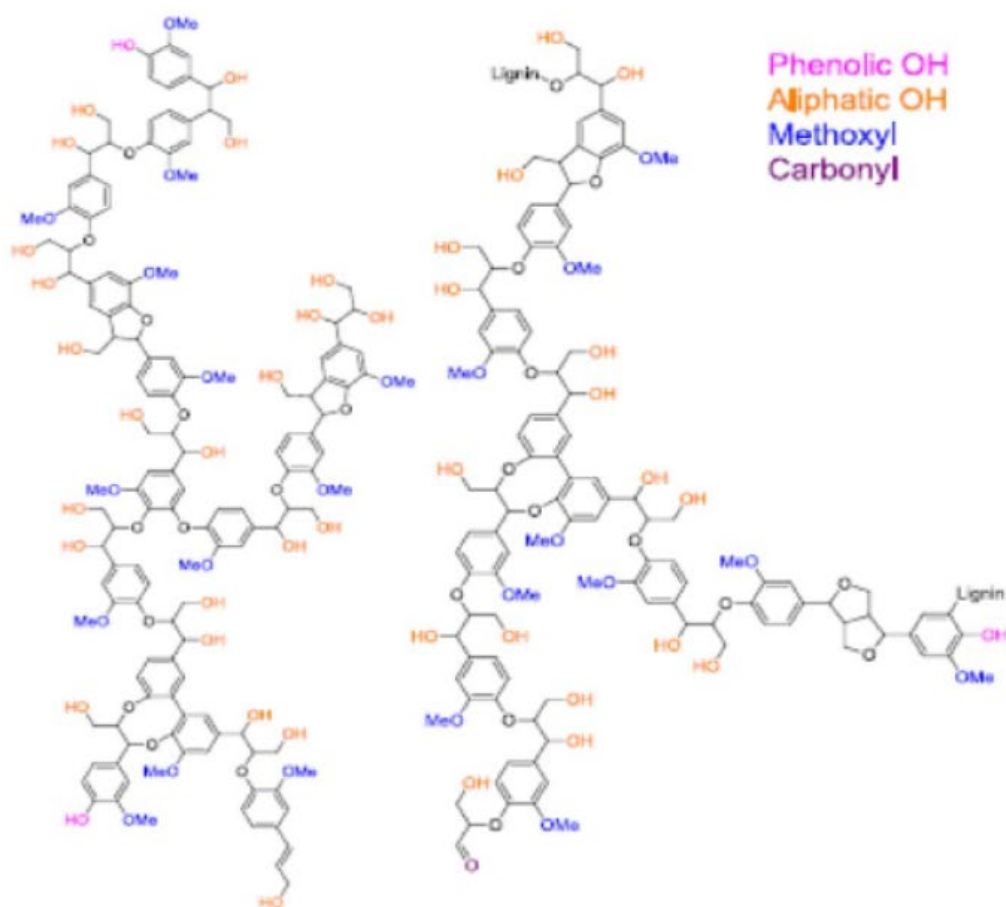


The Directory of Lignin and Lignin Biomaterials



Biobased Markets
May, 2026

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May 26, 2026

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Contents

Introduction.....	7
About The Directory of Lignin and Lignin Biomaterials	8
About Biobased Markets	9
About TAPPI's International Division of Advanced Technologies for Renewable Materials (ARM)	10
About TAPPI's Lignin Task Force	10
Overview of Lignin Markets.....	11
Lignosulfonate	12
Kraft lignin	13
Biorefineries	15
Producers.....	16
Aditya Birla Group (India)	19
Borregaard (Norway)	19
Burgo Group S.p.A. (Italy)	19
CH-Bioforce Oy (Finland)	20
Chempolis Oy (Finland).....	20
CIMV (France)	20
Domsjö Fabriker (Sweden)	21
Earthodic (U.S.)	21
Essity Mannheim GmbH (Germany)	21
Fibinol (Estonia)	22
Futurity Bio-Ventures (New Zealand)	22
Genera (U.S.).....	23
Ingevity (U.S.).....	23
Inkronix Technologies Inc. (Canada).....	23
Klabin (Brazil)	24
Kondopoga Pulp and Paper Mill JSC (Russia).....	24
Latvijas Finieris A/S (Latvia)	24
Lignin Industries AB (Sweden)	25
Mercer International Inc. (Germany).....	25
Metsä Group (Finland).....	25
Moorim Paper (South Korea).....	26
Nippon Paper (Japan)	26
Raízen S.A. (Brazil)	26
Rayonier Advanced Materials Inc. (U.S.).....	27

Sappi Biotech Lignin – Europe	28
Sappi Biotech Lignin – South Africa	28
Segezha Group (Russia)	29
Sekab E-Technology AB (Sweden)	29
Shandong Huatai Group (China)	29
Södra Skogsägarna Ek. Förening (Sweden).....	30
Stora Enso Oyj (Finland).....	30
Suzano (Brazil)	30
Tembec (Canada).....	31
UPM Biochemicals (Finland)	31
UPM Biochemicals GmbH (Germany).....	31
Vyborgskaya Cellulose (Russia).....	31
Wuhan East China Chemical CO Ltd. (China)	31
Technology Providers	32
AB Karl Hedin Bio Innovation (Sweden).....	33
Andritz AG (Austria)	33
Avantium N.V. (The Netherlands).....	34
Bloom Biorenewables (Switzerland).....	34
Boreal Bioproducts (Finland)	34
Bright Materia (Sweden)	35
Chempolis Oy (Finland).....	35
LignEasy (Finland)	35
Lignoflow Technologies AB (Sweden).....	36
LignOrganic (South Africa)	36
Liquid Lignin Company, Lignin Innovations (U.S.).....	36
MetGen (Finland).....	37
New Energy Blue (U.S.)	37
Novonesis (Denmark)	37
PureLig LLC (U.S.)	38
Praj Industries Limited (India).....	38
PTS – Institut für Fasern & Papier GmbH (Germany).....	38
Technikum Laubholz (Germany)	39
Valmet (Finland)	39
Vertoro (The Netherlands)	39
Government, University, Research Organizations, and Other	40
Aalto University (Finland)	41
Åbo Akademi University (Finland)	41

AFRY Group/Industry (Finland).....	41
Auburn University (U.S.)	42
Biobased Markets, Market Intell LLC (U.S.)	42
Biorenewable Deployment Consortium LLC (U.S.)	42
Biorizon (The Netherlands).....	42
Clemson University (U.S.)	43
FPIInnovations (Canada).....	43
Green Agrochem (China)	43
KTH Royal Institute of Technology (Sweden).....	44
Lignin Club (Finland)	44
Michigan State University (U.S.)	44
National Laboratory of the Rockies (U.S.).....	45
National Taiwan University (R.O.C.)	45
North Carolina State University (U.S.)	45
RISE Research Institutes of Sweden AB	46
TAPPI International Division of Advanced Technologies for Renewable Materials (ARM) (U.S.).....	46
Université Grenoble Alpes (France).....	46
University of Tennessee, Knoxville (U.S.)	47
University of Victoria (Canada)	47
Vireo Advisors LLC (U.S.).....	47
VITO (Belgium).....	48
VTT Technical Research Centre of Finland.....	48
Wageningen University & Research (The Netherlands)	49

Introduction

About The Directory of Lignin and Lignin Biomaterials

From discussions between Biobased Markets and TAPPI and the TAPPI Lignin Committee it was agreed that a *Directory of Lignin and Lignin Biomaterials* would be beneficial in creating greater awareness of lignin and lignin developments and thus promote the growth of lignin globally. *The Directory of Lignin and Lignin Biomaterials* follows the same structure and format as the successful *Directory of Cellulose Nanomaterials* which was published in 2023, 2024, and 2025, with the fourth edition expected in October 2026. The *2026 Directory of Lignin and Lignin Biomaterials Providers* is published by Biobased Markets, Market-Intell LLC.

The Directory is available from TAPPI as a free PDF. *The Directory* will also be offered on the Biobased Markets website, announced on LinkedIn, and distributed globally to the Biobased Markets mailing list and other channels as appropriate.

The Directory is free, listings are also free, and *The Directory* is funded entirely through advertising. TAPPI and its International Division of Advanced Renewable Materials (ARM) will help distribute it, and Biobased Markets will pursue other channels as well to get the broadest possible circulation and maximum exposure for the organizations listed in *The Directory*.

We believe *The Directory* is the world's most complete global listing of producers, suppliers, and providers of technology related to lignin, plus service providers, research organizations and universities working with lignin. Nevertheless, we know we haven't been able to capture all of the myriad producers, suppliers, technology providers and researchers working with lignin. Companies and other organizations who wish to be included in any future issues of *The Directory* should contact Biobased Markets.

