Gases & Odors

Activated Carbon Adsorbency of 358 Selected Materials & Odors

The following is a list of gases and odors that are adsorbed by FILTERQUEEN's carbon media in the Medipure Filter Cone and in the Enviropure Defender Wrap.

1.	acetaldehyde	2
2.	acetic acid	4
3.	acetic anhydride	4
4.	acetone	3
5.	acetonitrile – skin	4
6.	acetylene	1
7.	acrylic acid	4
8.	acrylonitrile	4
9.	adhesive	4
10.	alcoholic beverages	4
11.	amines	2
12.	ammonia	2
13.	amyl acetate	4
14.	amyl alcohol	4
15.	amyl ether	4
16.	animal odors	3
17.	anesthetics	3
18.	aniline	4
19.	antiseptics	4
20.	asphalt fumes	4
21.	automobile exhaust	3
22.	bamzene	4
23.	bathroom smells	4
24.	benzene	4
25.	benzyl chloride	4
26.	biphenyl	4
27.	bleaching solutions	3
28.	body odors	4
29.	bromine	4
30.	burned flesh	4
31.	burned food	4
32.	burning fat	4
33.	butadiene	3
34.	butane	2
35.	butanone	4
36.	butyl acetate	4
37.	butyl alcohol	4
38.	butyl cellosolve	4
39.	butyl chloride	4
40.	butylene	2
41.	butyl ether	4
42.	butyl mercaptin vapor	4
43.	butyne	2
44.	butyraldehyde	3
45.	butyric acid	4
46.	camphor	4
47.	cancer odor	3
48.	caprylic acid	4
49.	carbolic acid	4
50.	carbon dioxide	1
51.	carbon disulfide	4
52.	carbon monoxide	1
53.	carbon tetrabromide	4
54.	carbon tetrachloride vapor	4
55.	carbonyl fluoride vapor	2
56.	cellusolve materials	4
57.	charred materials	4
58.	cheese	4
59.	chloride	3
60.	chlorine (pool)	2
61.	chlorobenzene	4
62.	chloroboromethane	4
63.	chlorobutadiene	4
64.	chlorodifluoromethane	4
65.	chloroform	4
66.	chloronitropropane	4
67.	chloropierin	4
68.	chloropropionic acid	4
69.	chlorostyrene	4
70.	chlorotoluene vapor	4
71.	cigarette smoke odor	4
72.	citrus and other fruits	4

* See page 5 for more information

9/04

73.	cleaning compounds	4
74.	coal smoke odor	3
75.	combustion odors	3
76.	cooking odors	4
77.	corrosive gases	3
78.	creosote	4
79.	crotonaldehyde	4
80.	cyclohexane	4
81.	cyclohexanol	4
82.	cyclohexanone	4
83.	cyclohexene	4
84.	cyclohexylamine	4
85.	cyclopentane	4
86.	dead animals	4
87.	decane	4
88.	decaying substances	4
89.	deodorants	4
90.	detergents	4
91.	dibromomethane	4
92.	dibutyl phenyl phosphate	4
93.	dibutyl phosphate	4
94.	dichloroathylane	4
95.	dichlorobenzene	4
96.	dichlorodifluoromethane	4
97.	dichloroethane	4
98.	dichloroethylene	4
99.	dichloroethyl ether	4
100.	dichloromonofluoromethane	3
101.	dichloronitroethane	4
102.	dichloropropane	4
103.	dichlorotetrafluoroethane	4
104.	dicyclopentadiene	4
105.	diesel fumes	4
106.	diethyl ketone	3
107.	diethylamine	2
108.	diethylene triamine	2
109.	diethyl katone	4
110.	difluorobromomethane	4
111.	diisolbutyl ketone	4
112.	diisopropylamine	2
113.	dimethylaniline	4
114.	dimethylformamide	4
115.	dimethylsulfate	4
116.	dipropyl ketone	4
117.	divinyl benzene	4
118.	dioxane	2
119.	disinfectants	4
120.	embalming odors	4
121.	ethane	1
122.	ethanolamine	2
123.	ether	3
124.	ethoxylethanol	4
125.	ethy-amylketone	4
126.	ethyl acetate	4
127.	ethyl acrylate	4
128.	ethyl alcohol	4
129.	ethylamine	4
130.	ethyl benzene	3
131.	ethyl bromide	4
132.	ethyl butyl ketone	3
133.	ethyl chloride	3
134.	ethylene	1
135.	ethylene chlorohydrin	4
136.	ethylene dichloride	4
137.	ethylene oxide	3
138.	ethyl ether	3
139.	ethyl formate	3
140.	ethyl mercaptan	3
141.	ethylmorpholine	4
142.	ethyl silicate	4
143.	essential oils	4
144.	eucalyptole	4
145.	exhaust fumes	3
146.	fertilizer	4
147.	film processing odors	3
148.	fish odors	4
149.	floral scents	4
150.	fluorine	2
151.	fluortrichloromethane	3
152.	food aromas	4
153.	formaldehyde	2
154.	formamide	4
155.	formic acid	3
156.	fruits	4
157.	fuel gases	2
158.	fumes	3
159.	gangrene	4
160.	garlic	4
161.	gasoline	4
162.	heptane	4

