4, Items j through l

Items j–l identify the processes in which the amount of byproduct generated in the production unit changed and the techniques or reasons why the change occurred. Complete this section if your answer to *item 4.i* is yes, (byproduct changed by more than 10%), OR if you implemented TUR.

Note: You do not need to answer this section, IF the amount of this chemical generated as byproduct in this production unit is less than 1% of the amount of the chemical used in the production unit.

1. List the process code(s) associated with the byproduct generation in this production unit in the Form S Cover Sheet (up to three in descending order) in *items j, k, and l*;

2. Indicate the type of change (I for Increase or D for Decrease); and

3. Indicate the applicable technique code(s) (see the chart of technique codes on page 27) in Sections 3a, 3b, and 3c. Up to three per process code. These technique codes explain the factors that contributed to the increase or decrease in byproduct.

Are there more production units that use this chemical? ☐ Yes ☐ No

If Yes, add a new production unit in Section 4a, and follow the same instructions for Sections 4b-l. Indicate No if there are no additional production units for this chemical.

Section 5: Description

You may add any comments or explanations regarding chemical use and/or byproduct generated in this production unit, chemical use in waste treatment (from Section 3), and non-routine occurrences at your facility (from Section 2f).

Provide any comments or explanations here.

Explanation of Section 5 (page 3 of the Form S)

Provide any comments or explanations here regarding:

- chemical use and/or byproduct generated in this production unit
- chemical use in waste treatment (Section 3)
- non-routine (or one-time) occurrences at your facility (Section 2.f)
- an explanation of *Other* in materials balance (Section 2.e)
- an explanation of any significant changes in use, byproduct, or facility operations from the previous reporting year, that may have resulted in an unusually high or low production ratio (Section 1.h)

Are there more chemicals to report?
If yes, begin a new Form S for another chemical. If no, then your report is complete.

What Is "Toxics Use Reduction"?

Toxics Use Reduction is defined in the Toxic Use Reduction Act as:
In-plant changes in production processes or raw materials that reduce, avoid, or eliminate the use of toxic or hazardous substances or generation of hazardous byproducts per unit of product, to reduce risks to the health of worker, consumers, or the environment without shifting risks between workers, consumers or parts of the environment. Toxic use reduction shall be achieved through any of the following techniques:

Input Substitution is replacing a toxic or hazardous substance or raw material used in a production unit with a non-toxic or less toxic substance. Examples include:

- Aqueous cleaning instead of solvent cleaning
- Soy based inks instead of chemical inks
- Alkaline plating baths instead of cyanide baths

Product Reformulation is substituting for an existing end-product, an end-product which is non-toxic or less toxic upon use, release, or disposal. Examples include:

- Latex based coatings instead of oil based coatings
- Unbleached paper instead of bleached paper

Production Unit Redesign or Modification is developing and using production units of a different design than those currently used. Examples include:

- Ozonation instead of chlorine-based system for controlling corrosion
- Electrostatic powder paint spray instead of solvent based paint

Production Unit Modernization is upgrading or replacing existing production unit equipment and methods with other equipment and methods based on the same production unit. Examples include:

- Continuous closed system instead of batch process
- Countercurrent and reactive rinsing instead of single tank rinsing in electroplating

Improved Operation and Maintenance of Production Unit Equipment is modifying or adding to existing equipment or methods including, but not limited to, such techniques as improved housekeeping practices, system adjustments, product and process inspections, or production unit control equipment or methods. Examples include:

- Installation of Floating Roofs on Chemical Storage Tanks (instead of no roofs)
- Strict inventory controls to prevent expiration of chemicals

Recycling, Reuse, or Extended Use of Toxics is using equipment or methods which become an integral part of the production unit of concern, including but not limited to filtration and other closed loop methods. Examples include:

- Acid regeneration instead of disposal of acid
- Silver recycling unit instead of discharge of silver in wastewater

WHAT IS NOT "TOXIC USE REDUCTION"?

