
SOLID AND HAZARDOUS WASTE APPENDIX

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The Toxics Release Inventory (TRI) provides state reports about releases and transfers of chemicals and compounds. Each report contains overall state information regarding releases and transfers, a list of the top five chemicals released or transferred, off-site, in that state, and a list of the top ten facilities that released or transferred, off-site, the greatest amount of chemicals. All chemical and facility information was taken directly from the Envirofacts TRI database maintained by the U.S. Environmental Protection Agency (EPA).

TRI State Report Descriptions

This is a brief description of the TRI State Reports. A brief explanation of each column heading is given.

State Information

This is general TRI information relating to the state.

- **Total Facilities**—The total facilities reporting in that state.
- **Total Forms**—The total number of forms submitted. Each form has a unique Document Control Number.
- **Total Forms A's**—The total number of short forms submitted.
- **Transfer into State**—The total amount of waste chemicals (in pounds) transferred into the state.
- **Transfer out of State**—The total amount of waste chemicals (in pounds) transferred out of the state.
- **Population**—The population of a state as reported by the U.S. Census Bureau for 1990.

Reported Releases and Waste Management Activities

On-Site Releases

The amount of chemicals released as reported by facilities in that state.

- **Air Emissions**—Total on-site releases of a particular type in pounds where the environmental medium = 'AIR'.
- **Surface Water Discharges**—Total on-site releases of a particular type in pounds where the environmental medium = 'WATER'.
- **Underground Injection**—Total on-site releases of a particular type in pounds where the environmental medium = 'UNINJ I' or 'UNINJ IIV'.
 - **Class I Wells**—Total on-site releases of a particular type in pounds where the environmental medium = 'UNINJ I'.
 - **Class II-V Wells**—Total on-site releases of a particular type in pounds where the environmental medium = 'UNINJ IIV'.
- **Releases to Land**—Total on-site releases of a particular type in pounds where the environmental medium = 'RCRA C' or 'OTH LANDF'.
 - **RCRA Subtitle C Landfills**—Total on-site releases of a particular type in pounds where the environmental medium = 'RCRA C'.
 - **Other On-Site Land Releases**—Total on-site releases of a particular type in pounds where the environmental medium = 'OTH LANDF'.
- **Total On-Site Releases**—The sum of Air Emissions, Surfaces Water Discharges, Underground Injection, and Releases to Land.
- **Transfer Off-Site to Disposal**—Total off-site transfer of a particular type in pounds for disposal.
- **Total On and Off-Site Releases**—Sum of total on-site releases and off-site transfers.

Off-Site Releases (Transfers Off-Site to Disposal)

- **POTWs (metals and metal compounds)**—Total transfer of metals and metal compounds in pounds to POTWs as offsite releases.

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- Transfer Off-Site to Disposal—Total off-site transfer of a particular type in pounds for disposal.
- Total Off-Site Releases—Sum of total POTW's (metals and metal compounds) and off-site transfers to disposals.
- Total Releases—Sum of total on-site and off-site releases.

Source Reduction Activities

- Energy Recovery On-Site—The total amount of the toxic chemical in waste burned for energy recovery onsite, reported in section 8.2 of Form R.
- Energy Recovery Off-Site—The total amount of the toxic chemical in waste sent offsite to be burned for energy recovery, reported in section 8.3 of Form R.
- Recycling On-Site—The total amount of the toxic chemical recycled onsite, reported in section 8.4 of Form R.
- Recycling Off-Site—The total amount of the toxic chemical sent offsite for recycling, reported in section 8.5 of Form R.
- Treatment On-Site—The total amount of the toxic chemical treated onsite, reported in section 8.6 of Form R.
- Treatment Off-Site—The total amount of the toxic chemical treated offsite, reported in section 8.7 of Form R.
- Total Releases—The total amount of the toxic chemical released due to production related events by the facility to all environmental media both on and off site, reported in section 8.1 of Form R.
- Total Production Related Waste Managed—The sum of recycling, energy recovery, treatment, and total releases.

