

# Appendix B. Reporting Codes for EPA Form R and Instructions for Reporting Metals

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## B.1 Form R Part II

### Revision Codes:

- RR1 New Monitoring Data
- RR2 New Emission Factor(s)
- RR3 New Chemical Concentration Data
- RR4 Recalculation(s)
- RR5 Other Reason(s)

### Withdrawal Codes:

- WT1 Did not meet the reporting threshold for manufacturing, processing, or otherwise use
- WT2 Did not meet the reporting threshold for number of employees
- WT3 Not in a covered NAICS Code
- WO1 Other reason(s)

### Section 1.1. CAS Number

### EPCRA Section 313 Chemical Category Codes

- N010 Antimony compounds
- N020 Arsenic compounds
- N040 Barium compounds
- N050 Beryllium compounds
- N078 Cadmium compounds
- N084 Chlorophenols
- N090 Chromium compounds
- N096 Cobalt compounds
- N100 Copper compounds
- N106 Cyanide compounds
- N120 Diisocyanates
- N150 Dioxin and dioxin-like compounds
  - N171 Ethylenebisdithiocarbamic acid, salts and esters (EBDCs)
- N230 Certain glycol ethers
- N420 Lead compounds
- N450 Manganese compounds
- N458 Mercury compounds
- N495 Nickel compounds
- N503 Nicotine and salts
- N511 Nitrate compounds

- N575 Polybrominated biphenyls (PBBs)
- N583 Polychlorinated alkanes
- N590 Polycyclic aromatic compounds
- N725 Selenium compounds
- N740 Silver compounds
- N746 Strychnine and salts
- N760 Thallium compounds
- N770 Vanadium compounds

- N874 Warfarin and salts
- N982 Zinc compounds

### Section 4. Maximum Amount of the Toxic Chemical On-Site at Any Time During the Calendar Year

<b>Range(pounds)</b>		
<u>Range Code</u>	<u>From</u>	<u>To</u>
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	more than 1 billion

### Section 5. Quantity of the Non-PBT Chemical Entering Each Environmental Medium On-Site and Section 6. Transfers of the Toxic Chemical in Wastes to Off-Site Locations

<b>Total Release or Transfer</b>	
<u>Code</u>	<u>Range (pounds)</u>
A	1-10
B	11-499
C	500-999

**Basis of Estimate**

M1- Estimate is based on continuous monitoring data or measurements for the EPCRA section 313 chemical.

M2- Estimate is based on periodic or random monitoring data or measurements for the EPCRA section 313 chemical.

C- Estimate is based on mass balance calculations, such as calculation of the amount of the EPCRA section 313 chemical in streams entering and leaving process equipment.

E1- Estimate is based on published emission factors, such as those relating release quantity to through-put or equipment type (e.g., air emission factors).

E2- Estimate is based on site specific emission factors, such as those relating release quantity to through-put or equipment type (e.g., air emission factors).

O- Estimate is based on other approaches such as engineering calculations (e.g., estimating volatilization using published mathematical formulas) or best engineering judgment. This would include applying an estimated removal efficiency to a waste stream, even if the composition of the stream before treatment was fully identified through monitoring data.

**Section 6. Transfers of the Toxic Chemical in Wastes to Off-Site Locations****Type of Waste Disposal/Treatment/Energy Recovery/Recycling**

M10 Storage Only

M20 Solvents/Organics Recovery

M24 Metals Recovery

M26 Other Reuse or Recovery

M28 Acid Regeneration

M40 Solidification/Stabilization

M41 Solidification/Stabilization-Metals and Metal Category Compounds only

M50 Incineration/Thermal Treatment

M54 Incineration/Insignificant Fuel Value

M56 Energy Recovery

M61 Wastewater Treatment (Excluding POTW)

M62 Wastewater Treatment (Excluding POTW) - Metals and Metal Category Compounds only

