



Focusing on
Global Health



TAIYO KAGAKU
Report 2024

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● Management Philosophy

We promote healthy, prosperous living around the world.

At Taiyo Kagaku, we continue to generate new value in the service of healthier, fuller lives.

● Code of Conduct

Imagine, Desire and Create

Imagine	Passionately pursuing ideas to improve humanity's future
Desire	A strong will to achieve our goals and deliver solutions
Create	Establish values that inspire people around the globe

We create functional solutions that provide answers to challenges and meet our customers' needs.

Promoting better health and better living around the world for greater safety and peace of mind.

We explore ways to enhance people's health, safety, and wellbeing while actively taking on challenges in new fields with new issues.



Three First-in-Japan Projects

- 1 Development of food emulsifiers
- 2 Commercial production of processed egg products
- 3 Enzymatic processing of L-theanine

One in five employees works in R&D



Winner of over 60 awards in Japan and overseas



Over 50 joint research projects with outside organizations



R&D sites around the world
India : Aurangabad
China : Shanghai
Thailand : Bangkok



Editing Policy
Taiyo Kagaku publishes the "Taiyo Kagaku Report" with the aim of disclosing information about the company in order to enhance all stakeholders' understanding of the company's approaches and initiatives regarding CSR and our overall CSR concept. This report describes the role we play and the efforts we pursue in society and for the Earth through our business activities.

Report Period
While this report principally covers the period from April 2023 to March 2024, the report content also includes activities before and after this period.

Scope of Reporting
This report focuses on Taiyo Kagaku, but also covers some of the group companies.

Plan for the Next Report
Scheduled for release in June 2025.

Reference Guidelines
Editing of the Report makes reference to the ISO26000 international standard for social responsibility.



Topics ①

The power of products that help reduce food waste and improve processes



Consulting with an Environmental Perspective: How to Minimize Energy and Water Consumption

With global movements to protect natural resources gaining momentum more than ever before, increasingly advanced environmental measures are being implemented as we move closer towards a recycling-oriented society. Furthermore, Japan has enacted a "Food Waste Recycling Law" which sets a target of halving the commercial food waste generated in fiscal 2000 (5.47 million tons) by fiscal 2030 (target 2.73 million tons). In response, food companies have been gradually reducing resource usage. Driven by this, Taiyo Kagaku has received many enquiries focusing on environmental concerns. One common item of concern is consultation about reducing energy and water usage in manufacturing processes. As the food industry uses large amounts of water in food processing and for cleaning, even cleaning water is being scrutinized for reduction, forcing companies to take action. Here, we will introduce some initiatives that Taiyo Kagaku has proposed in response to this ever-growing issue.

Technology to Solve a Common but Difficult Production Problem —Addressing Environmental Challenges in Manufacturing with Antifoaming Technology—

Taiyo Kagaku's "Awabreak" series is a natural antifoaming agent developed to both reduce foaming and eliminate the generation of foam during food processing. For example, excess foam overflow during filling operations would normally require immediate cleaning to reduce the risk of microbial contamination. Reducing fill rate to prevent overflow is one solution, but this ends up extending production time, leading to increased energy consumption. In addition, if foaming occurs during cleaning, then the cleaning time is also extended, further blocking progress to the next production step, decreasing production efficiency and driving up energy consumption.

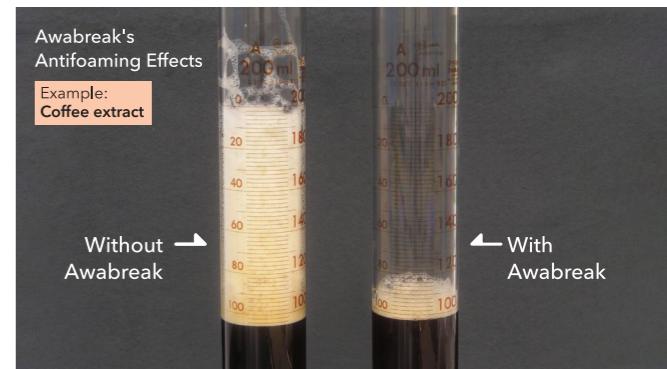
The "Awabreak" series was created through the application of one of Taiyo Kagaku's main strengths, interface control technology. Awabreak can exert its effects of foam suppression and eliminating generation of foam over an extended period, which also reduces the inconvenience of needing to add antifoaming

agents at various stages of production. Further, Awabreak products are naturally derived and silicone-free, boasting a proven track record of safety and reliability in a wide range of applications. The main ingredient in Awabreak is "oil"; the same oil contained in many natural materials.

By applying Taiyo Kagaku's technology to this oil, we can then exert control over the boundary interface between materials, including the formation and elimination of foam.

Many production issues are found at this material boundary interface, such as water and oil or liquids and gasses. When materials with differing properties come into contact with each other, various issues arise. It is this contact point that we call the "interface," and we have been honing our technologies to control the interface in an effort to solve these issues.

30 years have passed since first development of Awabreak, yet



demand for it continues to grow. Meanwhile, we will continue to pursue research and development with the aim of introducing new pioneering technologies to the world to help solve issues faced by society.

Technology to Extend Food's Delicious Flavor —Using Antioxidants to Reduce Food Waste—

Supermarkets use light when displaying food to make it look delicious, yet that very same light is also a primary cause of oxidation and deterioration of food. Furthermore, an increasing number of companies in the food industry are trying to reduce the weight and volume of plastic used in packaging. While having a good intention, these changes have ironically ended up creating a new sustainability problem. Less and thinner packaging exposes food more readily to the environment, including light, shortening the period that food quality can be maintained, which leads to food waste. As a result, there has been widespread interest in sustainable methods to maintain the flavor and quality of food, with antioxidants in particular having expanded use in all kinds of foods.

Taiyo Kagaku's "TS" series, primarily using naturally derived ingredients, was developed as safe and reliable antioxidants. Research for this line of products started with the desire to provide a wide variety of foods a way to maintain their delicious flavors. The TS series contributes both to the movement of reducing food waste and to the promotion of rich diets by preserving food's delicious flavors. The concept of linking together preservation of good flavors and food waste is also gaining more traction. Since its inception 20 years ago, the TS series has continued to be developed with its market demand still increasing.