The Directory was compiled by independent market research by Biobased Markets, with many listings drafted by BioBased Markets and submitted to the various organizations for review. Many responded with edits; many did not. Where organizations did not submit copy for listings, we attempted to source the material in the footnotes, but in some cases this was not practical because the information came from prior research or market knowledge of Biobased Markets.

BioBased Markets would like first to thank all our advertisers. We would also like to thank TAPPI for its support, all the organizations who provided copy for listings, and also Iuliana Ribca, an independent researcher and lignin enthusiast who helped by identifying some new or less well-known organizations that are working with lignin production, applications development, and valorization.

Feel free to distribute *The Directory* yourself, in its entirety, as you see fit.

About Biobased Markets

Market-Intell LLC was founded in 2005 by Jack Miller to provide market intelligence in paper, print, and packaging. and re-branded as Biobased Markets in 2018. Biobased Markets is now focused primarily on biobased materials, especially nanocellulose and lignin.

Market-Intell LLC and Biobased Markets have collaborated with organizations such as TAPPI, Fastmarkets RISI, and Biofuels Digest, as well as several independent associate consultants, universities, and research organizations. Services include business development, lead development, market research, support for due diligence for potential investors, and custom Webinars to provide education about lignin and nanocellulose applications and markets.

Market-Intell and Biobased Markets have served clients in North America. South America, Europe, and Asia.

Since 2005, Jack Miller has been Principal Consultant, Market-Intell LLC. Jack has served as an Associate Consultant with RISI and as a member of the Advisory Board of Sweetwater Energy, a biorefinery company. Jack was Business Development Consultant with CelluForce, Inc., from 2011 to 2013, and was Consulting Manager, Global Nanocellulose Sales, American Process, Inc. (now GranBio), in 2014 and 2015. Prior to 2005 Jack enjoyed a long career in the pulp and paper industry.

Jack is the author of:

- *The Directory of Cellulose Nanomaterials*, May 2025
- *The Directory of Cellulose Nanomaterials*, May 2024
- TAPPI Cellulose Nanomaterials Production Summary, TAPPI, May 2024
- *The Directory of Cellulose Nanomaterials*, May 2023
- *Lignin 2021: A Pivotal Year*, published by Biofuels Digest in March 2021
- *Nanocellulose: Packaging Applications and Markets* published by RISI in 2019
- *Nanocellulose Challenges and Opportunities: End User Perspectives*, published by TAPPI in 2018
- *Lignin: Technology, Applications, and Markets* published by RISI in 2017
- *Nanocellulose Producers, Products and Applications, A Guide for End Users*, published by TAPPI in 2017
- *Nanocellulose: Technology, Applications and Markets*, published by RISI in 2014.

About TAPPI's International Division of Advanced Renewable Materials (ARM)

In August 2025, TAPPI, the leading association for the worldwide pulp, paper, tissue, packaging and converting industries, renamed their Nanotechnology Division the **International Division of Advanced Renewable Materials (ARM)**. The Division focuses on the evolving landscape of renewable materials research and industry trends. The new name is more representative of the research and cutting-edge technologies the Division is driving.

The new name reflects the Division's ongoing expansion into cutting-edge fields such as bio-based materials, functional composites, and sustainable chemistry, while still incorporating nanotechnology where relevant. The Division is a hub for new developments in renewable materials, encouraging broader participation from experts in materials science, chemistry, and engineering.

The Division's Technical Committees work together throughout the year to solve problems, develop technical papers, plan conference sessions, and more. For more information and to get involved, visit the [ARM webpage](#).¹

About TAPPI's Lignin Task Force

TAPPI's Lignin Task Force focuses on advancing the value and market potential of lignin through its valorization efforts. The task force meets quarterly via remote sessions and actively welcomes new participants. For more information, please contact Lisa Lockwood, Senior Engagement Manager, at llockwood@tappi.org.

¹ Press release, August 27, 2025. <https://www.tappi.org/news/press-releases/tappi-announces-important-changes-to-its-nano-division/>

Overview of Lignin Markets

In a 2021 market study, *Lignin 2021: A Pivotal Year*, Biobased Markets described 2021 as a pivotal year for lignin, as recovery and development of lignin was growing in pulp mills, biorefineries, and research centers. The greatest activity was with biorefineries that are moving beyond production of ethanol driven by government incentives and mandates, to recovery of a full range of value streams including lignin.

The lignin market consists of three segments:

- Lignosulfonate, from sulfite pulp mills: mature and declining
- Kraft lignin, from kraft pulp mills: developing and growing
- Biorefinery lignin: emerging, rapidly growing, and with great potential

Lignosulfonate

In the early 20th century, most paper was made using the sulfite pulping process. There was no use for the spent liquors, and they were typically discharged into rivers. In 1927 researchers at the Marathon Paper Mills (now Domtar) mill in Rothschild, Wisconsin in the U.S. developed products such as leather tanning agents, dispersing agents, and binders. Lignosulfonates still account for nearly 90% of the lignin market. By 2000, lignosulfonate had developed into a one million tonne market, but with the decline of sulfite pulping, the supply of lignosulfonate had begun to decline (Table 1).²

Table 1
Lignosulfonate Capacity
(tonnes)

Company	Location	2026
Borregaard	Norway	400,000
Domsjö Fabriker	Sweden	100,000
Sappi	Europe; S. Africa	90,000
Nippon Paper	Japan	60,000
Rayonier/Tembec*	Canada	40,000
Ingevity**	US	40,000
Burgo	Italy	35,000
Suzano**	Brazil	20,000
Kondopoga, Vyborgskaya, Others	Russia	100,000
Wuhan East China Chemical, others	China	120,000
TOTAL		1,000,000

* Rayonier Advanced Materials acquired Tembec in 2017

** sulfonated kraft lignin

Source: Biobased Markets; J. Miller, *Lignin 2021, A Pivotal Year*

² Biobased Markets, *Lignin 2021: A Pivotal Year*

Kraft lignin

Table 2
Kraft Lignin Capacity
(tonnes)

Company	Location	Country	2026
Södra ¹	Mönsterås, SW	Sweden	75,000*
Domtar ^{2**}	Plymouth NC, US	U.S.	25,000
Metsä Group ¹	Äänekoski, FI	Finland	700
Klabin ²	Monte Allegre PR, BR	Brazil	350
Mercer ²	Rosenthal, DE	Germany	350
Moorim	S. Korea		
FPIInnovations ³	Thunder Bay ON, CA	Canada	Demo
RISE LignoDemo AB	Bäckhammar, SW	Sweden	Demo
Liquid Lignin ⁴	Clemson SC, US	U.S.	pilot
Ingevity	Charleston SC, US	U.S.	closed
Stora Enso Sunila ²	Kotka, FI	Finland	closed
Suzano Limeira	Limeira SP, BR	Brazil	closed
West Fraser	Hinton AB, CA	Canada	closed
TOTAL			101,400

Notes:

Capacities are approximate; details may not add to total.

* startup 2027

**Industry sources suggest that all Domtar Plymouth lignin is sold to UPM

1 Andritz

2 LignoBoost

3 LignoForce

4 SLRP

Source: Biobased Markets. *Lignin 2021 a Pivotal Year*, updated 2026

Later in the twentieth century kraft pulping began to replace sulfite pulping. Kraft mills produce kraft pulp from woodchips by “cooking” the wood with a mix of caustic soda and other chemicals known as white liquor. This deconstructs the wood chips, removing much of the lignin and producing kraft pulp which is primarily cellulose fiber. The spent liquor, known as

black liquor, is a mix of lignin and the remaining chemicals. The lignin has value as fuel for the mill and the black liquor is burned in a recovery boiler to provide energy for the mill, and the remaining chemicals are recovered and recycled.³

The recovery boiler can be a bottleneck in the pulping process, but if lignin can be separated and used for other purposes, pulping capacity can be increased without the need to increase recovery capacity. Several processes have been developed to recover kraft lignin from black liquor, building on the work of Arthur Pollak in 1944 at what was then West Virginia Pulp and Paper Co. (later Westvaco, MeadWestvaco, WestRock, and finally Ingevity). Later processes such as LignoBoost and LignoForce emerged, and the first commercial installation at Domtar, Plymouth, North Carolina starting up in 2013 using the LignoBoost process. Today many of the producers, technology providers, and research organizations listed in this Directory are actively developing applications for lignin valorization (Table 2).⁴

³ Biobased Markets, *Lignin 2021: A Pivotal Year*

⁴ Ibid.

