Chemistrify the Bonds

ARAKAWA CHEMICAL INDUSTRIES, LTD.

Message from the President / Management Philosophy of Arakawa Chemical Group

Message from the President

We have made continued and tireless efforts for more than 140 years since the company's establishment in 1876, with the pine chemical - chemistry of the natural resin gum rosin (pine resin) as its core technology. This was achieved through the support of all parties with stakes in our company including our shareholders, business partners, and the local community. As such, we would like to express our deepest gratitude with respect to the support provided by all parties.

We have developed and provided our customers with products that contribute to daily life such as chemicals for paper manufacturing, resins for printing inks, and resins for adhesives, by means of earth-friendly materials represented by rosin and our proprietary technologies cultivated over years.
In addition, based upon these technologies, we are not only making efforts to reinforce our core technologies through the development of the world's only colorless transparent rosin-derivative resin, etc., but are also striving to expand our businesses in the field of electronic materials through the development of coating agents for LCDs, etc.We have expanded our business through establishment of manufacturing bases and sales offices in China, Asia, Europe and the U.S.A., and have solidified the bases for a global enterprise. Furthermore, we are accelerating the globalization of our businesses through development of new needs and demands, development of new products based on our fundamental technologies and expansion of the sales so that we will strive to become a true global enterprise.

Beginning in April 2016, we have commenced our fourth five year management plan. The slogan, "**Dramatic SHIFT 1**" - has a direct policy for "Developing system for **SHIFT** realization and implementing renewal of business". Teams are integrated as "**1**" league, evolving by conducting three significant elements of "Developing system for **SHIFT** realization"; "Implementing renewal of business"; and "Strengthening true globalization and governance systems".

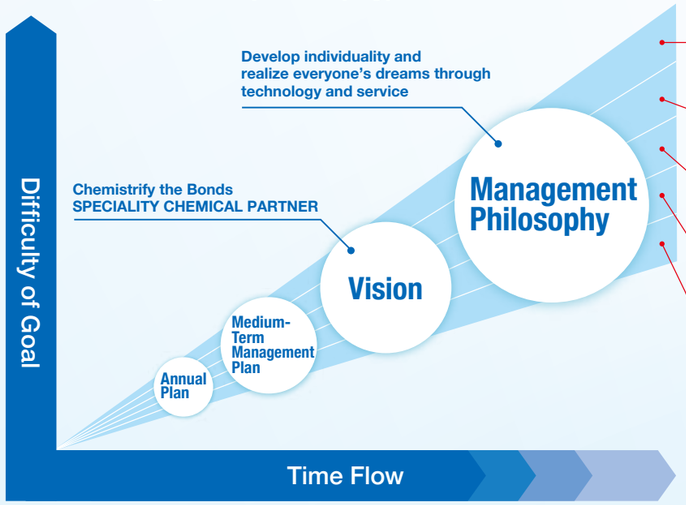
We pursue safety first, quality and environmental friendliness, as well as enhancement of our corporate governance system, and contributions to society. We believe that considering SDGs is crucial to continue growing together with our customers. Through these efforts, we will meet the expectations of all our stakeholders and become an even more trusted company.

We look forward to your further support and cooperation.

ARAKAWA CHEMICAL INDUSTRIES, LTD.
President
Takashi Une

Management Philosophy of Arakawa Chemical Group

Using "The Five KIZUNA" as our value and code of conduce, we aim to achieve each of our goals (practice management philosophy).



Value and Guideline

- **Society** — Protection and Compliance
- **People** — Get Involved
- **Oneself** — Take the Lead
- **Technology** — Tradition and Revolution of Technology
- **Customer** — Mutual Progress

ARAKAWA WAY
The Five KIZUNA

SUSTAINABLE DEVELOPMENT GOALS

The Arakawa Chemical Group's efforts to improve our corporate values are connected to the sustainable development goals (SDGs) driven by the United Nations.

4 QUALITY EDUCATION

Obtaining a quality education is the foundation to improving people's lives and sustainable development.