Products Shaping the Future: The Importance of Research & Development

Interest in these types of products continues to grow based on new perspectives of reducing food waste and energy consumption, which are concepts that had not yet taken root when these products were first being developed. This is the result of Taiyo Kagaku pioneering new technology developments before surging demand has been fully realized as times change. We place a committed emphasis on research and development as we have over 1,000 technology seeds, in addition to what has already been commercialized. This is rooted in our drive to explore the potential of interface control technology, which seeks to answer the question of how to solve problems that occur at the boundaries between materials. We will continue to explore these possibilities and develop products that will create a future based on the aim of promoting healthy, prosperous living around the world.



Topics 2

Initiatives to Develop Manufacturing and Formulation Technologies for the Global Market

Contributing to better health and lifestyles around the world: To advance this dream, Taiyo Kagaku engages in continuous, ongoing research and development. In recent years, interest in one's own well-being has surged as people desire more than ever to stay healthy. One avenue of research involves flavonoids, a type of polyphenol that is important for plant growth and defense. Possessing high antioxidant capacity, flavonoids are expected to exhibit a diverse range of beneficial functions. Many flavonoid supplements containing quercetin, isoquercitrin, rutin, etc. are on the market not only in Japan but in Europe and the United States as well. While flavonoids are used extensively as an ingredient in supplements, they are also known to have extremely low water solubility and are not efficiently absorbed by the body. As a result, many supplements sold in Europe and the United States contain



extremely large amounts of flavonoids. High intake levels are a major issue not only in terms of the raw material cost but also regarding the trouble of daily consumption. Applying our patented unique manufacturing methods, we have succeeded in industrial-scale production of formulations that improve the absorption and dispersibility of normally low-bioavailability ingredients for use in a variety of products. The formulation we developed was highly praised for its innovative manufacturing and formulation technology, with specific commendations from the United States' supplement industry for providing better nutritional benefits to consumers.

Topics 3

Health Management in Disaster Areas



Partially Hydrolyzed Guar Gum (PHGG)



The effects of climate change are leading to increased, more destructive natural disasters around the world. In disaster-stricken areas, it is urgent to move people to evacuation shelters to ensure their immediate safety. A major following concern is food and nutrition. Securing proper nutrition during disasters is difficult, especially so when it comes to including vegetables in the diet. Deficiencies in various nutrients and dietary fiber can lead to poor health. Furthermore, staying in evacuation shelters is physically taxing, and many people suffer from stress due to group living in situations where it is difficult to ensure sufficient privacy while also holding anxiety about disasters. Stress disrupts the balance of the intestinal environment, and this creates a vicious cycle in which the intestinal environment becomes even more stressful. One of Taiyo Kagaku's ingredients, Partially Hydrolyzed Guar Gum (PHGG), has been clinically shown to improve the intestinal environment. This water-soluble dietary fiber is trusted highly by professionals in medical and nursing care facilities. As supplying nutrition and managing health are crucial matters not only for the medical and nursing care industry but also in areas hard-hit by disaster, our subsidiary Taiyo-Labo Co., Ltd. works to provide supplements to disaster-stricken areas through local affiliates. We will continue to examine ways we can contribute to the health and lifestyles of people in all kinds of situations around the world.

Topics 4

Continued Support for Athletes in Developing Healthy Bodies

As a company that aims to contribute to health- and lifestyle-focused cultures, Taiyo Kagaku has provided support to teams and organizations in sports such as gymnastics, track and field, and triathlons. Athletes who train intensely every day require precisely tuned nutrition to maintain their physical condition, and they choose supplements they can take with confidence. We continue to provide our oral rehydration solution (powder) to the Veertien Mie soccer club, a member of the Japan Football League that is based near our Yokkaichi headquarters in Mie Prefecture. To perform to the fullest extent of their abilities, athletes need to ensure replenishment of water and nutrients they lose through sweat. Our oral rehydration solution is one option for this, utilized especially during the hot summer months, as it is helpful in retaining the body's water and electrolytes while also supplementing nutrients to boost athletes' condition and performance. Taiyo Kagaku will continue to provide athletes with enthusiastic support.





BtoB A Space Where We Think with Our Customers
The Food Analysis Technology Center,
OISHISA KAGAKUKAN



The Challenge for OISHISA KAGAKUKAN: Fathoming the Human Senses

OISHISA KAGAKUKAN uses instrumental analysis to visualize human senses. Taiyo is positioned as a support organization to provide visualization of our customers' targeted senses and to "notice and create" together with the customer. With numerous specialized analytical instruments and analysis of various types of data, with a focus on statistics, we continue in this challenge for the sake of society and our customers. People's perceptions vary greatly even when they are exposed to the same stimuli because sensations are not absolute, but are instead relative and are perceived differently by different people.

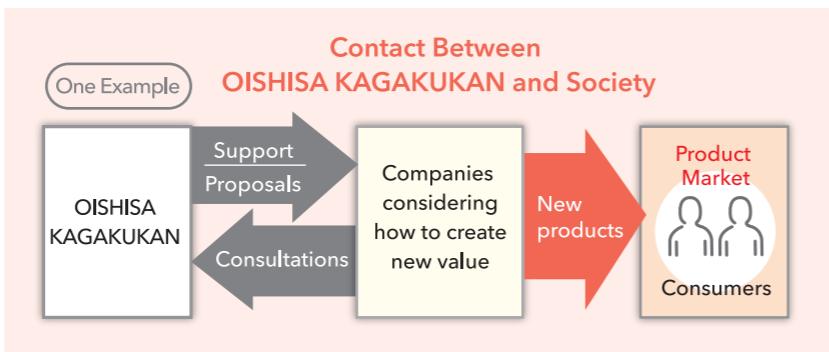
Even with measurably identical flavor, how that flavor is perceived depends on the individual. While some will find it good enough, others will feel that the flavor is weak.

Understanding such vague human senses requires an abstruse process, akin to piecing together an invisible puzzle.

This year marks the 19th year since the OISHISA KAGAKUKAN was established, and we have achieved much in that time. We believe our accumulated efforts becomes knowledge, enabling us to investigate even finer sensibilities.

"OISHISA KAGAKUKAN"

Established in 2006, OISHISA KAGAKUKAN is a facility located within Taiyo Kagaku Co., Ltd.'s Tokyo Head Office (Hamamatsu-cho, Minato-ku). At this research facility, we meet and confer with visiting customers, dealing with their various challenges, working on analyses, and providing them with information.



Understanding the Senses from Numbers: OISHISA KAGAKUKAN's Analytical Capabilities

Consultations with OISHISA KAGAKUKAN are not only about product development. We also provide consultations for companies aiming to promote certain aspects of human senses such as delicious flavor and usability of the products they have developed. And to ensure objectivity, they want to visualize those human senses using instrumental analysis. At OISHISA KAGAKUKAN, we ask clients what types of sensations they want visualized and how they want to promote their products, listen closely and carefully to their responses, and find the best way to get quality results geared toward their objectives.