Biorefineries

Traditionally, pulp and paper mills produce pulp and paper; lignin is burned for fuel. Biorefineries produce ethanol; lignin is burned for fuel. In the new business model pulp and paper mills produce pulp, paper, lignin, biochemicals, specialty cellulose, nanocellulose, and biorefineries produce ethanol, lignin, biochemicals, specialty cellulose, nanocellulose.⁵

Many biorefineries find that in order to be profitable they must optimize the value for all product streams including ethanol, C5 and C6 chemicals, and lignin. Now, many small startups and university research centers are operating at pilot scale or larger. Lignin capacity is generally not reposted, but we have identified a number of biorefineries that are producing lignin (Table 3). Estimates of capacity or production are beyond scope here.

Table 3
Lignin-producing Biorefineries

Company	Location
Avantium	Amsterdam, NL
Bloom Biorenewables	Marly, Switzerland
Boreal Bioproducts	Espoo, Finland
Bright Materia	Stockholm, Sweden
CH-Bioforce	Raisio, Finland
Chempolis Oy	Oulu, Finland
CIMV	Neuilly sur Seine, France
Essity	Mannheim, Germany
Fibanol	Imavere, Estonia
Futurity Group	New Zealand
Genera	Vonore, TN, U.S.
LignEasy	Helsinki, Finland
Lignoflow Technologies	Stockholm, Sweden
LignOrganic	Lynwood, Pretoria, S. A.
NewEnergyBlue	Lancaster, PA, U.S.
Praj Industries Ltd.	Pune, India
PureLig LLC	Lake Worth, FL, U.S.
Raizen	Piracicaba SP, Brazil
Sekab	Örnsköldsvik, Sweden
Shengquan	Jinan, China
UPM Leuna	Leuna, Germany

⁵ Jack Miller, Biobased Markets, presentation at TAPPI Nano, Girona, Spain, June 2025

Producers

Fibenol

Lignova®

High-purity lignin
from woody biomass



Fibenol biorefinery
Clean technology platform



SCAN TO EXPLORE LIGNOVA®

Discover EPD, technical
data and more.

EPD®



WHAT IS LIGNOVA®?

Lignova® is high purity lignin produced by Fibenol from certified low-quality hardwood and plywood production residues.

It is a natural polymer with inherent binding and filler properties, designed to replace fossil-based binders and additives in industrial applications.

PRODUCTION:

SUNBURST® PRE-TREATMENT

Lignova® is produced using Fibenol's proprietary Sunburst® technology, an efficient fractionation process that separates woody biomass into its main components with low environmental impact.

The Sunburst® process preserves the native lignin structure to great extent, producing sulfur-free and odor-neutral lignin grades.

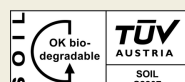
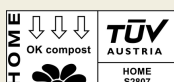
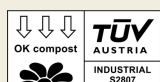
GRADES AND STRUCTURAL TAILORING

Lignova® is available in two grades: **Crude and Pure**, covering a range of purity and refinement levels. Key structural parameters can be adjusted to match application requirements, including ash and carbohydrate content, and β -O-4 linkage content (10–40 per 100 aromatic units), which also governs viscosity and hydroxyl group distribution.

This level of structural control enables consistent reactivity and material performance across applications, from bulk uses requiring standard binding properties to more demanding systems requiring higher purity and defined reactivity.

SUSTAINABILITY AND SUPPLY

Lignova® is produced in Europe from locally sourced woody biomass, supplied via certified suppliers.



MULTIPLE APPLICATIONS

Replacing fossil-based binders and additives with a natural, high-performance alternatives.



BITUMEN / ASPHALT

- Improves rutting resistance at high temperatures
- Enhances moisture resistance and durability
- Reduces permanent deformation
- Slows bitumen aging by limiting oxygen uptake



BIOCOMPOSITES

- Antioxidant properties, supports recycling stability
- Natural brown color, tunable by concentration, reduces need for inorganic pigments
- Improved stiffness and rigidity
- Thermal stability in heat-sensitive formulations



PHENOLIC RESINS & PLYWOOD

- Replaces oil-based phenol as drop-in or at synthesis stage
- 40–66% lower carbon footprint in glue formulations
- No compromise on adhesive performance
- Extends to laminates, brake pads, insulation, abrasives, and coatings

Lignova®Crude

LIGNIN %	88-94
CARBOHYDRATES %	<6
ASH %	<1.0
SULPHUR %	<0.2
TS %	>96

Lignova®Pure

LIGNIN %	92-96
CARBOHYDRATES %	<1
ASH %	<1.0
SULPHUR %	<0.2
TS %	>96

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info@fibenol.com



linkedin.com/company/fibenol

SCAN TO EXPLORE FIBENOL



Aditya Birla Group (India)

Aditya Birla Centre,
S K Ahire Marg, Worli
Mumbai 400030, India
<https://www.adityabirla.com/>

Aditya Birla is a global conglomerate. Aditya Birla subsidiary Domsjö Fabriker is the world's second largest producer of lignin powder. See Domsjö Fabriker.

Contact:

<https://www.adityabirla.com/contact-us>

Borregaard (Norway)

P.O Box 162
N-1701 Sarpsborg
Norway
Phone: +47 69 11 80 00
<https://www.borregaard.com/>

Borregaard operates one of the world's most advanced and sustainable biorefineries. By using natural, renewable raw materials, we produce advanced and environmentally friendly biochemicals that can replace oil-based products. Borregaard's lignin-based biopolymers are renewable, wood-based alternatives to fossil-based chemicals and polymers used in a broad range of industries. Borregaard is the world's largest supplier of lignin-based biopolymers with production in Norway, USA, Germany, Czech Republic, UK and capacity for 400k tpy.⁶

Contact:

<https://www.borregaard.com/product-areas/lignin>

Burgo Group S.p.A. (Italy)

Via Piave 1
36077 Altavilla Vicentina (VI) Italy
+39 0444 396811
<https://www.burgo.com/en>

Burgo produces Bretax and Sartax lignosulfonates at the Tolmezzo mill, in powder, pellet, and liquid form.⁷ Burgo lignosulfonate capacity is estimated at 35,000 tonnes. Applications include concrete and cement additives, surface-active agents, carbon black, mineral granulation, emulsions, colorants, binders and resins, soil stabilization, and industrial detergents, among others. Burgo lignosulfonates are delivered to more than 30 international markets.

Contact:

info@burgogroup.com

⁶ www.borregaard.com; Biobased Markets research

⁷ <https://www.burgo.com/en/group/figures/ls>

CH-Bioforce Oy (Finland)

Raisionkaari 55
21200 Raisio, Finland
+358 40 351 2820
www.ch-bioforce.com

CH-Bioforce is the developer of the BIOFORCESENSE® fractionation technology of biomass. We can utilize any biomass to produce high purity sulfur-free lignin (LIGNENSE®), in addition to other main biomass fractions. We have the capability to do in-house analysis and selected modifications of our LIGNENSE®. LIGNENSE® is available both as an alkaline concentrate and in dry form for cosmetics, technical and feed applications.

Contact:

Lari Vähäsalo lari.vahasalo@ch-bioforce.com

Chempolis Oy (Finland)

Chempolis Biorefining Park
Lääketehtaantie 1, FI-90660
Oulu, Finland
+358 (0)10 387 6670
www.chempolis.com

Chempolis is a licensor of innovative formico® biorefining technologies, which convert lignocellulosic biomasses into a broad Bio2X™ product portfolio: bioethanol, lignin, furfural and acetic acid, among others. Our sulphur-free lignin is of high purity, non-toxic and essentially free of smell and is ideal in substituting fossil raw materials in many applications. The mild conditions of our process yield high-quality lignin that retains many of its natural biopolymer properties. We also offer comprehensive product and business development services to our licensees.

Contact:

chempolis@chempolis.com

CIMV (France)

11, rue Louis Philippe
92200 Neuilly sur Seine, France
<http://www.cimv.fr/>

Compagnie Industrielle de la Matière Végétale (CIMV) has developed an organosolv process to separate a range of lignocellulosic feedstocks into cellulose, C5 sugars, and Biolignin™, a high purity, sulfur-free lignin. Within the European-funded FP7 project, the 7th Framework Programme for Research and Technological Development which ran for seven years from 2007 to 2013, CIMV participated in several research projects including [BIOCORE](#), [INNOBITE](#), [BIO-MIMETIC](#), [RENESENG](#), [ADMIT BIO-SuccInnovate](#), and [CARBOSURF](#).⁸

Contact:

contact@cimv.fr

⁸ Biobased Markets. *Lignin 2021: A Pivotal Year*

Domsjö Fabriker (Sweden)

Hörneborgsvägen 17

892 50 Domsjö

Sweden

+46 (0) 660-27 56 00

<https://www.domsjo.adityabirla.com/en/>

Domsjö Fabriker is a world-leading producer of lignin with capacity for 100k tpy. Our lignin is produced in a state-of-the-art and environmentally friendly plant. The drying process uses biogas from our own biological purification. Packaging is done with modern, fully automated technology designed to meet our customers' high demands. Our lignin can be delivered in 600 kg big bags, or on pallets with 25 kg bags. Applications include concrete additives, carbon black, oil and gas, binders, agrochemicals and more.⁹

Contact:

<https://www.domsjo.adityabirla.com/en/contact-us/>

Earthodic (U.S.)

