

"REACH for Coal Chemicals (R4CC)"

REACH UVCB Categories and Specifications

Coal Tar					typical data for sameness check					Registration		
					flash point		boiling range (10-90 %)	density 20°C	potential main constituents	other identifiers	Full	OSII
SUBSTANCE NAME		INDEX	EINECS	CAS	EN ISO 2719 [°C]	DIN 52027 [°C]	ASTM D4052 [g/cm³]	GC > 10%	GC			
Tar, coal, high-temp. The condensation product obtained by cooling, to approximately ambient temperature, the gas evolved in the high temperature (greater than 700°C (1292°F)) destructive distillation of coal. A black viscous liquid denser than water. Composed primarily of a c		648-082-00-2	266-024-0	65996-89-6	> 21	100 - >360	1.1 - 1.3	Naphthalene	Phenanthrene		OSII	TII
Tar, coal; coal tar		related CAS information	648-081-00-7	232-361-7	8007-45-2							
Tar, coal, low-temp.; Coal oil		related CAS information	648-083-00-8	266-025-6	65996-90-9							
Distillates (coal tar), gasification, full range		related CAS information	-	310-226-4	140203-17-4							
Distillates (coal tar), low-temp, full range		related CAS information	-	310-275-1	140413-62-3							
Distillates (coal tar), low-temperature, pitch		related CAS information	-	310-276-7	140413-63-4							

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Light Oil				typical data for sameness check						Registration						
				flash point		boiling range (10-90 %)	density 20°C	potential main constituents	other identifiers	Full	OSII	TII				
SUBSTANCE NAME		INDEX	EINECS	CAS	EN ISO 2719 [°C]	EN ISO 3405 [°C]	ASTM D4052 [g/cm ³]	GC > 10%	GC							
Distillates (coal tar), benzole fraction A complex combination of hydrocarbons obtained by the distillation of coal tar. It consists of hydrocarbons having carbon numbers primarily in the range of C4 to C10 and distilling in the approximate range of 80 °C to 160 °C (175°F to 320 °F).		648-001-00-0	283-482-7	84650-02-2	< 21	80 - 200	0.85 - 1.05	Benzene Toluene Xylene Indene	-		OSII	TII				
Light oil (coal), coke-oven The volatile organic liquid extracted from the gas evolved in the high temperature (greater than 700°C (1292°F)) destructive distillation of coal. Composed primarily of benzene, toluene, and xylenes. May contain other minor hydrocarbon constituents		648-147-00-5	266-012-5	65996-78-3	< 21	80 - 200	0.85 - 1.05	Benzene Toluene Xylene Indene	-			TII				
Benzol forerunnings (coal);		related CAS information	648-003-00-1	266-023-5	65996-88-5	<p>More common alternative: CAS 65996-79-4 or CAS 101316-62-5</p> <p>Transferred to Lower Olefins & Aromatics REACH Consortium (LOA; Cat. M)</p> <p>More common alternative: CAS 65996-79-4 or CAS 101316-62-5</p> <p>More common alternative: CAS 65996-79-4 or CAS 101316-62-5</p> <p>Transferred to Lower Olefins & Aromatics REACH Consortium (LOA; Cat. M)</p> <p>Transferred to Lower Olefins & Aromatics REACH Consortium (LOA; Cat. H)</p>										
Solvent naphtha (coal), light		related CAS information	648-006-00-8	287-498-5	85536-17-0											
Solvent naphtha (coal), coumarone-Styrene contg.		related CAS information	648-008-00-9	287-500-4	85536-19-2											
Solvent naphtha (coal), xylene styrene cut		related CAS information	648-007-00-3	287-502-5	85536-20-5									Full		TII
Extract residues (coal), light oil alk., acid ext.		related CAS information	648-026-00-7	292-624-7	90641-01-3											
Extract residues (coal), light oil alk., distn. Overheads		related CAS information	648-017-00-8	292-625-2	90641-02-4											
Extract residues (coal), light oil alk., indene naphtha fraction		related CAS information	648-019-00-9	292-626-8	90641-03-5											
Aromatic hydrocarbons, C8		related CAS information	648-010-00-X	292-694-9	90989-38-1									Full		
Aromatic hydrocarbons, C6-10, C8-rich		related CAS information	648-005-00-2	292-697-5	90989-41-6									Full		
Extract residues (coal), benzole fraction alk., acid ext.		related CAS information	648-014-00-1	295-323-9	91995-61-8											
Distillates (petroleum), cracked, alkene-alkyne manuf. by-product, methylindene fraction		related CAS information	-	305-585-9	94733-06-9											
Distillates (petroleum), steam-cracked light petroleum residues, C9-10-arom. Fraction		related CAS information	-	308-910-2	98999-20-3											