M64 Other Landfills

M65 RCRA Subtitle C Landfills

M66 Subtitle C Surface Impoundment

M67 Other Surface Impoundments

M69 Other Waste Treatment

M73 Land Treatment

M79 Other Land Disposal

M81 Underground Injection to Class I Wells

M82 Underground Injection to Class II-V Wells

M90 Other Off-Site Management

M92 Transfer to Waste Broker - Energy Recovery

M93 Transfer to Waste Broker - Recycling

M94 Transfer to Waste Broker - Disposal

M95 Transfer to Waste Broker - Waste Treatment

M99 Unknown

**Section 7A. On-Site Waste Treatment Methods and Efficiency****General Waste Stream**

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)

**Waste Treatment Methods****Air Emissions Treatment**

A01 Flare

A02 Condenser

A03 Scrubber

A04 Absorber

- A05 Electrostatic Precipitator
- A06 Mechanical Separation
- A07 Other Air Emission Treatment

### **Chemical 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

### **Biological Treatment**

- H081 Biological treatment with or without precipitation

### **Physical Treatment**

- 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

### **Section 7B. On-Site Energy Recovery Processes**

- U01 Industrial Kiln
- U02 Industrial Furnace
- U03 Industrial Boiler

### **Section 7C. On-Site Recycling Processes**

- 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 8.10. Source Reduction Activity Codes**

#### **Good Operating Practices**

- W13 Improved maintenance scheduling, record keeping, or procedures
- W14 Changed production schedule to minimize equipment and feedstock changeovers
- W15 Introduced in-line product quality monitoring or other process analysis system
- W19 Other changes 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 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
- W43 Substituted a feedstock or reagent chemical with a different chemical
- W49 Other raw material modifications made

## **Process Modifications**

- W50 Optimized reaction conditions or otherwise increased efficiency of synthesis
- W51 Instituted recirculation within a process
- W52 Modified equipment, layout, or piping
- W53 Use of 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
- W56 Reduced or eliminated use of an organic solvent
- W57 Used biotechnology in manufacturing process
- W58 Other process modifications

## **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
- 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

## **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

## **Product Modifications**

- W81 Changed product specifications
- W82 Modified design or composition of products
- W83 Modified packaging
- W84 Developed a new chemical product to replace a previous chemical product
- W89 Other product modifications

## **Section 8.10. Methods Used to Identify Source Reduction Activities**

For each source reduction activity, enter up to three of the following codes that correspond to the method(s) which contributed most to the decision to implement that 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

## B.2 Reporting the Waste Management of Metals

This appendix outlines how the TRI-MEweb reporting software restricts reporting for metals when the specific data element or waste management code is not applicable for a particular chemical. Below is a list of metals divided into four groups along with charts that help explain where quantities of these chemicals can and cannot be reported on the Form R using TRI-MEweb. In addition, there are charts that explain restrictions on reporting waste management codes for the toxic chemicals in each of the four groups. This appendix only shows where reporting is restricted in TRI-MEweb, it does not indicate every situation where a metal should not be reported in a specific section of the form. For example, TRI-MEweb does not restrict the reporting of most individually-listed metal compounds as used for energy recovery (Sections 8.2 and 8.3) even though some of these chemicals do not have a heat value greater than 5000 British thermal units (Btu) and, thus, cannot be combusted for energy recovery. It is left to the facility to decide which of these toxic chemicals can be used for energy recovery. If you are not using TRI-MEweb this appendix can serve as a guide to help you understand where it is not appropriate to report certain quantities of toxic chemicals or waste management codes on your Form R.

