

**Table 9-5 (page 1 of 2). Work-related asthma: Most frequently reported putative agents associated with work-related asthma cases by state, 1993-1999**

Code* Agent	California		Massachusetts		Michigan		New Jersey		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
320.06 Chemicals, n.o.s.	108	11.8	32	8.7	87	8.2	20	11.1	247	9.8
320.01 Air pollutants, indoor	66	7.2	76	20.7	64	6.0	22	12.2	228	9.0
010.00 Dust, n.o.s.	116	12.6	37	10.1	21	2.0	9	5.0	183	7.2
322.00 Cleaning materials, n.o.s.	63	6.9	33	9.0	64	6.0	6	3.3	166	6.6
170.01 Cutting oils	-	-	6	1.6	126	11.9	2	1.1	134	5.3
330.03 Smoke, n.o.s.†	47	5.1	19	5.2	47	4.3	5	2.8	118	4.7
171.01 Paint	48	5.2	14	3.8	45	4.2	3	1.7	110	4.4
270.02 Latex, natural rubber	16	1.7	38	10.3	40	3.8	6	3.3	100	4.0
221.00 Diisocyanates, n.o.s.	9	1.0	14	3.8	69	6.5	2	1.1	94	3.7
390.01 Mold, n.o.s.	54	5.9	36	9.8	-	-	4	2.2	94	3.7
171.00 Solvents, n.o.s.	11	1.2	17	4.6	36	3.4	10	5.6	74	2.9
023.01 Welding fume, stainless steel	1	0.1	-	-	72	6.8	-	-	73	2.9
120.03 Formaldehyde	17	1.9	19	5.2	26	2.5	5	2.8	67	2.7
221.01 Toluene diisocyanate	9	1.0	4	1.1	50	4.7	2	1.1	65	2.6
320.16 Pesticides, n.o.s.	42	4.6	7	1.9	5	0.5	1	0.6	55	2.2
320.11 Glues, n.o.s.	24	2.6	10	2.7	14	1.3	5	2.8	53	2.1
322.10 Bleach	15	1.6	7	1.7	23	2.2	3	1.7	48	1.9
221.02 Methylene diisocyanate	2	0.2	-	-	41	3.9	2	1.1	45	1.8
030.02 Chlorine	17	1.9	1	0.3	18	1.7	5	2.8	41	1.6
010.09 Man-made mineral fibers	19	2.1	14	3.8	7	0.7	-	-	40	1.6
330.01 Cigarette smoke	22	2.4	6	1.6	8	0.8	1	0.6	37	1.5
331.01 Diesel exhaust	13	1.4	4	1.1	10	0.9	9	5.0	36	1.4
120.05 Glutaraldehyde	9	1.0	11	3.0	4	0.4	7	3.9	31	1.2
320.23 Perfume, n.o.s.	28	3.1	2	0.5	-	-	-	-	30	1.2
373.00 Wood dust, n.o.s.	9	1.0	3	0.8	15	1.4	3	1.7	30	1.2
050.00 Acids, bases, oxidizers, n.o.s.	1	0.1	5	1.4	21	2.0	2	1.1	29	1.1
023.00 Welding, n.o.s.	9	1.0	10	2.7	2	0.2	8	4.4	28	1.1
330.02 Plastic smoke	9	1.0	1	0.3	16	1.5	2	1.1	28	1.1
010.02 Asbestos	13	1.4	9	2.4	4	0.4	-	-	26	1.0
110.02 Epoxy resins	2	0.2	5	1.4	18	1.7	1	0.6	26	1.0
320.33 Air pollutants, indoor-building renovation	25	2.7	-	-	-	-	-	-	25	1.0
322.19 Cleaners, disinfectant, n.o.s.	17	1.9	6	1.6	2	0.2	-	-	25	1.0
060.11 4-Phenylcyclohexene (4-PC)	20	2.2	4	1.1	-	-	-	-	24	1.0
142.00 Acrylates, n.o.s.	-	-	-	-	21	2.0	-	-	21	0.8

See footnotes at end of table.

