



UCY ENERGY

Saving future for the next generation!

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A division of
UCY business services & trading GmbH

Oil-, Gas- & Coal-Supply +++ Energy Trading +++ Refineries +++ Power Plants

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Essen, 19.08.2008 14:21

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Typical Specification

Description: pitch fuel made from tall oil pitch and other monomer tall oil distillates

Analysis	Typical Value	Specification	Method
Viscosity at 50°C, mPa.s	470	max. 600	ASTM D 2196-9 9
Acid value, mg KOH/g	60	max. 100	ASTM D 465-01
Ash, %	0,3	max. 0,50	SCAN T 4:66
Sulphur, %	0,30	max. 0,4	ASTM D 4239-00
Moisture, %	0,10	max. 0,5	ASTM D 1364-95
Nitrogen, %	0,05		According to LECO
Flash Point, °C	150		ASTM 93-80
Pour Point, °C	15		ASTM D 2500-99
Density at 50°C, kg/m ³	950		SCAN T 2:65
Heat Value, MJ/kg (effective)	38		ASTM D 4809-95
Delivery temperature, °C	70	max. 80	
DELIVERY FORM	Deliveries in bulk form by truck or ocean vessel.		
STORING	Tank storage, min. temperature 60 grad. C		
EINECS NUMBER	232-414-4		
CAS NUMBER	8016-81-7		
CN-CODE	38070090		

Kind regards,

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Thilo Schneider
- Chief Executive Officer -



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Lab analysis

Ref: s070402.DTd
Project no: 20002000

Tested Results	Units	N107000243	Method
Density @ 15C	kg/m3	978.2	ISO 12185
Viscosity @ 50C	mm2/s	309.6	ISO 3104
Viscosity @ 80C	mm2/s	70.4	ISO 3104
Micro Carbon Residue	%m/m	2.9	ISO 10370
Sulphur	%m/m	0.28	ISO 8754
Total Sediment Existent	%m/m	0.18	ISO 10307-1
Total Sediment Potential	%m/m	0.15	ISO 10307-2
Ash	%m/m	0.44	LP 1001
Vanadium	mg/kg	LT 1	ISO 10478 Extended
Sodium	mg/kg	912	ISO 10478 Extended
Aluminium	mg/kg	15	ISO 10478
Silicon	mg/kg	17	ISO 10478
Iron	mg/kg	27	ISO 10478 Extended
Nickel	mg/kg	LT 1	ISO 10478 Extended
Calcium	mg/kg	193	ISO 10478 Extended
Magnesium	mg/kg	21	ISO 10478 Extended
Lead	mg/kg	LT 1	ISO 10478 Extended
Zinc	mg/kg	5	ISO 10478 Extended
Phosphorus	mg/kg	79	ISO 10478 Extended
Potassium	mg/kg	83	LP 1101
Pour Point	Deg.C	12	ISO 3016
Flash Point	Deg.C	GT 211	ISO 2719, Procedure A
Water By Karl Fisher	%m/m	0.02	ASTM D 6304 Proc. C
Strong Acid Number	mg KOH/g	0.00	ASTM D 664
Acid Number	mg KOH/g	68.50	ASTM D 664
Copper Corrosion @ 50C	-	1A	ASTM D 130
Carbon	%m/m	79.69	ASTM D 5291
Nitrogen	%m/m	0.030	ASTM D 3228
Hydrogen	%m/m	11.12	ASTM D 5291
Oxygen	%m/m	8.22	ASTM D 5291
Net Calorific Value	MJ/kg	37.74	ASTM D 240
Gross Heat Combustion	MJ/kg	40.10	ASTM D 240
Iodine Value	-	144.7	ISO 3961
Steel Corrosion 20C	-	NO CORR.	LP 2902
Steel Corrosion 60C	-	NO CORR.	LP 2902
Steel Corrosion 120C	-	CORROSION	LP 2902

Calculated Values

Viscosity @ 100C mm2/s 7.7

Note: LT means Less Than, GT means Greater Than.

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GC analysis

Method: GC istd TMPAH

Fatty acid composition %	%
16:0 Palmitic acid	2,0
16:1 Palmitoleic acid	0,0
17:0 Margaric acid	0,0
17:0 (ai)	0,2
18:0 Stearic acid	0,2
18:1 - 9 Oleic acid	2,8
18:1 - 11	0,0
18:2 - 5,9	0,0
19:0 (ai)	0,0
18:2 - 9,12 Linoleic acid	5,3
19:1 -9 (ai)	0,0
18:3 - 5,9,12 Pinolenic acid	1,0
18:3 - 9,12,15 Linolenic acid	0,0
18:2 konj.	1,8
20:0 Arachidic acid	0,0
18:3 konj.	0,3
20:1 - 11	0,0
20:2 - 11,14	0,0
20:3 - 5,11,14	0,0
20:3 - 7,11,14	2,2
22:0 Behenic acid	0,3
24:0 Lignoceric acid	0,0
Other fatty acids	2,2
Fatty acids, total	18,3

Rosin acid composition	%
8,15-isopimaradien-18-oic acid	0,0
Pimaric acid	2,0
Sandaracopimaric acid	0,0
Diabietic acid	0,2
Palustric acid	0,5
7, 9 (11) -abietic acid	0,0
Isopimaric acid	0,5
13-B-7,9 (11)-abietic acid	0,2
8,12-abietic acid	0,0
Abietic acid	2,6
Dehydroabietic acid	1,4
Neoabietic acid	0,5
Other rosin acids	0,7
Rosin acids, total	8,5

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