Approximating Human Senses Based on Numerical Values

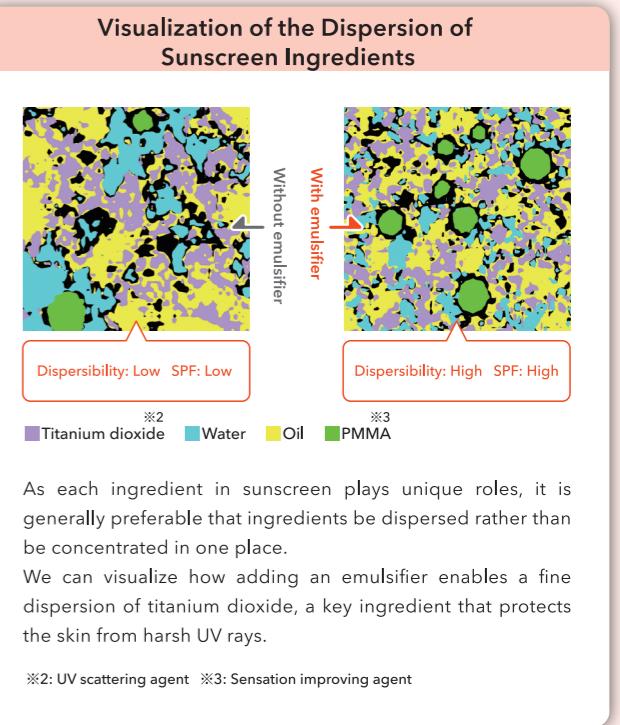
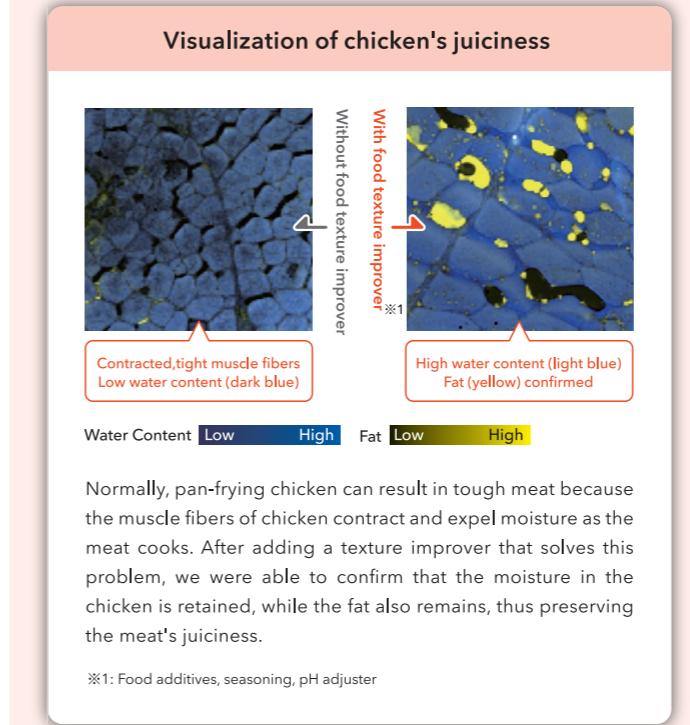
Human senses are too complex to be demonstrated by a single analysis. Therefore, it is crucial to consider a variety of data analyzing methods to determine how data obtained with a machine can be analyzed properly to isolate the exact sensation that the subjects are actually feeling. OISHISA KAGAKUKAN's staff have a wide range of data analyzing skills, enabling them to start out with a clearer idea of how the results can be derived. Rather than constantly holding to any predetermined method of analysis, we consider which method to use in accordance with

the characteristics of the acquired data, sometimes conferring repeatedly with the customer. To provide objectivity, we then assign numerical values to the flavor and useability of the product. Complex sensations such as taste, smell, texture, feelings from using the product, and dispersion of the ingredients are quantified using specialized analyzing equipment, along with the process of visualizing these human sensations. We continually refine our skills in making the data clearer with the aim of incorporating the customer's objectives into the numerical data.

Answers to Various Questions About Materials

Raman Imaging System

This system allows us to visualize dispersion of ingredients.



As each ingredient in sunscreen plays unique roles, it is generally preferable that ingredients be dispersed rather than be concentrated in one place. We can visualize how adding an emulsifier enables a fine dispersion of titanium dioxide, a key ingredient that protects the skin from harsh UV rays.

Proof of ingredients' presence and dispersion

Taiyo Kagaku aims to be a company with a global perspective that continues to develop and grow by contributing to people's health, enriching their lifestyles.



Taiyo Kagaku's Fundamental Capital

● A Pioneer that Addressing Needs while Keeping with the Times

Three First-in-Japan Projects

Development of food emulsifiers, Commercial production of processed egg products, and Enzymatic processing of L-theanine

● Human Capital

Development of professional human resources possessing a broad range of experience

One in five employees works in R&D; Job Rotation

● Intellectual Capital

Intellectual property that creates new values of deliciousness and health

>60 awards won in Japan and abroad, >50 joint research projects conducted with outside organizations, products eligible for "Foods with Functional Claims" labeling, R&D centers around the world, and health-related claims backed by solid, scientific evidence

● >2,000 products and product proposals support the ability to propose products and solutions to customers

Solutions Provider: Offering consultation and contract business to work together with customers in order to solve their problems