Transfers Off-Site to POTW's

- Metals and Metal Compounds—Total transfer of metals and metals compounds in pounds to POTW's as an off-site releases.
- Non-Metal TRI Chemicals—Total off-site transfer of non-metals in pounds to a POTW's as an off-site release.

- Total Transfers Off-site to POTW's—Sum of total off-site transfers of Metals and Non-Metals to POTW's.

Top Ten Chemicals for Air/Water/Land/Underground Injection Releases and the Top Ten Chemicals for Total On and Off-Site Releases

The waste chemicals that are most released into the environment for that state.

- Chemical—The name of the chemical.
- Air Emissions—Total on-site releases of a particular type in pounds where the environmental medium = 'AIR'.
- Surface Water Discharges—Total on-site releases of a particular type in pounds where the environmental medium = 'WATER'.
- Underground Injection—Total on-site releases of a particular type in pounds where the environmental medium = 'UNINJ I' or 'UNINJ IIV'.
 - Class I Wells—Total on-site releases of a particular type in pounds where the environmental medium = 'UNINJ I'.
 - Class II-V Wells—Total on-site releases of a particular type in pounds where the environmental medium = 'UNINJ IIV'.
- Releases to Lands—Total on-site releases of a particular type in pounds where the environmental medium = 'RCRA C' or 'OTH LANDF'.
 - RCRA Subtitle C Landfills—Total on-site releases of a particular type in pounds where the environmental medium = 'RCRA C'.
 - Other On-Site Land Release—Total on-site releases of a particular type in pounds where the environmental medium = 'OTH LANDF'.
- Total On-site Releases—The sum of Air Emissions, Surfaces Water Discharges, Underground Injection, and Releases to Land.

- Transfers Off-Site to Disposal—Total off-site transfer of a particular type in pounds for disposal.
- Total On and Off-site Releases—Sum of total on-site releases and off-site transfers.

Top Ten Facilities for Air/Water/Land/Underground Injection Releases and the Top Ten Facilities for Total On and Off-site Release

The facilities that release the most waste chemicals into the environment for that state.

- Facility—The name of the facility.
- City, County—The city name and the county name where the facility is located.
- Air Emissions—Total on-site releases in pounds by a facility where the environmental medium = 'AIR'.
- Surface Water Discharge—Total on-site releases in pounds by a facility where the environmental medium = 'WATER'.
- Underground Injection—Total on-site releases in pounds by a facility where the environmental medium = 'UNINJ I' or 'UNINJ IIV'.
 - Class I Wells—Total on-site releases in pounds by a facility where the environmental medium = 'UNINJ I'.

- Class II-V Wells—Total on-site releases in pounds by a facility where the environmental medium = 'UNINJ IIV'.
- Releases to Land—Total on-site releases in pounds by a facility where the environmental medium = 'RCRA C' or 'OTH LANDF'.
 - RCRA Subtitle C Landfills—Total on-site releases in pounds by a facility where the environmental medium = 'RCRA C'.
 - Other On-Site Land Releases—Total on-site releases in pounds by a facility where the environmental medium = 'OTH LANDF'.
- Total On-site Releases—The sum of Air Emissions, Surfaces Water Discharges, Underground Injection, and Releases to Land by a facility.
- Transfers Off-Site to Disposal—Total off-site transfer in pounds for disposal by a facility.
- Total On and Off-site Releases—Sum of total on-site releases and off-site transfers by a facility.

The following table contains the EPA's Toxics Release Inventory information for Montana for the year 2001 (2001 is the latest year for which a published report is available). More recent information up to year 2003 is available from EPA's website at: <http://www.epa.gov/triexplorer/>.