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Carbolic Oil / Phenolic Oil / Phenolate					typical data for sameness check					Registration						
					flash point		boiling range (10-90 %)	density 20°C	potential main constituents	other identifiers	Full	OSII	TII			
SUBSTANCE NAME		INDEX	EINECS	CAS	EN ISO 2719 [°C]	EN ISO 3405 [°C]	ASTM D4052 [g/cm³]	GC > 10%	GC							
Distillates (coal tar), light oils	A complex combination of hydrocarbons obtained by distillation of coal tar. It consists of aromatic and other hydrocarbons, phenolic compounds and aromatic nitrogen compounds and distills at the approximate range of 150 °C to 210 °C (302 °F to 410 °F).	648-023-00-0	283-483-2	84650-03-3	> 21	100 - 250	0.9 - 1.2	Phenol Cresol Xylenol Indene Indane Naphthalene	Indene Indane			TII				
Solvent naphtha (coal)	related CAS information	648-020-00-4	266-013-0	65996-79-4	Transferred to Lower Olefins & Aromatics REACH Consortium (LOA; Cat. L)					Full		TII				
Tar oils, coal	related CAS information	648-024-00-6	266-016-7	65996-82-9												
Extract resid. (coal), tar oil alk.	related CAS information	648-027-00-2	266-021-4	65996-87-4										OSII	TII	
Creosote, wood	related CAS information	-	232-419-1	8021-39-4												
Distillates (coal tar), light oils, acid exts.	related CAS information	648-022-00-5	292-609-5	90640-87-2												
Distillates (petroleum), alkene-alkylene manuf. pyrolysis oil, mixed with high-temp. coal tar, indene fraction	related CAS information	648-036-00-1	295-292-1	91995-31-2												
Tar oils, coal, low-temp.	related CAS information	648-109-00-8	309-889-2	101316-87-4												
Extract residues (coal tar), light oil alkaline, acid extract	related CAS information	-	310-262-0	140362-70-5												

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Naphthalene Oil				typical data for sameness check						Registration		
				flash point		boiling range (10-90 %)	density 20°C	potential main constituents	other identifiers	Full	OSII	TII
SUBSTANCE NAME		INDEX	EINECS	CAS	EN ISO 2719	EN 13991	ASTM D4052	GC	GC			
Methods					[°C]	[°C]	[g/cm³]	> 10%				
Dist. (coal tar), naphthalene oils	A complex combination of hydrocarbons obtained by the distillation of coal tar. It consists primarily of aromatic and other hydrocarbons, phenolic compounds and aromatic nitrogen compounds and distills in the approximate range of 200°C to 250°C (392°F to	648-085-00-9	283-484-8	84650-04-4	> 50	180 - 250	0.9 - 1.2	Naphthalene	-		OSII	TII
Distillates (coal tar), naphthalene oils, naphthalene-low	related CAS information	648-086-00-4	284-898-1	84989-09-3								
Distillates (coal), coke-oven light oil, naphthalene cut	related CAS information	648-084-00-3	285-076-5	85029-51-2								
Naphtha, thermal cracked, residues, naphthalene cut	related CAS information	-	285-562-7	85117-10-8						Full		TII
Extract residues (coal), naphthalene oil alk., distn. Overheads	related CAS information	648-091-00-1	292-627-3	90641-04-6								
Naphtha (coal), distn. Residues	related CAS information	648-009-00-4	292-636-2	90641-12-6								TII
Aromatic hydrocarbons, C8-9; hydrocarbon resin polymn. by-product	related CAS information	648-012-00-0	295-281-1	91995-20-9								
Distillates (coal), coal tar-residual pyrolysis oils, naphthalene oils	related CAS information	648-037-00-7	295-295-8	91995-35-6								
Distillates (coal tar), naphthalene oil crystn. mother liquor	related CAS information	648-087-00-X	295-310-8	91995-49-2								TII
Extract oils (coal), coal tar-residual pyrolysis oils, naphthalene oil, redistillate	related CAS information	648-038-00-2	295-329-1	91995-66-3								
Aromatic hydrocarbons, C9-12, benzene distn.	related CAS information	648-013-00-6	295-551-9	92062-36-7						Full		
Distillates (coal tar), gasification, middle	related CAS information	-	302-627-8	94113-92-5								
Extract residues (coal), naphthalene oil acid, alk. ext.	related CAS information	-	302-630-4	94113-95-8								
Transferred from R4CC Light Oil Category												

