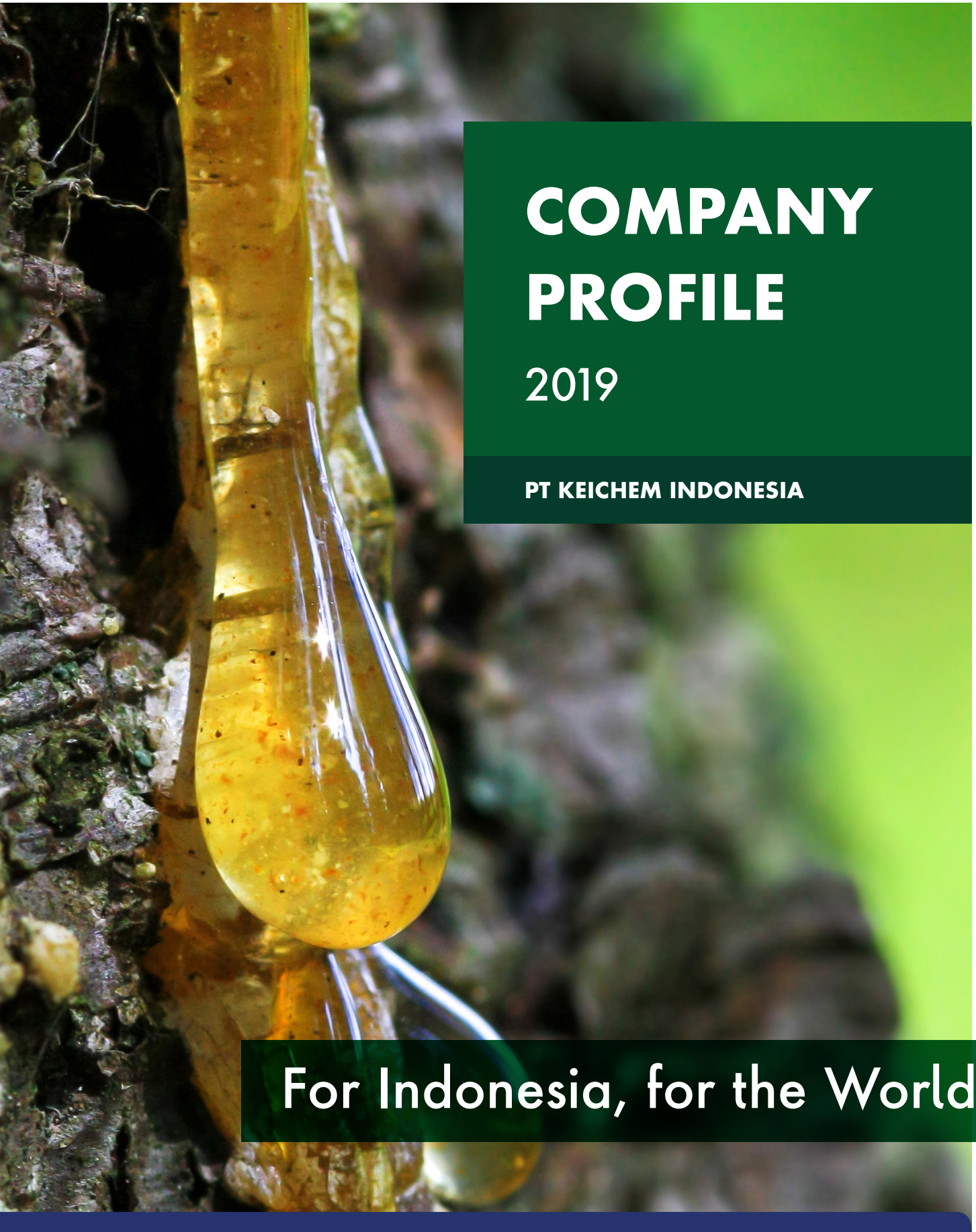
KEICHEM



COMPANY PROFILE

2019

PT KEICHEM INDONESIA

For Indonesia, for the World

ABOUT US

Since established in 2012, PT KEICHEM INDONESIA has made continuous efforts to be Indonesian leading manufacturer of pine chemicals.