2001 Toxics Release Inventory

MONTANA

Reported Releases and Other Waste Management Activities (in pounds)

	<i>Total</i>
On-site Releases	62,744,079
Air Emissions	4,292,997
Surface Water Discharges	48,785
Underground Injection Class I Wells	0
Underground Injection Class II-V Wells	369,092
On-site Land Releases to RCRA Subtitle C Landfills	2,395
Other On-site Land Releases	58,030,810
Off-site Releases (Transfers Off-site to Disposal)*	2,644,099
Total On- and Off-site Releases	65,388,178
Recycled On-site	8,626,607
Recycled Off-site	62,534
Energy Recovery On-site	3,948,532
Energy Recovery Off-site	41,063
Treated On-site	10,499,243
Treated Off-site**	36,449
Quantity Released On- and Off-site***	51,214,536
Total Production-related Waste Managed	74,428,965
Non-production-related Waste Managed	12,029,507
Transfers Off-site for Further Waste Management, including Disposal	
Recycling	102,939
Energy Recovery	36,638
Treatment	39,313
Publicly Owned Treatment Works (POTWs)	1,619
Metals and Metal Category Compounds*	14
Non-metal TRI Chemicals**	1,605
Other Off-site Transfers****	227,840
Transfers Off-site to Disposal <i>(not including metals to POTWs)</i>	2,808,061
Total Transfers Off-site for Further Waste Management, including Disposal	3,216,411

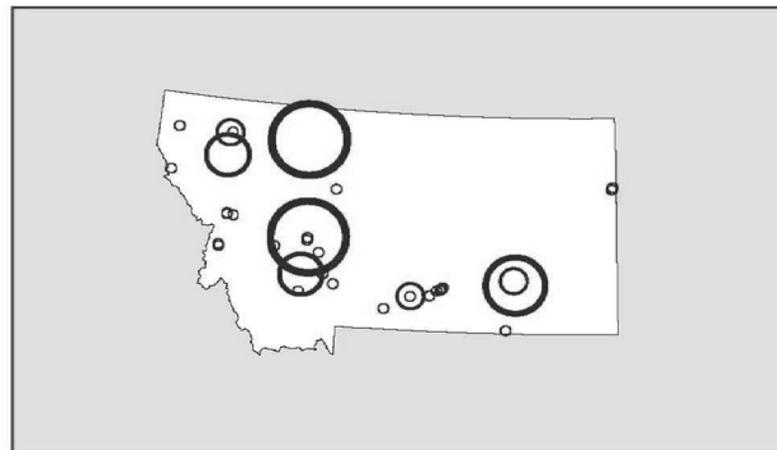
- * Transfers to POTWs of metals and metal category compounds are included in off-site releases. Excludes transfer amounts sent for disposal to other TRI facilities reporting that amount released on-site.
- ** Transfers to POTWs of non-metals are included in treated off-site waste management activity.
- *** Excludes non-production-related releases; e.g. releases due to catastrophic events or remedial actions.
- **** Transfers reported without a valid waste management code.

For More Information . . .

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To obtain TRI data use assistance, call TRI User Support Service (TRI-US):
(202) 566-0250
tri.us@epa.gov



The largest circle in the state map represents the largest facility for on-site releases in the state of Montana. All circles are proportionally-sized to represent the on-site releases at each facility within this state.

State/TRI Data	
Population	905,382
Square Miles	145,556
Total Facilities	49
Total Forms	293
Form As	34

	<i>Total</i>
National Rank for Total On- and Off-site Releases*	
Rank	25
Pounds	65,388,178
National Rank for Total On-site Releases**	
Rank	25
Pounds	62,744,079
National Rank for Total Releases within State***	
Rank	25
Pounds	63,507,964
National Rank for Production-related Waste Managed	
Rank	44
Pounds	74,428,965

- * Includes transfers out-of-state for disposal. Excludes transfer amounts sent for disposal to other TRI facilities reporting that amount released on-site.
- ** Includes amounts released at the facility. Excludes amounts transferred to other sites.
- *** Excludes transfers for disposal sent out-of-state or sent to other TRI facilities within the state reporting that amount released on-site.