**Table 9-5 (page 2 of 2). Work-related asthma: Most frequently reported putative agents associated with work-related asthma cases by state, 1993-1999**

Code* Agent	California		Massachusetts		Michigan		New Jersey		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
370.01 Paper dust	9	1.0	2	0.5	2	0.2	7	3.9	20	0.8
010.03 Cement dust	11	1.2	3	0.8	5	0.5	-	-	19	0.8
322.16 Cleaners, carpet	12	1.3	-	-	6	0.6	1	0.6	19	0.8
322.21 Cleaners, floor stripping	5	0.5	2	0.5	9	0.8	2	1.1	18	0.7
370.00 Plant material, n.o.s.	15	1.6	2	0.5	1	0.1	-	-	18	0.7
380.00 Animal material, n.o.s.	8	0.9	3	0.8	6	0.6	1	0.6	18	0.7
331.00 Exhaust, n.o.s.	11	1.2	4	1.1	-	-	2	1.1	17	0.7
161.00 Polycyclic aromatic hydrocarbons, n.o.s.	14	1.5	-	-	2	0.2	-	-	16	0.6
331.02 Engine exhaust	4	0.4	1	0.3	5	0.5	6	3.3	16	0.6
050.24 Sulfuric acid	8	0.9	-	-	4	0.4	2	1.1	14	0.6
160.02 Toluene	1	0.1	4	1.1	3	0.3	6	3.3	14	0.6
322.07 Ammonia solution, n.o.s.	9	1.0	3	0.8	1	0.1	1	0.6	14	0.6
350.03 Heat	11	1.2	-	-	3	0.3	-	-	14	0.6
370.10 Pollen	14	1.5	-	-	-	-	-	-	14	0.6
050.18 Sodium hydroxide	1	0.1	3	0.8	6	0.6	2	1.1	12	0.5
052.01 Ammonia gas	-	-	-	-	10	0.9	2	1.1	12	0.5
231.00 Ethanolamines, n.o.s.	9	1.0	-	-	3	0.3	-	-	12	0.5
320.29 Printing chemicals, n.o.s.	-	-	4	1.1	8	0.8	-	-	12	0.5
371.00 Flour, n.o.s.	2	0.2	4	1.1	4	0.4	2	1.1	12	0.5
380.04 Dander, animal	11	1.2	1	0.3	-	-	-	-	12	0.5
040.20 Sulfur oxides	4	0.4	2	0.5	3	0.3	2	1.1	11	0.4
050.10 Hydrochloric acid	4	0.4	2	0.5	1	0.1	4	2.2	11	0.4
171.06 Paint, oil-based	9	1.0	2	0.5	-	-	-	-	11	0.4
221.04 Hexamethylene diisocyanate	-	-	-	-	11	1.0	-	-	11	0.4
320.17 Photo developing chemicals, n.o.s.	6	0.7	2	0.5	2	0.2	1	0.6	11	0.4
360.04 Stress	10	1.1	-	-	1	0.1	-	-	11	0.4
010.13 Silica, crystalline	7	0.8	1	0.3	1	0.1	1	0.6	10	0.4
021.00 Metal dust, n.o.s.	8	0.9	1	0.3	-	-	1	0.6	10	0.4
061.00 Petroleum fractions, n.o.s.	3	0.3	-	-	5	0.5	2	1.1	10	0.4
320.14 Lubricants, n.o.s.	2	0.2	1	0.3	5	0.5	2	1.1	10	0.4
<b>All others</b>	<b>324</b>	<b>35.3</b>	<b>139</b>	<b>37.8</b>	<b>137</b>	<b>12.9</b>	<b>107</b>	<b>59.4</b>	<b>707</b>	<b>28.0</b>

- indicates no cases reported. n.o.s. - not otherwise specified

\* Association of Occupational and Environmental Clinics (AOEC) exposure codes, 12/2000

† Smoke includes pyrolysis products other than incinerator fume or cigarette, plastic, marijuana, or lead-containing smoke.

NOTE: Number column sums exceed the corresponding number of cases because each case was associated with up to three putative agents.

Percentages are based on the actual number of cases; refer to Table 9-3 for actual number of cases. See appendices for source description and methods.

SOURCE: Provisional SENSOR surveillance data as of September 2002, aggregated by reporting source years, and reported by R Harrison and J Flattery (California); L Davis, E Pechter, and B Pazos (Massachusetts); K Rosenman, MJ Reilly, and D Kalinowski (Michigan); and D Valiante and D Schill (New Jersey).