* See page 5 for more information

163.	heptylene	4
164.	hexachlorobutadiene	4
165.	hexachloropentadiene	4
166.	hexafluoroethane	4
167.	hexane	3
168.	hexylacetate	3
169.	hexylene	3
170.	hexyne	3
171.	hospital odors	4
172.	household smells	4
173.	hydrogen	1
174.	hydrogen bromide	3
175.	hydrogen chloride	2
176.	hydrogen cyanide	3
177.	hydrogen fluoride	2
178.	hydrogen iodide	3
179.	hydrogen selenide	2
180.	hydrogen sulfide	3
181.	hydroxypropyl actetate	4
182.	incense	4
183.	indole	4
184.	inorganic chemicals	3
185.	incomplete combustion	3
186.	industrial wastes	3
187.	iodine	4
188.	idoform	4
189.	irritants	4
190.	isoprene	3
191.	isoamyl actetate	4
192.	isoamyl alcohol	4
193.	isobutyl acetate	4
194.	isobutyl alcohol	4
195.	isooctyl alcohol	4
196.	isopropyl acetate	4
197.	isopropyl alcohol	4
198.	isopropylamine	4
199.	isopropyl ether	4
200.	kerosene	4
201.	kitchen odors	4
202.	lactic acid	4
203.	lingering odors	4
204.	liquid fuels	4
205.	liquor odors	4
206.	lubricating oils and greases	4
207.	Lysol	4
208.	masking agents	4
209.	medicinal odors	4
210.	melons	4
211.	menthol	4
212.	mercaptans	4
213.	mesityl oxide	1
214.	methane	3
215.	methoxyethanol	4
216.	methoxyethyl acetate	4
217.	methy-amylketone	4
218.	methyl acetate	4
219.	methyl alcohol	3
220.	methyl acrylate	3
221.	methylacrylonitrile	4
222.	methyl bromide	4
223.	methyl butyl ketone	4
224.	methyl cellosolve	4
225.	methyl chloride	3
226.	methyl chloroform	4
227.	methyl cyclohexane	4
228.	methylcyclohexanol	4
229.	methylcyclohexanone	4
230.	methylene chloride	4
231.	methyl ether	3
232.	methyl ethyl ketone	4
233.	methylformate	3
234.	methyl isobutyl ketone	4
235.	methyl mercaptan	4
236.	methyl methacrylate	4
237.	mildew	3
238.	mineral spirits	4
239.	mixed odors	4
240.	mold	3
241.	monochlorobenzene	4
242.	monofluorotrichloromethane	4
243.	moth balls	4
244.	naphtha (coal tar)	4
245.	naptha (petroleum)	4
246.	naphthalene	4
247.	nicotine	4
248.	nitric acid	3
249.	nitro benzenes	4
250.	nitroethane	4
251.	nitrogen dioxide	2
252.	nitrogen trifluoride	2