<b>Parent Metals:</b>	<b>Metal Compound Categories:</b>	<b>Metals with Qualifiers:</b>	
Antimony		Aluminum (fume or dust)	Tributyltin methacrylate
Arsenic		Vanadium (except when in an alloy)	Titanium tetrachloride
Barium		Zinc (fume or dust)	Boron trifluoride
Beryllium	Antimony Compounds		Metiram
Cadmium	Arsenic Compounds		Boron trichloride
Chromium	Barium Compounds		Zineb
Cobalt	Beryllium Compounds		Maneb
Copper	Cadmium Compounds		Fenbutatin oxide
Lead	Chromium Compounds		Iron pentacarbonyl
Manganese	Cobalt Compounds		Ferbam
Mercury	Copper Compounds	Bis(tributyltin) oxide	C.I. Direct Brown 95
Nickel	Lead Compounds	Triphenyltin hydroxide	Osmium tetroxide
Selenium	Manganese Compounds	Triphenyltin chloride	Aluminum phosphide
Silver	Mercury Compounds	Molybdenum trioxide	C.I. Direct Blue 218
Thallium	Nickel Compounds	Thorium dioxide	
	Selenium Compounds	Asbestos ( friable)	
	Silver Compounds	Aluminum oxide (fibrous forms)	
	Thallium Compounds	Tributyltin fluoride	
	Vanadium Compounds		
	Zinc Compounds		

### Sections 5.3 - Discharges to Water and 6.1 - Transfers to POTWs

The following chart indicates which metals can be reported as released to water in Section 5.3 or to POTW's in Section 6.1. Only zinc (fume or dust) and aluminum (fume or dust) are not reported in these sections because the fume or dust form of a toxic chemical cannot exist in water.

## Appendix B

<b>Form R Section in Part II</b>	<b>Parent Metals</b>	<b>Metal Category Compounds</b>	<b>Metals with Qualifiers</b>	<b>Individually-listed Metal Compounds</b>
Section 5.3 - Discharges to receiving streams or water bodies	All	All	Vanadium (except when contained in an alloy)	All except Asbestos
Section 6.1- Discharges to POTWs	All	All	Vanadium (except when contained in an alloy)	All except Asbestos

### **Section 6.2. Transfers to Other Off-Site Locations**

Any toxic chemical may be reported in Section 6.2. However, TRI-MEweb will not allow certain M codes to be used when reporting metals. The chart below indicates which M codes can be reported in Section 6.2 for the four groups of metals. Note that all disposal M codes other than M41 and M62 can be used for all toxic chemicals. Code M24 is only made available for the four groups of metals.

<b>Waste Management Code for Section 6.2</b>	<b>Parent Metals</b>	<b>Metal Category Compounds</b>	<b>Metals with Qualifiers</b>	<b>Individually-listed Metal Compounds</b>
M41 and M62 (disposal codes-for metals only)	All	All	Vanadium (except when contained in an alloy)	All except Asbestos
M56 and M92 (energy recovery codes)	None	None	None	All except Asbestos <sup>1</sup>
M20 and M28 (recycling codes)	None	None	None	All
M24, M26 and M93 (recycling codes)	All	All	All	All
M40, M50, M54, (treatment codes)	None	None	All except Vanadium (except when contained in an alloy)	All
M61, M69, M95 (treatment codes)	Barium <sup>2</sup>	Barium Compounds <sup>2</sup>	Same as above	All

### **Section 7A. On-site Waste Treatment Methods and Efficiency**

TRI-MEweb allows any toxic chemical to be reported in Section 7A, however, it limits reporting in two ways. First, TRI-MEweb limits the treatment codes that can be reported based on the General

## Appendix B

Waste Stream Code selected. If a TRI-MEweb user selects General Waste Stream code "A - Gaseous", all Waste Treatment Codes are made available. However, if a user selects from the remaining three General Waste Stream Codes (W - Wastewater, L - Liquid waste streams, or S - Solid waste streams), the "Air Emissions Treatment" Waste Treatment Codes are not made available. Second, the software restricts reporting for certain toxic chemicals with qualifiers. When reporting zinc (fume or dust) or aluminum (fume or dust) TRI-MEweb will not allow the user to select General Waste Stream Codes W-Wastewater and L-Liquid waste streams because the fume or dust form of a toxic chemical cannot exist in a liquid or water waste. For asbestos ( friable) only S - Solid or A - Gaseous can be selected. When reporting hydrochloric acid (acid aerosols) or sulfuric acid (acid aerosols) only A - Gaseous can be selected.

