



1999 Toxics Release Inventory

MICHIGAN

Reported Releases and Waste Management Activities (in pounds)

	Original Industries	New Industries	Total
On-site Releases	43,176,027	54,008,955	97,184,982
Air Emissions	36,907,358	39,252,191	76,159,549
Surface Water Discharges	1,126,839	138,739	1,265,578
Underground Injection Class I Wells	2,571,894	0	2,571,894
Underground Injection Class II-V Wells	48	0	48
On-site Land Releases to RCRA Subtitle C Landfills	49,056	7,008,813	7,057,869
Other On-site Land Releases	2,520,832	7,609,212	10,130,044
Off-site Releases (Transfers Off-site to Disposal)*	29,292,730	15,808,802	45,101,532
Total On- and Off-site Releases	72,468,757	69,817,757	142,286,514
Recycled On-site	433,415,864	20,818,971	454,234,835
Recycled Off-site	125,410,264	170,684	125,580,948
Energy Recovery On-site	62,125,600	0	62,125,600
Energy Recovery Off-site	74,367,494	57,634,988	132,002,482
Treated On-site	96,691,662	8,379,879	105,071,541
Treated Off-site**	35,062,778	18,318,633	53,381,411
Quantity Released On- and Off-site***	73,419,983	69,813,092	143,233,075
Total Production-related Waste Managed	900,493,645	175,136,247	1,075,629,892
Total Non-production-related Waste Managed	24,198	1,310	25,508

Transfers Off-site for Further Waste Management/Disposal

	Original Industries	New Industries	Total
Recycling	124,124,698	136,919	124,261,617
Energy Recovery	73,817,688	59,052,781	132,870,469
Treatment	24,953,824	18,863,299	43,817,123
Publicly Owned Treatment Works (POTWs)	16,234,634	37,073	16,271,707
Metals and Metal Compounds*	135,010	2,592	137,602
Non-metal TRI Chemicals**	16,099,624	34,481	16,134,105
Other Off-site Transfers****	0	0	0
Off-site Transfers to Disposal (not including metals to POTWs)	29,536,211	15,837,624	45,373,835
Total Transfers Off-site for Further Waste Management/Disposal	268,667,055	93,927,696	362,594,751

* Transfers to POTWs of metals and metal 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 . . .

State Contact:

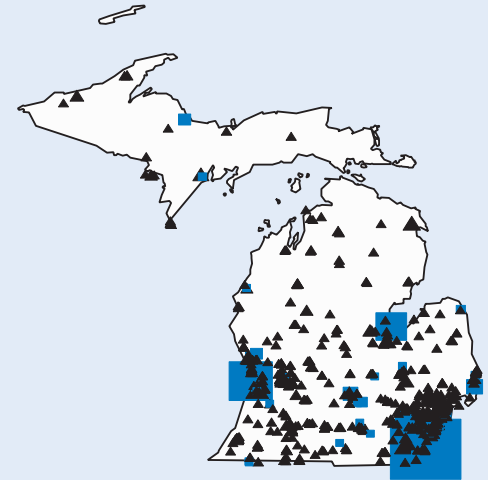
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To obtain TRI data use assistance, call TRI User Support Service (TRI-US):

(202) 260-1531
Fax: (202) 401-2347



■ New industry ▲ Original industry

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

State/TRI Data

Population	9,863,775
Square Miles	56,809
Total Facilities	919
Total Forms	3,586
Form As	415

	Original Industries	New Industries	Total
National Rank for Total On- and Off-site Releases*			
Rank	11	14	15
Pounds	72,468,757	69,817,757	142,286,514
National Rank for Total On-site Releases**			
Rank	19	20	19
Pounds	43,176,027	54,008,955	97,184,982
National Rank for Total Releases within State***			
Rank	7	14	11
Pounds	91,954,624	71,334,040	163,288,664
National Rank for Production-related Waste Managed			
Rank	6	8	8
Pounds	900,493,645	175,136,247	1,075,629,892

* 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 Ten Chemicals Ranked on Total Releases in the State (Original Industries)

