

TURA PRIMER

The rules for TURA are based on, and are as consistent as possible with, the rules for the Federal Toxic Release Inventory (TRI) program. The TURA regulations, reporting and planning instructions, and guidance are found on the MassDEP website at <https://www.mass.gov/guides/massdep-toxics-use-reduction-program>.

The federal TRI reporting instructions, which provide much more detail on threshold determinations and definitions, can be found at https://ordspub.epa.gov/ords/guideme_ext/f?p=104:41.

WHO HAS TO REPORT:

You must report under TURA if your facility:

1. Uses a listed toxic chemical above a reporting threshold; **AND**
2. Does ANY business in a listed Standard Industrial Classification (SIC) code or equivalent NAICS (North American Industrial Classification System) code (EPA rules prioritize use of the Primary SIC Code) (see page 2 for the list); **AND**
3. Employs ten or more full time employee equivalents

CHEMICAL USE THRESHOLD

Chemical list is CERCLA list and TRI list as modified by the administrative council. The complete list of TURA chemicals is found at: <http://www.mass.gov/eea/agencies/massdep/toxics/approvals/forms-and-online-reporting.html#>

Chemical Type	CAS # or DEP Category Code	Threshold
Most Listed Chemicals	multiple	<ul style="list-style-type: none"> • Manufacture (create or import) or Process (combine into a product or repackage chemicals) 25,000 lbs • Otherwise Use 10,000 lbs (any other use of a chemical that does not meet the definition of manufacture or process; for instance, the use of solvent in coatings applied)
High Hazard Chemicals		
Trichloroethylene	79-01-6	Manufacture OR Process OR Otherwise Use = 1000 lbs <i>(Important Note: calculate the threshold for HHS based on the highest of any single use category, not on the sum of all use categories)</i>
Cadmium	7440-43-9	
Cadmium Compounds	1004	
Perchloroethylene /Tetrachloroethylene	127-18-4	
Formaldehyde /Methylene oxide	50-00-0	
Hexavalent Chromium Compounds	1216	
Methylene Chloride (Dichloromethane)	75-09-2	
1-Bromopropane (n-Propyl bromide, or nPB)	106-94-5	

Chemical Type	CAS # or DEP Category Code	Threshold
Hydrogen Fluoride	7664-39-3	
Cyanide Compounds	1016	
Dimethylformamide (DMF)	68-12-2	
2,4-Toluene Diisocyanate	584-81-9	
2,6-Toluene Diisocyanate	91-08-7	
Toluene Diisocyanate mixed isomers	26471-62-5	
Persistent Bioaccumulative Toxics (PBTs)		
Aldrin	309-00-2	100 lbs
Benzo(g,h,i)perylene	191-24-2	10 lbs
Chlordane	57-74-9	10 lbs
Dioxin and dioxin-like compounds (manufacturing; and the processing or otherwise use of dioxin and dioxin-like compounds if the dioxin and dioxin-like compounds are present as contaminants in a chemical and if they were created during the manufacturing of that chemical)	1060	0.1 gram
Heptachlor	76-44-8	10 lbs
Hexachlorobenzene	118-74-1	10 lbs
Isodrin	465-73-6	10 lbs
Lead (this lower threshold does not apply to lead when contained in stainless steel, brass or bronze alloy)	7439-92-1	100 lbs
Lead compounds	1026	100 lbs
Mercury	7439-97-6	10 lbs
Mercury Compounds	1028	10 lbs
Methoxychlor	72-43-5	100 lbs
Octachlorostyrene	29082-74-4	10 lbs
Pendimethalin	40487-42-1	100 lbs
Pentachlorobenzene	608-93-5	10 lbs
Polychlorinated biphenyls (PCBs)	1336-36-3	10 lbs
Polycyclic aromatic compounds (PACs) (includes only 25 chemicals)	1040	100 lbs
Tetrabromobisphenol A	79-94-7	100 lbs
Toxaphene	8001-35-2	10 lbs
Trifluralin	1582-09-8	100 lbs

COVERED SIC CODES:

10 - 14, 20 - 39, 40, 44 - 51, 72, 73, 75 and 76, which include:

- Mining
- Manufacturing,
- Water Transportation, Railroad Transportation
- Wholesale trade nondurable goods (Chemicals and allied products; Paints varnishes supplies)

- Personal Services: (Laundry; Photography; Beauty and barber shops; Shoe repair; Funeral homes, Miscellaneous)
- Business Services: (Advertising; Consumer Credit Reporting Agencies; Mercantile; Mailing, Reproduction, Commercial Art and Photography, and Stenographic; Services to Dwellings and Other Buildings; Miscellaneous Equipment Rental and Leasing; Personnel Supply Services; Computer Programming, Data Processing, and Other Computer Related Services; Miscellaneous Business Services)
- Miscellaneous repair services (Electrical Repair Shops; Watch, Clock, and Jewelry Repair; Reupholstery and Furniture Repair; Miscellaneous Repair Shops and Related Services includes welding)

FULL TIME EMPLOYEE EQUIVALENT CALCULATION

The total number of hours worked by individuals employed by the facility divided by 2000. INCLUDING:

- Paid sick, vacation, holidays
- Contractors
- Part time workers
- Sales staff including the hours spent on the road
- Facility maintenance personnel including full time or contracted, plumbers, electricians, cleaning staff
- “Volunteer” labor

EXEMPTIONS

A listed chemical would not counted toward the use thresholds if it is:

- Not a PBT and is present in a mixture at less than the following *de minimis* concentrations:
 - 1% for non carcinogens
 - 0.1% carcinogens