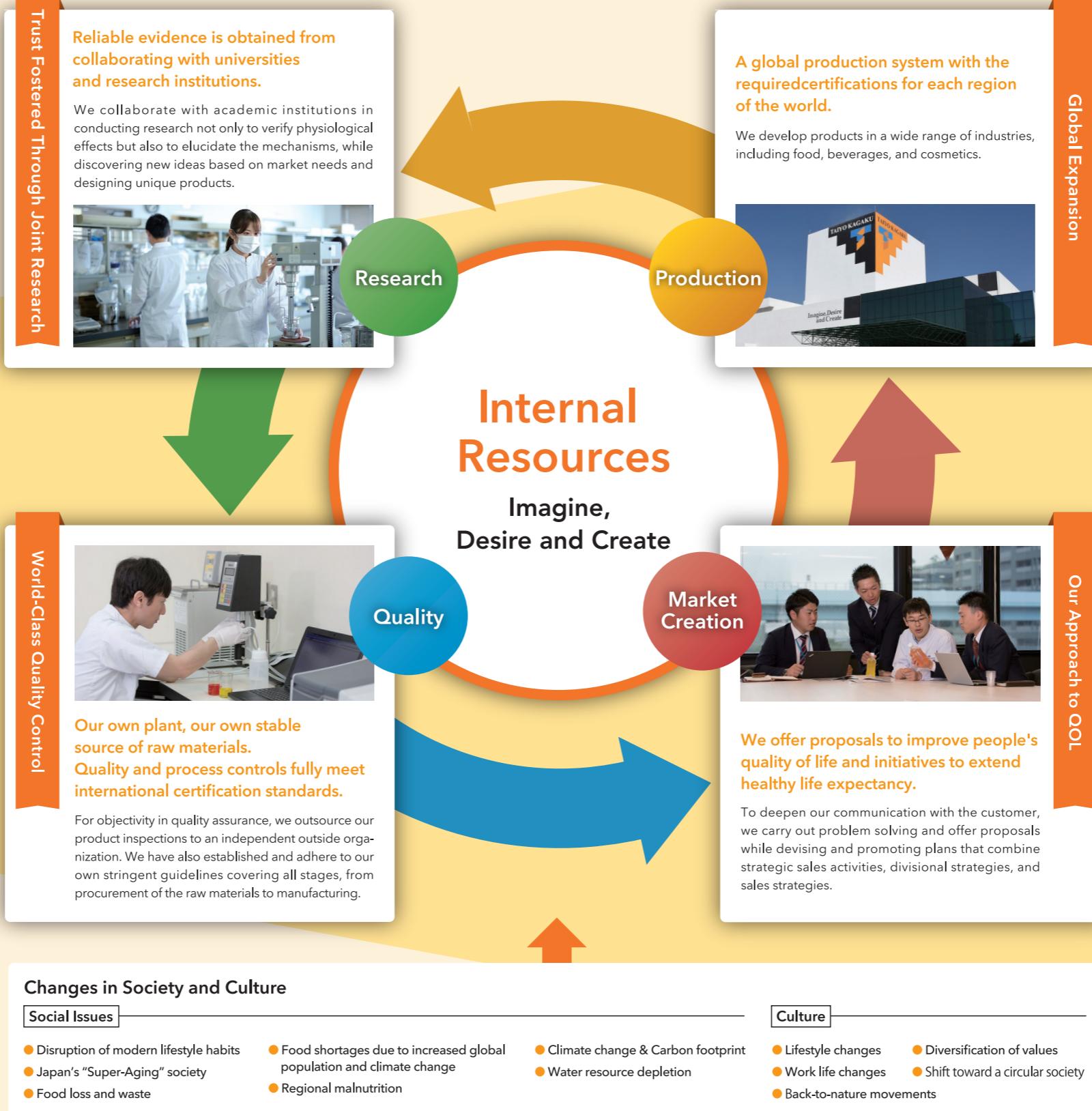
Retroactive Value: Taiyo Kagaku's planning and proposal business that proposes value to society from our company

● Stable Product Supply

Quality inspections conducted by independent outside organizations, GFSI certification, food safety management system

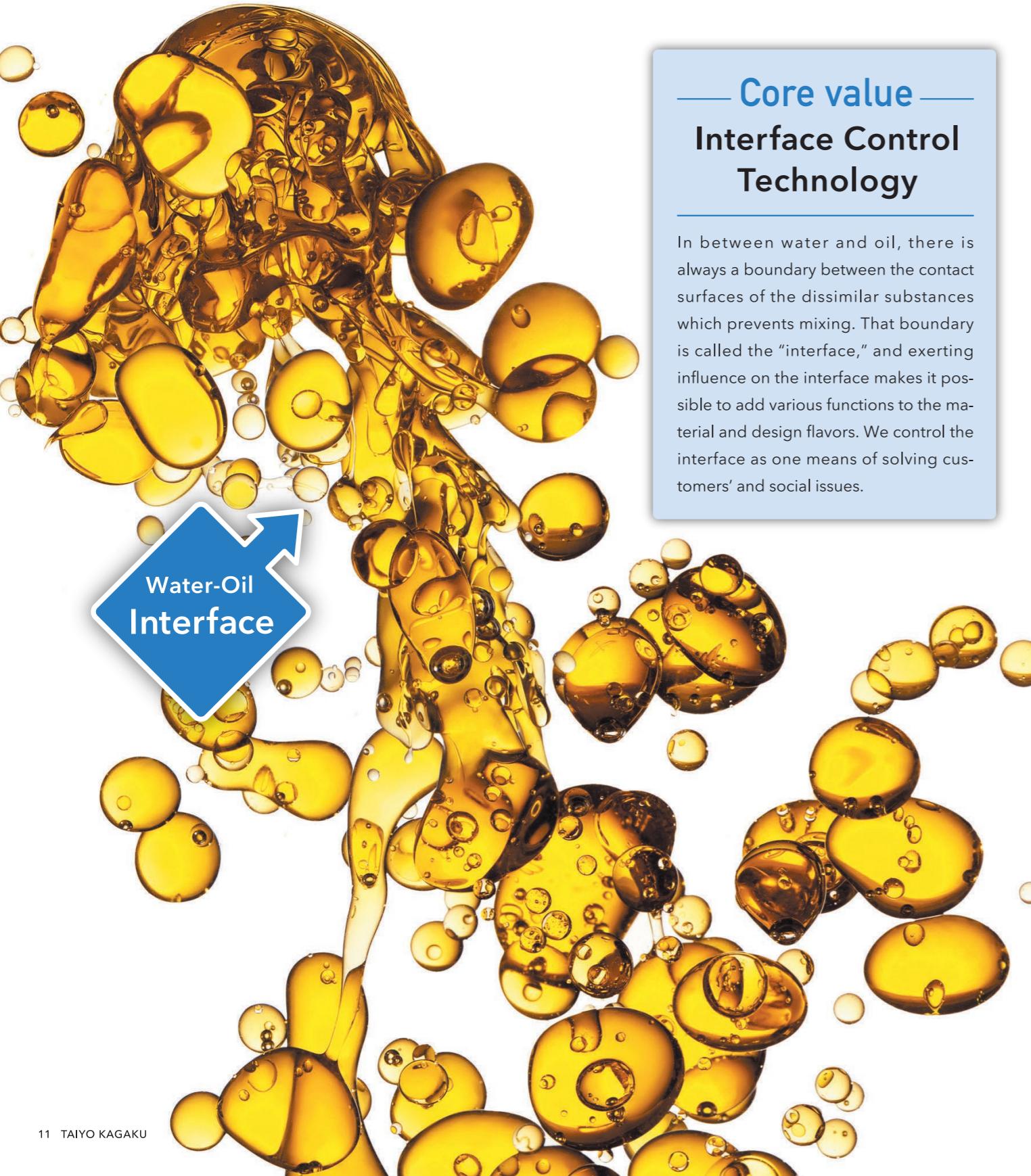
● Expanding Overseas Network

Sales bases and agents in 34 countries and regions overseas, including 4 production sites



We promote healthy, prosperous living around the world.