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	223,982	9,570	8,650	97,820	21,174,513	21,514,535	1,905,176	20,902,731	333,999
1330-20-7	Xylene (mixed isomers)	7,168,989	41	0	0	53,103	7,222,133	13,582	42,290	11,613
67-56-1	Methanol	3,970,634	184,778	2,326,000	3,576	3,834	6,488,822	3,058	1,734	2,100
108-88-3	Toluene	4,159,009	607	4,534	18,692	38,870	4,221,712	20,519	29,501	9,369
7647-01-0	Hydrochloric acid	2,546,096	0	5	0	0	2,546,101	0	0	0
--	Manganese compounds	57,340	23,271	3,970	522,039	1,782,252	2,388,872	346,839	1,750,100	33,758
7664-41-7	Ammonia	1,951,103	274,585	29,383	14,043	25,942	2,295,056	7,516	25,942	0
7439-96-5	Manganese	47,628	175	0	560,114	1,685,851	2,293,768	1,306,254	1,702,931	33,963
--	Glycol ethers	2,174,766	1,091	0	6,344	84,419	2,266,620	32,235	45,278	40,301
110-54-3	n-Hexane	1,738,987	5	6	0	261	1,739,259	252	261	0

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

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

On-site and Off-site Releases for Top Ten Chemicals Ranked on Total Releases in the State (Seven New Industries)

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
7647-01-0	Hydrochloric acid	30,573,128	0	0	0	0	30,573,128	0	0	0
--	Barium compounds	121,483	54,484	0	8,503,222	3,662,565	12,341,754	612	3,662,402	163
--	Zinc compounds	173,827	17,382	0	984,089	4,143,680	5,318,978	198,099	4,130,704	12,976
--	Lead compounds	2,977	6,515	0	328,858	3,727,549	4,065,899	30,542	3,683,595	43,954
7664-93-9	Sulfuric acid	3,153,667	0	0	0	0	3,153,667	0	0	0
7664-39-3	Hydrogen fluoride	2,397,725	0	0	0	0	2,397,725	251	0	0
7440-66-6	Zinc (fume or dust)	2,346,346	5	0	0	4,780	2,351,131	2,300	4,780	0
--	Copper compounds	75,739	14,133	0	438,157	1,164,452	1,692,481	27,571	1,149,843	14,609
--	Nickel compounds	26,744	1,047	0	780,614	732,166	1,540,571	44,367	628,978	103,188
--	Selenium compounds	18,306	2,733	0	799,171	422,056	1,242,266	106	422,056	0

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

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



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

Facility, City, County	On-site Releases						Total On-site Releases* Pounds	Off-site Releases (Transfers Off-site to Disposal)	
	Underground Injection			On-site Releases to Land				Transferred Within State Pounds	Transferred Out of State Pounds
	Air Emissions Pounds	Surface Water Discharges Pounds	Class I Wells Pounds	Class II-V Wells Pounds	RCRA Subtitle C Landfills Pounds	Other On-site Land Releases Pounds			
Holnam Inc. Dundee Plant, Dundee, Monroe	2,613,922	0	0	0	0	0	2,613,922	0	0
Pfizer, Inc. Parke-Davis Div., Holland, Ottawa	105,388	0	2,311,579	0	0	0	2,416,967	9,400	0
GMC Gmtg Pontiac East Assembly, Pontiac, Oakland	1,709,363	0	0	0	0	0	1,709,363	534	960
GMC Gmpt Saginaw Metal Casting Ops., Saginaw, Saginaw	161,094	0	0	0	0	1,344,928	1,506,022	1,514	9,146
Fibermark, Rochester, Oakland	1,460,962	0	0	0	0	0	1,460,962	0	0
Lafarge Corp. (Including Systech Env. Corp.), Alpena, Alpena	1,044,684	26	0	0	0	347,800	1,392,510	0	15
Vemco Inc., Grand Blanc, Genesee	1,166,620	0	0	0	0	0	1,166,620	0	0
Mead Paper Div., Escanaba, Delta	612,805	44,210	0	0	0	506,013	1,163,028	0	0
GMC Mlcg Hamtramck Assembly, Detroit, Wayne	1,064,544	0	0	0	0	0	1,064,544	1,292	39,600
GM Lansing Plants 2,3,&6(Body), Lansing, Ingham	872,760	0	0	0	0	0	872,760	128,586	9,607

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

On- and Off-site Releases for Top Ten Facilities Ranked on Total On-site Releases in the State (Seven New Industries)

