

FESHM 8043: TOXIC RELEASE INVENTORY (TRI) REPORTING PROGRAM

Revision History

| Author | Description of Change | Revision Date |
|---------------|---|----------------------|
| Amy Pavnica | <ul style="list-style-type: none">• Changed title of link within document• Modified responsibilities of the D/S/P Managers• Modified responsibilities of Chief Safety Officer• Modified responsibilities of the ESH&Q Section | December 2018 |
| Dave Hockin | <ul style="list-style-type: none">• Added statement of applicability to Fermilab Leased Spaces.• Minor editorial changes. | February 2018 |
| Sylvia Wilson | <ul style="list-style-type: none">• Applied the new FESHM template.• Revised Division/Section Heads/Project Managers (D/S/C) to Division/Section Heads or Project Managers (D/S/P).• Replaced Environmental Protection Officer in the Responsibilities section to Division Safety Officer.• Minor editorial changes. | December 2015 |

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1.0 INTRODUCTION

Owners/operators of facilities that release toxic chemicals into the environment must submit a Toxic Release Inventory (TRI) “Form R” to the U.S. Environmental Protection Agency (EPA) and the Illinois Environmental Protection Agency (IEPA) according to Section 313 of the Emergency Planning and Community Right to Know Act (EPCRA). As a federal facility, Fermilab is obligated to prepare and submit a TRI “Form R” when, in a calendar year, any listed toxic chemical is “manufactured, processed or otherwise used” above its regulatory defined threshold. A TRI “Form R” is submitted for each chemical that exceeds the threshold. The Form R documents the release of a chemical into the environment. Releases include:

- transfers to offsite landfills or other treatment facilities
- discharges to municipal sewer systems
- emissions to the air (including fugitive emissions)
- direct discharges to surface water
- placement into on-site landfills or other forms of impoundments.

Section 313 allows owners or operators to rely on readily available data and reasonable estimates to determine the amount of chemical released.

Some uses of chemicals do not need to be factored into the threshold calculations due to regulatory defined exemptions. The categories of exemptions are:

- *De minimis*
- Article
- Laboratory activities
- “Otherwise Use” Exemptions
 - Motor vehicle maintenance
 - Routine janitorial or facility grounds maintenance
 - Structural components
 - Personal use
 - Air or water intake

EPA published [guidance documents](#) to help determine the applicability of these exemptions.

Divisions/Sections or Project Managers should consult with the ESH&Q Section concerning the application of exemptions to avoid civil penalties for violations of the Section 313 reporting requirements.

This chapter only applies to the Fermilab site. Leased spaces will follow the rules and regulations set forth by the partnering institute and/or state, local or federal codes and standards.

2.0 DEFINITIONS

Article means a manufactured item: (1) which is formed to a specific shape or design during manufacture; (2) which has end use functions dependent in whole or in part upon its shape or design during end use; and (3) which does not release a toxic chemical under normal conditions of processing or use of that item at the facility or establishments.

De minimis is the concentration of a toxic chemical in a mixture of chemicals which is below 1% of the mixture, or 0.1% of the mixture in the case of a toxic chemical which is a carcinogen as defined in 29 CFR 1910.1200(d)(4).

Disposal means any underground injection, placement in landfills/surface impoundments, land treatment, or other intentional land disposal.

Establishment means an economic unit, generally at a single physical location, where business is conducted or where services or industrial operations are performed.

Facility means all buildings, equipment, structures, and other stationary items which are located on a single site or on contiguous or adjacent sites and which are owned or operated by the same person (or by any person which controls, is controlled by, or under common control with such person). A facility may contain more than one establishment.

Import means to cause a chemical to be imported into the customs territory of the United States. For purposes of this definition, *to cause* means to intend that the chemical be imported and to control the identity of the imported chemical and the amount to be imported.

Laboratory (for purposes of the regulatory defined ‘Laboratory Activity Exemption’) means those activities under the supervision of a ‘technically qualified person’ as defined in 40 CFR Section 720.3 Subpart ee. This may apply to a laboratory on site such as the radiation counting laboratory but does not apply to the overall Fermilab complex.

Manufacture means to produce, prepare, import, or compound a toxic chemical. Manufacture also applies to a toxic chemical that is produced coincidentally during the manufacture, processing, use, or disposal of another chemical or mixture of chemicals, including a toxic chemical that is separated from that other chemical or mixture of chemicals as a byproduct, and a toxic chemical that remains in that other chemical or mixture of chemicals as an impurity.

Mixture means any combination of two or more chemicals, if the combination is not, in whole or in part, the result of a chemical reaction. However, if the combination was produced by a chemical reaction but could have been produced without a chemical reaction, it is also treated as a mixture. A mixture also includes any combination which consists of a chemical and associated impurities.