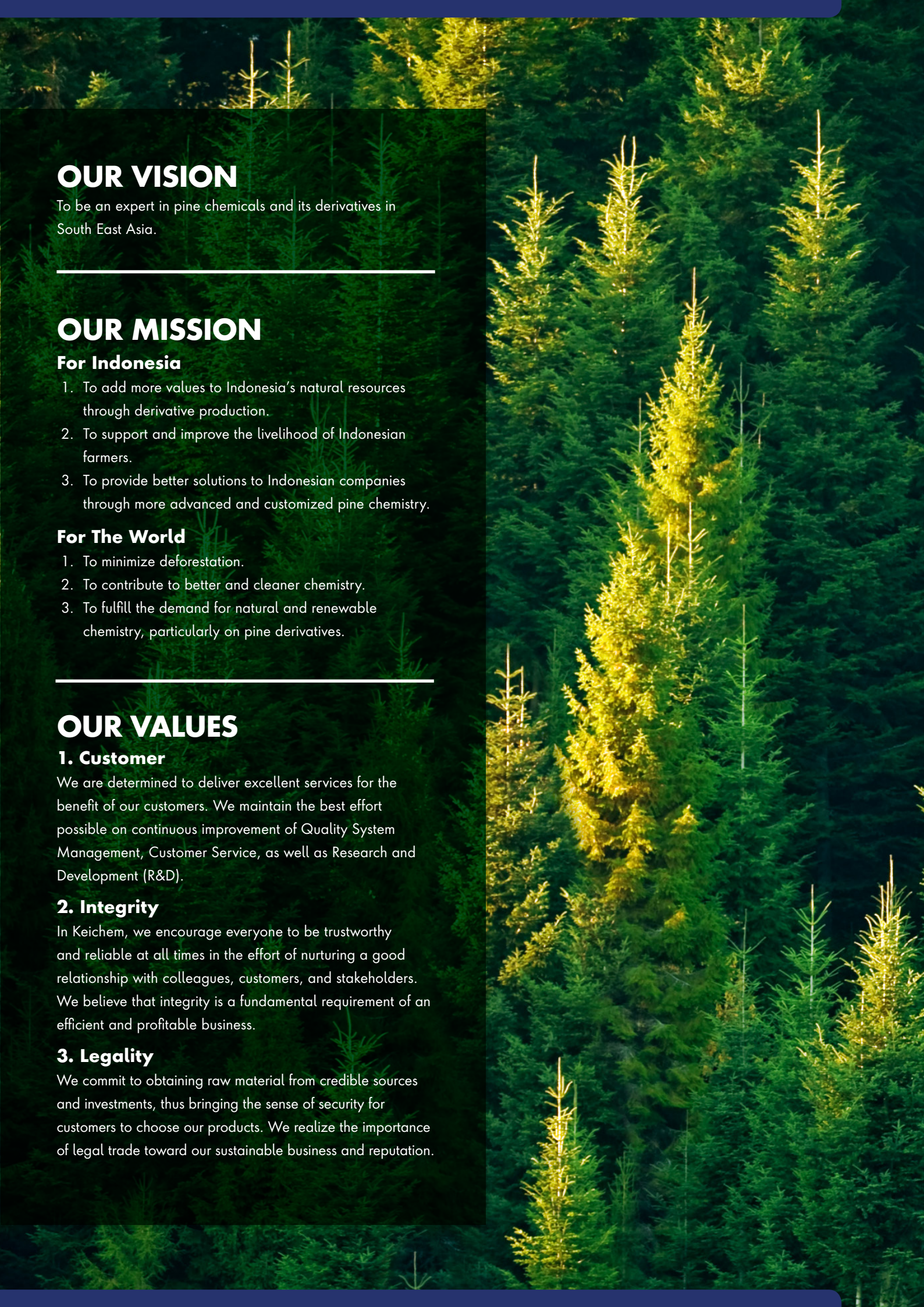
Keichem started with investments in several tapping sites in Sumatra, Java, and Sulawesi to gain continuous supplies of oleo pine resin (OPR). This raw material is brought legally from pine forests through an environmental-friendly process. Our local farmers assuredly take resin without cutting down the trees.