This exemption does not apply if the chemical is coincidentally manufactured or concentrated in a waste that is subsequently treated onsite or sent offsite for recycling or further processing;

- An “article”. That is, the chemical is contained in the item used in the manufacturing process without undergoing any change or manipulation that could result in its release. Examples include a screw used to put a case together, a fully formed case put around electronic components, a drum of paint stored and sold without repackaging;
- Used for facility maintenance only;
- Present in a structural component of the facility;
- Present in personal products used on site;
- Present in a pesticide or herbicide when used in agricultural applications;
- Present in crude, lubricating or fuel oils or other petroleum materials being held for direct wholesale or retail sale;
- Present in crude or fuel oils used in combustion to produce electricity, steam or heat except when production of electricity, steam or heat is the primary business of a facility, or is used for vehicle maintenance;

- Present only in the intake water or air;
- An EPCRA Section 313 chemical that is manufactured, processed, or otherwise used in a laboratory at a covered facility under the direct supervision of a technically qualified individual. Note: pilot plant scale and specialty chemical production does not qualify for this laboratory activities exemption, nor does the use of EPCRA Section 313 chemicals for laboratory support activities, such as the use of chemicals for equipment maintenance.
- Recycled and subsequently reused on site: only the first “use” of the substance in the year (virgin product added to the production process) is reportable.
- Production Unit level reporting is not required for waste treatment chemicals or for chemicals used in pilot plants or start up production units for the first two years of startup.

PLANNING RULES:

- Plans are due on even-numbered years
 - Facilities that have completed TUR plan updates in two consecutive planning years may choose an alternative planning method, including:
 - Resource Conservation Planning (facilities that opt for Resource Conservation Planning must return to TUR planning every other planning cycle)
- Or**
- Incorporate TUR planning into their environmental management systems (EMS).
 - Plans must cover all substances reported in the current reporting year as well as those substances reported in one or more prior reporting years (not just the immediate prior year) UNLESS the substance is used solely as a waste treatment chemical, the facility is closing, or the facility will reduce its use below the threshold during the year following the current reporting year.
 - Plans must be certified by a MassDEP approved Toxics Use Reduction Planner, Resource Conservation Planner, or a TURA EMS Planner or certified EMS professional.
 - MassDEP maintains a web portal of TUR Planners at <https://eeaonline.eea.state.ma.us/Portal/#!/power-bi-dashboard>.
 - Search for “Permits”, “Toxics Use Reduction” then filter by Decision Date to find planners who are active within the last two years
 - Plans are not submitted to MassDEP (although you may be asked to do so) but they must be remained onsite for at least 5 years.

PLAN CONTENTS

Plans must contain the following components:

- A Management Policy, which must describe:
 - How the facility encourages TUR
 - Policies that encourage or discourage TUR
 - Other optional information (e.g. role of TUR in hiring, incentives, R & D, capital investment decisions)
- A Scope, which must include:
 - Production unit descriptions – process, product, unit of product, chemicals
 - Options identification process
 - Options identified
 - Options disposition and implementation plan
 - Projected changes in use and byproduct, by production unit and chemical
- An Employee Notice, which must:
 - Happen no later than January 1 of the planning year
 - Identify all production units
 - Describe planning criteria (requirements)
 - Solicit TUR suggestions
 - Be described in the TUR plan
- Process Characterizations of each Production Unit, which must include:
 - Production Unit number and Unit of Product
 - Process Flow Diagram depicting:
 - Each process step, including treatment and recycling
 - Movement of each reportable chemical through the facility and the process, including all points of entry and exit as raw material, product, byproduct or emission
 - Revision date
 - A description, for each reportable chemical used, of:
 - Its purpose
 - Total amounts and amounts per unit of product used, generated as byproduct and released
 - Byproduct fate – the amounts released on-site, treated on-site and off-site, recycled on-site and off-site, and disposed of on-site and off-site
 - Emissions to each media – the amounts released on-site, disposed on-site, transferred off-site, and treated, recycled and disposed of off-site to air, surface water, ground water, and land
 - The Cost of Toxics (qualitative or quantitative)
 - Quantitative, if technically feasible options identified
 - Qualitative, if no technically feasible options identified
- Options Identification process for each Production Unit, which must:
 - Consider all 6 TUR Methods

- Describe options identification procedures
- List personnel involved
- Describe information sources consulted
- Describe information gathering techniques
- List all options identified as “*potentially achieving*” TUR
- A Technical Evaluation for each potential TUR option identified, which must include:
 - A description of the TUR option
 - A determination (with appropriate documentation) of whether the potential option:
 - Is technically feasible¹
 - Achieves TUR
 - Is legal
- For those potential options determined to be TUR, technically feasible, and legal
 - Expected reduction in the amount and amount per unit of product of use and byproduct
 - Anticipated costs and savings if implemented
 - The reason if not being implemented,
 - The schedule for implementation (if it will be implemented),
 - A description of why the option evaluation is still underway and what is the schedule for completion
- An Economic Evaluation for every legal, technically feasible TUR technique identified², which must:
 - Include the cost of using the toxic chemical in the current processes
 - Consider all of the listed relevant cost elements, include only those that change as a result of implementing the TUR technique, explaining exclusions.

An excellent resource for more information about the requirements associated with Toxics Use Reduction Planning are found at the MassDEP website:
<https://www.mass.gov/guides/massdep-toxics-use-reduction-program>

¹ OFF RAMP: Technical analysis can be stopped when the “technique is clearly technically infeasible” or “clearly economically infeasible as determined pursuant to 310 CMR 50.46A” [the economic evaluation of potential TUR techniques

² OFF RAMP: Can be very simple: stop as soon as you can make a good business decision