Toxics use reduction focuses on the production process, rather than the byproduct. In other words, "reduction" is to occur through changes in the production process, rather than through changes in how the waste generated by the production process is handled. Thus, toxics use reduction does not include any practice which promotes or requires, or which is:

- Shifting the toxic discharge from one medium to another (air to water);
- Recycling, unless it is integral to the production process;
- Treatment of toxic waste to make it less toxic or non-toxic; and
- Incineration.
-

CHAPTER 4: DETAILED STATE ONLY FORM R/A INSTRUCTIONS

The State Only Form R/A must be completed for State Only reportable chemicals and State Only required NAICS Code filers. This form contains a portion of the fields used in the federal Form R and Form A. When filling out this form, please refer to instructions in EPA's TRI Forms and Instructions.

The State Only Form R/A is divided into the following sections:

- In Section 1, facilities provide the chemical name and CAS number of the chemical they are reporting.
- Section 2 is for facilities that are eligible for filling out the State Only Form A (eligibility for filing a Form A is explained on page 32).
- There is no Section 3 in the eDEP State Only Form R/A, because this information was already provided on the Form S.
- In Section 4, facilities report the maximum amount of chemical onsite at any time during the calendar year (explained on page 32).
- In Section 5, facilities report the quantity of toxic chemical entering each environmental media on-site.
- In Section 6, facilities report the quantity of the chemical transferred as waste to off-site locations.
- In Section 7A, facilities enter codes for on-site waste treatment methods and efficiency.
- In Section 7B, facilities enter codes for on-site energy recovery methods and efficiency.
- In Section 7C, facilities enter codes for on-site recycling processes.
- In Section 8 (the summary section of the report), facilities report the quantity of toxic chemical released and treated on-site and off-site. Facilities also provide activity codes for their source reduction activities.

Section 1: Toxic Chemical Identity

✓Example

Section 1 Toxic Chemical Identity

1310732	Sodium hydroxide
1.1 CAS Number	1.2 Toxic Chemical or Chemical Category Name

Please note that MassDEP does not accept the US EPA chemical category identifiers ('N###'); please refer to Appendix B of MassDEP's Toxics Use Reporting Forms and Instructions for the appropriate Massachusetts reporting number for chemical categories).

Are you filing a Form R ☒ yes, continue to Section 4 (note: Sections 2 and 3 are not required for State Only reporting) ☐ no, fill out only the State Only Form A section below.

Explanation of Section 1: Toxic Chemical Identity

⚐ CAS Number and Name: Enter the **chemical abstract service (CAS) number** for the listed chemical from your Form S cover sheet, Section 4. If the chemical is a chemical category, please refer to the CAS# in the Complete List of TURA Chemicals. Please note that the CAS# should be entered **without** dashes. Enter the chemical name as it appears on the Form S cover sheet, Section 4.

Check if you are filing a State Only Form A.

State Only Form A Section (Section 2)

✓**Example**

State Only Form A

☒ This chemical meets the Form A filing eligibility criteria. The annual amount released or disposed of onsite or transferred offsite for treatment, release or disposal did not exceed 500 lbs. this reporting year, AND the amount manufactured, processed or otherwise used did not exceed 1 million pounds. If you select this option, your State Only Form A filing is complete.

Note: a Form A may not be filed for PBT chemicals or compounds.

Section 4

Enter the maximum amount of the toxic chemical on-site at any time during the calendar year

Select

4.1 Two-Digit Code from TRI Instructions Package

Explanation of State Only Form A Section

- Check the first box if your chemical meets the eligibility requirements for filing a Form A (as stated in the following Note).
- Check if there are additional Form A chemicals to report. Additional pages will be provided, as needed.

Note: A facility may use a Form A, ONLY IF the total of the amount treated, recycled, disposed, released, used for energy recovery on-site and off-site IS LESS THAN 500 pounds AND the amount manufactured, processed or otherwise used did not exceed 1 million pounds. These volumes correspond to the sum of amounts reportable for data elements in Section 8, the summary of the report: Section 8.1 (quantity released), Section 8.2 (quantity used for energy recovery on-site), Section 8.3 (quantity used for energy recovery off-site), Section 8.4 (quantity recycled on-site), Section 8.5 (quantity recycled off-site), section 8.6 (quantity treated on-site), and Section 8.7 (quantity treated off-site). If more than a total of 500 pounds is reported in Section 8, the facility must report a State Only Form R. **If a facility does not meet these requirements and uses a Form A, then MassDEP may follow up with an enforcement action.**

Section 4: Maximum Amount Stored On-site (Note: there is no Section 3)

✓**Example**

Section 4

Enter the maximum amount of the toxic chemical onsite at any time during the calendar year

03

4.1 Two-Digit Code From TRI Instructions Package

Explanation of Section 4: Maximum Amount Stored On-site

Enter the code for the maximum amount of the toxic chemical onsite at any time during the calendar year.