In each of our three divisions (Interface Solution, Nutrition, and Natural Ingredient), the R&D, marketing, and production departments work as one in promoting healthy, prosperous living around the world.



Core value Interface Control Technology

In between water and oil, there is always a boundary between the contact surfaces of the dissimilar substances which prevents mixing. That boundary is called the "interface," and exerting influence on the interface makes it possible to add various functions to the material and design flavors. We control the interface as one means of solving customers' and social issues.

Interface Solution Division

We make full use of our interface control technology to maximize flavor and comfort.

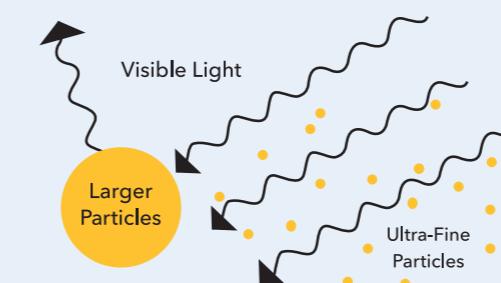
Our food emulsifiers are key materials that have spurred technological innovation in the food industry. Our technologies are widely used not only in foods but also in cosmetics and other non-food products. We aim to resolve various problems through careful analysis of our customers' and society's problems, with daily progress in researching interface control technology. Our desire is based on constantly providing high value-added materials and technologies. Our strengths lie in consulting solutions to that end.

Emulsifiers and Emulsifier Formulations/Protein-Based Materials
Cosmetics and Industrial Chemicals

What can be achieved with interface control technology? Functions and Performance

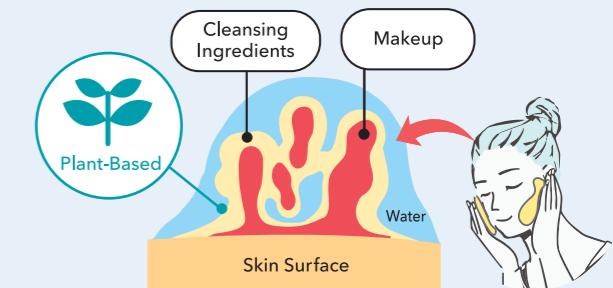
Super Emulsion

Super Emulsion is a new emulsification system developed by Taiyo Kagaku. This revolutionary technology produces ultra-fine sized lipid particles, allowing transparent dispersion of fats and oils that ordinarily do not mix with water. Controlling the size of the emulsified particles in this manner can maximize the various functions of fats and oils.



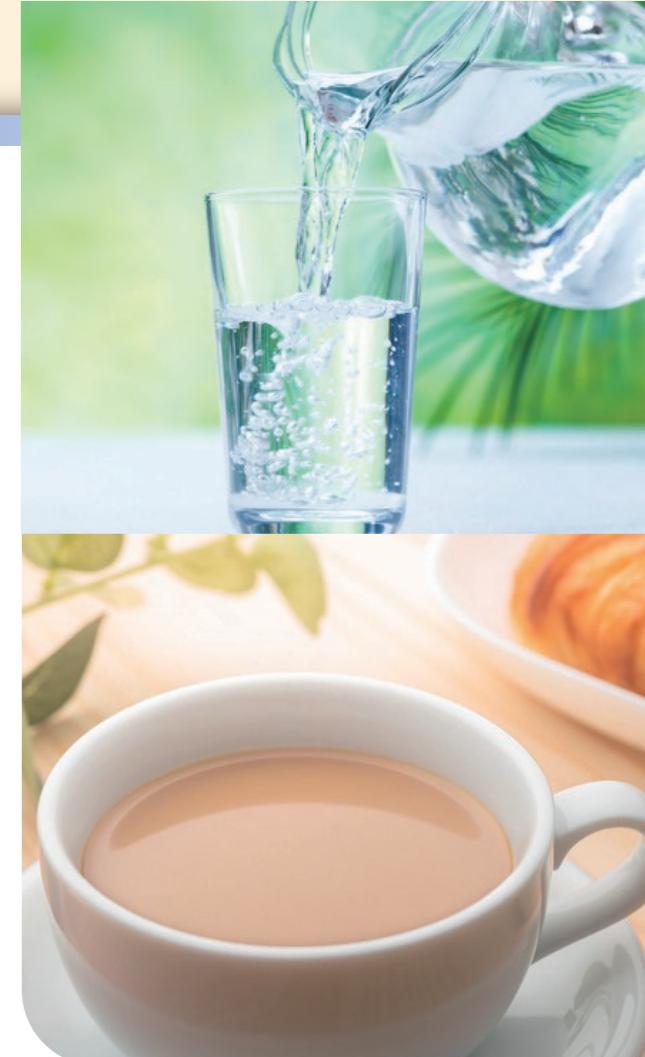
Hypoallergenic Cleansing Agent

We also propose surfactants that are used in foods for cleansing agents which go easy on the skin. With years of safe use in foods, these products combine superior functionality, low irritation, and excellent safety. And our focus on plant-derived ingredients means we are also contributing to the sustainable development of cosmetics.



Developing products based on solving customer issues.

Consulting Solutions





Nutrition Division

Providing modern solutions to health-related issues.