In our 5,000 square meters plant in Cibitung, West Java, we initially produce Gum Rosin, Turpentine, and Rosin Esters from OPR. Up to 2017, the company only focused on exporting these basic derivatives. We realized the need to explore demand from Indonesian companies of more advanced pine chemicals such as rosin resin, water-soluble modified rosin, tall oil, and resin dispersion.

To fill the demand, we have developed our product range for more extensive applications. Major uses of our products include paper chemicals, printing ink, paints, coatings, adhesives, sealants, soaps and detergents, rubber, metalworking, electronics, asphalt, and road marking.

From the richness of Indonesia's pine forests, Keichem has served various clients around the globe and therefore improves the livelihood of local farmers. It has been our intention to maximize the potential of Indonesia's natural resources for the goodness of its own people.

US AROUND INDONESIA



OUR VISION

To be an expert in pine chemicals and its derivatives in South East Asia.

OUR MISSION

For Indonesia

1. To add more values to Indonesia's natural resources through derivative production.
2. To support and improve the livelihood of Indonesian farmers.
3. To provide better solutions to Indonesian companies through more advanced and customized pine chemistry.

For The World

1. To minimize deforestation.
2. To contribute to better and cleaner chemistry.
3. To fulfill the demand for natural and renewable chemistry, particularly on pine derivatives.

OUR VALUES

1. Customer

We are determined to deliver excellent services for the benefit of our customers. We maintain the best effort possible on continuous improvement of Quality System Management, Customer Service, as well as Research and Development (R&D).

2. Integrity

In Keichem, we encourage everyone to be trustworthy and reliable at all times in the effort of nurturing a good relationship with colleagues, customers, and stakeholders. We believe that integrity is a fundamental requirement of an efficient and profitable business.

3. Legality

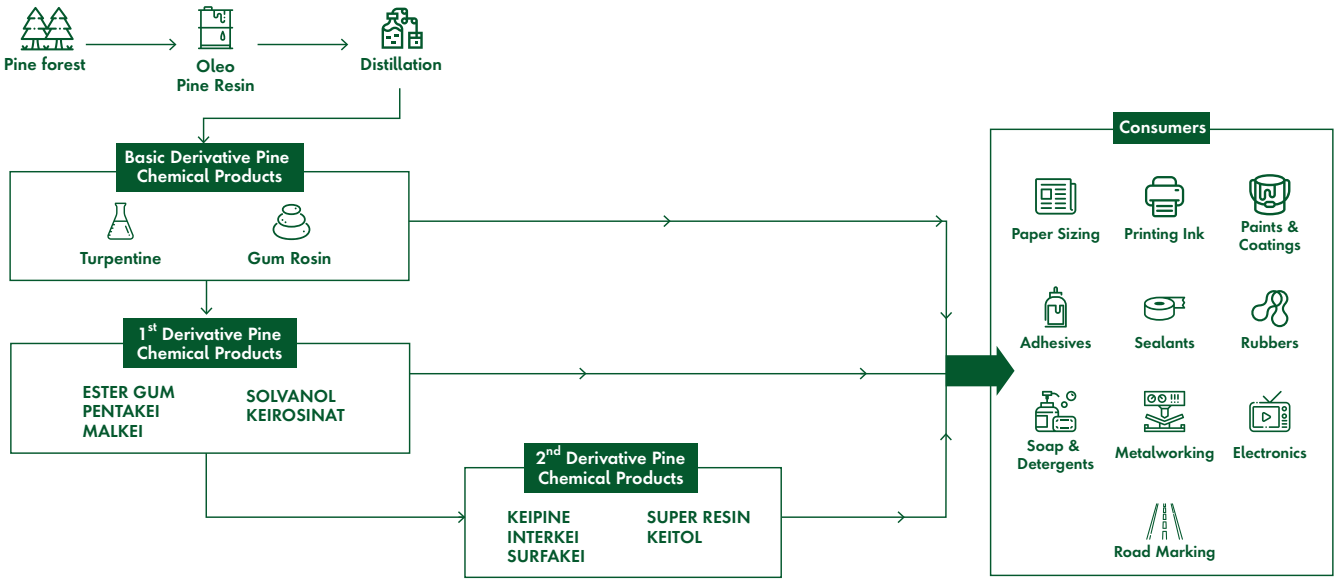
We commit to obtaining raw material from credible sources and investments, thus bringing the sense of security for customers to choose our products. We realize the importance of legal trade toward our sustainable business and reputation.

