

# Hydrolysis lignin 2016

## Test report

UPM Biochemicals | Georg-Haindl-Straße 5 | 86153 Augsburg, GERMANY | [www.upm.com](http://www.upm.com)

Description			Lignin from Vladivostok, Crude	Hydrolytic lignin from Vladivostok, Clean
Trialpoint			Crude from open air- storage	Cleaned fraction 0,1- 1,0mm
LIMSno	Unit	Method	16-03056-001	16-03056-002
Sampling date			24.02.2016	24.02.2016
Parent id				
Acid-insoluble lignin, grav.	%	T-222	83,3	84,9
Acid-soluble lignin UV 205	%	T-UM 250	0,8	0,9
Dry content 105°C	%	Internal	69,6	100
Ash 700°C (lignin)	%	Internal	37,6	6,3
What is in it, ICP		Internal		Done
Aluminium, Al, ICP	mg/kg	SFS-EN ISO 11885		3236
Boron, B, ICP	mg/kg	SFS-EN ISO 11885		3,05
Calcium, Ca, ICP	mg/kg	SFS-EN ISO 11885		3333
Cadmium, Cd, ICP	mg/kg	SFS-EN ISO 11885		0,24
Copper, Cu, ICP	mg/kg	SFS-EN ISO 11885		109
Iron, Fe, ICP	mg/kg	SFS-EN ISO 11885		3292
Potassium, K, ICP	mg/kg	SFS-EN ISO 11885		817
Magnesium, Mg, ICP	mg/kg	SFS-EN ISO 11885		384
Molybdenum, Mo, ICP	mg/kg	SFS-EN ISO 11885		9,25
Sodium, Na, ICP	mg/kg	SFS-EN ISO 11885		108
Phosphorus, P, ICP	mg/kg	SFS-EN ISO 11885		111
Sulphur, S, ICP	mg/kg	SFS-EN ISO 11885		1450
Silicon, Si, ICP	mg/kg	SFS-EN ISO 11885		3120
Vanadium, V, ICP	mg/kg	SFS-EN ISO 11885		12,8
Chloride, IC	mg/kg	SFS-EN ISO-10304		157
Molar mass, lignin, Mn, SEC		Internal	620	601
Molar mass, lignin, Mw, SEC		Internal	1679	2232
Molar mass, lignin, Peak maximum, SEC		Internal	1066	1152
Molar mass, lignin, PD, SEC		Internal	2,76	3,72
Arabinose, acid hydrolysis, HPAE-PAD	mg/g	SCAN-CM 71		0
Rhamnose, acid hydrolysis, HPAE-PAD	mg/g	SCAN-CM 71		0
Galactose, acid hydrolysis, HPAE-PAD	mg/g	SCAN-CM 71		0
Glucose, acid hydrolysis, HPAE-PAD	mg/g	SCAN-CM 71		110
Xylose, acid hydrolysis, HPAE-PAD	mg/g	SCAN-CM 71		0
Mannose, acid hydrolysis, HPAE-PAD	mg/g	SCAN-CM 71		0
Carbohydrates, acid hydrolysis, HPAE-PAD, total	mg/g	SCAN-CM 71		110
pH, general		Internal	3,5	3,8