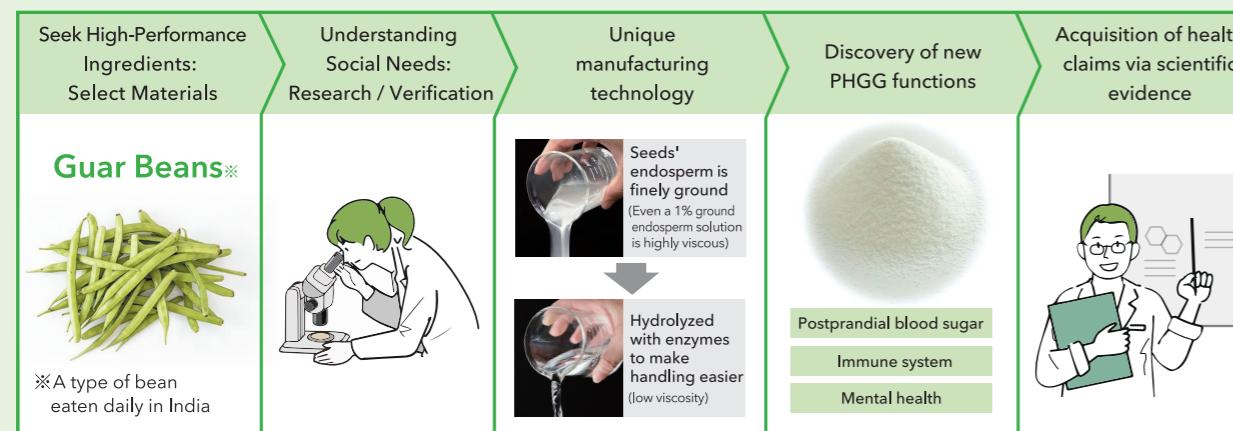
Many natural ingredients contain the nutrients required for vitality in people's lives. We are constantly searching for new functional ingredients which can be found in natural materials from all over the world. Our Partially Hydrolyzed Guar Gum water-soluble dietary fiber, 100% derived from guar beans from India, is one such functional material that was commercialized through this search. We intend to continue extracting and formulating highly functional food ingredients that are easier to use, as proven by evidence both in Japan and abroad, thereby promoting healthier, more prosperous lifestyles.

Green Tea Extract/Water-Soluble Dietary Fiber/L-Theanine
NDS Products(Iron/Vitamins/PUFA)/Amla Fruit Extract/Moringa Extract



Nutrition Division Business Model

Example Water-Soluble Dietary Fiber



From Japan to the World = Global Expansion

Developing products based on solving customer issues.

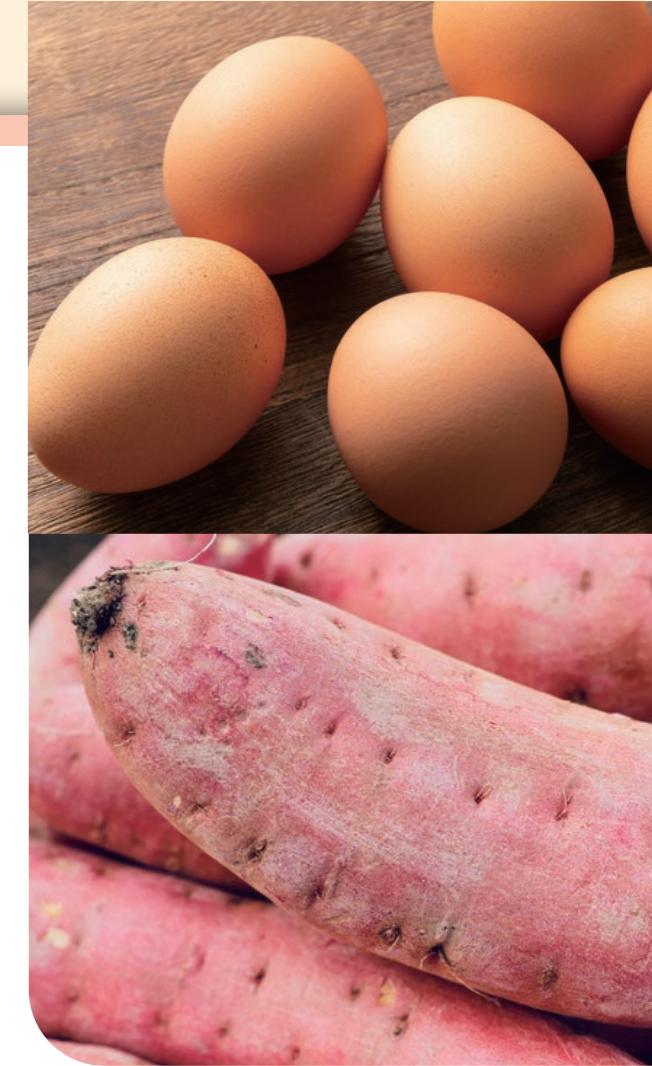
Consulting Solutions

Natural Ingredient Division

Without compromising the ingredient's power, we maximize its potential and value to provide greater function and flavor.

The foods we normally eat are a source of energy for us. Many are a result of the Earth's blessings. We apply our original processing technologies to provide the world with ingredients possessing a variety of powers. These substances possess marvelous powers that can directly apply to life. Our strength lies in consulting solutions that figure out how those powers are structured and how to best make use of the ingredients' functions and flavors. We have also established Japan's leading chicken egg processing technology and are developing processed egg products.

Processed Eggs/Instant Food Ingredients/Processed Agricultural Products
Freeze-Ground Products/Processed Milk and Protein Products/
Thickening Stabilizers



Natural Ingredient Division Business Model

Example Processed Eggs

Different components of ingredients have different powers. Through repeated trial and error, Taiyo Kagaku thoroughly extracts and utilizes the ingredients' innate powers to create attractive processed products. Taking eggs as an example, one project involves making full use of various processing methods to shape the different components into various forms. This expands possible applications and uses, fostering diets with more abundant nutrition, all with the aim of contributing to healthy, prosperous living for people around the world.

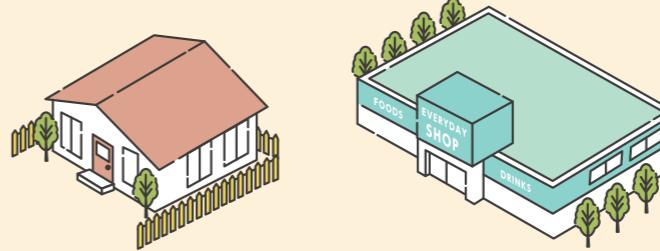


Developing products based on solving customer issues.

Consulting Solutions

Everyday Life with Taiyo Kagaku

"Taiyo Kagaku in our lives" refers to our connection with our customers, from the foods and food-related products we use every day to cosmetics, toiletries, and other products. Like a helpful assistant, we aim to support people in enjoying better, fuller lives.



For Freshly-Made Flavor

In addition to ingredients such as eggs and sweet potatoes, we also offer products that preserve and highlight the delicious flavor of freshly made products, thus not only enhancing taste, but also helping to reduce food loss and waste.



Combining Flavor and Fun

We don't only focus on stabilizing quality; we also have products that incorporate textures and concepts so as to enhance products' commercial value.



