

Avoiding Coal Tar-Based Asphalt Sealcoats and Finding a Coal Tar-free Sealcoat Applicator

There are several types of asphalt sealcoat products available to professional applicators. The most commonly used are: coal tar-based, asphalt emulsion-based, Gilsonite (bitumen)-based, or acrylic-based. Of these, coal tar-based products or blends contain the greatest amounts of Polycyclic Aromatic Hydrocarbons (PAHs), which have been found to cause cancer.

The table below¹ shows the amount of PAHs typically found in one brand of coal-tar (RT-12) used for blending asphalt sealcoats. The PAHs that have been highlighted are "reasonably anticipated to be human carcinogens" according to the *12th Report on Carcinogens* by the National Toxicology Program².

CAS	Component	Percent (weight)
65996-93-2	HIGH TEMPERATURE COAL TAR PITCH	100
-	The above listed complex substance contains the constituents listed below	-
85-01-8	PHENANTHRENE	1.85-2.7
206-44-0	FLUORANTHENE	1.50-2.35
129-00-0	PYRENE	1.02-1.59
91-20-3	NAPHTHALENE	0.87-1.32
120-12-7	ANTHRACENE	0.75-0.99
56-55-3	BENZ(A)ANTHRACENE	0.65-0.84
193-39-5	INDENO(1,2,3-CD)PYRENE	0.48-0.81
83-32-9	ACENAPHTHENE	0.47-0.74
218-01-9	CHRYSENE	0.56-0.73
205-99-2	BENZO(B)FLUORANTHENE	0.30-0.70
86-73-7	FLUORENE	0.50-0.70
192-97-2	BENZO(E)PYRENE	0.40-0.70
50-32-8	BENZO(A)PYRENE	0.47-0.69
132-64-9	DIBENZOFURAN	0.49-0.68
191-24-2	BENZO(G,H,I)PERYLENE	0.37-0.68
86-74-8	CARBAZOLE	0.40-0.60
90-12-0	1-METHYLNAPHTHALENE	0.00-0.60
189-64-0	DIBENZO(A,H)PYRENE	0.27-0.58
205-82-3	BENZO(J)FLUORANTHENE	0.22-0.56
207-08-9	BENZO(K)FLUORANTHENE	0.21-0.52
243-17-4	BENZO(B)FLUORENE	0.20-0.50
238-84-6	BENZO(A)FLUORENE	0.30-0.40
192-65-4	DIBENZO(A,E)PYRENE	0.00-0.30
217-59-4	TRIPHENYLENE	0.10-0.20
92-52-4	DIPHENYL	0.00-0.20
224-42-0	DIBENZ(A,J)ACRIDINE	0.07-0.19
91-22-5	QUINOLINE	0.00-0.16
53-70-3	DIBENZO(A,H)ANTHRACENE	0.07-0.11
226-36-8	DIBENZ(A,H)ACRIDINE	0.00-0.06
208-96-8	ACENAPHTHYLENE	0.01-0.04
194-59-2	7H-DIBENZO(C,G)CARBAZOLE	0.00-0.01

Products with PAH containing coal tar normally have Material Safety Data Sheets (MSDS), container labels or technical bulletins that reference Chemical Abstracts Service (CAS) numbers 65996–93–2, 65996-89-6 or 8007-45-2, and/or use the words: coal tar; refined coal tar; refined tar; refined coal tar pitch; coal tar pitch volatiles; and/or RT-12.

Coal tar-free sealcoat applicators

Sealcoat applicators have a wide variety of sealcoat products to choose from, depending on customer requirements. Applicators that apply coal tar-based sealcoats should also be capable of apply asphalt emulsion, Gilsonite or latex based sealcoats if requested. When specifying or contracting for asphalt sealcoating, specify that the coating product be free from coal tar; refined coal tar; refined tar; refined coal tar pitch; coal tar pitch volatiles; and/or RT-12.

The following Wisconsin asphalt sealcoat applicators have certified that they do not use coal tar-based sealcoats:

A1 Seal Coating - Irma, Osceola,
ABBS Paving - Baraboo
Asphalt Maintenance & Paving - Eau Claire, Spring Valley
Asphalt Services - Rochester
Badger Asphalt - Madison
Beaver Companies - Beaver Dam
Blackline Asphalt - Wausau
Brew City Asphalt Maintenance - New Berlin
Directional Striping Company - Sun Prairie
Fahrner Asphalt Sealers - Plover, Eau Claire, Kaukauna, Waunakee, Frederic
Fond Du Lac Asphalt Paving - Fond du Lac
Grade-Tech Pavers - Ixonia
Hallman Asphalt & Sealing - Sun Prairie
Jet Black Sealcoating - Somerset
Klein Asphalt Maintenance - Manitowoc
Midwest Sealcoat - Dodgeville
Purpose Contracting - Franksville
Rochester Asphalt - Byron, MN
Roy's Sealcoating - Minong
Sailer Sealcoating - Hudson
SealKing - Somerset
Wisconseal Pavement Maintenance - Chippewa Falls

For more information on non-coal tar asphalt sealcoating see:

Moving to safer alternatives to coal tar sealcoats <http://www.pca.state.mn.us/ahx9grk>

Notes:

1. Source: Koppers Inc.- Material Safety Data sheet #00228325, *Pavement Sealer Base PSB*; K-364; RT-12
2. [12th Report on Carcinogens, National Toxicology Program](http://ntp.niehs.nih.gov/ntp/roc/twelfth/roc12.pdf), <http://ntp.niehs.nih.gov/ntp/roc/twelfth/roc12.pdf>

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