4717 Campus Drive,

Suite #2100,

Kalamazoo, Michigan 49008, USA

www.earthodic.com

Using bio-based materials, Earthodic has developed the BiobarTM portfolio of functional barrier coatings that give paper superpowers like water resistance. One of our ingredients, lignin, is a by-product from the pulp and paper industry, therefore valorizing waste streams and creating circularity for our customers. As well as water-resistance, we have coatings that offer oil and grease resistance, and a heat-sealable version.

Contact:

hello@earthodic.com

Essity Mannheim GmbH (Germany)

Sandhofer Straße 176

68305 Mannheim

Germany

+49 621 778 0

<https://www.innolig.net/>

Essity is a global, leading hygiene and health company. InnoLig⁺ is an innovative product derived from Essity's groundbreaking pulp production process out of wheat straw. Essity is at the forefront of sustainable innovations and InnoLig⁺ is a sulfur-free, eco-friendly lignin based product, used across various industries to reduce environmental impact while having accustomed performance. InnoLig⁺ is an innovative, environmentally friendly, sulfur-free lignin-based product that offers consistent performance and environmental benefits.¹⁰

Contact:

Innolig+@essity.com

⁹ <https://www.domsjo.adityabirla.com/en/products/lignin/>

¹⁰ <https://www.innolig.net/about-us/>

Fibenol

Fibenol (Estonia)

OÜ Fibenol
Mõisa 4, 13522 Tallinn, Estonia
+372 5323 3550
<https://fibenol.com/>

Fibenol's innovative fractionation process converts more than 90% of woody biomass into high value products including specialty cellulose, C5 and C6 sugars, and LIGNOVA® lignin, LIGNOVA® is used as a drop-in substitute to fossil-based chemicals in many industrial applications. Our hydrolysis lignin product LIGNOVA® Crude retains its native properties without a sulfuric smell. Applications include phenolic resin adhesives, thermosetting and thermoplastic materials, lignin-based polyols for the polyurethane industry, carbon fibers, and specialty PF resins.

Fibenol Lignova is today available at kton level.

Contact:
info@fibenol.com

FUTURITY™

Futurity Bio-Ventures (New Zealand)

Auckland, New Zealand
<https://futuraitybioventures.com/>

Futurity's LIMA® technology turns Futurity's low-cost, high-purity kraft lignin technology into a high-performance, lignin-based bitumen modifier for roads. LIMA® is designed to deliver polymer-modified-bitumen (PMB) performance for longer-lasting roads at cost parity with PMB, extend pavement life, substitute a significant share of petro-bitumen and cut life-cycle emissions, improving both supply security and decarbonisation for road infrastructure.

Contact:
jacob@futuraitygroup.co.nz

Genera (U.S.)

167 Tellico Port Road
Vonore, TN 37885
<https://generainc.com/>

Genera produces a lignin-rich liquor syrup as a co-product of its non-wood soda pulping process using regenerative perennial grasses. This sulfur-free, bio-based material is used in industrial applications requiring binding, agglomeration, and dispersion, including dust control, soil stabilization, pellet binding, and construction materials. The product offers a combination of mild chemistry, low odor, biodegradability, and a consistent liquid format that supports ease of handling and application. It is qualified under the USDA BioPreferred program, OMRI listed for organic use, and supported by additional certifications tailored to specific applications.

Contact:

[Contact – Genera Inc](#)

Ingevity (U.S.)

4920 O'Hear Avenue
Suite 400
North Charleston, South Carolina 29405 U.S.
+1 843-740-2300
<https://www.ingevity.com/>

Ingevity provides specialty chemicals, high-performance carbon materials, and engineered polymers. Until 2013, the only known commercial producer of kraft lignin, Ingevity produces Indulin® C and Indulin® AT, purified, unsulfonated kraft lignins suitable for use in batteries and wide range of polymeric applications. Ingevity also produces a range of products based on sulfonated kraft lignin and suitable for agricultural and other applications. Ingevity kraft lignin capacity is estimated at 50,000 tpy.¹¹

Contact:

<https://www.ingevity.com/contact/>

Inkronix Technologies Inc. (Canada)

3800 Finnerty Road, EOW Room 529,
Victoria, BC V8P 5C2, Canada
+1 604 353 8581
www.inkronix.com

Lignin based inks.

Contact:

Samira Gharehkhani sgharehkhani@inkronix.com

¹¹ <https://www.ingevity.com/>; Biobased Markets, *Lignin 2021: A Pivotal Year*

Klabin (Brazil)

Av. Brigadeiro Faria Lima, 3600
Itaim Bibi São Paulo 04538-132 Brazil
+55 11 3046 5800
<https://klabin.com.br/en/>

Klabin began doing research on lignin in 2015 at lab scale and in November, 2019 started up a one tonne per day pilot facility at its new Pilot Plant Park. The facility uses the Valmet LignoBoost® XS technology to recover lignin from both pine and eucalyptus. The plant features a prefabricated modular design that enables market development at a smaller scale, providing commercial quantities, but is perfectly scalable, and can be expanded as the market grows with no loss of economies of scale.¹²

Contact:
<https://klabin.com.br/contact-us>

Kondopoga Pulp and Paper Mill JSC (Russia)

186225, Russia, Republic of
Karelia, Kondopoga, Promyshlennaya str., 2
+7 (81451) 3-65-00
<https://aokcbk.ru/>

Technical lignosulfonates are produced in accordance with the requirements of TU 13-0281036-029-94 "Technical lignosulfonates" and are manufactured of grades A, B, E, ZH, O. Applications include: binder in the production of molding and core sands in casting; the production of refractories; raw mix liquefier to reduce the moisture content of sludge in cement production; plasticizer of cement and concrete; carbon black; in the oil industry; in the manufacture of plywood, particle board, fiberboard and mineral wool building boards; road construction.¹³

Contact:
<https://aokcbk.ru/contact/>

Latvijas Finieris A/S (Latvia)

Bauskas iela 59,
Riga LV-1004, Latvia
+371 67 067 207
<https://www.finieris.com/>

On 15 January 2025, JSC Latvijas Finieris, an industrial partner of the Latvian State Institute of Wood Chemistry, started construction of a new resin plant. The new plant will produce resins from lignin, which will partially replace the previously widely used fossil phenol, the basis for synthetic phenol-formaldehyde resins used to produce plywood. A lignin processing plant of this scale is unique not only in Latvia, but also in Europe.¹⁴

Contact:
<https://www.finieris.com/contact/>

¹² Biobased Markets, *Lignin 2021: A Pivotal Year*

¹³ <https://aokcbk.ru/>

¹⁴ <https://kki.lv/en/latest-news/jsc-latvijas-finieris-lignin-resin-production-plant>

Lignin Industries AB (Sweden)

Rubanksgatan 9
741 71 Knivsta. Sweden
+46 (0)18 701 02 75
<https://www.lignin.se/>

Lignin Industries, formerly RenCom AB, transforms lignin by blending it with a biobased oil into thermoplastic granules called Renol® and mix it into a masterbatch. The Renol® masterbatch comes as a drop-in material that is blended with different types of recycled or virgin polymers. The final polymer mix is converted into specific applications such as LDPE films for packaging, and various ABS, PP, and TPE applications. Production of Renol started up in 2021 with capacity for more than 1,000 tonnes per year.

Contact:
<https://www.lignin.se/contact>

Mercer International Inc. (Germany)

Charlottenstraße 59
10117 Berlin
Deutschland/Germany
+49 30 306471-0
<https://mercerint.com/>

The Mercer Lignin Center was inaugurated on August 23, 2023. The state-of-the-art facility is located on Mercer Rosenthal's site in Rosenthal am Rennsteig, Germany, and is a fully integrated pilot plant with a maximum capacity of 1,000 kilograms of high-quality lignin per day. Utilizing the LignoBoost process, the plant produces lignin with superior consistence and homogeneity from softwood. Integration into the pulp mill ensures smooth operation and enables the production of different lignin grades.