Emulsifiers, Thickening stabilizers, Flavorings, Functional ingredients

Great Taste, Achieved Easily

We offer ingredients made using a variety of processing techniques to bring much better flavor to the instant foods that are indispensable to everyday life.

Microwave dried ingredients, Noodle quality enhancers, Emulsifiers, Emulsion preparations



Quality Of Life

With numerous products to control the physical properties of liquid foods and supply nutrients, we help to maintain the balance of the microbiome, the front line of the immune system.

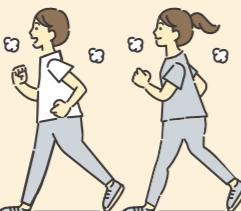
Emulsifiers, Thickening stabilizers, Partially Hydrolyzed Guar Gum



Everyday Health

We offer functional ingredients that are indispensable in health foods and supplements that are both safe and backed by reliable evidence.

Green tea catechins, L-theanine, Partially Hydrolyzed Guar Gum, Minerals, Carotenoids



Antibacterial

We support people's wellness not only with ingredients for cleaning products, but also with materials featuring antibacterial properties.

Surfactants, Green tea catechins



Long-Lasting Freshness

Decomposition of ethylene gas extends the freshness of vegetables in refrigerator vegetable compartments. This helps to prevent food loss, reduces waste, and promotes eco-friendliness in homes.

TMPS (Mesoporous Silica)



Increased Use of Biomass

We are increasing our use of biomass and use of plant-derived surfactants, thus reducing the amount of plastic used while improving physical properties.

Surfactants



Body wash

- Cleansing
- Moisturization
- Foam quality



Shampoo

- Cleansing
- Foam quality
- Scalp care



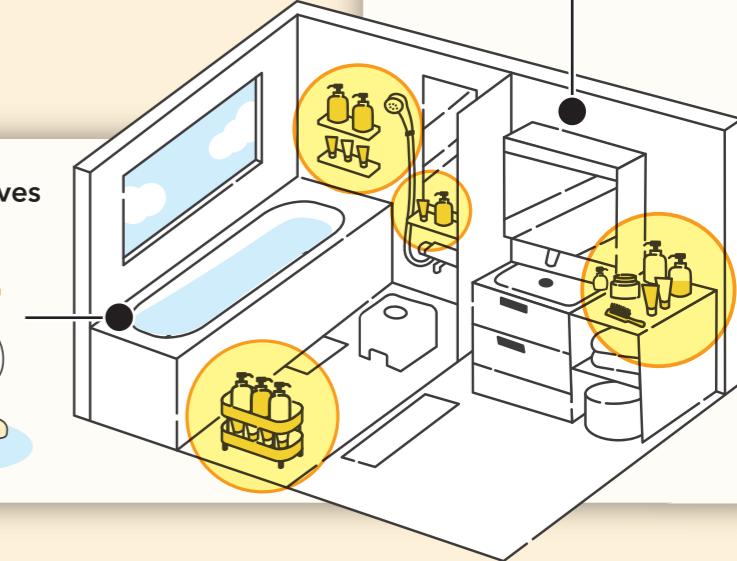
Treatment

- Emollient
- Damage prevention



Bath additives

- Emulsification
- Solubilization
- Moisturization



Sunscreen

- Powder dispersion
- Emulsion stability
- UV protection



Oral Care

- Breath freshener
- Fluoride fortification



Face Wash

- Cleansing
- Moisturization
- Foam quality



Makeup remover

- Cleansing
- Easy rinse
- Pore care



Toner

- Solubilization
- Moisturization



Lotion

- Emulsification
- Moisturization



Taiyo Kagaku's History of Value Creation

Imagine, Desire and Create

We promote healthy, prosperous living around the world.

Taiyo Kagaku offers a variety of food products and industrial ingredients, from traditional natural ingredients to novel materials produced using the most advanced technologies, and is also engaged in the creation of functional food ingredients that hold unlimited potential. We continue to create new value as a company providing R&D-based solutions in support of people's daily diets and lifestyles.

1940~ **1960~** **1980~** **2000~** **2020~**



Expansion of technologies for creating flavor ingredients to a broader range of fields

Development of various products expanding the range of flavors

Development of flavor ingredients with the added value of supporting health

Global development and expansion into raw materials for cosmetics

1940~



- Taiyo Kagaku Corporation founded (1946)
- Company reorganized as Taiyo Kagaku Kogyo Co., Ltd. (1948)

1960~



- Taiyo Food Co., Ltd. established (1958)

1980~



- Company name changed to Taiyo Kagaku Co., Ltd. (1981)
- Shiohama Plant completed (1981)
- Research Institute completed (1987)
- Nanbu Plant completed (1989)
- North American Subsidiary Taiyo International, Inc. established (1994)
- Kaifeng Taiyo Jinning Food Co., Ltd. established in China (1995)

1990~



- Taiyo Lucid Plant completed in India (2004)
- OISHA KAGAKUKAN opened (2006)
- New emulsifier plant completed (2011)

2000~



- Surfactant manufacturing plant for cosmetic raw materials completed (2021)
- Mineral and vitamin formulation manufacturing plant completed (2022)
- Complete ODM smart factory for health foods (2023)

2020~



Historical Background

The postwar period sees shortages of necessary daily supplies, with people suffering from poverty and malnutrition.

Japan's food manufacturing infrastructure is underdeveloped, presenting problems for stable production.

Japan welcomes a period of high economic growth, leading to a period of mass production and mass consumption.

The country enters an era of greater demand for added value to satisfy desires for health and commitment to quality.

With domestic consumption shrinking, there is a growing movement recognizing the need for global development and expansion into other industries.

The importance of providing safe and secure ingredients increases.

Contributing with First-in-Japan Technologies

- Achieved development of Japan's first food emulsifier with interface control technologies originally used in manufacturing soap

Further Evolution of Interface Control Technology

- Developed shelf-life improver
- Established refining system using molecular distillation

Increased Sense of Security in Food Applications

- Established solubility technologies
- Developed new high-performance emulsifiers, enabling expansion to more foods and beverages
- Shifted to plant-based materials and ingredients

Search for Environmentally and Human Body-Friendly Technologies

- Developed more environmentally-friendly products
- Full-scale development of raw materials for cosmetics based on technologies cultivated in food applications

Physical Property Control Technologies for Mass Production

- Developed Japan's first natural gum-based stabilizer formulation
- Developed Japan's first emulsifier and stabilizer formulations for ice cream

Processed Egg Products Unprecedented in the World

- Created Japan's first commercialized processed egg product
- Developed enzyme-processed eggs
- Developed sweetened concentrated egg product

With mass production firmly in the company's sights, Taiyo Kagaku began its efforts to be the first company to produce processed egg products beyond a cottage industry.