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Naphthalene Oil		continued		
Distillates (petroleum), alkene-alkyne manuf. pyrolysis oil, naphthalene fraction	related CAS information	-	309-859-9	101316-53-4
Tar, coal, low-temp., distn. Residues	related CAS information	648-068-00-6	309-887-1	101316-85-2
Distillates (coal tar), benzole fraction, distn. Residues	related CAS information	648-097-00-4	310-165-3	121620-46-0
Extract oils (coal), coal tar-residual pyrolysis oils, naphthalene oil, distn. Residues	related CAS information	648-040-00-3	310-171-6	122070-80-8
Distillates (coal tar), high-temperature, naphthalene oils	related CAS information	-	310-232-7	140203-22-1
Extract residues (coal tar), high-temperature, naphthalene oil alkaline, distn. overheads	related CAS information	-	310-256-8	140362-65-8
Extract residues (coal tar), high-temperature, naphthalene oil alkaline, distn. residues	related CAS information	-	310-257-3	140362-66-9
Extract residues (coal tar), high-temperature, naphthalene oils, alkaline	related CAS information	-	310-263-6	140362-71-6
Extract residues (coal tar), high-temperature, naphthalene oils, alkaline, naphthalene-low	related CAS information	-	310-264-1	140362-72-7

Registration		
Full	OSII	TII
		TII

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Wash Oil					typical data for sameness check					Registration		
					flash point		boiling range (10-90 %)	density 20°C	potential main constituents	other identifiers	Full	OSII
SUBSTANCE NAME		INDEX	EINECS	CAS	EN ISO 2719 [°C]	EN 13991 [°C]	ASTM D4052 [g/cm³]	GC > 10%	GC			
Creosote oil, acenaphthene fraction	A complex combination of hydrocarbons produced by the distillation of coal tar and boiling in the range of approximately 240°C to 280°C (464°F to 536°F). Composed primarily of acenaphthene, naphthalene and alkyl naphthalene.	648-098-00-X	292-605-3	90640-84-9	> 61	210 - 300	1.0 - 1.1	Methylnaphthalenes Naphthalene Acenaphthene	Biphenyl	Full	OSII	TII
Creosote oil	related CAS information	648-099-00-5	263-047-8	61789-28-4								TII
Creosote oil, high-boiling distillate	related CAS information	648-100-00-9	274-565-9	70321-79-8								
Creosote oil, low-boiling distillate	related CAS information	648-138-00-6	274-566-4	70321-80-1								
Extract residues (coal), tar oil alk., naphthalene distn. Residues	related CAS information	648-137-00-0	277-567-8	73665-18-6								
Creosote (Biocide Directive 98/8/EC)	related CAS information	648-101-00-4	232-287-5	8001-58-9								
Distillates (coal tar), upper, fluorene-free	related CAS information	648-078-00-0	284-899-7	84989-10-6								
Distillates (coal tar), upper, fluorene-rich	related CAS information	648-042-00-4	284-900-0	84989-11-7								TII
Extract oils (coal), acidic, tar-base free	related CAS information	648-096-00-9	284-901-6	84989-12-8								
Creosote oil, acenaphthene fraction, acenaphthene-free	related CAS information	648-043-00-X	292-606-9	90640-85-0								
Distillates (coal tar), naphthalene oils, naphthalene-free, alk. exts.	related CAS information	648-090-00-6	292-612-1	90640-90-7								
Extract residues (coal), naphthalene oil alk., distn. Residues	related CAS information	648-095-00-3	292-628-9	90641-05-7								TII
Distillates (coal tar), naphthalene oils, acid exts.	related CAS information	648-094-00-8	295-309-2	91995-48-1								
Distillates (petroleum), steam-cracked residue, naphthalene-methylnaphthalene fraction	related CAS information	-	295-319-7	91995-57-2								
Residues (coal tar), creosote oil distn.	related CAS information	648-080-00-1	295-506-3	92061-93-3								
Absorption oils, bicyclo arom. and heterocyclic hydrocarbon fraction	related CAS information	648-041-00-9	309-851-5	101316-45-4								

