

Facility information contained here was excerpted from the Large Appliance BID Document [EPA-453/R-00-006]

2.1 SOURCE CATEGORY DESCRIPTION

The large appliances surface coating operations source category includes any operation engaged in the surface coating of any large appliance part or product. There are several industries that coat items considered large appliances. These industries coat products such as heating and air conditioning units and parts, chillers, refrigerators and home and farm freezers, laundry equipment, cooking equipment, dishwashers, floor waxers and polishers, garbage disposal units, trash compactors, and water heaters. See Table 2-1 for a listing of examples of large appliances.

The large appliances surface coating operations source category is primarily represented by the following six SIC codes:

- 3631 Household Cooking Equipment
- 3632 Household Refrigerators and Home and Farm Freezers
- 3633 Household Laundry Equipment
- 3639 Household Appliances, Not Elsewhere Classified
- 3585 Air Conditioning And Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment
- 3589 Service Industry Machinery, Not Elsewhere Classified

Products manufactured under these six SIC codes are considered large appliances for purposes of the rule. However, the large appliances surface coating operations source category also encompasses facilities coating similar products under other SIC codes. Therefore, a facility may be operating under a different SIC code but can still be subject to the rule because they coat a product that is a large appliance.

TABLE 2-1. EXAMPLES OF LARGE APPLIANCES

heating and air conditioning units (including home, motor vehicle, industrial)	household refrigerators, iceboxes, and home and farm freezers	household floor waxers and polishers, janitor's carts, mop wringers, floor sanding machines
chillers, heating and air-conditioning parts and equipment (coils, fin plates, compressors, etc.)	refrigerated cabinets, cases, and lockers	household sewing machines and buttonhole and eyelet machines
condensers, electric non-portable dehumidifiers, electric and gravity flow furnaces	household laundry/dry-cleaning equipment, including coin-operated (washers, dryers, wringers, etc.)	snow making machinery

non coin-operated cold drink dispensing equipment, beer dispensers, electric water and milk coolers, refrigerated drinking fountains	cooking equipment (ovens, ranges, stoves, microwaves, grills, barbecues, etc.)	sewage treatment and sewer cleaning equipment, sludge processing equipment
non-household vacuum cleaners and sweepers	dishwashers	industrial water treatment equipment, water conditioners for swimming pools
non-household pressure cookers, steam cookers, corn poppers, and fryers	garbage disposal units and trash compactors	household water filters and softeners, water purification equipment
ice making machinery	water heaters, electric heat pumps	car washing machinery (including coin-operated)

¹These are only examples of large appliances. This table does not include the entire large appliances industry and is meant to only provide examples of the types of products considered large appliances.

2.1.1 Number of Sources

The questionnaire sent to industry by EPA in 1998 requested data from the 1997 calendar year. Results from the questionnaire indicate there are 222 facilities that perform large appliances surface coating operations. Large appliance surface coating operations are distributed across 38 States and Puerto Rico. Based on data received from the questionnaires, the states with the largest numbers of large appliances surface coating operations are Ohio (19), Tennessee (16), Illinois (15), Texas (14), Wisconsin (13), and Georgia (10). Table 2-2 presents the distribution of large appliances surface coating operations per state. The size of the facilities and the number of employees represented in the questionnaire vary, ranging from 11 to 5,500. Based on responses to the EPA's Section 114 questionnaire, an average plant employs about 640 people. Table 2-3 presents the total number of employees and the average number of employees per plant for different types of large appliances. For each type of large appliance, the total number of employees reported by the questionnaire respondents was divided by the number of respondents that provided employment data. Of the 222 facilities, 95 are considered potential major sources based on potential facility HAP emissions (see Table 2-4 for those facilities considered major sources).

TABLE 2-2. LARGE APPLIANCES SURFACE COATING OPERATIONS
LOCATION DISTRIBUTION BY STATE

State	Number of Facilities	State	Number of Facilities
Alabama	5	Mississippi	6
Arkansas	7	Nebraska	1
Arizona	2	New Hampshire	1

State	Number of Facilities	State	Number of Facilities
California	6	New Jersey	3
Colorado	3	New York	3
Connecticut	1	North Carolina	9
Delaware	1	Ohio	19
Florida	4	Oklahoma	5
Georgia	10	Oregon	1
Idaho	7	Pennsylvania	8
Illinois	15	Puerto Rico	2
Indiana	5	Rhode Island	1
Kansas	1	South Carolina	8
Kentucky	7	Tennessee	16
Louisiana	1	Texas	14
Massachusetts	1	Virginia	6
Maryland	6	Vermont	1
Michigan	4	Washington	3
Minnesota	7	Wisconsin	13
Missouri	8		