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On-site and Off-site Releases for Top Five Chemicals Ranked on Total Releases in the State (All Chemicals)

CAS Number	Chemical	On-site Releases				Off-site Releases	Total Releases in the State**	Off-site Transfers to Disposal		
		Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	On-site Releases to Land Pounds	Transfers Off-site to Disposal* Pounds		Transferred Into State Pounds	Transferred Within State Pounds	Transferred Out of State Pounds
—	Zinc compounds	6,624	14	0	24,009,658	763,254	24,779,550	92,100	1,555	761,699
—	Lead compounds	6,913	349	10,813	14,054,719	791,161	14,863,955	48,301	7,297	783,864
—	Barium compounds	89,853	5	0	8,290,628	278,000	8,658,486	0	278,000	0
—	Copper compounds	12,595	10	47,757	3,385,422	40,273	3,486,057	19,800	23,677	16,596
—	Manganese compounds	10,975	24,006	0	2,855,009	48,827	2,938,817	150	47,505	1,322

On-site and Off-site Releases for PBT Chemicals Ranked on Total Releases in the State

CAS Number	Chemical	On-site Releases				Off-site Releases	Total Releases in the State**	Off-site Transfers to Disposal		
		Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection Pounds	On-site Releases to Land Pounds	Transfers Off-site to Disposal* Pounds		Transferred Into State Pounds	Transferred Within State Pounds	Transferred Out of State Pounds
—	Lead compounds	6,913.38	349.20	10,813.00	14,054,718.70	791,160.58	14,863,954.86	48,301.20	7,296.90	783,863.68
7439-92-1	Lead	327.70	24.00	0.00	82,820.00	1,238.40	84,410.10	0.00	1,238.40	0.00
—	Mercury compounds	1,772.40	0.04	18.00	7,159.50	426.41	9,376.35	0.00	31.00	395.41
—	Polycyclic aromatic compounds	2,213.19	7.00	0.00	885.80	50.90	3,156.89	0.00	22.90	28.00
7439-97-6	Mercury	69.80	2.40	0.00	430.80	6.80	509.80	0.00	6.80	0.00
191-24-2	Benzo(g,h,i)perylene	153.71	0.00	0.00	0.30	2.20	156.21	0.00	1.80	0.40
118-74-1	Hexachlorobenzene	11.70	0.00	0.00	0.00	0.00	11.70	0.00	0.00	0.00
—	Dioxin and dioxin-like compounds	0.04	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00
—	<i>Dioxin and dioxin-like compounds (in grams)</i>	<i>17.593</i>	<i>0.162</i>	<i>0.000</i>	<i>0.049</i>	<i>0.152</i>	<i>17.956</i>	<i>0.000</i>	<i>0.152</i>	<i>0.000</i>
309-00-2	Aldrin	—***	—	—	—	—	—	—	—	—
57-74-9	Chlordane	—***	—	—	—	—	—	—	—	—
76-44-8	Heptachlor	—***	—	—	—	—	—	—	—	—
465-73-6	Isodrin	—***	—	—	—	—	—	—	—	—
72-43-5	Methoxychlor	—***	—	—	—	—	—	—	—	—
29082-74-4	Octachlorostyrene	—***	—	—	—	—	—	—	—	—
40487-42-1	Pendimethalin	—***	—	—	—	—	—	—	—	—
608-93-5	Pentachlorobenzene	—***	—	—	—	—	—	—	—	—
1336-36-3	Polychlorinated biphenyls (PCBs)	—***	—	—	—	—	—	—	—	—
79-94-7	Tetrabromobisphenol A	—***	—	—	—	—	—	—	—	—
8001-35-2	Toxaphene	—***	—	—	—	—	—	—	—	—
1582-09-8	Trifluralin	—***	—	—	—	—	—	—	—	—

* Excludes amounts transferred to other TRI facilities in the state reporting that amount released on-site.