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Anthracene Oil					typical data for sameness check						Registration		
					flash point		boiling range (10-90 %)	density 20°C	potential main constituents	other identifiers	Full	OSII	TII
SUBSTANCE NAME		INDEX	EINECS	CAS	EN ISO 2719 [°C]	EN 13991 [°C]	ASTM D4052 [g/cm³]	GC > 10%	GC				
Anthracene oil	A complex combination of polycyclic aromatic hydrocarbons obtained from coal tar having an approximate distillation range of 300°C to 400°C (572°F to 752°F). Composed primarily of phenanthrene, anthracene and carbazole.	648-079-00-6	292-602-7	90640-80-5	> 100	> 270	1.1 - 1.3	Phenanthrene Fluoranthene Pyrene	Fluorene Anthracene Carbazole Benzo[a]pyrene (BaP)	Full		TII	
Anthracene oil, anthracene paste Anthracene Oil Fraction	related CAS information	648-103-00-5	292-603-2	90640-81-6								TII	
Anthracene oil, anthracene-low Anthracene Oil Fraction	related CAS information	648-104-00-0	292-604-8	90640-82-7								TII	
Anthracene oil, acid ext. Anthracene Oil Extract Residue	related CAS information	648-046-00-6	295-274-3	91995-14-1									
Anthracene oil, anthracene paste, anthracene fraction Anthracene Oil Fraction	related CAS information	648-106-00-1	295-275-9	91995-15-2									
Anthracene oil, anthracene paste, carbazole fraction Anthracene Oil Fraction	related CAS information	648-107-00-7	295-276-4	91995-16-3									
Anthracene oil, anthracene paste, distn. Lights Anthracene Oil Fraction	related CAS information	648-108-00-2	295-278-5	91995-17-4								TII	
Residues (coal tar), anthracene oil distn. Anthracene Oil Fraction	related CAS information	648-105-00-6	295-505-8	92061-92-2									
Distillates (coal tar), gasification, anthracene oils	related CAS information	-	310-224-3	140203-15-2									
Distillates (coal tar), gasification, heavy oils	related CAS information	-	310-228-5	140203-18-5									
Distillates (coal tar), low- temperature, heavy oils	related CAS information	-	310-234-8	140203-24-3									

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Anthracene Oil				
continued				
Distillates (coal tar), heavy oils	related CAS information	648-044-00-5	292-607-4	90640-86-1
Distillates (coal tar), upper Heavy Anthracene Oil	related CAS information	648-045-00-0	266-026-1	65996-91-0
Distillates (coal tar) Heavy Anthracene Oil	related CAS information	648-047-00-1	266-027-7	65996-92-1
Distillates (coal-petroleum), condensed-ring arom. Destillates	related CAS information	648-072-00-8	269-159-3	68188-48-7
Distillates (coal tar), heavy oils, pyrene fraction Heavy Anthracene Oil Redestillate	related CAS information	648-050-00-8	295-304-5	91995-42-5
Distillates (coal tar), pitch, heavy oils Heavy Anthracene Oil	related CAS information	648-048-00-7	295-312-9	91995-51-6
Distillates (coal tar), pitch, pyrene fraction Heavy Anthracene Oil Redestillate	related CAS information	648-051-00-3	295-313-4	91995-52-7
Distillates (coal tar), pitch Heavy Anthracene Oil	related CAS information	648-049-00-2	309-855-7	101316-49-8
Residues (coal tar), pitch distn.	related CAS information	648-058-00-1	295-507-9	92061-94-4
Distillates (petroleum), alkene-alkyne manuf. pyrolysis oil, heavy fraction	related CAS information	-	309-857-8	101316-51-2
Phenanthrene, distn. Residues Heavy Anthracene Oil Redistillate	related CAS information	648-077-00-5	310-169-5	122070-78-4
Distillates (coal tar), gasification, heavy oils, pyrene fraction	related CAS information	-	310-229-0	140203-19-6
Distillates (coal tar), high-temperature, heavy oils	related CAS information	-	310-231-1	140203-21-0
Distillates (coal tar), high-temperature, upper	related CAS information	-	310-233-2	140203-23-2
Distillates (coal tar), low-temperature, upper	related CAS information	-	310-236-9	140203-26-5