Arakawa Chemical Group Initiatives

- Holding events for primary school students
- Overseas training programs for junior staff and mid-career staff
- Scholarship programs of advanced education in developed and developing countries

8 DECENT WORK AND ECONOMIC GROWTH

Promote inclusive and sustainable economic growth, employment and decent work for all.

Arakawa Chemical Group Initiatives

- Working environment filled with enthusiasm
- Diversified human resources
- Organization-wide safety culture

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Investments in infrastructure are crucial to achieving sustainable development.

Arakawa Chemical Group Initiatives

Developing new technologies to provide products which enhance the convenient and comfortable lives

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Responsible Production and Consumption

Arakawa Chemical Group Initiatives

Appropriate control of chemical substances and activities for industrial waste disposal

13 CLIMATE ACTION

Climate change is a global challenge that affects everyone, everywhere.

Arakawa Chemical Group Initiatives

Greenhouse gas reduction activities aiming specific target figures

15 LIFE ON LAND

Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss

Arakawa Chemical Group Initiatives

"Forest of Matsutaro" project, which contributes to local pine forest restoration through planting pine trees

We will contribute to our everyday life with rosin.

Rosin is a natural resin that is obtained by refining crude gum from pine trees. We will be committed to sustainable natural resources and provide environmental friendly material with high added-value.

Contributing to society with unique products filled with the spirit of KIZUNA

Origin

The origin of Arakawa Chemical was built with wisdom and effort.

1876 - 1926

- 1856 The first-generation Masahichi established “Tamaya”, a drug company
- 1876 The trade name was changed to “Arakawa Masahichi Shoten”. This is recognized as the founding of the company.
- 1894 After the death of Arakawa Masahichi II, his wife Hatsu continued the family business.
- 1910 Rosin was named “Toyo-chan” and released on the market
- 1914 Shigino Plant established, manufacturing of rosin began
- 1915 For the first time in Japan, pine resin was used to make gum and turpentine oil
- 1916 Rosin was exported to Russia (the first export of Japan-made rosin)
- 1918 Arakawa Shotaro opened the route for direct imports of pine resin produced in China.
- 1926 The Arakawa mark “ ” was registered as a trademark

Pioneering

More main products produced one after the other

1927-1966

- 1927 Rosin ester “ESTER GUM” launched
- 1931 Reorganized to a limited partnership company ARAKAWA SHOTEN
- 1936 Imafuku Plant (the current Osaka Plant) established
- 1937 Rosin-modified phenol resin “TAMANOL” launched
- 1943 Company name changed to ARAKAWA FOREST CHEMICAL COMPANY
- 1954 Rosin sizing agent “SIZEPINE” launched
- 1956 Reorganized as ARAKAWA FOREST CHEMICAL INDUSTRIES, LTD.
- 1957 R&D center established
- 1959 Fuji Plant established
- 1960 Paper strengthening agent “POLYSTRON” launched
- 1965 Hydrogenated hydrocarbon resin “ARKON” launched for first time in world

Growth

Business expansion at home and abroad

1967-1988

- 1967 TIENLI CHEMICAL INDUSTRIES, LTD. (currently TAIWAN ARAKAWA CHEMICAL INDUSTRIES, LTD.) established as a Taiwan-Japan joint venture
- MORITA KOATSU CHEMICAL INDUSTIRES, LTD. (the current KOATSU CHEMICAL INDUSTRIES, LTD.) joined Arakawa Chemical Group
- 1968 Taipei Representative Office opened
- Kushiro Plant established
- 1970 Tsurusaki Plant and Mizushima Plant established
- 1977 In commemoration of our 100th anniversary, changed our name to ARAKAWA CHEMICAL INDUSTRIES, LTD.
- 1982 Arakawa Chemical (USA) Inc. established
- 1987 Photo-curable resins “BEAMSET”, Colorless rosin derivatives “PINECRYSTAL” launched