As one of the biggest pine forest conservation areas in the world, Indonesia plays important role in pine resin derivative market.

Pinus merkusii trees throughout Indonesia have commercially become a source of resin for gum rosin and turpentine production. The annual amount of oleo pine resin exported from Indonesia has always been large, with an average of 8,940,330 kg from the year of 2012 to 2016. The biggest number is in 2016, which reached 15,275,409 kg.

Because of the absence in pine chemical manufacturing expertise, the benefit of added values of oleo pine resin is not fully realized. For this reason, Keichem determines to supply only value-added materials of pine resin. OPR is distilled with the latest technology in our plant to generate high- quality gum rosin and turpentine.

These basic derivative products are processed further using chemical reaction based on organic material from crude resin. Keichem produces ESTER GUM, PENTAKEI, MALKEI, SOLVANOL, and KEIROSINAT as our first derivative pine chemical products that have more added values. For broader application in various industrial fields, we also produce the second derivatives, which are KEIPINE, INTERKEI, SURFAKEI, SUPER RESIN, and KEITOL. With innovative and diverse range of products, Keichem has evolved into a highly competitive manufacturer in pine resin derivative business.



OUR PRODUCTS

01

GUM ROSIN

Gum rosin is a natural solid form distilled from oleo pine resin. It is yellowish, transparent, insoluble in water but soluble in many organic solvents.

Product	Type	Appearance	Color Gardner	Acid Value (mg KOH/gr)	Softening Point (°C, R&B)	Application Use
WW Grade	Abietic acid	Bright yellowish transparent lumps	Max. 8	160 - 190	Min. 78	Road marking, Adhesives/Sealants
X Grade	Abietic acid	Bright yellowish transparent lumps	Max. 5	160 - 190	Min. 78	Adhesive ink, Paper & Pulp, Food, Pharmaceutical

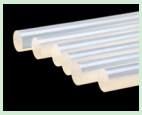
02

GUM TURPENTINE OIL

Gum turpentine oil is a natural fluid distilled from oleo pine resin. It is colorless with strong pine flavor and odor characteristics. Besides its traditional use as a solvent for paints and varnishes, gum turpentine oil is also employed in pharmaceutical industry, fragrance, and disinfectants.

Product	Type	Appearance	Specific Gravity (25°C)	Residual Content (%)	Application Use
GTO 80	Alpha pinene	Colorless white water	0.848 - 0.865	Max. 2	Thinning agent, Varnishes, Fragrance, Pharmacy

03



ROSIN ESTERS

Derived from rosin, rosin esters are compatible with a broad range of polymers such as SBR, rubbers, neoprene, acrylics, hydrocarbon resins, and alkyd resins. They are widely used as tackifiers in various products including sealants, hot-melts, adhesives, printing ink, varnishes, and lacquers. Rosin esters are also applied in chewing gum, as well as certain food and beverages.

