

Work-related asthma: Most frequently reported agents associated with work-related asthma cases by state, 1993–2002 (page 1 of 3)

Code* Agent	California		Massachusetts		Michigan		New Jersey		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
320.06 Chemicals, n.o.s.	204	10.9	35	7.0	136	9.0	29	11.2	404	9.8
010.00 Dust, n.o.s.	293	15.7	50	10.0	30	2.0	13	5.0	386	9.3
320.01 Air pollutants, indoor	137	7.3	103	20.6	103	6.8	25	9.7	368	8.9
322.00 Cleaning materials, n.o.s.	118	6.3	41	8.2	103	6.8	7	2.7	269	6.5
330.03 Smoke, n.o.s.	117	6.3	25	5.0	81	5.4	10	3.9	233	5.6
390.01 Mold, n.o.s.	144	7.7	53	10.6	11	0.7	10	3.9	218	5.3
170.01 Cutting oils	4	0.2	8	1.6	182	12.1	2	0.8	196	4.7
171.01 Paint	103	5.5	21	4.2	59	3.9	6	2.3	189	4.6
221.00 Diisocyanates, n.o.s.	22	1.2	18	3.6	90	6.0	3	1.2	133	3.2
270.02 Latex, natural rubber	33	1.8	42	8.4	47	3.1	9	3.5	131	3.2
171.00 Solvents, n.o.s.	37	2.0	19	3.8	44	2.9	10	3.9	110	2.7
023.01 Welding fume, stainless steel	5	0.3	-	-	97	6.4	1	0.4	103	2.5
320.11 Glues, n.o.s.	48	2.6	14	2.8	23	1.5	6	2.3	91	2.2
120.03 Formaldehyde	26	1.4	23	4.6	35	2.3	6	2.3	90	2.2
320.33 Air pollutants, indoor-building renovation	75	4.0	5	1.0	-	-	-	-	80	1.9
320.16 Pesticides, n.o.s.	64	3.4	7	1.4	5	0.3	2	0.8	78	1.9
322.10 Bleach	26	1.4	12	2.4	35	2.3	5	1.9	78	1.9
331.01 Diesel exhaust	41	2.2	9	1.8	16	1.1	9	3.5	75	1.8
221.01 Toluene diisocyanate	6	0.3	6	1.2	58	3.9	2	0.8	72	1.7
330.01 Cigarette smoke	45	2.4	9	1.8	16	1.1	1	0.4	71	1.7
010.09 Man-made mineral fibers	39	2.1	14	2.8	11	0.7	1	0.4	65	1.6
320.23 Perfume, n.o.s.	54	2.9	7	1.4	4	0.3	-	-	65	1.6
221.02 Methylene diisocyanate	4	0.2	-	-	55	3.7	3	1.2	62	1.5
030.02 Chlorine	29	1.6	2	0.4	23	1.5	7	2.7	61	1.5
120.05 Glutaraldehyde	17	0.9	17	3.4	10	0.7	7	2.7	51	1.2
010.02 Asbestos	35	1.9	10	2.0	5	0.3	-	-	50	1.2
373.00 Wood dust, n.o.s.	26	1.4	4	0.8	17	1.1	3	1.2	50	1.2
322.21 Cleaners, floor stripping	16	0.9	12	2.4	15	1.0	2	0.8	45	1.1
023.00 Welding, n.o.s.	21	1.1	13	2.6	3	0.2	7	2.7	44	1.1
330.02 Plastic smoke	13	0.7	1	0.2	24	1.6	4	1.5	42	1.0
360.04 Stress	40	2.1	1	0.2	1	0.1	-	-	42	1.0
050.00 Acids, bases, oxidizers, n.o.s.	4	0.2	6	1.2	27	1.8	3	1.2	40	1.0
110.02 Epoxy resins	5	0.3	7	1.4	26	1.7	1	0.4	39	0.9
322.19 Cleaners, disinfectant, n.o.s.	24	1.3	9	1.8	4	0.3	-	-	37	0.9
010.03 Cement dust	22	1.2	8	1.6	6	0.4	-	-	36	0.9
060.11 4-Phenylcyclohexene	31	1.7	5	1.0	-	-	-	-	36	0.9
370.00 Plant material, n.o.s.	29	1.6	2	0.4	4	0.3	-	-	35	0.8
161.00 Polycyclic aromatic hydrocarbons, n.o.s.	31	1.7	-	-	3	0.2	-	-	34	0.8

See footnotes at end of table.

Work-related asthma: Most frequently reported agents associated with work-related asthma cases by state, 1993–2002 (page 2 of 3)