The Leap

Becoming truly global

From 1989

- 1989 Onahama Plant established
- 1990 Electronics cleaning agent “PINE ALPHA” launched
- 1993 Tsukuba R&D center established
- 1995 Wuzhou Arakawa Chemical Industries, Ltd. established
- ARAKAWA CHEMICAL (THAILAND) LTD. established
- Hong Kong Arakawa Chemical Ltd. established
- 1996 XIAMEN ARAKAWA CHEMICAL INDUSTRIES, LTD. established
- 1998 Arakawa Europe GmbH established
- 2003 Listed on the first section of the Tokyo Stock Exchange
- NIPPON PELNOX CORPORATION (the current PELNOX, LTD.) joined Arakawa Chemical Group
- Shanghai Representative Office opened
- 2004 Nantong Arakawa Chemical Industries, Ltd. established
- Guangxi Arakawa Chemical Industries, Ltd. established
- 2008 Guangxi Wuzhou Arakawa Chemical Industries, Ltd. established (Integration of Wuzhou Arakawa and Guangxi Arakawa)
- 2011 ARAKAWA CHEMICAL (CHINA), LTD. established
- 2012 POMIRAN TECHNOLOGY, LIMITED established
- 2014 ARAKAWA CHEMICAL (TAIPEI), LTD. established
- 2015 YAMAGUCHI SEIKEN KOGYO CO., LTD. joined Arakawa Chemical Group
- 2018 Chiba Arkon Production, Limited established
- 2019 ARAKAWA CHEMICAL VIETNAM CO., LTD. established

Hatsu’s Struggle

Hatsu was the oldest daughter of company founder Arakawa Masahichi and the wife of Arakawa Masahichi II. After her husband’s early death, Hatsu struggled to manage the family business. She aggressively went after business with foreign traders and responded to the strict bid conditions set by the military with her originality and ingenuity, while large companies hesitated to bid. Her flexible mindset and ability to take action opened up one sales channel after the other. At one point, after incurring a huge debt, she faced difficulties, but found a way to safely overcome it. She also raised her two sons to become company executives. It is not too much to say that Hatsu created the foundation for today’s Arakawa Chemical.

Helped by Good Customers

The reason the company was able to overcome the Great Kanto Earthquake and the world depression in the early part of the Showa Era was because of the total trust and warm response our customers gave Arakawa Shoten during those difficult times. There was trust with our trading partners. The loyal Shotaro and his brother Kikujiro cultivated trusting relationships with integrity and thoroughness.

Employees of Arakawa Shoten at that time

(Kikujiro, Hatsu’s second son, is on the left, front row. Shotaro is in the middle)

Rapid Growth of ARKON

The Hydrogenated Hydrocarbon Resin “ARKON” went on sale in 1965. It expanded the market as a hot-melt adhesive that could smoothly melt and bond with heat. Around 1975, this adhesive was adopted for use with disposable diapers and sales went through the roof. Expanding each facility to increase production capacity, we were able to meet the rapidly increasing demand. This product continues to advance as one of the mainstay products of Arakawa Chemical.

Hydrogenated Hydrocarbon Resin “ARKON”

Shigino Plant Established

Overall View of the Shigino Plant

Amid the ups and downs of the marketplace, Hatsu’s eldest son, Shotaro, anticipated the bright future of the rosin business. He saw beyond the domestic demand for pine resin and had the insight to produce it in China as swell. He established the Shigino plant (currently located in Shigino-nishi, Joto-ku, Osaka) where they embarked on making rosin and turpentine oil. This became the opportunity for the company to go from drugstore business to manufacturer.

Laying the Foundations for a Research System

Research Center, Exterior View

In 1956, the company was reorganized as a corporation and the company name was changed to ARAKAWA FOREST CHEMICAL INDUSTRIES, LTD. Heading into a period of strong economic growth, it focused on expanding its business as a comprehensive chemical manufacturer. Laying the foundation for a research system was an urgent issue. A year later, a research facility was built adjacent to Imafuku plant (the current in Tsurumi-ku, Osaka). Even though it was just a single-story house, it was equipped with high-performance testing machines and devices at that time.

PINECRYSTAL to the Global Marketplace

After this colorless rosin derivatives was launched, it became known for its expensive manufacturing cost, but a complete normal pressure method and the development of decolorization technology proved a turning point, driving the cost down. Under the brand name of PINECRYSTAL, full-scale market development began. Today, it is used in electronic and optical materials, adhesives and PSA, plastic modifiers and other sectors as the only product of its kind in the world with expanding global demand.