TABLE 2-4 HAP EMISSIONS FROM POTENTIAL MAJOR SOURCE FACILITIES

Facility	SIC Codes	Activity	Total 1997 Coating solids Usage (L)	Total 1997 HAP Emissions (kg)
1	3631	gas and electric ranges	167,606	4
2	3585	air conditioner units	18,110	114
3	3585	mix dispensing equip./vending machines	18,419	117
4	3585	air conditioners	109,954	316
5	3585	air conditioning, refrigerators, heating equip.	2,085	449
6	3585	hermetic compressors	11,634	458
7	3634	small kitchen appliances	7,485	817
8	3589	water purification systems	677	932
9	3585	commercial HVAC equipment	160,593	983
10	3585	commercial refrigeration display cases	64,850	997
11	3585	air conditioner units	8,247	1,018
12	3585	large commercial HVAC	730	1,087
13	3585	heat exchangers/air handling equipment	6,059	1,416
14	3632	refrigerators and freezers	26,351	1,493
15	3585	remanufactured refrigerant compressors	4,162	1,515
16	3556	soft serve ice cream/slush machines, gas grill	6,326	1,632
17	3632	refrigerators and freezers	57,559	1,793
18	3585	air conditioners	4,443	1,891
19	3585	heating/cooling units	157,622	2,069
20	3585	chiller refrigeration equipment	5,677	2,616
21	3585	refrigeration compressors	8,197	2,617
22	3585	evaporators, coolers, condensers, cooling towers	1,807	2,821
23	3585	air handling equipment	5,029	3,027
24	3585	refrigerator display cases	136,836	3,036
25	3585	industrial refrigeration pressure vessels	3,682	3,065
26	3585	compressors, motors	1,562	3,401
27	3589	water filters	4,289,470	3,602
28	3589	food machines, mixers, scales	11,281	3,872
29	not provided	not provided	12,446	3,890
30	3585	industrial refrigerators and heat exchangers	6,446	4,199
31	3585	hermetic compressors	43,312	4,535
32	3589	floor scrubber/sweeper	12,379	4,609
33	3585	commercial refrigerators	105,150	4,695
34	3589	various tanks	3,728	5,077
35	3639	ranges	722	5,314
36	3632	refrigerator compressors	15,144	5,552
37	3585	absorption units, chillers, compressors	26,411	5,677
38	3585	commercial and industrial air handler units	10,971	5,767

Facility	SIC Codes	Activity	Total 1997 Coating solids Usage (L)	Total 1997 HAP Emissions (kg)
39	3639	air conditioning compressors	9,512	6,036
40	3585	air handling equipment	3,984	7,423
4 1	3585	condensers, chillers	3,070	7,788
42	3585	refrigerant compressors	43,160	7,951
43	3585	air handling systems	6,590	8,029
44	3589,3631	grills, broilers, griddles	2,188	8,551
45	3589	food service equip., gas combustion equip.	341	8,774
46	3639	metal tanks	48,670	9,133
47	3585	refrigerated display cases	31,783	9,188
48	3585	refrigeration equipment	11,286	9,670
49	3639	food waste disposers, hot water dispensers	63,105	10,551
50	3585	air conditioners	4,169	11,523
51	3585	refrigeration equipment	20,438	11,688
52	3631	household cooking equipment	51,919	13,081
53	3633	washers and dryers	118,423	13,701
54	3585	commercial refrigeration	21,573	14,721
55	3585	chillers	12,043	14,796
56	3585	refrigerators	30,379	15,340
57	3632	refrigerators	6,615	16,323
58	3585	waste chillers	9,093	16,604
59	3631	gas and electric ranges	138,263	16,622
60	3632	refrigerators, cooking equip., ovens, microwaves	417,969	17,344
61	3585	compressors, coils, industrial chillers	30,755	17,685
62	Unk	unknown	1,633	19,005
63	3631	metal fabrication	32,657	19,971
64	3585	refrigerated display cases	29,310	20,635
65	3585	air conditioners, heating equipment	12,897	22,553
66	3639	range hoods, bath fans, garbage compactors	58,278	22,757
67	3585	water heaters	156,444	24,231
68	3631	microwaves	167,238	24,558
69	3585	evaporators, coolers, condensers, cooling towers	5,212	25,409
70	3589	floor maintenance equipment	25,509	25,527
71	3632	refrigerator	33,069	26,739
72	3585	motor vehicle air conditioning	7,324	26,780
73	3585	dehumidifiers	68,656	26,994
74	3585	air conditioners, air cleaners	66,278	31,856
75	3632	household refrigerators	80,253	32,401
76	3585	air conditioners, gas heaters	346,102	43,450
77	3585,3632, 3639	air conditioners, refrigerators, dehumidifiers	105,966	64,947

TABLE 2-4 HAP EMISSIONS FROM POTENTIAL MAJOR SOURCE FACILITIES
(Concluded)

Facility	SIC Codes	Activity	Total 1997 Coating solids Usage (L)	Total 1997 HAP Emissions (kg)
78	3585	furnaces, heat pumps, gas grills	36,226	76,197
79	3639	water heaters	267,894	89,014
80	3633	laundry products	226,438	89,122
81	3633	clothes dryers	1,112,454	102,025
82	3639	dishwashers	515,602	116,031
83	3633	household laundry equipment	1,078,668	136,567
84	3633	washers and dryers	536,632	141,851
85	3585	heat transfer coils, coolers, ice machines	78,179	142,143
86	3633	household and commercial laundry	580,521	190,521
87	3632	refrigerators and trash compactors	133,146	295,256
88	3639	water heaters and water storage tanks	629,607	0 ^a
89	not provided	not provided	77,912	0 ^a
90	not provided	not provided	-- ^b	-- ^b
91	not provided	not provided	-- ^b	-- ^b
92	3585	air handlers and furnaces	-- ^b	-- ^b
93	3631	gas and electric ranges	-- ^b	-- ^b
94	3633,3631, 3632,3639	laundry, ranges, refrigerators, dishwashers	-- ^b	-- ^b
95	3635	central vacuums	-- ^b	-- ^b

^aThese facilities reported only powder usage and no other operations were reported (i.e., surface preparation, cleaning, etc.).

^bThese facilities did not provide sufficient data to determine the HAP emissions; however, because these facilities are considered potential major sources on the basis of a facility's statement or its potential to emit, the facilities were counted as part of the potential major source population when determining the number that represented the top 12% performing facilities.

Multiply Liters by 0.264 to obtain gallons

Multiply kilograms by 2.205 to obtain pounds