### Crosswalk for Section 7A, Column B. Waste Treatment Method (s) Sequence

<b>Air Emissions Treatment (applicable to gaseous waste streams only)</b> <b>(No change—same as previous codes)</b>			
A01	Flare	-	-
A02	Condenser	-	-
A03	Scrubber	-	-
A04	Absorber	-	-
A05	Electrostatic Precipitator	-	-
A06	Mechanical Separation	-	-
A07	Other Air Emission Treatment	-	-

<b>Biological Treatment:</b>			
<b>Previous Codes</b>		<b>New Codes (adapted from RCRA Hazardous Waste Management Codes)</b>	
B11	Aerobic	H081	Biological treatment with or without precipitation
B21	Anaerobic	H081	Biological treatment with or without precipitation
B31	Facultative	H081	Biological treatment with or without precipitation
B99	Other Biological Treatment	H081	Biological treatment with or without precipitation

<b>Chemical Treatment:</b>			
<b>Previous Codes</b>		<b>New Codes (adapted from RCRA Hazardous Waste Management Codes)</b>	
E01	Chemical Precipitation-B Lime or Sodium Hydroxide	H071	Chemical reduction with or without precipitation
E02	Chemical Precipitation-B Sulfide	H071	Chemical reduction with or without precipitation

## Appendix B

<b>Chemical Treatment:</b>			
<b>Previous Codes</b>		<b>New Codes (adapted from RCRA Hazardous Waste Management Codes)</b>	
E09	Chemical Precipitation-B-Other	H077	Other chemical precipitation with or without pre-treatment
E11	Neutralization	H121	Neutralization
E21	Chromium Reduction	H071	Chemical reduction with or without precipitation
E31	Complexed Metals-Treatment (other than pH adjustment)	H129	Other treatment
E41	Cyanide Oxidation-B-Alkaline Chlorination	H073	Cyanide destruction with or without precipitation
E42	Cyanide Oxidation-B-Electrochemical	H073	Cyanide destruction with or without precipitation
E43	Cyanide Oxidation-B-Other	H073	Cyanide destruction with or without precipitation
E44	General Oxidation-(including Disinfection)-B-Chlorination	H075	Chemical oxidation
E45	General Oxidation-(including Disinfection)-B-Ozonation	H075	Chemical oxidation
E46	General Oxidation-(including Disinfection)-B-Other	H075	Chemical oxidation
E99	Other Chemical Treatment	H129	Other treatment

## Appendix B

<b>Chemical Treatment:</b>			
<b>Previous Codes</b>		<b>New Codes (adapted from RCRA Hazardous Waste Management Codes)</b>	
<b>Incineration/Thermal Treatment:</b> (Note: Only report combustion for the purposes of incineration/thermal treatment in Section 7A. If the method involves combustion for the purposes of energy recover, report as U01, U02, or U03 in Section 7B. If the method involves combustion for the purposes of materials recovery, report as H39 in Section 7C.)			
F01	Liquid Injection	H040	Incineration B thermal destruction other than use as a fuel
F11	Rotary Kiln with Liquid Injection Unit	H040	Incineration B thermal destruction other than use as a fuel
F19	Other Rotary Kiln	H040	Incineration B thermal destruction other than use as a fuel
F31	Two Stage	H040	Incineration B thermal destruction other than use as a fuel
F41	Fixed Hearth	H040	Incineration B thermal destruction other than use as a fuel
F42	Multiple Hearth	H040	Incineration B thermal destruction other than use as a fuel
F51	Fluidized Bed	H040	Incineration B thermal destruction other than use as a fuel
F61	Infra-Red	H040	Incineration B thermal destruction other than use as a fuel
F71	Fume/Vapor	H040	Incineration B thermal destruction other than use as a fuel
F81	Pyrolytic destructor	H040	Incineration B thermal destruction other than use as a fuel
F82	Wet air oxidation	H076	Wet air oxidation
F83	Thermal Drying/Dewatering	H122	Evaporation
F99	Other Incineration/Thermal Treatment	H040	Incineration B thermal destruction other than use as a fuel