Colorless Rosin Derivatives “PINECRYSTAL”

Activation of Overseas Expansion

Until this point, we left sales of rosin-related products in the Taiwan market to our sales outlet, but to promote sales expansion in 1967, we established a joint venture called TIENLI CHEMICAL INDUSTRIES, LTD. Taking the momentum of Arakawa Chemical’s first overseas expansion, we opened representative offices in the US and Germany to expand our business in the West. In the Heisei Era (from 1989), we expanded into China, Thailand, and other Asian regions. Today, we expand our business with a view toward true globalization, and we established a new hub in Vietnam in 2019."

The Front Entrance of the TIENLI CHEMICAL Plant at that time

Technology that connects different materials. The possibilities open up new areas to advance into.

With rosin chemical technology as the starting point, we develop and deliver intermediate materials including resins used for paper chemicals or printing ink, adhesives.
Also, we've advanced cutting-edge technology in fields related to electronic material. We draw out rich technology in our business efforts and use it to contribute to a sustainable society.

Arakawa Chemical's materials work Products make the and add function

Chemistrify the Bonds

Core Technology

Polymer Synthesis

Rosin Chemical

High-Pressure Hydrogenation

Polyester Resin

Modified Epoxy Resin

Acrylic Resin

Polyimide Resin

Water Soluble Polymer

Hydrogenated Hydrocarbon Resin

Fine Chemicals

Advanced Quality Control

Colorless Rosin Derivatives

Tackifier for Adhesives and PSA

Controls Adhesive Properties

Rosin Derivative

Core Material

Resin For Paint

Improves Adhesion

Functional Coating Agent

Protects Surface

Functional Binder

Connects with Functions

Synthetic Rubber Polymerization Emulsifier

Improves Performance

Connecting Technology (Functions)

Paper Strengthening Agent

Makes Paper Stronger

Sizing Agent

Prevent Ink from Bleeding

Resin for Printing Ink

Makes Beautifully and Vividly

Electronics Cleaning Agent

Safe and Reduces Environmental Burden

Medical and Hygiene Materials

Electronics

Automobiles

Rubber and Tires

Precision Electronic Parts

Paper

Printing

Sector

AI/IoT

Agriculture

Energy

Life Science

Deplasticization

Biomass

Toward Realizing A Sustainable Society

Making people's lives more enriched with a wide array of technology and quick solutions

We develop a wide range of products from daily commodities that are necessary in our everyday lives to high-value-added products that support advanced technology in the following four categories: paper chemicals, coating, adhesives, and functional material. We deliver products with more convenience and comfort to contribute to a rich society.