Code	Maximum Pounds of Chemical Onsite During Calendar Year
01	0-99
02	100-999
03	1,000-9,999
04	10,000-99,999
05	100,000-999,999
06	1,000,000-9,999,999
07	10,000,000-49,999,999
08	50,000,000-99,999,999
09	100,000,000-499,999,999
10	500,000,000-999,999,999
11	1 billion and above

Section 5: Quantity of Chemical Entering Each Environmental Media On-Site

✓**Example**

Section 5

Quantity of the Toxic Chemical Entering Each Environmental Medium Onsite

5.1-2 Air Emissions ☐ check if not applicable

10 5.1 Fugitive or non-point air emissions (pounds/year)	120 5.2 Stack or point air emissions (pounds/year)

5.3 Discharges to Receiving Streams or Water Bodies ☒ check if not applicable

Total Release (pounds/year)

5.4 Underground Injection Onsite to Class I or Class II-V wells ☒ check if not applicable

5.4.1 Underground Injection onsite to Class I Wells (pounds/year)	5.4.2 Underground Injection onsite to Class II-V Wells (pounds/year)

5.5 Disposal to Land Onsite ☐ check if not applicable

5.5.1A RCRA Subtitle C landfills (pounds/year)	5.5.1B Other landfills (pounds/year)
5.5.2 Land treatment/application farming (pounds/year)	5.5.3 Surface Impoundment (pounds/year)

5.5.4 Other disposal (pounds/year)

Explanation of Section 5: Quantity of Chemical Entering Each Environmental Media Onsite

5.1-2 Check if your facility did not have air emissions to report.
5.1 Enter your facility's fugitive or non-point air emissions in pounds/year.
5.2 Enter your facility's stack or point air emissions in pounds/year.
5.3 Check if your facility did not have any discharges to receiving streams or water bodies. If your facility did have discharges to receiving streams or water bodies, enter the total release, in pounds/year.
5.4 Check if your facility did not have any underground injection onsite to class I or class II-V wells. If your facility did have underground injection onsite to class I or class II-V wells, enter the total amount, in pounds/year.
5.5 Check if your facility did not have any disposal to land onsite.
5.5.1A Enter your facility's RCRA Subtitle C landfill disposal in pounds/year.
5.5.1B Enter your facility's other landfills disposal in pounds/year.
5.5.2 Enter your facility's land treatment/application farming disposal in pounds/year.
5.5.3 Enter your facility's surface impoundment disposal in pounds/year.
5.5.4 Enter your facility's other disposal in pounds/year.

Section 6: Transfer of Wastes to Off-site Locations

✓**Example**

Section 6

Transfers of the toxic chemical in wastes to off-site locations

6.1.A Total Quantity Transferred to POTWs ☒ check if not applicable

6.1.A.1 Total Transfers to POTWs

6.2 Transfers to Other Off-site Locations ☐ check if not applicable

20000
6.2.A Total Transfers (pounds/year)

Explanation of Section 6: Transfer of Wastes to Off-Site Locations.

6.1.A Check the appropriate box if your facility did not have transfers to POTWs to report.
6.1.A.1 Enter your facility's total transfers to POTWs in pounds/year.
6.2 Check the appropriate box if your facility did not have transfers to other off-site locations to report.
6.2.A Enter your facility's total transfers to other off-site locations in pounds/year.