Product	Type	Appearance	Color Gardner	Acid Value (mg KOH/gr)	Softening Point (°C , R&B)	Application Use
ESTER GUM / Glycerol Rosin Ester						
ESTER GUM A085	Glycerol ester	Bright yellowish transparent lumps	Max. 5	Max. 10	85 ± 5	Chewing gum, Road marking, Adhesive/Sealants, Varnishes
RE A100	Glycerol ester	Bright yellowish transparent lumps	Max. 5	Max. 10	100 ± 5	Road marking, Adhesives/Sealants, Varnishes
PENTAKEI / Pentaerythritol Rosin Ester						
PENTAKEI RE-A100	Pentaery-thritol ester	Bright yellowish transparent lumps	Max. 5	Max. 20	100 ± 5	Tackifier/Hot melt, Adhesives/Sealants, Paint and Ink
PENTAKEI RE-A105	Pentaery-thritol ester	Bright yellowish transparent lumps	Max. 5	Max. 20	105 ± 5	Tackifier/Hot melt, Adhesives/Sealants, Paint and Ink
PENTAKEI RE-A115	Pentaery-thritol ester	Bright yellowish transparent lumps	Max. 5	Max. 20	110 ± 5	Tackifier/Hot melt, Adhesives/Sealants, Paint and Ink

04

PINE OILS

Pine oils are one of turpentine derivatives which contain alpha-terpineol plus other cyclic terpene alcohols and terpene hydrocarbons. These essential oils have strong piny odor and are miscible with alcohols. Pine-oils are used as solvents for gums, resins, and other substances. Having germicidal properties, pine oils are also applied as principal constituents of general disinfectants.

Product	Type	Appearance	Color (USDA)	Content of Alcohol (%)	Specific Gravity (25°C)	Application Use
KEIPINE						
KEIPINE 85	Pine oil 85%	Yellowish transpa-rent oil liquid	3 - 5	85%	0.866 - 0.945	Used as disinfectant, detergent, dressing agent, degrease agent, printing and dyeing promoter, and also used to prepare the essence of washing soap.
KEIPINE 50	Pine oil 50%	Yellowish transpa-rent oil liquid	3 - 5	50%	0.900 - 0.962	

05

MODIFIED ROSIN RESINS

Modified rosin resins are reaction-engineered products using superior properties of abietic acid in rosin. These special resins are made by modifying a synthetic resin with a natural resin, which is rosin. Their performance is determined mainly by rosin as the modifier. Acid modified rosins are very useful in ink, varnish, coating applications, and thermoplastic road-marking compounds.

Product	Type	Appearance	Color Gardner	Acid Value (mg KOH/gr)	Softening Point (°C , R&B)	Application Use
MALKEI / Maleic Modified Rosin Resin						
MALKEI SB C130	Maleic resin	Pale yellow flake	Max. 5	Max. 40	130 ± 5	Paint and Coating, Oil varnish, Printing ink, Adhesives/Sealants
MALKEI WB 01	Maleic resin	Pale yellow flake	Max. 5	Max. 200	130 ± 5	Paint and Coating, Commercial ink, Adhesives/ Sealants, Polymer improve
MALKEI WB 02	Maleic resin	Pale yellow flake	Max. 5	Min. 200	130 ± 5	Paint and Coating, Commercial ink, Adhesives/ Sealants, Polymer improve
MALKEI ROAD	Maleic resin	Pale yellow flake	Max. 5	Max. 30	110 ± 5	Paint and Coating, Adhesives/Sealants, Road marking, Thermoplastic
SOLVANOL / Phenolic Modified Rosin Resin						
SOLVANOL KEI-OB	Phenolic resin	Yellowish brown	Max 8	Max. 30	135 ± 5	Printing Ink, Offset ink, Baking and Insulation varnish
SOLVANOL KEI-SB	Phenolic resin	Yellowish brown	Max 8	Max. 30	150 ± 5	Offset ink
SOLVANOL KEI-AO	Phenolic resin	Yellowish brown	Max 8	-	95 ± 5	Alcohol varnish, Replacing shellac

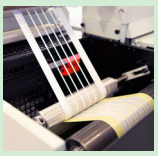
06

PAPER CHEMICALS

These internal sizing agents are utilized broadly for paperboards, acid to neutral papers, fine papers, PPC papers, and newsprint papers. Adding these agents to pulp slurry will improve sizing, writing, and printing quality parameters.