How to See the Table

Business Segments
Application Name
[PRODUCT NAME]
Material Name

Paper Chemicals

Internal Sizing Agent
[SIZEPINE]
Rosin Derivatives
Alkyl Ketene Dimers

Internal Paper Strengthening Agent
[POLYSTRON]
Polyacrylamide Resin

Wet Paper Strengthening Agent
[ARAFIX]
Polyamide Polyamine Resin

Surface Sizing Agent
[POLYMARON]
Acrylic Resin
Styrenic Resin
Olefin Resin

Paper-Surface Improving Agent
[POLYMERSET]
Polyacrylamide Resin

Coating Chemicals

Photo-Curable Resin
[BEAMSET/OPSTAR]
Modified Acrylate
Polyurethane Acrylate

Functional Coating Agent for Film
[ARACOAT]
Various Special Modified Resins

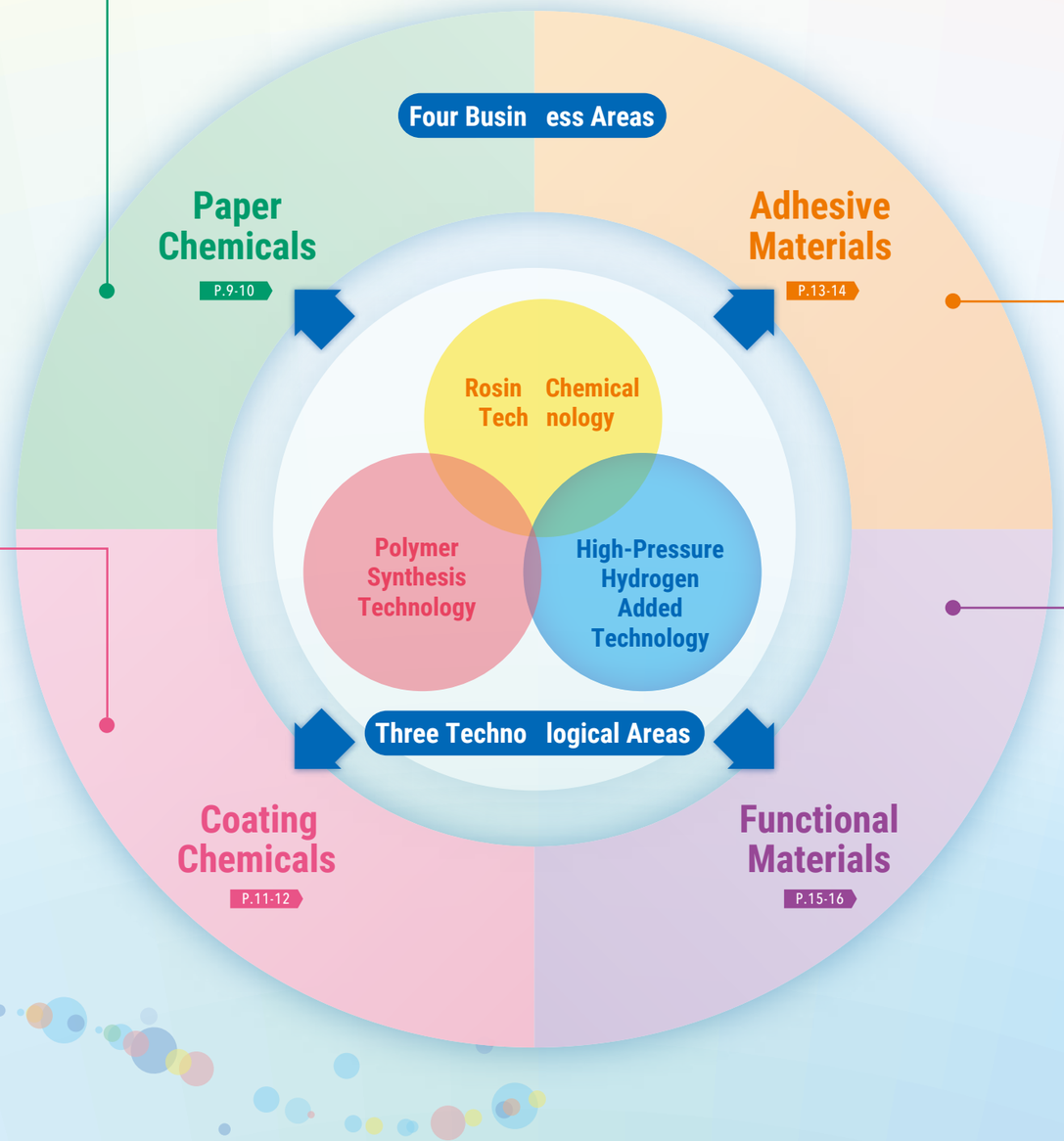
Synthetic Rubber Polymerization Emulsifier
[RONDIS]
Disproportionated Rosin

Offset Printing Ink Resin
[TAMANOL]
Rosin-Modified Phenolic Resin

Resin for Printing Ink and Paint
[MALKYD]
Maleic Acid Resin

Resin for Paint
[ARAKYD]
Alkyd Resin
[ARAPOL]
Polyester Resin
[MODEPICS]
Modified Epoxy Resin

Resin for Packaging Gravure Ink
[UREARNO]
Polyurethane Resin



Adhesive Materials

Resins for Electronic Materials, Tackifier for Adhesives and PSA, Plastic Modifiers
[PINECRYSTAL]
Colorless Rosin Derivatives