Section 7A: On-site Waste Treatment Methods and Efficiency

✓**Example**

Section 7A

On-site Waste Treatment Methods and Efficiency: ☐ check if not applicable

1. General Waste Stream Code: W (7A.1a)

Waste Treatment Method(s) Sequence alpha-numeric codes:

7A.1b.2	7A.1b.3	7A.1b.4	7A.1b.5	7A.1b.6	7A.1b.7	7A.1b.8
H121						

Waste Treatment Efficiency Estimate: (7A.1c)

☐ greater than 99.9999% ☐ greater than 99.99% to 99.9999% ☒ greater than 99% to 99.99%

☐ greater than 95% to 99% ☐ greater than 50% to 95% ☐ greater than 0% to 50%

Explanation of Section 7A: On-site Waste Treatment Methods and Efficiency

Place a check in the appropriate box if your facility did not have any on-site waste treatment to report.

7A.1a Enter the code for your general waste stream.

Code	Waste Stream Type
A	Gaseous (gases, vapors, airborne particulates)
W	Wastewater (aqueous waste)
L	Liquid waste streams (non-aqueous waste)
S	Solid waste streams (including sludges and slurries)

7A.1b.1-8 Enter the appropriate waste treatment method sequence alpha-numeric code.

Codes	Waste Treatment Type
A01	Flare
A02	Condenser
A03	Scrubber
A04	Absorber
A05	Electrostatic Precipitator
A06	Mechanical Separation
A07	Other Air Emission Treatment
H040	Incineration--thermal destruction other than use as a fuel
H071	Chemical reduction with or without precipitation
H073	Cyanide destruction with or without precipitation
H075	Chemical oxidation
H076	Wet air oxidation
H077	Other chemical precipitation with or without pre-treatment
H081	Biological treatment with or without precipitation
H082	Adsorption
H083	Air or steam stripping
H101	Sludge treatment and/or dewatering
H103	Absorption
H111	Stabilization or chemical fixation prior to disposal
H112	Macro-encapsulation prior to disposal
H121	Neutralization
H122	Evaporation
H123	Settling or clarification
H124	Phase separation
H129	Other treatment

7A.1c Check the estimate range for the efficiency of your system.

- Greater than 99.9999%
- Greater than 99.99% to 99.9999%
- Greater than 99% to 99.99%
- Greater than 95% to 99%
- Greater than 50% to 95%
- Greater than 0% to 50%

Section 7B: On-site Energy Recovery Methods and Efficiency

✓Example

Section 7B

On-site Energy Recovery Processes ☐ check if not applicable. Energy Recovery Methods [enter 3-character code(s)]

1	2	3	4
U01			

Explanation of Section 7B: On-Site Energy Recovery Methods and Efficiency

Check the appropriate box if your facility did not have any on-site energy recovery processes to report.

7B.1-4 Enter your energy recovery method 3-character code(s).

Codes	Energy Recovery Technique
U01	Industrial Kiln
U02	Industrial Furnace
U03	Industrial Boiler

Section 7C: On-Site Recycling Processes

✓Example

Section 7C

On-site Recycling Processes ☐ check if not applicable. Recycling Methods [enter 3-character code(s)]

1	2	3	4	5
H10				
6	7	8	9	10

Explanation of Section 7C: On-Site Recycling Processes

Check the appropriate box if your facility did not have any onsite recycling processes to report.

7C.1-10 Enter the 3-character recycling method code for your recycling method(s).

Codes	On-Site Recycling Technique
H10	Metal recovery (by retorting, smelting, or chemical or physical extraction)
H20	Solvent recovery (including distillation, evaporation, fractionation or extraction)
H39	Other recovery or reclamation for reuse (including acid regeneration or other chemical reaction process)

Section 8: Source Reduction and Recycling Activities
(Note: Do not Double Count)

✓**Example**

Section 8 Source Reduction and Recycling Activities	Column A Prior Year (pounds/year)	Column B Current Reporting Year (pounds/year)	Column C Following Year (pounds/year)	Column D Second Following Year (pounds/year)
8.1a Total on-site disposal underground injection and landfills				
8.1b Total on-site disposal or other releases		130		
8.1c Total off-site disposal underground injection and landfills				
8.1d Total off-site disposal or other releases				
8.2 Quantity used for energy recovery on-site		1000		
8.3 Quantity used for energy recovery off-site				
8.4 Quantity recycled on-site		2050		
8.5 Quantity recycled off-site				
8.6 Quantity treated on-site		2000		
8.7 Quantity treated off-site		20000		