Facility, City, County	On-site Releases						Total On-site Releases* Pounds	Off-site Releases (Transfers Off-site to Disposal)	
	Underground Injection			On-site Releases to Land				Transferred Within State Pounds	Transferred Out of State Pounds
	Air Emissions Pounds	Surface Water Discharges Pounds	Class I Wells Pounds	Class II-V Wells Pounds	RCRA Subtitle C Landfills Pounds	Other On-site Land Releases Pounds			
Detroit Edison Monroe Power Plant, Monroe, Monroe	11,248,647	14,459	0	0	0	3,540,900	14,804,006	0	0
J. H. Campbell Generating Plant, West Olive, Ottawa	7,332,801	2,963	0	0	0	1,038,580	8,374,344	0	0
Wayne Disposal Inc., Belleville, Wayne	4,871	0	0	0	7,008,813	0	7,013,684	3,586,632	0
De Karn - JC Weadock Generating Plt., Essexville, Bay	4,533,792	45,875	0	0	0	840,730	5,420,397	0	0
Detroit Edison-Trenton Channel Power Plant, Trenton, Wayne	2,623,205	5,027	0	0	0	61,230	2,689,462	713,030	0
Grand Haven Board of Light & Power, Grand Haven, Ottawa	2,511,983	36	0	0	0	0	2,512,019	10,102	0
Detroit Edison - River Rouge Power Plant, River Rouge, Wayne	2,291,306	16,919	0	0	0	15,840	2,324,065	689,040	0
J.R. Whiting Generating Plant, Luna Pier, Monroe	1,778,279	0	0	0	0	243,000	2,021,279	0	0
Detroit Edison-St. Clair Power Plant, East China Township, St Clair	1,243,073	3,600	0	0	0	689,635	1,936,308	0	0
Lansing Board of Water & Light- Eckert Station, Lansing, Ingham	1,607,088	23,478	0	0	0	0	1,630,566	545,778	0

*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 (Original Industries)

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
Rouge Steel Co., Dearborn, Wayne	0	382,500	0	0	0	0	11,907,800	12,290,300	2
National Steel Corp. Greatlakes Ops., Ecorse, Wayne	7,992,123	1,306	0	0	3,128,000	26,287	10,381,333	21,529,049	1
Holnam Inc. Dundee Plant, Dundee, Monroe	0	0	0	0	0	0	2,613,922	2,613,922	0
Pfizer, Inc. Parke-Davis Div., Holland, Ottawa	2,194,000	817,500	0	17,715,650	2,567,374	1,953,550	2,426,038	27,674,112	30
GMC Gmtg Pontiac East Assembly, Pontiac, Oakland	0	1,365,182	0	368,410	979,169	83,000	1,710,470	4,506,231	0
GMC Gmpt Saginaw Metal Casting Ops., Saginaw, Saginaw	0	56,446	0	0	0	2,491	1,517,700	1,576,637	0
Fibermark, Rochester, Oakland	0	0	0	0	0	47,202	1,460,030	1,507,232	0
Lafarge Corp. (Including Systech Env. Corp.), Alpena, Alpena	0	0	29,290,000	0	30	1,145	1,391,057	30,682,232	0
Mead Paper Div., Escanaba, Delta	0	0	1,980,000	0	8,925,300	0	1,203,100	12,108,400	0
Vemco Inc., Grand Blanc, Genesee	0	702,946	0	0	1,073,417	0	1,166,620	2,942,983	0

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

Total Production-related Waste for Top Ten Facilities Ranked on Quantity Released On- and Off-site (Seven New Industries)

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
Detroit Edison Monroe Power Plant, Monroe, Monroe	0	0	0	0	1,960,000	0	14,799,500	16,759,500	0
Wayne Disposal Inc., Belleville, Wayne	0	0	0	0	230,366	2	10,600,524	10,830,892	6
USL City Environmental Inc., Detroit, Wayne	0	0	0	0	0	0	8,985,045	8,985,045	10
J. H. Campbell Generating Plant, West Olive, Ottawa	0	0	0	0	843,000	0	8,374,000	9,217,000	210
De Karn - JC Weadock Generating Plt., Essexville, Bay	0	0	0	0	534,000	0	5,416,960	5,950,960	0
Detroit Edison-Trenton Channel Power Plant, Trenton, Wayne	0	0	0	0	533,000	0	3,408,000	3,941,000	0
Detroit Edison - River Rouge Power Plant, River Rouge, Wayne	0	0	0	0	334,000	0	3,008,000	3,342,000	0
Grand Haven Board of Light & Power, Grand Haven, Ottawa	0	0	0	0	0	0	2,522,115	2,522,115	0
Lansing Board of Water & Light- Eckert Station, Lansing, Ingham	0	69,500	0	0	0	0	2,176,344	2,245,844	7
J.R. Whiting Generating Plant, Luna Pier, Monroe	0	0	0	0	198,000	0	2,021,000	2,219,000	0

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