Contact:
lignincenter@mercerint.com

Metsä Group (Finland)

Revontulenpuisto 2
02100 Espoo, Finland
Tel: +358 10 4612
<https://www.metsagroup.com/metsafibre/>

Metsä LigO™ lignin is refined from pulp production side streams. Metsä Fibre and Andritz are building a demo plant for lignin refining in connection with the Äänekoski bioproduct mill. The demo plant was scheduled to be completed in late 2025 and startup in 2026 with daily capacity for two tonnes of the lignin product. Dow, a leading material science company, will develop high-performance bio-dispersant plasticizers for concrete and gypsum applications, based on the lignin product produced at the plant.

Contact:
<https://www.metsagroup.com/contacts/>

Moorim Paper (South Korea)

656 Gangnam-daero, Sinsa-dong,
Gangnam District, Seoul
www.moorim.co.kr

Moorim has led the paper history of Korea for over half a century since its incorporation in 1956. Moorim is the only company in Korea which can realize the value of black liquor. When the lignin extracted from black liquor synthesizes with polymer resins, it becomes an eco-friendly plastic. It has beneficial properties and can be used as eco-friendly materials for the interior of vehicles.

Contact :

Email: jaegwan@moorim.co.kr
+82-52-240-6162

Nippon Paper (Japan)

4-6, Kandasurugadai, Chiyoda-ku
Tokyo 101-0062 Japan
+81 3 6665 1111
<http://www.nipponpapergroup.com/english/>

Nippon Paper is the third largest producer of lignosulfonate globally. Nippon has capacity of 60,000 tonnes of lignosulfonate, dry basis, at its sulfite mill in Gotsu, Shimane Prefecture, Japan. Lignin products include magnesium, sodium, and magnesium lignosulfonates. End uses include dispersants for dyes, carbon black, pigment, ceramics, and gypsum board; binders for graphite, activated carbon, ceramics, fertilizer and lightweight aggregates; agrochemicals, battery plate expanders, water treatment agents, concrete additives, and leather tanning agents.

Contact:

https://www.nipponpapergroup.com/english/products/chemical/lignin_products/

Raízen S.A. (Brazil)

Avenida Afonso Arinos de Melo Franco, nº 222,
Bloco 2, Sala 321, Barra da Tijuca,
Rio de Janeiro, RJ

Raízen, an integrated energy company and Vertoro, a Dutch biotechnology accelerator, in 2024 signed a Joint Development Agreement (JDA) to enhance the value of lignin by transforming it into advanced, sustainable biofuels, chemicals, and materials. As the world's largest producer of 2nd Generation Ethanol, Raízen has an expected lignin production capacity of 1,5 million tons (wet basis) across 7 already announced and 2 operating E2G plants. The potential production is up to 3,4 million tons (wet basis) across 20 E2G plants.

Contact:

<https://www.raizen.com/contato>

Rayonier Advanced Materials Inc. (U.S.)

1301 Riverplace Blvd., Suite 2300

Jacksonville, Florida 32207

(904) 357-4600

<https://ryam.com/>

In partnership with Borregaard, RYAM's LignoTech Florida joint venture produces high-performance lignin products using renewable raw materials. Under the Arbo tradename, RYAM produces high-quality lignin products at facilities in Canada, and France. Applications include concrete additives for improved durability and performance; agricultural products, such as crop protection and fertilizer production; animal feed binders for enhanced feed efficiency; carbon black production aids for industrial processes. Lignosulfonate capacity is 40,000 tpy.

Contact:

<https://ryam.com/contact/>

RenCom AB (Sweden)

See Lignin Industries.



From nature to your animal feed

Pelletin Mg is a cutting-edge feed additive designed to optimise pellet durability, enhance moisture retention, and improve energy efficiency in animal feed production.

Backed by extensive trials, this lignin-based binder has been proven to significantly strengthen key performance metrics while reducing operational costs.

FOR MORE INFORMATION PLEASE CONTACT
lignin@sappi.com

sappi | Pelletin

Sappi Biotech Lignin – Europe

Sales office
Hansaallee 159 | 40549 Düsseldorf | Germany
Tel +49 211 542065 47
<https://www.sappi.com/>

Sappi Biotech Lignin – South Africa

Sappi South Africa | Sales office
108 Oxford Road, Rosebank, Johannesburg, South Africa
Tel +27 (0) 32 456 1106 / 1307
<https://www.sappi.com/>

Working together with partners around the world, Sappi actively pursues opportunities to unlock the hidden potential of lignin by developing innovative solutions that support a biobased circular economy. Applications including Pelletin and NuryGuard products for animal nutrition, PermaGro for crop nutrition and soil conditioning, PermaSure for crop protection and high-end dispersing applications, Collex for water treatment and anti-scaling, and Hansa products to enhance the performance of concrete and gypsum.

Contact:

Lignin@sappi.com

Segezha Group (Russia)

10, Presnenskaya emb., block C,
Moscow, 123112, Russia
+7 (499) 962 82 00

<https://segezha-group.com/en/product/lignosulfonates/>

Segezha Group produces powdered technical lignosulphonates of the highest quality for a wide range of applications. Commercial lignosulphonates are a mixture of sodium-based lignosulfonic acid salts. They are formed in the process of pulp and paper production (sulphite pulp cooking). Lignosulphonates are low-toxic, do not have irritating and allergic effects, and belong to the lowest hazard class.¹⁵

Contact:

<https://segezha-group.com/en/about/contacts/>

Sekab E-Technology AB (Sweden)

P.O. Box 286
891 26 Örnsköldsvik
Sweden

<https://www.sekab.com/en/>

Sekab is a Swedish chemical company that produces bio-based chemicals. In the Lignin Ecosystem, we aim to accelerate the market development of lignin by bringing together potential and existing lignin producers, end-users and technology developers. Sekab and Vertoro have begun the construction of a demonstration facility in Örnsköldsvik. Biomass, lignin or residues from the paper and pulp and forestry industry will be converted into Goldilocks®, a proprietary blend of ethanol and soluble lignin oligomers, which is unique in the world.¹⁶

Contact:

<https://www.sekab.com/en/contact/>

Shandong Huatai Group (China)

Huatai Group Technology Center,
Dawang Town, Guangrao County,
Dongying City, Shandong Province, P.R. China, Postal code: 257335,
Phone: 139-5469-3456.

www.huataipaper.com

www.huatai.com

Huatai Group is one of China's leading pulp and paper producers. Huatai Group was ranked No. 127 among China's top private enterprises, with total revenues of RMB 83 billion (USD 12 billion) in 2024. The Paper & Chemical group operates integrated pulp, paper, packaging, and chemical businesses, with annual capacities of ~4 million tonnes of pulp, paper, and packaging products and over 2 million tonnes of chemicals, generating RMB 15 billion (USD 2.1 billion) in sales within the paper and chemicals segment. Huatai has annual capacity for 45,000 tonnes of lignin.

Contact:

Fengshan Zhang (jszx@huatai.com; htjszx@163.com)

¹⁵ <https://segezha-group.com/en/product/lignosulfonates/>

¹⁶ <https://www.sekab.com/en/>; <https://ligninclub.fi/sekab-and-vertoro-to-build-large-scale-demonstration-plant-to-produce-a-new-platform-for-sustainable-fuels-chemicals-and-materials/>

Södra Skogsägarna Ek. Förening (Sweden)

Gösta Edströms väg 6, 352 51 Växjö, Sweden

Phone: +46 470 890 00

Email: info@sodra.com

Södra, a leader in forestry and forest products including pulp, sawn timber, and bioproducts, is constructing a new kraft lignin plant at Södra's pulp mill in Mönsterås, Sweden, with a planned start up Q2 2027, when the plant will become the largest kraft lignin plant in the world. Södra has also announced agreements to supply Stora Enso and UPM with kraft lignin from the new plant. Kraft lignin can replace fossil-based materials in products such as adhesives, batteries, rubber, and composites, and can also serve as a foundation for biofuels and biostimulants.