8.8 Quantity released to the environment as a result of remedial actions, catastrophic events, or one-time events not associated with production processes (pounds/year)

8.10 Did your facility engage in any source reduction activities for this chemical during the reporting year? ☒ yes, continue below ☐ no

	Source Reduction Activities [enter code(s)]	Methods to Identify Activity (enter codes)		
8.10.1	W13	T04 (a)	(b)	(c)
8.10.2		(a)	(b)	(c)
8.10.3		(a)	(b)	(c)

Are there additional State Only Form R chemicals to report? ☐ yes ☒ no
(if yes, continue with additional State Only Form Rs as needed)

Explanation of Section 8: Source Reduction and Recycling Activities

8.1-8.8. Section 8 is a summary of Sections 5 through 7 of the Form R. Enter the pounds of the chemical in each waste management category for the prior year and the current year, and projections for the following two years.

NOTE: Do not double count. While facilities may dispose of their waste chemicals in several different ways, (for example, some waste solvents may be released directly to air on-site, and some may be shipped off-site for

recycling) each individual pound of chemical has only one final disposition and should be reported in only one of the eight choices.

8.10 Check the appropriate box to indicate whether or not your facility engaged in source reduction activities during the reporting year.

8.10.1-2 Enter the 3-digit source reduction activity code in the first line.

Code	Source Reduction Activity
Good Operating Practices	
W13	Improved maintenance scheduling, record keeping, or procedures
W14	Changed production schedule to minimize equipment and feedstock changeovers
W19	Other changes made in operating practices
Inventory Control	
W21	Instituted procedures to ensure that materials do not stay in inventory beyond shelf-life
W22	Began to test outdated material — continue to use if still effective
W23	Eliminated shelf-life requirements for stable materials
W24	Instituted better labeling procedures
W25	Instituted clearinghouse to exchange materials that would otherwise be discarded
W29	Other changes made in inventory control
Spill and Leak Prevention	
W31	Improved storage or stacking procedures
W32	Improved procedures for loading, unloading, and transfer operations
W33	Installed overflow alarms or automatic shut-off valves
W35	Installed vapor recovery systems
W36	Implemented inspection or monitoring program of potential spill or leak sources
W39	Other changes made in spill and leak prevention
Raw Material Modifications	
W41	Increased purity of raw materials
W42	Substituted raw materials
W49	Other raw material modifications made
Process Modifications	
W51	Instituted re-circulation within a process
W52	Modified equipment, layout, or piping
W53	Used a different process catalyst
W54	Instituted better controls on operating bulk containers to minimize discarding of empty containers
W55	Changed from small volume containers to bulk containers to minimize discarding of empty containers
W58	Other process modifications made
Cleaning and Degreasing	
W59	Modified stripping/cleaning equipment
W60	Changed to mechanical stripping/cleaning devices (from solvents or other materials)
W61	Changed to aqueous cleaners (from solvents or other materials)
W63	Modified containment procedures for cleaning units
W64	Improved draining procedures

Code	Source Reduction Activity
W65	Redesigned parts racks to reduce drag out
W66	Modified or installed rinse systems
W67	Improved rinse equipment design
W68	Improved rinse equipment operation
W71	Other cleaning and degreasing modifications made
Surface Preparation and Finishing	
W72	Modified spray systems or equipment
W73	Substituted coating materials used
W74	Improved application techniques
W75	Changed from spray to other system
W78	Other surface preparation and finishing modifications made
Product Modifications	
W81	Changed product specifications
W82	Modified design or composition of product
W83	Modified packaging
W89	Other product modifications made

Enter the 3-digit code for the method(s) you used to identify these source reduction activities in lines a, b & c.

Code	Method Used to Identify Source Reduction Activity
T01	Internal pollution prevention opportunity audit(s)
T02	External pollution prevention opportunity audit(s)
T03	Materials balance audits
T04	Participative team management
T05	Employee recommendation (independent of a formal company program
T06	Employee recommendation (under a formal company program
T07	State government technical assistance program
T08	Federal government technical assistance program
T09	Trade association/industry technical assistance program
T10	Vendor assistance
T11	Other

Are there any additional State only Form R chemicals to report? If you check YES, then additional forms will be presented to you.