<b>Physical Treatment:</b>			
<b>Previous Codes</b>		<b>New Codes (adapted from RCRA Hazardous Waste Management Codes)</b>	
P01	Equalization	H129	Other treatment
P09	Other blending	H129	other treatment
P11	Settling/clarification	H123	Settling or clarification

## Appendix B

<b>Physical Treatment:</b>			
<b>Previous Codes</b>		<b>New Codes (adapted from RCRA Hazardous Waste Management Codes)</b>	
P12	Filtration	H123	Settling or clarification
P13	Sludge dewatering (non-thermal)	H101	Sludge treatment and/or dewatering
P14	Air flotation	H124	Phase separation
P15	Oil skimming	H124	Phase separation
P16	Emulsion breaking B thermal	H124	Phase separation
P17	Emulsion breaking B chemical	H124	Phase separation
P18	Emulsion breaking B other	H124	Phase separation

<b>Physical Treatment:</b>			
<b>Previous Codes</b>		<b>New Codes (adapted from RCRA Hazardous Waste Management Codes)</b>	
P19	Other liquid phase separation	H124	Phase separation
P21	Adsorption B Carbon	H082	Adsorption
P22	Adsorption B Ion exchange (other than for recovery/reuse)	H082	Adsorption
P23	Adsorption B Resin	H082	Adsorption
P29	Adsorption B Other	H082	Adsorption
P31	Reverse Osmosis (other than for recover/reuse)	H129	Other treatment
P41	Stripping B Air	H083	Air or steam stripping
P42	Stripping B Steam	H083	Air or steam stripping
P49	Stripping B Other	H083	Air or steam stripping
P51	Acid Leaching (other than for recovery/reuse)	H129	Other treatment
P61	Solvent Extraction (other than recovery/reuse)	H129	Other treatment
P99	Other Physical Treatment	H129	Other treatment

<b>Solidification/Stabilization:</b>			
<b>Previous Codes</b>		<b>New Codes (adapted from RCRA Hazardous Waste Management Codes)</b>	
G01	Cement processes (including silicates)	H111	Stabilization or chemical fixation prior to disposal

Solidification/Stabilization:			
Previous Codes		New Codes (adapted from RCRA Hazardous Waste Management Codes)	
G09	Other Pozzolanic Processes (including silicates)	H111	Stabilization or chemical fixation prior to disposal
G11	Asphaltic Techniques	H111	Stabilization or chemical fixation prior to disposal
G20	Thermoplastic Techniques	H111	Stabilization or chemical fixation prior to disposal
G99	Other Solidification Processes	H111	Stabilization or chemical fixation prior to disposal

### Section 7B. On-site Energy Recovery Processes

The chart below indicates which energy recovery codes can be reported in TRI-MEweb in Section 7B for the four groups of metals.

Energy Recovery Code for Section 7B	Parent Metals	Metal Category Compounds	Metals with Qualifiers	Individually-listed Metal Compounds
U01, U02, U03	None	None	None	All except Asbestos <sup>1</sup>

### Section 7C. On-site Recycling Processes

Any chemical can be reported in Section 7C. However, certain waste management codes should not be reported for certain toxic chemicals. The chart below indicates which codes can be reported in Section 7C when using TRI-MEweb.