Contact:

viktor.odenbrink@sodra.com

Stora Enso Oyj (Finland)

Katajanokanlaituri 4

P.O. Box 309 FI-00101

Helsinki, Finland

+358 2046 111

<https://www.storaenso.com/en/products/lignin>

Stora Enso is focused on turning lignin into a sustainable alternative for fossil-based materials across industries. Today, Lineo® can be used in a variety of applications, ranging from replacing phenol in resins for plywood, to developing bio-based and biodegradable polymers. It can even be used to replace a part of the oil-based binder in asphalt, plywood, oriented strand board (OSB), laminated veneer lumber (LVL), paper lamination and insulation material. Lignin also has potential for carbon fibre and carbon for energy storage, including Lignode batteries.¹⁷

Contact:

<https://www.storaenso.com/en/contact-us>

Suzano (Brazil)

Sao Paulo, Brazil

+55 11 3503-9330

<https://www.suzano.com.br/en>

Suzano Ecolig® is one of the innovative products that Suzano brings to the market and to our society: a material with renewable technology providing high-performance solutions. Ecolig® is sustainably produced, using 100% certified eucalyptus, planted and harvested in Brazil; we only process what we grow. With a production capacity of 20 thousand tons/year, our plant will produce lignin and its derivatives at our mill in Limeira, São Paulo. With our dedicated team of scientists and engineers, we attend to the needs of our customers swiftly and effectively.¹⁸

Contact:

<https://www.suzano.com.br/en/contact-us>

¹⁷ <https://www.storaenso.com/en/products/lignin/lineo>

¹⁸ <https://www.ili-lignin.com/download.php?category=1&filename=2020-SuzanoLigninProductionNetpage.pdf>

Tembec (Canada)

Tembec was acquired by Rayonier Advanced Materials in 2017. See Rayonier Advanced Materials.

UPM Biochemicals (Finland)

Alvar Aallon katu 1
PO Box 380
FI-00101 Helsinki, Finland
Tel. +358 (0)204 15 111

UPM Biochemicals GmbH (Germany)

Am Haupttor, Bau 4614
06237 Leuna, Germany
Tel. +49 (0) 3461 5195
<https://www.upmbiochemicals.com/lignin-solutions/>

With the 2025 startup of the Leuna biorefinery, with capacity for 66 ktpy of hardwood lignin, UPM is the world's largest supplier of lignin and lignin biomaterials. In addition to the Leuna hardwood lignin, UPM also produces UPM BioPiva™. UPM BioPiva™ lignin products include UPM BioPiva™ 100, a purified, kraft softwood lignin powder and UPM BioPiva™ 395GR, a kraft softwood lignin granule with solids content 95%. Applications include resins for OSB, plywood, laminates; polymer blends

Contact:

lignin@upm.com

Vyborgskaya Cellulose (Russia)

Russia 188918,
Leningrad Region,
Vyborg, p. Sovetskiy, ul. Zavodskaya, d. 2

Vyborg is reported to be producing lignosulfonates.

Wuhan East China Chemical CO Ltd. (China)

18/F, New World International Trade Center,
No. 568 Jianshe Avenue
Wuhan, Hubei

Wuhan East China Chemical Co., Ltd. is engaged in development, processing, production, and sales of lignin sulfonate, calcium, magnesium, ammonium salt lignosulfonate series products and professional production and sales of lignin modified superplasticizer, sodium gluconate, the synthetic multi magnesium silicate adsorbent polymer.

Contact:

lignin027@ecch.com.cn

Technology Providers

AB Karl Hedin Bio Innovation (Sweden)

Källarbäcksvägen 50B,
SE-757 52, Uppsala, Sweden
www.bio-innovation.se

AB Karl Hedin Bio Innovation develops tailored lignin with well-defined structure and functional group content (1–3 mmol·g⁻¹). We offer test samples of lignin, dry powder, suspensions, nanoparticles, scale-up on request, also customization to meet specific requirements. The technology also enables advanced lignin-based materials, including graphene-like carbon (resistivity 7 Ω·sq⁻¹), redox-active materials, antioxidants, and UV-blocking additives. The company welcomes joint development, licensing, and other partnership opportunities.

Contact:

<https://bio-innovation.se/about/>



Andritz AG (Austria)

ANDRITZ GROUP Headquarters
Stattegger Strasse 18
8045 Graz
+43 316 6902 0
www.andritz.com/group-en

ANDRITZ LigniOx™ is an advanced lignin oxidation and recovery technology that enables the production of functional, high-value oxidized lignin from kraft black liquor. The process introduces oxygen-containing functional groups into the lignin structure, enhancing its reactivity and suitability for material and chemical applications. LigniOx™ supports pulp mills in developing biorefinery concepts by enabling lignin valorization beyond energy use, creating new revenue streams while maintaining mill chemical balances. LigniOx Demoplant was started up at Metsä Fibre Äänekoski mill in the beginning of 2026.

Contact:

<https://www.andritz.com/group-en/contact>

Avantium N.V. (The Netherlands)

Zekeringstraat 29, 1014 BV
Amsterdam, the Netherlands
+31 20 586 8080
<https://www.avantium.com/>

Avantium develops innovative technologies for the production of plant-based chemicals including lignin and lignin biomaterials. In its DAWN pilot biorefinery in Delfzijl, Avantium converts woody feedstock into industrial sugars and lignin. In total, about 1,000 kg of Avantium lignin was added to asphalt to replace bitumen used in the top layer of a test road. The asphalt producing partners of CHAPLIN XL have improved the process to produce bio-asphalt at conventional asphalt plants, allowing for the scale-up of the lignin-based asphalt technology.

Contact:

<https://avantium.com/contact/>

Bloom Biorenewables (Switzerland)

Route de l'Ancienne Papeterie 106, CH-1723
Marly – Switzerland
<https://www.bloombiorenewables.com/>

Our technology offers the possibility to break through current limitations. With our aldehyde-assisted fractionation (AAF) technology, we efficiently separate the cellulose fraction while stabilizing lignin polymers and hemicellulose-derived sugars. These stabilized structures allow, for the first time, the full potential of lignin and hemicellulose to be valorized. Lignin and its derivatives as additives, fillers, and reagents for bio-based high-performance materials and composites for the plastics industry.¹⁹

Contact:

<https://www.bloombiorenewables.com/contact>

Boreal Bioproducts (Finland)

Tietotie 2
FI-02150 Espoo
FINLAND
<https://www.borealbioproducts.com/>

Boreal Bioproducts transforms under-utilised forestry side streams into novel, bio-based materials that support the industrial transition toward a circular economy. The process is based on hot water extraction technology resulting in separated hemicellulose, lignin, and lignocellulose fractions. The materials can be used in adhesives, binders, and coatings applications.

Contact:

Antti Kämäräinen
+358 40 546 6959
antti@borealbioproducts.com

¹⁹ <https://www.bloombiorenewables.com/technology>

Bright Materia (Sweden)

Orrvägen 15
Täby
183 51 Stockholm
<https://www.brightmateria.com/#home>

Bright Materia is pioneering the transition to bio-based materials by valorizing residual streams from the forestry, sawmill, and pulp industries. Our patented process delivers high-quality, >99% pure, light-colored, and odorless lignin directly from forestry residues. The process eliminates energy-intensive steps required in traditional methods and is technically superior and strategically positioned to help companies reduce reliance on fossil resources and harmful chemicals. Our process stands out for premium quality and significant cost savings.²⁰

Contact:
<https://www.brightmateria.com/#contact>

Chempolis Oy (Finland)

Chempolis Biorefining Park
Lääketehtaan tie 1, FI-90660
Oulu, Finland
+358 (0)10 387 6670
www.chempolis.com

Chempolis is a licensor of innovative formico® biorefining technologies, which convert lignocellulosic biomasses into a broad Bio2X™ product portfolio: bioethanol, lignin, furfural and acetic acid, among others. Our sulphur-free lignin is of high purity, non-toxic and essentially free of smell and is ideal in substituting fossil raw materials in many applications. The mild conditions of our process yield high-quality lignin that retains many of its natural biopolymer properties. We also offer comprehensive product and business development services to our licensees.

Contact:
chempolis@chempolis.com

LignEasy (Finland)

Eteläesplanadi 22 B 4th floor,
00130 Helsinki, Finland
<https://www.ligneasy.fi/>

LignEasy is offering groundbreaking patented chemical-free lignin separation technology for Kraft pulp mills. Applications include eco-friendly alternatives in adhesives and resins and the production of biofuels, chemicals, and various composite materials.

Contact:
info@ligneasy.fi

²⁰ <https://www.brightmateria.com/#technology>

Lignoflow Technologies AB (Sweden)

Box 331
101 26 Stockholm
<https://www.lignoflow.com/>

Lignoflow has developed patented technology for processing lignin into scalable bio-based materials for a sustainable future. The technology facilitates lignin processing in a water-efficient, high-consistency, and flowable gel state. Projects include TreeForm nanoparticle-based solid lignin foams for industrial applications.