* See page 5 for more information

253.	nitroglycerin	4	
254.	nitromethane	4	
255.	nitropropane	4	
256.	nitrotoluene	4	
257.	nonane	4	
258.	octane	4	
259.	octene	4	
260.	onions	4	
261.	organic chemicals	4	
262.	ozone	4	
263.	packing house odors	4	
264.	paint odors	4	
265.	palmitic acid	4	
266.	paper deterioration	4	
267.	paradichlorobenzene	4	
268.	paste and glue	4	
269.	pentane	3	
270.	pentanone	3	
271.	pentylene	4	
272.	pentyne	4	
273.	perchloroethlyene	4	
274.	perfluoroisobutylene	4	
275.	perfumes and cosmetics	4	
276.	perspiration	4	
277.	pet odors	4	
278.	phenol	4	
279.	phenyl ether	4	
280.	phenyl mercaptan	4	
281.	phosgene	3	
282.	pitch	4	
283.	plastics	4	
284.	plicatic acid	4	
285.	popcorn and candy	4	
286.	poultry odors	4	
287.	propane	2	
288.	propionaldehyde	3	
289.	propionic acid	4	
290.	propyl acetate	4	
291.	propyl alcohol	4	
292.	propyl chloride	4	
293.	propylene	2	
294.	propylene dichloride	4	
295.	propylene oxide	4	
296.	propyl ether	4	
297.	propyl mercaptan	4	
298.	propyl nitrate	4	
299.	propyne	2	
300.	putrefying substances	3	
301.	putrescine	4	
302.	pyridine	4	
303.	quinine	4	
304.	rancid oils	4	
305.	redecorating odors	4	
306.	resins	4	
307.	ripening fruits	4	
308.	rubber	4	
309.	rubber solvent (naphta)	4	
310.	sauerkraut	4	
311.	selenium hexafluoride	4	
312.	sewer odors	4	
313.	skatole	4	
314.	slaughtering odors	3	
315.	smog	2	
316.	solvents	3	
317.	sour milks	4	
318.	spilled beverages	4	
319.	spoiled food stuffs	4	
320.	stale odors	4	
321.	stoddard solvent	4	
322.	styrene monomer	4	
323.	sulfuric acid	4	
324.	sulfur dioxide	2	
325.	sulfur trioxide	3	
326.	sulfur hexafluoride	4	
327.	tar	4	
328.	tarnishing gases	3	
329.	tetrachloroethane	4	
330.	tellurium hexafluoride	4	
331.	tetrachloroethylene	4	
332.	tetranitromethane	4	
333.	theatrical makeup odor	4	
334.	tobacco smoke odor	4	
335.	toilet odors	4	
336.	toluene	4	
337.	toludine	4	
338.	tributyl phosphate	4	
339.	trichloroethane	4	
340.	trichloroethylene	4	
341.	triethanolamine	4	
342.	triflurobromomethane	4	

* See page 5 for more information

343. trifluoroethane	4	351. vinyl acetate	4
344. trimethylamine	2	352. vinyl chloride	3
345. turpentine	4	353. vinyl cyclohexane dioxide	4
346. urea and uric acid	4	354. vinyl toluene	4
347. valeric acid	4	355. volatile materials	3
348. valericaldehyde	4	356. waste products	4
349. varnish fumes	4	357. wood alcohol	3
350. vinegar	3	358. xylene	4

The capacity index has the following meanings:

1. Adsorption capacity is low for these materials. Activated charcoal cannot be satisfactorily used to remove them under ordinary circumstances.

2. Includes substances which are not highly adsorbed but which might be taken up sufficiently to give good service under the particular conditions of operations. These require individual checking.

3. Satisfactory capacity for all items in this category. These constitute good application but the capacity is not as high as for category 4. Adsorbs about 10 to 25% of its weight – average about 1/6 (16.7%).

4. High capacity for all materials in this category. One pound takes up about 20% to 50% of its own weight – average about 1/3 (33%). This category includes most of the odor causing substances.

Some of the contaminants listed in the table are specific chemical compounds, some represent classes of compounds, and others are mixtures of variable composition. Activated charcoal's capacity for odor adsorption varies somewhat with the concentration in air, with humidity, temperature and the actual velocity used through the filters. The numbers given represent typical or average conditions and might vary in specific instances. The values in the table have been assembled from many sources including laboratory tests and field experience. In cases where numerical values are not available, the author listed his opinion of the probable capacity based on general experience. This table should be used as a general guide only.

Adopted from National Air Filtration Association

Credit to Wayne Hosi