Tackifier for Adhesives and PSA, Resins for Chewing Gum
[PENSEL/ESTER GUM]
Rosin Ester

Tackifier for Adhesives and PSA, Plastic Modifiers
[ARKON]
Hydrogenated Hydrocarbon Resin

Tackifier for Adhesive and PSA
[SUPER ESTER]
Special Rosin Ester

Water-Based Tackifier for Adhesive and PSA
[SUPER ESTER E/ TAMANOL E]
Emulsion Tackifier

Tackifier for Adhesive and PSA, Coating Resins, Epoxy Curing Agents, Insulating Varnish
[TAMANOL]
Carboxylic Acid Resin
Alky Phenolic Resin

Functional Materials

Flux Cleaning Agent, Electronics Cleaning Agent
[PINE ALPHA]
Glycol Ether System
(Semi-Water System)

Precision Electronic Component Soldering Material
[PINE FLUX]
Flux
[PINE SOLDER]
Solder Paste

Adhesive Resin for Printed Circuit Boards, Binders
[PIAD]
Thermoplastic Polyimide Varnish

Paper Chemicals

Product Range	Strength and Characteristics	User's Product
Paper Strengthening Agent	Makes Paper Stronger	Paper
Sizing Agent	Prevents Ink from Bleeding	

Utilizing with the characteristics of paper, a diversified product we can't live without.

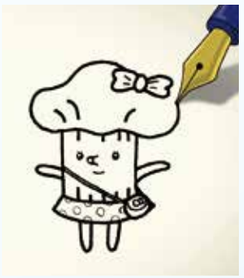
Paper Strengthening Agent

"POLYSTRON", a paper dry strengthening agent that improves the strength of paper is used in a diverse array of products we need for our daily lives, from books to tissue paper, cardboard, etc. Also, when paper of recycled, the fiber quality weakens, and paper strengthening agent play the vital role in maintaining and improving the quality of paper products.
In recent years, rapid expansion of Electronic Commerce and the economic growth throughout the Asian region have led to a sharp rise in demand for packaging paper. Also, the degradation of the oceans caused by plastic products have had the effect of people re-evaluating paper products. Dry paper strengthening agents that contribute to paper recycling have continued to expand around the globe.

Sizing Agent

The sizing agent named "SIZEPINE" is used in printing paper, stationery, cardboard, etc. The chemicals keep ink from bleeding or penetrating to the back side of paper. The ink or water permeability of the pulp (raw material of paper) can be controlled through a sizing agent and good paper for all sorts of purpose can be made.

A comparative image of paper using a sizing agent (left) and paper not using the sizing agent (right)



Paper using a sizing agent

Paper not using a sizing agent

Coating Chemicals

Product Range	Strength and Characteristics	User's Product
Functional Coating Agent	Protects Surface	Display
Resin for Printing Ink	Makes Beautifully and Vividly	Printing Ink

Expanding the electronics and aut omobile sectors with high-function and high-quality material.

Functional Coating Agent

Our lineup of functional coating agents features both photo-curable type, which is instantly cured when irradiated with UV (ultraviolet) and EB (electron beam), and thermosetting type, which is cured with heat. **Photo-curable resins "BEAMSET"** and **"OPSTAR"** are mainly used as anti-scratch and anti-reflection coating agents to protect the displays of smartphones and liquid crystal TVs, and in the IC (integrated circuit) manufacturing process. Thanks to their quick setting, these products consume less energy and reduce VOCs (volatile organic compounds). **The thermosetting resin "ARACOAT"** is used as anchor coat for UV hard coats that are difficult to adhere to plastic film, and for metal deposition. It also provides great antistatic functionality with very thin film thickness measuring just a few dozen nanometers. Demand has been expanding with electronic parts packages that are susceptible to static electricity. Furthermore, **the self-repairing agent "ARACOAT SH"** , which was developed for use in bicycles, home electronic appliances, and surface protection of building materials, can be cured quickly at low temperatures and be used in the roll-to-roll process.