Contact:
info@lignoflow.com

LignOrganic (South Africa)

Innovation Hub,
1 Mark Shuttleworth St,
Lynnwood, Pretoria
27 10 142 4970
<https://lignorganic.co.za/>

LignOrganic is a South African-based company and the first on the continent to produce sulphur-free lignin. We utilise waste plant biomass to produce soda lignin, hemicelluloses, bioplastics, and organic liquid soaps through a biorefinery concept to help promote wider use of sustainable and eco-friendly solutions. Our ultimate goal is to achieve total biomass valorisation (the process of adding value to different types of plants and residues) using a lignin-first approach and to become the number 1 supplier in Africa of lignocellulosic-based platform chemicals.²¹

Contact:
<https://lignorganic.co.za/contact-us/>

Liquid Lignin Company, Lignin Innovations (U.S.)

223 S. Edgewater Dr. Sunset, SC 29685 USA
(843) 345 0733
www.ligninininnovations.com

The Sequential Liquid-Lignin Recovery and Purification (SLRP™) process is a continuous, skid-mounted system that produces high-purity lignin from kraft pulping black liquor. Advantages include recycle and reuse of CO₂ and acidic brine streams to reduce CO₂ and H₂SO₄ consumption, and complete containment and capture of vent gas streams including H₂S. SLRP has been used to recover lignin from a variety of black liquors: pure softwood, pure hardwood, and mixtures. Capital and operating costs of SLRP are significantly lower than competitive batch processes.

Contact:
Email: michael@techlake.net

²¹ <https://lignorganic.co.za/>

MetGen (Finland)

Rakentajantie 26
20780 Kaarina, Finland
+358 2 237 7077
<https://www.metgen.com/>

MetGen is a privately held company founded in 2008 on the core competence of genetic engineering and synthetic biology. Today MetGen offers a full range of biotechnology solutions, including enzymes to support biorefineries. Full technology solutions are not only in the field of hydrolysis for biomass fractionation, but also for the production of clean sugars, sugar fermentation, and lignin refining. METNIN™ is a unique market driven technology to valorize the lignin streams from modern biorefineries, and pulp mills.

Contact:
<https://www.metgen.com/contact-us/>

New Energy Blue (U.S.)

480 New Holland Ave. Suite 8000
Lancaster PA, 17602
<https://newenergyblue.com/>

New Energy Blue™ is a biotechnology company that has dedicated nearly two decades to co-developing Inbicon™ technology for bio-conversion of agricultural residues and energy grasses into low-carbon 2G biofuel. NewEnergyBlue's first U.S. biomass refinery is expected to begin operations in 2027 in Mason City, Iowa. By converting locally-sourced corn stalks left behind during the annual grain harvest, New Energy Freedom can produce 21 million gallons of second-generation biofuel and 150,000 tons of clean lignin.²²

Contact:
<https://newenergyblue.com/contact-us/>

Novonesis (Denmark)

Biologiens Vej 2
2800 Lyngby
Denmark
+45 44 46 00 00
<https://www.novonesis.com/en>

Novonesis utilizes cutting-edge enzymatic technology to provide tailored biosolutions. Cellic® enzyme blends can efficiently hydrolyze a wide range lignocellulosic biomass, including soft wood and hardwood forestry residues, wheat straw, rice straw, bagasse, corn stover, and other agricultural residues.

Contact:
<https://www.novonesis.com/en/contact>

²² <https://newenergyblue.com/>; press release 10/18/2024 [MetGen integration with NewEnergyBlue will create full array of biochemicals refined from agricultural waste | New Energy Blue](#)

PureLig LLC (U.S.)

6429 Vireo Ct, Lake Worth, FL 33463
(919) 518 5004
www.purelig.com

Supply high purity and modified natural materials for cutting edge research and product development including highly purified lignin with tuned molecular weights and a broad range of modified lignin for composites, nanoparticles, resins, and advanced manufacturing. We accept custom orders for all types of lignin purification and modifications based on your research requirements. We are also open to collaborating on new product development projects, patent applications, and scientific article publications.

Contact:

research@purelig.com

Praj Industries Limited (India)

Praj Tower, Bhumkar Chowk- Hinjawadi Road,
Hinjawadi Village, 274 & 275/2, Praj Industries Rd, Hinjawadi,
Pimpri-Chinchwad, Maharashtra 411057
+91-20-71802000 /22941000
<https://www.praj.net/>

Praj is India's most accomplished industrial biotech company, offering end-to-end technology solutions. Praj's enfinity® is a proprietary, proven technology to responsibly produce sustainable, carbon-neutral advanced bioethanol and high-valuable co-products from agricultural residues, energy crops, and hardwoods. Praj technology converts crude lignin into Lignin Bio-Bitumen, a sustainable alternative to fossil-based bitumen. Praj-built biorefineries have the potential to produce up to 100 k tpy of lignin.

Contact:

<https://www.praj.net/contact-us/>

PTS – Institut für Fasern & Papier GmbH (Germany)

Pirnaer Straße 37
01809 Heidenau, Germany
www.ptspaper.de

The PTS is Germany's foremost research and service-providing institute for the pulp and paper industry. We develop innovative solutions along the entire value chain of fiber products: from using novel sustainable feedstocks, applying new process and pulping technologies and valorizing side-streams to fiber recycling and end-of-life evaluations. For our customers we offer state-of-the-art analytics, technological expertise and modern laboratories up to the pilot scale.

Contact:

pulplab@ptspaper.de

Technikum Laubholz (Germany)

Bahnhofstraße 41 + 52

73033 Göppingen

Deutschland

<https://technikumlaubholz.de/en/>

Technikum Laubholz develops and scales lignin processing technologies from lab to pilot scale, supporting the transfer from research into industrial applications. Facilities include equipment for application development of lignin-based biomaterials, multiple reactor systems for biomass pulping/fractionation, various additional processes like purification, chemical modification, separation, filtration technologies and relevant analytics.

Contact:

info@technikumlaubholz.de

Valmet (Finland)

Keilasatama 5 / PO Box 11

FI-02150 ESPOO, FINLAND

+358 (0)10 672 0000

www.valmet.com/lignin

Valmet's LignoBoost® technology enables the production of high-quality lignin from kraft pulp mill black liquor. The technology has been in commercial operation since 2013, with four industrial references. Valmet offers laboratory and pilot-scale services, LignoBoost XS for early-stage business development and large-scale industrial plants, from lignin separation to packaging. The process can be tailored to the intended end-product, utilizing one of Valmet's patented lignin quality concepts along with technical and business development support.

Contact:

<https://www.valmet.com/contact/pulp/>

Vertoro (The Netherlands)

Urmonderbaan 22, 6167 RD,

Geleen, Netherland

<https://vertoro.com/>

Vertoro is a spin-off company from a public-private partnership between Brightlands Chemelot Campus, DSM, Chemelot InSciTe, University of Maastricht (UM) and Eindhoven University of Technology (TU/e). To produce Goldilocks® lignin we cook solid lignin in any commercially available polar organic solvent using moderate temperatures and pressure. No additional catalysts are required. Key projects include Hydrogold marine fuel, CHAPLIN for asphalt applications, HOUDINI for high-value chemicals, and several more.

Contact:

<https://vertoro.com/contact/>

Government, University, Research Organizations, and Other

Aalto University (Finland)

P.O. Box 11000 (Otakaari 1B)

FI-00076 AALTO

Switchboard: +358 9 47001

<https://www.aalto.fi/en>

Aalto University does extensive research with lignin and lignin biomaterials.

Contact:

[Aalto University contact information](#) | [Aalto University](#)

Åbo Akademi University (Finland)

Natural Materials Technology (NMT) laboratory

Åbo Akademi

Henrikinkatu 2, 20500 Turku

FI-20500

+358 02 21531

<https://www.abo.fi/en/natural-materials-technology-research-and-personnel/>

NMT focuses on utilization of biomass in the development of existing and future industrial processes and products. NMT provides services on lignin extraction, in-depth examination and tailoring of lignin structure and properties using advanced techniques. Active research projects encircle lignin chemistry, fractionation, and material applications.

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AFRY Group/Industry (Finland)

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AFRY is a global engineering, design, and advisory firm driving sustainable transformation. We deliver solutions across industrial sector, infrastructure and energy. AFRY supports project developers across all these areas with a one-stop-shop service including feasibility studies and process engineering.

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Biobased Markets, Market Intell LLC (U.S.)

Wilton. CT
www.biobasedmarkets.com

Market-Intell LLC was founded in 2005 to provide market intelligence in paper, print, and packaging. and re-branded as Biobased Markets in 2018. Biobased Markets is now focused primarily on biobased materials, especially nanocellulose and lignin. Market-Intell LLC and Biobased Markets have collaborated with organizations such as TAPPI, Fastmarkets RISI, and Biofuels Digest, as well as a number of independent associate consultants, universities, and research organizations. Services include business development, lead development, market research, support for due diligence for potential investors, and custom Webinars to provide education about lignin and nanocellulose applications and markets

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Biorenewable Deployment Consortium LLC (U.S.)