Recycling Code for Section 7C	Parent Metals	Metal Category Compounds	Metals with Qualifiers	Individually-listed Metal Compounds
H10 (this code is for metals only)	All	All	All	All
H20	None	None	None	All
H39	All	All	All	All

## Appendix B

### Crosswalk for Section 7C. On-site Recycling Processes

Previous Codes		New Codes (adapted from RCRA Hazardous Waste Management Codes)	
R11	Solvents/Organics Recovery B Batch Still-Distillation	H20	Solvent Recovery (including distillation, evaporation, fractionation or extraction)
R12	Solvents/Organics Recovery B Thin Film-Evaporation	H20	Solvent Recovery (including distillation, evaporation, fractionation or extraction)
R13	Solvents/Organics Recovery B Fractionation	H20	Solvent Recovery (including distillation, evaporation, fractionation or extraction)
R14	Solvents/Organics Recovery B Solvent Extraction	H20	Solvent Recovery (including distillation, evaporation, fractionation or extraction)
R19	Solvents/Organics Recovery B Other	H20	Solvent Recovery (including distillation, evaporation, fractionation or extraction)
R21	Metals Recovery B Electrolytic	H10	Metal Recovery (by retorting, smelting, or chemical or physical extraction)
R22	Metals Recovery B Ion-Exchange	H10	Metal Recovery (by retorting, smelting, or chemical or physical extraction)
R23	Metals Recovery B Acid-Leaching	H10	Metal Recovery (by retorting, smelting, or chemical or physical extraction)
R24	Metals Recovery B Reverse Osmosis	H10	Metal Recovery (by retorting, smelting, or chemical or physical extraction)
R26	Metals Recovery B Solvent Extraction	H10	Metal Recovery (by retorting, smelting, or chemical or physical extraction)
R27	Metals Recovery B High-Temperature	H10	Metal Recovery (by retorting, smelting, or chemical or physical extraction)

## Appendix B

Previous Codes		New Codes (adapted from RCRA Hazardous Waste Management Codes)	
R28	Metals Recovery B- Retorting	H10	Metal Recovery (by retorting, smelting, or chemical or physical extraction)
R29	Metals Recovery B- Secondary Smelting	H10	Metal Recovery (by retorting, smelting, or chemical or physical extraction)
R30	Metals Recovery B- Other	H10	Metal Recovery (by retorting, smelting, or chemical or physical extraction)
R40	Acid Regeneration	H39	Other recovery or reclamation for reuse (including acid regeneration or other chemical reaction process)
R99	Other Reuse or Recovery	H39	Other recovery or reclamation for reuse (including acid regeneration or other chemical reaction process)

### Section 8. Source Reduction and Recycling Activities

The chart below indicates which metals can be reported in Sections 8.2, 8.3, 8.6 and 8.7 of the Form R when using **TRI-MEweb**. Note that all toxic chemicals can be reported in Sections 8.1, 8.4, 8.5 and 8.8.

Waste Management Activity	Parent Metals	Metal Category Compounds	Metals with Qualifiers	Individually-listed Metal Compounds
Quantity used for energy recovery on site and off site (Sections 8.2 and 8.3)	None	None	None	All except Asbestos <sup>2</sup>
Quantity treated for destruction on site and off site (Sections 8.6 and 8.7)	None except Barium <sup>m<sup>2</sup></sup>	None except Barium Compounds <sup>2</sup>	All except Vanadium (except when contained in an alloy)	All

<sup>1</sup>

<sup>1</sup> Although TRI-MEweb does not restrict reporting of most individually-listed metal compounds as transferred off site for energy recovery, only chemicals with a heat value greater than 5000 British thermal units that are combusted in a device that is an industrial furnace or boiler (40 CFR Section 372.3) should be reported as used for energy recovery.

<sup>2</sup> The toxic chemical category barium compounds (N040) does not include barium sulfate. Because barium sulfate is not a listed toxic chemical, the conversion in a waste stream of barium or barium compound to barium sulfate is considered treatment for destruction (40 CFR Section 372.3).