Resins for Printing Ink and Paint

We have various reins that serve as important material in inks and paints that add color to your lifestyle. **Resins for printing inks** are used in magazines, newspapers, and food packaging, vividly reproducing colors. They also contribute to faster printing speed.
Resins for coating are used on beverage cans, automotive parts, buildings, road markings and other items that are indispensable to our daily lives. In addition to having the conventional functionality of protecting exteriors and functions, in recent years, as we move toward using fewer VOCs, we are focused on developing water-based systems.

Adhesive Materials

Product Range	Strength and Characteristics	User's Product
Hydrogenated Hydrocarbon Resin Tackifier for Adhesives and PSA	Controls Adhesive Properties	Adhesives
Colorless Rosin Derivatives	High Safety Levels	Medical and Others

Arakawa's tackifiers are used in a wide range of applications from hot melt for packaging and hygiene applications to PSA tapes and labels, automotive adhesives, and medical applications.

Hydrogenated Hydrocarbon Resin

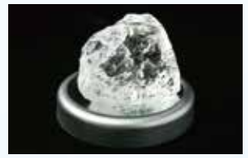
In 1965, the world-leading **Hydrogenated Hydrocarbon Resin (HHCR) "ARKON"** was launched. The colorless transparent resin, with its excellent heat- and weather-resistance, is primarily used as a tackifier for hot melt adhesives material. ARKON received FDA (Food and Drug Administration) clearance for use in food packaging, medical patches, disposable diapers, and other sanitary products. In order to support growing global demand of HHCR, Arakawa has continued to grow our sales and production network. Specifically, Arakawa has recognized the growing trend in hygiene market in emerging countries, this development has let Arakawa develop a new manufacturing hub in 2018 by establishing Chiba Arkon Production, Limited.

ARKON　A Real Product Image on the Right (Pellet)

Rosin Derivatives

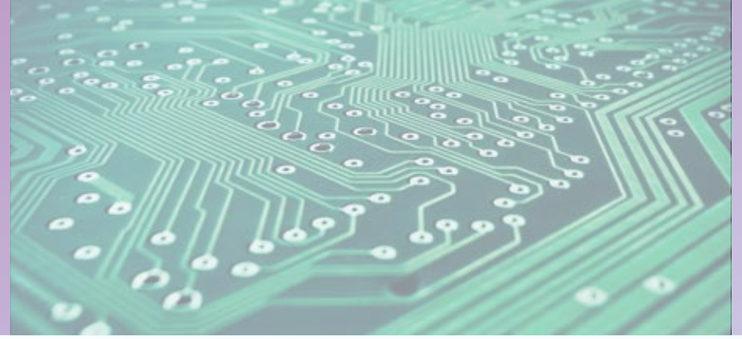
Rosin derivative is also primarily used as a tackifier as a hot melt adhesives and PSA, furthermore, they are also used in unique application such as modifiers for automobile tires, damping rubber, and chewing gum base. **"SUPERESTER E Series" resin emulsions** are increasingly used in order to create environmentally friendly product which comply with organic solvent regulations.
The inherent property of rosin is that of an amber color which can limit use in applications where light color is required. Arakawa has innovated in order to overcome this obstacle, and in 1987, we produced the world's first commercially available **colorless rosin derivative with the trade name "PINECRYSTAL"** . PINECRYSTAL is produced under specifications that ensure few impurities and high safety levels, so that it can be used in medical patches. Also, due to these characteristics, it is used in applications with high quality requirements such as tackifier in transparent film labels, resin for solder flux, plastic additives, and 3D printer related materials.