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<https://biorenewabledc.com/>

The Biorenewable Deployment Consortium LLC (BDC) is an international company that assists its membership with the deployment of leading-edge advanced biofuels, biochemicals, and bioproducts technologies that do not require long-term subsidy making them more profitable and sustainable. The company identifies, performs due diligence, and promotes those processes that add value to its member companies under its brokering partnership initiatives.

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Biorizon (The Netherlands)

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Biorizon is a cross-border initiative between Research & Technology Organisations (RTO) TNO and VITO. Biorizon aims to include the global leaders in the fields of feedstock, conversion, equipment and end products as [participants](#) in the Shared Research Center, based on the open innovation methodology.

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Clemson University (U.S.)

Wood Utilization + Design Institute
321 Harris A. Smith Building
Clemson, SC 29631
[334-559-1143](tel:334-559-1143)

The Clemson University Wood Utilization + Design Institute (WU+D) advances innovation across the forest-based and bio-based materials economy through five integrated programmatic areas. Together, these programs strengthen South Carolina's competitiveness, support industry growth, promote sustainable resource use, and prepare the next-generation workforce.²³

Contact:

[Email Us](#)

FPIInnovations (Canada)

570 Boulevard St-Jean,
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+1 (514) 630-4100 or info@fpinnovations.ca
<http://www.fpinnovations.ca/>

FPIInnovations is an industrial research organization specializing in the forest, wood, pulp, and paper sectors. FPI developed the kraft lignin production technology LignoForce, which was industrially deployed at West Fraser in Hinton, Canada, in collaboration with Noram. FPI also developed TMP Bio, an enzymatic hydrolysis technology for lignin production. FPI has capabilities to produce kraft lignin from black liquor at both laboratory and pilot scales, to thoroughly characterize a wide range of lignins, and to conduct and support diverse lignin focused R&D projects.

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Green Agrochem (China)

Shandong, China
<https://www.greenagrochem.com/>

A parent gateway for bio-based chemistry, industrial additives, organic carbon, animal nutrition, agriculture, cellulose materials and surface technology. LigninCorp is the Industrial Chemicals Division of Green Agrochem, supplying lignosulfonates, dispersants, wetting agents, binders, SNF, PCE and specialty additives for global manufacturing markets. China Lignin is the Agriculture Division of Green Agrochem.

Contact:

<https://www.lignincorp.com/contact-us/>
<https://www.chinalignin.com/>

²³ [WU+D Inhttps://www.clemson.edu/centers-institutes/wud/stitute](https://www.clemson.edu/centers-institutes/wud/stitute)

KTH Royal Institute of Technology (Sweden)

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<https://www.kth.se/en>

KTH, Sweden's largest technical university, conducts extensive research on lignin and lignin biomaterials.

Contact:

[Contact KTH | KTH](#)

Lignin Club (Finland)

[Lignin Club – Global Lignin Ecosystem](#)

The Lignin Ecosystem project accelerates lignin market creation and empowers the success of end-user applications. The project is created and coordinated by AFRY Industry/Finland and funded privately by members from America to Asia. Lignin Club promotes communication between different parties interested in lignin and creates new information– whether related to availability, conversion technologies, or future applications.

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Michigan State University (U.S.)

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<https://innovationcenter.msu.edu/>

The MSU Innovation Center team conducts extensive research into lignin and lignin valorization. Potential applications include replacing polyol, phenol, and bisphenol A with technical lignins in polyurethane, phenolic, and epoxy resin formulations, which are used to make biobased adhesives, coatings, foams, and composites.²⁴

Contact:

[Contact Us - MSU Innovation Center](#)

²⁴ [The Lignin Revolution- MSU Innovation Center](#)

National Laboratory of the Rockies (U.S.)

15013 Denver W Pkwy,
Golden, Colorado 80401
303-275-3000

The National Laboratory of the Rockies (NLR), formerly National Renewable Energy Laboratory (NREL), in the US specializes in R&D for energy innovation. NLR has a comprehensive lignin valorization R&D portfolio, encompassing lignin-first biorefining, catalytic lignin conversion to hydrocarbon fuels, lignin depolymerization and oxidation, bioconversion of lignin to performance-advantaged bioproducts, and the development of novel separations methods for lignin valorization.

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[Contact Us About NREL | NLR](#)

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National Taiwan University conducts extensive research on lignin.

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[Contact Us - National Taiwan University](#)

North Carolina State University (U.S.)

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NCSU is ranked in the top 1% of universities globally and is a land-grant institution, which means it has a duty to open the doors of education for everyone. NCSU is a Research 1 university, recognized worldwide for big ideas and bigger impact.²⁵ The Department of Forest Biomaterials does extensive research on lignin and publishes [BioResources](#) (ISSN: 1930-2126), an international open-access journal that publishes original research and reviews about lignocellulosic materials, chemicals, & their applications

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²⁵ <https://www.ncsu.edu/about/>

RISE Research Institutes of Sweden AB

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RISE, the research institute of Sweden, works on critical challenges in a wide range of industries including automotive, chemicals, energy, forest products and many more. In 2016, RISE acquired Innventia AB. Innventia developed the LignoBoost® technology with Chalmers University of Technology, and in 2008 Valmet acquired LignoBoost AB and the LignoBoost® technology. The LignoBoost® demonstration plant, owned by RISE LignoDemo AB, opened in 2006 in Bäckhammar, Sweden with capacity of 8,000 tonnes per year.²⁶

Contact:

<https://www.ri.se/en/about-rise/contact-us>

TAPPI International Division of Advanced Renewable Materials (ARM) (U.S.)

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TAPPI is the leading association for the worldwide pulp, paper, tissue, packaging and converting industries. TAPPI's **International Division of Advanced Renewable Materials (ARM)**, formerly the International Division on Nanotechnology for Renewable Materials (TAPPI Nano), focuses on the evolving landscape of renewable materials research and industry trends. The Division is a hub for new developments in renewable materials, encouraging broader participation from experts in materials science, chemistry, and engineering. The Division's Technical Committees work together throughout the year to solve problems, develop technical papers, plan conference sessions, and more. For more information about the Division and how to get involved, visit the ARM webpage.²⁷

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²⁶ Biobased Markets, *Lignin 2021: A Pivotal Year*

University of Tennessee, Knoxville (U.S.)

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<http://biorefinery.utk.edu>

The biorefinery research program is directed at understanding and exploiting innovative sustainable bioresources for the circular economy including lignin. This multifaceted program is targeted to develop new and improved lignin applications including biofuels, biopower, and bio-based materials and chemicals.

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Vireo Advisors LLC (U.S.)

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Vireo helps bring safer, more sustainable bio-based products to market. We provide market and regulatory expertise for new technologies, advanced materials, and ingredients such as lignin and novel celluloses, while supporting testing and validation. We guide sustainability strategy, connect developers with key resources, and build partnerships or consortia to meet pre-commercial needs, including food packaging safety and regulatory evaluation. We are forming a consortium to evaluate safety and regulatory of lignosulfonate in food packaging.

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VITO (Belgium)

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As one of Europe's top research centres, VITO converts scientific insights into ground-breaking technological innovations, AI solutions, and policy advice with 1,300 employees. We do so with one objective: to give our world a future to look forward to. Lignin projects include LigniCOST, LigniOx, LigninPLUS, and the LignoValue pilot plant for depolymerized lignin.

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VTT Technical Research Centre of Finland

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VTT, a research organization, offers LigniOx technology for production of oxidized lignin for construction chemicals, versatile dispersants and more. VTT has patented the integration of the LigniOx process into a kraft pulp mill together with ANDRITZ and Metsä Fibre. A demo plant with max. capacity of 2 tons of oxidized lignin per day started operation at Metsä Fibre Äänekoski pulp mill early 2026. The LigniSmart technology, also developed at VTT, allows isolation of kraft lignin in a form that is particularly suitable for carbonization, yielding carbon materials for energy storage applications. VTT licenses LigniOx and LigniSmart technologies and the lignin applications thereof.

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Wageningen University & Research (The Netherlands)

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<https://www.wur.nl/en>

Wageningen University & Research is a collaboration between Wageningen University and the Wageningen Research foundation. At WUR) research on nanocellulose involves innovative "one-pot" treatment methods that simplify the removal of lignin and other non-cellulosic components from biomass. Lignin itself is also studied as a biopolymer with potential applications in biobased materials, but its presence in cellulose-rich biomass often needs to be reduced or altered to unlock the full potential of nanocellulose.²⁷

Contact:

<https://www.wur.nl/en/contact-wur>

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²⁷ <https://www.wur.nl/en/search?q=lignin>