Registration		
Full	OSII	TII
Full	OSII	TII
	OSII	TII
		TII

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Pitch (from Coal Tar)					typical data for sameness check						Registration		
					flash point	softening point	boiling range (10-90 %)	density 20°C	potential main constituents	other identifiers	Full	OSII	TII
SUBSTANCE NAME		INDEX	EINECS	CAS	EN ISO 2719 [°C]	ASTM D3104 [°C]	ASTM D2569 [°C]	ASTM D71 [g/cm³]	GC > 10%	GC			
Pitch, coal tar, high-temp.	The residue from the distillation of high temperature coal tar. A black solid with an approximate softening point from 30°C to 180°C (86°F to 356°F). Composed primarily of a complex mixture of three or more membered condensed ring aromatic hydrocarbons.	648-055-00-5	266-028-2	65996-93-2	> 200	> 65	> 360	1.15 - 1.40	-	Benzo[a]pyrene	Full		TII
Pitch	related CAS information	648-054-00-X	263-072-4	61789-60-4									
Pitch, coal tar, low-temp.	related CAS information	648-069-00-1	292-651-4	90669-57-1									
Pitch, coal tar, low-temp., heat-treated	related CAS information	648-071-00-2	292-653-5	90669-58-2									
Pitch, coal tar, low-temp., oxidized	related CAS information	648-070-00-7	292-654-0	90669-59-3									
Pitch, coal tar, high-temp., secondary	related CAS information	648-057-00-6	302-650-3	94114-13-3									
Aromatic hydrocarbons, C20-28, polycyclic, mixed coal-tar pitch-polyethylene-polypropylene pyrolysis-derived	related CAS information	648-073-00-3	309-956-6	101794-74-5									
Aromatic hydrocarbons, C20-28, polycyclic, mixed coal-tar pitch-polyethylene pyrolysis-derived	related CAS information	648-074-00-9	309-957-1	101794-75-6									
Aromatic hydrocarbons, C20-28, polycyclic, mixed coal-tar pitch-polystyrene pyrolysis-derived	related CAS information	648-075-00-4	309-958-7	101794-76-7									
Pitch, coal tar, high-temp., heat-treated	related CAS information	648-056-00-0	310-162-7	121575-60-8							Full		
Distillates (coal tar), gasification, pitch, full range	related CAS information	-	310-230-6	140203-20-9									

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Pitch (from Petroleum Tar)					typical data for sameness check						Registration		
					flash point	softening point	boiling range (10-90 %)	density 20°C	potential main constituents	other identifiers	Full	OSII	TII
SUBSTANCE NAME		INDEX	EINECS	CAS	EN ISO 2719	ASTM D3104	ASTM D2569	ASTM D71	GC	GC			
Methods					[°C]	[°C]	[°C]	[g/cm³]	> 10%				
Pitch, petroleum, arom.	The residue from the distillation of thermal cracked or steam-cracked residuum and/or catalytic cracked clarified oil with a softening point from 40°C to 180°C (104°F to 356°F). Composed primarily of a complex combination of three or more membered condens	-	269-110-6	68187-58-6	> 200	> 65	> 360	1.15 - 1.40	-	Benzo[a]pyrene	Full		TII
Pitch, coal tar-petroleum	related CAS information	648-076-00-X	269-109-0	68187-57-5									
Residues (petroleum), olefin manuf. pyrolysis oil distn.	related CAS information	-	310-128-1	92062-01-6									
Petroleum products, pyrolytic oils, distn. residues, polycyclic arom.	related CAS information	-	297-651-8	93686-02-3									

Pitch Coke (Exemption Annex V under discussion)					typical data for sameness check						Registration		
					carbonization temp.						Full	OSII	TII
SUBSTANCE NAME		INDEX	EINECS	CAS	[°C]								
Methods					[°C]								
Coke (coal tar), high-temperature pitch	The carbon containing residue from the carbonization coking of pitch from high temperature (>700°C or >1272°F) coal tar. Consists primarily of carbon. Also contains small amounts of sulfur and ash.	648-157-00-X	310-221-7	140203-12-9	> 700								
Coke (coal), mixed coal-high-temperature pitch	related CAS information	648-158-00-5	310-222-2	140203-13-0									
Coke (coal tar), low-temperature, high-temperature pitch	related CAS information	-	310-274-6	140413-61-2									
Coke (coal), secondary pitch	related CAS information	-	302-626-2	94113-91-4									