Code*	Agent	California		Massachusetts		Michigan		New Jersey		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%
322.16	Cleaners, carpet	23	1.2	1	0.2	9	0.6	1	0.4	34	0.8
142.00	Acrylates, n.o.s.	-	-	2	0.4	26	1.7	-	-	28	0.7
331.00	Exhaust, n.o.s.	20	1.1	5	1.0	-	-	2	0.8	27	0.7
370.01	Paper dust	13	0.7	2	0.4	3	0.2	7	2.7	25	0.6
322.07	Ammonia solution, n.o.s.	17	0.9	5	1.0	1	0.1	1	0.4	24	0.6
021.00	Metal dust, n.o.s.	17	0.9	3	0.6	2	0.1	1	0.4	23	0.6
350.03	Heat	17	0.9	2	0.4	4	0.3	-	-	23	0.6
380.00	Animal material, n.o.s.	10	0.5	4	0.8	8	0.5	1	0.4	23	0.6
371.00	Flour, n.o.s.	6	0.3	4	0.8	9	0.6	3	1.2	22	0.5
370.10	Pollen	20	1.1	-	-	-	-	1	0.4	21	0.5
050.10	Hydrochloric acid	7	0.4	2	0.4	5	0.3	6	2.3	20	0.5
050.18	Sodium hydroxide	6	0.3	4	0.8	7	0.5	3	1.2	20	0.5
052.01	Ammonia gas	1	0.1	2	0.4	15	1.0	2	0.8	20	0.5
050.24	Sulfuric acid	12	0.6	1	0.2	4	0.3	2	0.8	19	0.5
331.02	Engine exhaust	3	0.2	2	0.4	8	0.5	6	2.3	19	0.5
010.13	Silica, crystalline	12	0.6	2	0.4	3	0.2	1	0.4	18	0.4
040.20	Sulfur oxides	10	0.5	2	0.4	3	0.2	3	1.2	18	0.4
160.02	Toluene	4	0.2	5	1.0	3	0.2	6	2.3	18	0.4
320.17	Photo developing chemicals, n.o.s.	7	0.4	8	1.6	2	0.1	1	0.4	18	0.4
320.29	Printing chemicals, n.o.s.	3	0.2	6	1.2	9	0.6	-	-	18	0.4
020.15	Cobalt	-	-	1	0.2	15	1.0	1	0.4	17	0.4
160.03	Xylene	7	0.4	2	0.4	6	0.4	2	0.8	17	0.4
370.35	Capsicum	15	0.8	-	-	1	0.1	1	0.4	17	0.4
010.04	Carbon black	12	0.6	2	0.4	1	0.1	1	0.4	16	0.4
061.04	Gasoline	10	0.5	1	0.2	2	0.1	3	1.2	16	0.4
170.00	Hydrocarbons, n.o.s.	14	0.7	2	0.4	-	-	-	-	16	0.4
380.04	Dander, animal	14	0.7	1	0.2	1	0.1	-	-	16	0.4
040.04	Carbon monoxide	8	0.4	5	1.0	-	-	2	0.8	15	0.4
070.05	Ethanol	9	0.5	-	-	4	0.3	2	0.8	15	0.4
320.15	Odors	13	0.7	1	0.2	1	0.1	-	-	15	0.4
061.00	Petroleum fractions, n.o.s.	5	0.3	-	-	7	0.5	2	0.8	14	0.3
231.00	Ethanolamines, n.o.s.	9	0.5	-	-	5	0.3	-	-	14	0.3
373.02	California redwood	14	0.7	-	-	-	-	-	-	14	0.3
130.01	Acetone	8	0.4	2	0.4	3	0.2	-	-	13	0.3
171.02	Thinner	10	0.5	2	0.4	-	-	1	0.4	13	0.3
171.07	Lacquer	11	0.6	2	0.4	-	-	-	-	13	0.3
180.03	Hydroquinone	6	0.3	4	0.8	3	0.2	-	-	13	0.3
270.07	Polyurethane	7	0.4	6	1.2	-	-	-	-	13	0.3

See footnotes at end of table.

Work-related asthma: Most frequently reported agents associated with work-related asthma cases by state, 1993–2002 (page 3 of 3)

Code*	Agent	California		Massachusetts		Michigan		New Jersey		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%
370.03	Grain dust	7	0.4	1	0.2	5	0.3	-	-	13	0.3
370.07	Grass cuttings	11	0.6	1	0.2	-	-	1	0.4	13	0.3
171.06	Paint, oil-based	10	0.5	2	0.4	-	-	-	-	12	0.3
221.04	Hexamethylene diisocyanate	-	-	1	0.2	11	0.7	-	-	12	0.3
322.22	Cleaners, graffiti removing	11	0.6	1	0.2	-	-	-	-	12	0.3
350.02	Cold	9	0.5	1	0.2	-	-	2	0.8	12	0.3
320.12	Hair products	3	0.2	4	0.8	4	0.3	-	-	11	0.3
320.14	Lubricants, n.o.s.	2	0.1	1	0.2	6	0.4	2	0.8	11	0.3
380.01	Antigens, animal	11	0.6	-	-	-	-	-	-	11	0.3
382.13	Mites, n.o.s.	9	0.5	1	0.2	-	-	1	0.4	11	0.3
024.00	Soluble halogenated platinum compounds	-	-	-	-	-	-	10	3.9	10	0.2
060.08	Natural gas	7	0.4	2	0.4	1	0.1	-	-	10	0.2
320.10	Fire extinguisher discharge	10	0.5	-	-	-	-	-	-	10	0.2
320.13	Herbicides, n.o.s.	9	0.5	-	-	-	-	1	0.4	10	0.2
320.28	Cosmetics, n.o.s.	6	0.3	2	0.4	-	-	2	0.8	10	0.2
	All others	451	24.1	187	37.5	163	10.8	102	39.4	903	21.9

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

* Association of Occupational and Environmental Clinics (AOEC) exposure codes, 05/2005 (www.aoec.org)

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 number of cases reported from California (n=1,868), Massachusetts (n=499), Michigan (n=1,506), and New Jersey (n=259). See appendices for source description and methods.

SOURCE: Provisional Sentinel Event Notification Systems for Occupational Risks surveillance data as of September 2006, reported by R Harrison and J Flattery (California); L Davis, E Pechter, and M Sharma (Massachusetts); K Rosenman, MJ Reilly, and D Kalinowski (Michigan); and D Valiante, D Schill, and K McGreevy (New Jersey).