*** No reports were submitted for these chemicals.

** The chemical ranking is based on the amounts in this column.

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On-site and Off-site Releases for Top Ten Facilities Ranked on Total On-site Releases in the State (All Chemicals)

Facility, City, County	On-site Releases						Total On-site Releases* Pounds	Off-site Releases (Transfers Off-site to Disposal)	
	Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection		On-site Releases to Land			Transferred Within State Pounds	Transferred Out of State Pounds
			Class I Wells Pounds	Class II-V Wells Pounds	RCRA Subtitle C Landfills Pounds	Other On-site Land Releases Pounds			
Montana Tunnels Mining Inc., Jefferson City, Jefferson	9,850	0	0	0	0	23,633,174	23,643,024	0	0
ASARCO Inc., East Helena, Lewis And Clark	12,252	166	0	0	0	20,063,922	20,076,340	0	2,194,380
Colstrip Steam Electric Station, Colstrip, Rosebud	286,163	0	0	0	0	10,819,248	11,105,411	254,951	25
Golden Sunlight Mines Inc., Whitehall, Jefferson	54,580	0	0	0	0	2,548,199	2,602,779	0	0
Stone Container Corp., Missoula, Missoula	1,443,054	32,691	0	0	0	31,419	1,507,164	670	255
Colstrip Energy L.P. Rosebud Power Plant, Colstrip, Rosebud	585,297	0	0	0	0	171,592	756,889	0	0
SMC Nye Mine Site, Nye, Stillwater	21	0	0	369,092	0	362,498	731,611	175,148	1
Plum Creek Mdf Inc., Columbia Falls, Flathead	697,550	0	0	0	0	0	697,550	0	0
Conoco Inc. Billings Refy., Billings, Yellowstone	236,466	306	0	0	0	0	236,772	0	0
Stillwater Mining Co. East Boulder Ops., Big Timber, Sweet Grass	247	0	0	0	0	225,583	225,830	0	0

On-site and Off-site Releases for Top Ten Facilities Ranked on Total On-site Releases in the State (PBT Chemicals)

Facility, City, County	On-site Releases						Total On-site Releases* Pounds	Off-site Releases (Transfers Off-site to Disposal)	
	Air Emissions Pounds	Surface Water Discharges Pounds	Underground Injection		On-site Releases to Land			Transferred Within State Pounds	Transferred Out of State Pounds
			Class I Wells Pounds	Class II-V Wells Pounds	RCRA Subtitle C Landfills Pounds	Other On-site Land Releases Pounds			
Montana Tunnels Mining Inc., Jefferson City, Jefferson	169.20	0.00	0.00	0.00	0.00	8,187,629.00	8,187,798.20	0.00	0.00
ASARCO Inc., East Helena, Lewis And Clark	4,336.00	1.00	0.00	0.00	0.00	5,776,075.00	5,780,412.00	0.00	784,237.00
Golden Sunlight Mines Inc., Whitehall, Jefferson	8.10	0.00	0.00	0.00	0.00	82,429.00	82,437.10	0.00	0.00
Colstrip Steam Electric Station, Colstrip, Rosebud	1,728.46	0.00	0.00	0.00	0.00	54,348.00	56,076.46	701.00	5.12
SMC Nye Mine Site, Nye, Stillwater	0.87	0.00	0.00	10,831.00	0.00	19,498.00	30,329.87	4,949.00	1.00
Colstrip Energy L.P. Rosebud Power Plant, Colstrip, Rosebud	1,627.00	0.00	0.00	0.00	0.00	13,473.00	15,100.00	0.00	0.00
Stillwater Mining Co. East Boulder Ops., Big Timber, Sweet Grass	9.00	0.00	0.00	0.00	0.00	9,295.00	9,304.00	0.00	0.00
Columbia Falls Aluminum Co. L.L.C., Columbia Falls, Flathead	1,501.00	0.00	0.00	0.00	0.00	743.00	2,244.00	0.00	0.00
Lewis & Clark Station, Sidney, Richland	85.00	26.40	0.00	0.00	0.00	824.40	935.80	1,058.00	0.00
Stone Container Corp., Missoula, Missoula	190.90	351.20	0.00	0.00	0.00	153.60	695.70	664.80	0.00

* The facility ranking is based on the amounts in this column; these quantities exclude transfers out of state.