Product	Type	Appearance	Solid Content (%)	pH	SG/Viscosity (25 °C)	Characteristics
INTERKEI / Internal Sizing Agent						
INTERKEI F-50	Rosin soap	Brown liquid	50	9 -10	1.10 - 1.20 (SG)	This product specially modified rosin soap size with higher active ingredient suitable for internal sizing of various grade of paper in acidic pH condition. The product improves and enchances the hydrophobic properties of the resulting paper.
INTERKEI D-35C	Cationic rosin	White emulsion	35	3 - 4	< 50 (Viscosity)	The cationic rosin size is made with the international advanced tecnique of high-pressure homogenization. Particle diameter in its emultion is even and its stability is good. It is particularly suitable for cultural paper and spesial gelatine paper.
SURFAKEI / Surface Sizing Agent						
SURFAKEI 30	Acrylic resin	Brown liquid	30	3 - 4	1.05 - 1.20 (SG)	This product specially modified rosin size with higher active ingredient suitable for surface sizing of various grade of paper in acidic pH condition. The product improves and enchances the hydrophobic properties of the resulting paper.

07



RESIN DISPERSIONS

Resin dispersions are environmentally friendly water-based (solvent free) emulsion tackifiers which can be used as additives in adhesives to increase adhesion. They are compatible with numerous types of polymers such as acrylics, EVA, chloroprene, and rubber-based polymers.

Product	Type	Appearance	Solid Content (%)	pH	Viscosity (mPa·s) (25°C)	Application Use
SUPER RESIN / Resin Dispersion						
SUPER RESIN 60GE	Rosin ester	White emulsion	60	8.5 ± 1	400 - 1200 (Viscosity)	Pressure sensitive adhesives (PSA), High Speed reverse gravure, slot die, and curtain coaters
SUPER RESIN 55AR	Rosin ester	White emulsion	55	7 ± 2	250 (Viscosity)	Adhesives/sealants, Carpet & Flooring, Paint & Coating polymer, Waterborne, Packaging adhesive

Product	Type	Appearance	Solid Content (%)	Acid Value (mg KOH/gr)	pH	Application Use
KEIROSINAT / Rosin Soap						
KEIROSINAT K80	Rosin soap	Brown paste liquid	80	10	9.5 - 10.5	Potassium soap of high grade rosin used as an emulsifier in water-based adhesive.
KEIROSINAT K40	Rosin soap	Brown paste liquid	40	6 - 10	-	Emulsifier in emulsion polymerization (ABS, SBR, NBR), Adhesive - Bottle labelling, Pigment resination

08

TALL OILS

The use of tall oils can be found in fuel additives, alkyd resins, dimer acids, surfactants, soaps, cleaners, oilfield chemicals, lubricant esters, and metalworking fluids. Our tall oil products are KEITOL Tall Oil Fatty Acid (TOFA) and KEITOL Distilled Tall Oil (DTO). KEITOL TOFA contains high fatty acids yet low rosin acids and unsaponifiables; while KEITOL DTO combines the advantages of fatty acids and rosin acids.

Product	Type	Appearance	Color Gardner	Acid Value (mg KOH/gr)	Rosin Acid Content (%)	Application Use
KEITOL / Tall Oil Fatty Acid						
KEITOL 2R	Tall oil	Yellowish brown liquid	Max. 3	Min. 191	Max. 2	Alkyd resins, Dimer acids, Polymers, Oilfield reagents, Mining, Surfactant
KEITOL / Distilled Tall Oil						
KEITOL 30LR	Tall oil	Yellowish brown liquid	Max. 7	Min. 191	28 - 32	Metalworking fluids, Asphalt anti-striping, Oilfield chemicals, Varnishes, Alkyd resins, Soap & Cleaners
KEITOL 10SR	Tall oil	Yellowish brown liquid	Max. 6	Min. 188	9 - 11	Metalworking fluids, Soap & Cleaners, Alkyd resins, Oilfield chemicals, Varnishes

OUR CLIENTS AROUND THE WORLD

For over 6 years, Keichem has worked with various clients from many countries across the globe and determined to reach more clients in the future.

CONTACT US

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