Chapter 5: TOXICS USE FEE WORKSHEET/INVOICE and CERTIFICATION STATEMENT

Toxics Use Fee Worksheet/Invoice:

Note: The reporting year, facility name, and MassDEP facility ID number will pre-populate.

a. Facility Name. Enter the facility name.
b. Facility Site Address. Enter the street address of the facility.
c. City. Enter the town or city where the facility is located.
d. State. Pre-populated. Facility must be located in Massachusetts.
e. Zip Code. Enter the zip code of the location of the facility.
f. Base fee. Enter the base fee from the table on the fee worksheet/invoice (based on # of full-time employee equivalents).
g. # of Form Ss. Enter the number of Form Ss that you are filing (not including high hazard or low hazard chemicals).
h. # of high hazard Form Ss. Enter the number of high hazard Form Ss that you are filing.
i. # of low hazard Form Ss. Enter the number of low hazard Form Ss that you are filing.
j. Add lines g and h, and multiply by $1,100 (the cost of each chemical, not including low hazard chemicals, which are cost-exempt).
k. Add lines f and j. Enter the sum of lines f and j.
l. Fee. Enter the amount from line k, or from the 3rd column of the table on the fee worksheet/invoice (maximum fee), whichever is less. This is your fee.

Certification Statement:

a. Authorized Signature. Signature of responsible official.
b. Date (MM,DD,YYYY). Date of signature.
c. First Name (Print).
d. Last Name (Print).
e. Position/Title.
f. Email Address.

Massachusetts Department of Environmental Protection
Bureau of Air & Waste - Toxics Use Reduction Report

Toxics Use Fee Worksheet

2018 Reporting Year
ABNAKI ROCK Facility Name
11 380799 DEP Facility ID Number

ABNAKI ROCK
a. Facility Name

1 WINTER ST
b. Facility Site Address

BOSTON	MA	021084747
c. City	d. State	e. ZIP Code

The amount of your fee depends on the number of "full time employee equivalents" (2,000 work hours per year) at your facility, and number of toxic substances for which reporting is required (i.e., the number of Form Ss you submit).

Use the following schedule to determine your fee for the 2018 reporting year.

# Full Time Employee Equivalents	Base Fee	Maximum Fee
>= 10 and < 50	$1,850	$5,550
>= 50 and < 100	$2,775	$7,400
>= 100 and < 500	$4,625	$14,800
>= 500	$9,250	$31,450

f. Determine your base fee by referring to the 2nd column above.	1850
g. Enter # of Form Ss you are filing that are not high hazard or low hazard chemicals:	1
h. Enter # of Form Ss you are filing for high hazard chemicals:	0
i. Enter # of Form Ss you are filing for low hazard chemicals:	0
j. ADD LINES g and h and multiply the result by $1,100.	1100
k. Add LINE f and LINE j.	2950
l. Enter the amount from LINE K or from the 3rd column of the schedule (Maximum Fee) WHICHEVER IS LESS	2950

Your fee is the amount entered in LINE L. MASSDEP WILL MAIL AN INVOICE FOR PAYMENT. Payment due 30 days after invoice notice date - Late payment will result in a $1000 late fee as mandated by MGL 211.

Certification Statement

- ☐ I hereby certify that I have reviewed this and all attached documents and that, to the best of my knowledge and belief, the submitted information is true and complete and that the amounts and information in these documents are accurate based on measurements and/or reasonable estimates using data available to the preparers of these documents.
- ☐ I am aware that there are significant penalties for willful or intentional submission of false or incomplete information.
- ☐ I agree on behalf of the filing facility to remit the required Toxics Use Fee (as determined on the Fee Worksheet) to the Commonwealth of Massachusetts, as required by 301 CMR 40.03.

a. Authorized Signature	b. Date (MM/DD/YYYY)
c. First Name (Print)	d. Last Name (Print)
e. Position/Title	f. Email Address