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Total Production-related Waste for Top Ten Facilities Ranked on Quantity Released On- and Off-site (All Chemicals)

Facility, City, County	Recycled On-site Pounds	Recycled Off-site Pounds	Energy Recovery On-site Pounds	Energy Recovery Off-site Pounds	Treated On-site Pounds	Treated Off-site Pounds	Quantity Released On- and Off-site* Pounds	Total Production-related Waste Managed Pounds	Total Non-Production-related Waste Managed Pounds
Montana Tunnels Mining Inc., Jefferson City, Jefferson	0	25,815	0	0	0	0	20,682,625	20,708,440	702,662
Colstrip Steam Electric Station, Colstrip, Rosebud	0	1,601	0	0	2,500,000	474	11,344,890	13,846,966	0
ASARCO Inc., East Helena, Lewis And Clark	6,898,619	0	0	0	0	0	10,944,629	17,843,248	11,326,091
Golden Sunlight Mines Inc., Whitehall, Jefferson	0	0	0	0	0	0	2,579,389	2,579,389	0
Stone Container Corp., Missoula, Missoula	0	0	3,470,000	428	2,840,891	1	1,499,381	7,810,700	0
SMC Nye Mine Site, Nye, Stillwater	423	0	0	0	23,096	0	906,760	930,279	0
Colstrip Energy L.P. Rosebud Power Plant, Colstrip, Rosebud	0	0	0	0	0	0	756,889	756,889	0
Plum Creek Mdf Inc., Columbia Falls, Flathead	0	0	0	0	0	0	696,300	696,300	0
Conoco Inc. Billings Refy., Billings, Yellowstone	0	50	0	0	9,020	4,305	236,773	250,148	0
Stillwater Mining Co. East Boulder Ops., Big Timber, Sweet Grass	0	0	0	0	0	0	225,830	225,830	0

Total Production-related Waste for Top Ten Facilities Ranked on Quantity Released On- and Off-site (PBT Chemicals)

Facility, City, County	Recycled On-site Pounds	Recycled Off-site Pounds	Energy Recovery On-site Pounds	Energy Recovery Off-site Pounds	Treated On-site Pounds	Treated Off-site Pounds	Quantity Released On- and Off-site* Pounds	Total Production-related Waste Managed Pounds	Total Non-Production-related Waste Managed Pounds
Montana Tunnels Mining Inc., Jefferson City, Jefferson	0.00	0.00	0.00	0.00	0.00	0.00	5,491,146.00	5,491,146.00	443,932.00
ASARCO Inc., East Helena, Lewis And Clark	4,643,364.00	0.00	0.00	0.00	0.00	0.00	1,322,530.00	5,965,894.00	5,242,119.00
Golden Sunlight Mines Inc., Whitehall, Jefferson	0.00	0.00	0.00	0.00	0.00	0.00	82,429.00	82,429.00	0.00
Colstrip Steam Electric Station, Colstrip, Rosebud	0.00	1.00	0.00	0.00	0.00	5.00	56,776.00	56,783.00	0.00
SMC Nye Mine Site, Nye, Stillwater	1.00	0.00	0.00	0.00	0.00	0.00	35,280.00	35,281.00	0.00
Colstrip Energy L.P. Rosebud Power Plant, Colstrip, Rosebud	0.00	0.00	0.00	0.00	0.00	0.00	15,100.00	15,100.00	0.00
Holcim Trident Plant, Three Forks, Gallatin	0.00	0.00	0.00	0.00	0.00	0.00	14,561.00	14,561.00	0.00
Stillwater Mining Co. East Boulder Ops., Big Timber, Sweet Grass	0.00	0.00	0.00	0.00	0.00	0.00	9,304.00	9,304.00	0.00
Columbia Falls Aluminum Co. L.L.C., Columbia Falls, Flathead	178.00	0.00	0.00	0.00	0.00	0.00	2,244.00	2,422.00	0.00
Lewis & Clark Station, Sidney, Richland	0.00	0.00	0.00	0.00	0.00	0.00	1,994.00	1,994.00	0.00

* The facility ranking is based on the amounts in this column; these quantities exclude non-production-related releases.