Otherwise use means any use of a toxic chemical, including a toxic chemical contained in a mixture or other trade name product or waste, that is not covered by the terms “manufacture” or “process.” Otherwise use of a toxic chemical does not include disposal, stabilization (without subsequent distribution in commerce), or treatment for destruction unless:

- (1) The toxic chemical that was disposed, stabilized, or treated for destruction was received from off-site for the purposes of further waste management; or
- (2) The toxic chemical that was disposed, stabilized, or treated for destruction was

manufactured as a result of waste management activities on materials received from off-site for the purposes of further waste management activities. Relabeling or redistributing of the toxic chemical where no repackaging of the toxic chemical occurs does not constitute otherwise use or processing of the toxic chemical.

Process means the preparation of a toxic chemical, after its manufacture, for distribution in commerce:

- (1) In the same form or physical state as, or in a different form or physical state from, that in which it was received by the person so preparing such substance, or
- (2) As part of an article containing the toxic chemical. Process also applies to the processing of a toxic chemical contained in a mixture or trade name product.

Release means any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment (including the abandonment or discarding of barrels, containers, and other closed receptacles) of any toxic chemical.

Senior management official means an official with management responsibility for the person or persons completing the report, or the manager of environmental programs for the facility or establishments, or for the corporation owning or operating the facility or establishments responsible for certifying similar reports under other environmental regulatory requirements.

Toxic chemical means a chemical or chemical category listed in §372.65 of 40 CFR.

3.0 RESPONSIBILITIES

3.1 Division/Section Heads or Project Managers (D/S/P) shall:

- Support ESH&Q with resources necessary to compile the annual TRI “Form R” Report.

3.2 Chief Safety Officer shall:

- Ensures the effective management of this chapter.
- Coordinates communication with DOE and regulatory agencies regarding TRI issues, including submitting the annual TRI “Form R” Report.
- Ensure that each contributor to the TRI Report remains current in TRI requirements
- and attends TRI training as necessary.

3.3 ESH&Q Section

- Conduct a review of operations against the EPA “[List of Lists](#)” for the previous calendar year.
- Collect a list of all toxic chemicals that are found on the “[List of Lists](#)” within the previous calendar year, of 1,000 lbs. or greater. However, there are sixteen TRI chemicals and four TRI chemical categories, known as PBT, Persistent, Bio cumulative, Toxic, that have much lower thresholds. These chemicals and their reporting thresholds can be found [here](#). Include any of these chemicals on the list regardless of quantity.
- Consult with Divisions/Sections to assist in exemption determinations.

- Maintain Fermilab site-wide TRI chemical inventory information collected from all Divisions/Sections.
- The EP Group will submit a “Form R” to the EPA/IEPA for any TRI chemical cumulatively exceeding the reporting threshold for the site during the previous calendar year by July 1st.
 - When a “Form R” is submitted to the EPA/IEPA, the following must be retained for three years from the submission date: a copy of the report, all documents and materials used in determining that the report was required, and all supporting documents.

4.0 REFERENCES

The Emergency Planning & Community Right-To-Know Act (EPCRA); 42 U.S.C. 11001 et seq. (1986)

The Pollution Prevention Act (PPA); 42 U.S.C. 13101 et seq. (1990)

Title 40, Part 372, Toxic Chemical Release Reporting: Community Right to Know

United States Environmental Protection Agency. *Toxic Release Inventory (TRI) Program Guidance Documents*. Retrieved November 23, 2015 from <http://www2.epa.gov/toxics-release-inventory-tri-program/guidance-documents-tri-reporting#General>

United States Environmental Protection Agency. *TRI Chemical List*. Retrieved November 23, 2015 from <http://www2.epa.gov/toxics-release-inventory-tri-program/tri-listed-chemicals>

5.0 TECHNICAL APPENDIX A – TRI Reporting Thresholds

Table A-1 lists the reporting thresholds for manufacture, process or otherwise use of a toxic chemical. A TRI “Form R” is submitted when an activity causes the release of greater than or equal to the threshold amount of a toxic chemical. For example, in 2009, Fermilab submitted a TRI “Form R” because >10,000 pounds of copper (a toxic chemical) were “otherwise used.”

Table A-1

| Activity | Reporting Threshold (pounds released) |
|---------------|---------------------------------------|
| Manufacture | 25,000 |
| Process | 25,000 |
| Otherwise Use | 10,000 |

Certain chemicals that are known to be very harmful to the environment and human health have much lower reporting thresholds. These chemicals are known as PBT, Persistent, Bio cumulative, Toxic (see 40 CFR 372.28). Table A-2 illustrates some common PBT chemicals that may be processed or otherwise used at Fermilab, and the associated reporting thresholds.

Table A-2

| Chemical Name | Reporting Threshold (pounds released) |
|-------------------------------|---------------------------------------|
| Lead, Lead Compounds | 100 |
| Polycyclic Aromatic Compounds | 100 |
| Mercury, Mercury Compounds | 10 |
| Polychlorinated Biphenyl | 10 |

The U.S. EPA updates the list of toxic chemicals for TRI reporting annually. The list of toxic chemicals can be found here: <http://www2.epa.gov/toxics-release-inventory-tri-program/tri-listed-chemicals> .