Rosin



Colorless Rosin Derivatives
[PINECRYSTAL]

Functional Materials



Product Range	Strength and Characteristics	User's Product
Electronics Cleaning Agent/Soldering	Safe and Reduces Environmental Burden	Electronic Materials

Activate the core technologies, de velop electronic materials, functional materials, and pharmaceutical intermediates

Electronics Cleaning/Soldering Material

The core rosin technology is activated in **the electronics cleaning agent "PINE ALPHA"** to clean camera modules and semiconductor-related parts. Since its launch in 1990, it has led the industry as a specified CFC substitute cleaning agent. In 2015, development of a cleaning method that required just one single cleaning agent greatly reduced wastewater and led to it winning an award for exceptional new cleaning agents from the Japan Industrial Conference on Cleaning.
Rosin technology also played an active role in the flux, which assists in soldering and in the development of the environmentally friendly solder paste, which contains neither lead nor halogen. **Solder paste "PINE SOLDER"** or **Post flux "PINE FLUX"** is used in electronic parts for mobile terminals and in-vehicle boards. Our company offers the total solution from soldering to electronics cleaning, which has helped us expand around the globe, especially in Asia. In 2019, Arakawa Chemical formed a joint company, Arakawa Chemical (China), Ltd., Dongguan Branch Office in Dongguan City, China.

Dongguan Branch Office having the cleaning laboratory

※only Japanese

Established a website "ARATTE" dedicated to the cleaning business

Fine Chemicals

Koatsu Chemical Industries, a subsidiary of ARAKAWA Chemical Industries, is known for being a skilled fine chemical contract manufacturer handling hydrogenated reactions, high-pressure reactions, and hydrothermal reactions. We cover a wide range of fields including electronic materials, pharmaceutical intermediates, inorganic chemical products, biomass, agriculture-related materials.

Features of Koatsu Chemical Industries facilities

High-pressure reaction equipment, pressure and corrosion-resistant equipment (made of HASTELLOY), environmentally clean equipment

Low Dielectric Polyimide Resin

Using our original polymerization technology, **low dielectric polyimide resin "PIAD"** , this resin for flexible substrate adhesives can adapt to 5G systems (The 5th generation mobile communication systems). Its superior adhesiveness with low roughness copper foil allows it to be used as an adhesive or a primer, and it is possible to make high-frequency substrates excel in low transmission loss at low cost.

Looking to the future, we develop products with environmentally friendly material to contribute to society.

The market needs environmentally clean, low energy solutions with more diversity and speedy responses. We face each of these needs head on and make efforts to solve each problem. With the aim of realizing a sustainable society, we will continue our foundational research and our research into cutting-edge technology on eco-friendly materials such as rosin with our technology cultivated over many years.

We will continue to treat each of our employees' realizations with importance, activate those rich ideas and their ability to take concrete steps, and continue our excited research and development activities to commercialize products that contribute to society.

Development Area

Development That Responds to Market Topics and Needs | **Developing New Applications** | **Pioneering New Business Sectors**

Research & Development System

Cooperation Among Divisions

- Corporate Development (Tsukuba R&D Center)
- Arakawa Chemical (R&D Center)
  - Paper Chemicals
  - Coating Chemicals
  - Adhesive Materials
  - Functional Materials
- Affiliated Companies
  - KOATSU CHEMICAL INDUSTRIES, Ltd.
  - PELNOX,LTD.
  - YAMAGUCHI SEIKEN KOGYO CO., LTD.
- Intellectual Property and Information/Analysis/Quality Environment Security/ Chemical Goods Information/Manufacturing Technology

Cooperative and Collaborative Research

- **Tsunagu Promotion Team(Management Planning Department)**
  - **Find the Early Growth in New Businesses/Examine M&as or Alliances**
- **Industry-Government-Academia/Businesses**

Tsukuba R&D center (Tsukuba City, Ibaraki Prefecture)

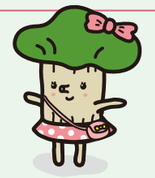
R&D center (Tsurumi-ku, Osaka City)

The Mascots of Arakawa Chemical Industries

Matsutaro

He usually lives in a pine forest. He was surprised to learn that rosin taken from pine trees has changed its appearance and is found in various places in the city, and to discover the rosin is useful in such places! Traveling around the city becomes more and more enjoyable. He likes to play hide-and-seek, so he may appear near you at any moment!

Rosina



She likes to read at home, but she also likes hanging out with Matsutaro. As she walks around to different places, she gets more and more excited and curious!
She puts treasures she finds around town in her pochette, which is also packed with chewing gum and pieces of rosin. What will she find today with Matsutaro?