Pioneering Functional Food Ingredients

- Developed green tea extracts, water-soluble dietary fiber, etc. in the pursuit of added value products
- World's first industrial production of the amino acid L-theanine
- Creation of Nutrition Delivery System technology

Global Supply System

- Overseas production of microwave-dried ingredients
- Stabilizers for nursing care foods

Interface Solution Division

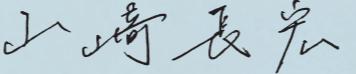
Natural Ingredient Division

Nutrition Division

**Message
from the
President**



President and CEO
Nagahiro Yamazaki



Even in unpredictable times,

focusing on health is the way forward.

**How can we achieve our goal of
"promoting healthy, prosperous living
around the world"?**

We are now in a time when understanding global needs and customer trends has become quite challenging. Additionally, we are seeing social trends swing way beyond the scope of even recent changes, including increasing conflicts and wildly fluctuating currency exchange rates.

As a result of this upheaval, raw material and energy costs will continue to rise, and we may yet reach more serious

circumstances in the future.

Many matters are uncertain, and no one knows what the future holds.

Thus, we first need to consider how to deal with the reality that we can see, and then, regardless of the many difficulties we may face, we must be unwavering in our commitment to "promoting healthy, prosperous living around the world."

**Providing information and
prompting interest in health**

Daily diets around the world are becoming richer; a trend that is accompanied by an increase in associated health risks. Obesity and diabetes are lifestyle-related diseases resulting from more abundant food supplies, and when the increased medical expenses due to these illnesses strain the finances of a country with an aging population, it poses no small problem for society.

To solve this problem, we must communicate to each individual what it means to eat for health. And to turn such behavior into habits, I think it is important that people first be made aware of the issue. One of the increasing needs addressed by the food industry since the Covid pandemic involves immune system products, as Covid-19 has led to a greater awareness of the immune system's importance. I believe that one of our missions is to prompt this interest in health.

**Considering what is needed to
raise awareness of healthy diets**

I feel people need to be more enlightened about what a healthy diet is. While those with healthy eating habits are not necessarily wealthy, people who are more knowledgeable tend to have a healthy diet. In the end, being conscious of health is more important than financial success. In other words, having more accurate knowledge about health leads to a healthier diet. I believe we can prevent lifestyle-related diseases by driving home this message.

We intend to investigate the correlation between the dissemination of correct knowledge and changes in people's health. Beyond that is a future with optimized health management and lower medical costs, and we believe there could be no greater contribution to global health than seeing this goal realized in every country.

We intend to proceed with our business activities while considering what we can do to make that world a reality. Japan has entered an era of declining population. This is true not only for consumers; it applies to workers as well. Furthermore, the more people adopt poor lifestyle habits, the more difficult it will be to create social capital. Preventing such a situation requires greater numbers of healthy people and efforts to prevent a decline in social productivity. We aim to continue with our efforts so that the health-related information we provide benefits the public to the greatest extent possible.

How do we create new markets?

With the world's population increasing as Japan's domestic population continues to fall, we have come to see that we ourselves must also change instead of continuing with previous approaches.

In order to change, we must take on the challenge of new markets, focusing not only on markets in Japan but overseas as well. We recently have received many requests for advice on how to eliminate waste and improve efficiency in production processes. It also appears that with the future so unclear, companies themselves are preparing for crises by taking whatever practical steps they can.

To avoid missing out on the opportunity to address these various needs, we constantly work on research and development prior to demand. Going forward, our sales, research, and manufacturing divisions will work together to increase our awareness of information and create a system that allows us to grasp these changing needs. Moreover, we are currently increasing our efforts to discover needs in industries we have not worked with before and to create new markets based on activities tailored to the needs we find.

Steady progress with necessary actions

While we must adapt to rapid changes, it is crucial to maintain steady focus and clarity in our actions. Our universal human mission to "promote healthy, prosperous living around the world" necessitates steadfast progress, as achieving this grand objective requires long-term dedication. In today's world, where companies are increasingly expected to be socially responsible, it is imperative that we continue to move forward steadily and surely.

**"We promote healthy,
prosperous living around the world."**

The Taiyo Kagaku Group is committed to being a company that society trusts and relies on. We believe the Taiyo Kagaku Group's social responsibility is for each and every one of our employees to strive in their work to be in line with our fundamental philosophy of "Imagine, Desire and Create."

Code of Conduct

Imagine, Desire and Create

In order to achieve our goal of promoting healthy, prosperous living with a global perspective, Taiyo Kagaku aims to be a company that continues to develop and grow; one whose employees are all united and which enjoys society's enduring trust, based on the fundamental philosophy of "Imagine, Desire and Create." In support of this corporate concept, our Code of Conduct is intended to instill awareness in all Taiyo Kagaku executives, employees, and organizations of the company's role in and responsibilities to society, which is foundational to our employees' proper conduct.

Code of Conduct

Management Philosophy

We promote healthy, prosperous living around the world.

TAIYO KAGAKU CSR Management

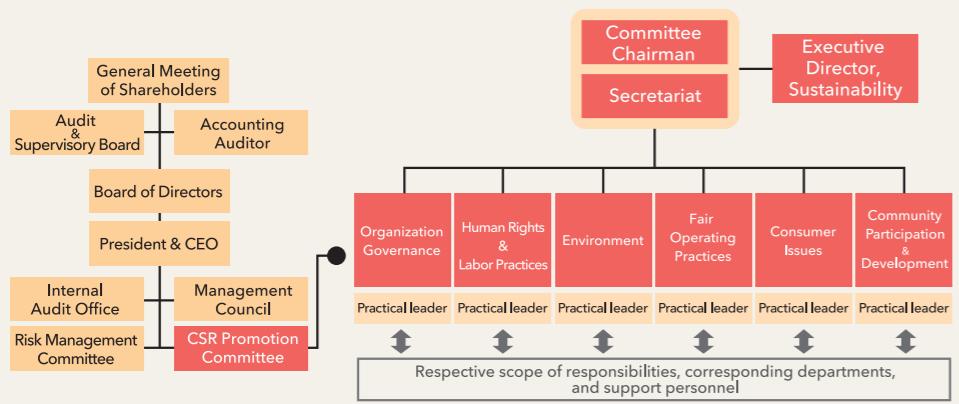
CSR Basic Policy

Organization Governance

Access the QR code on the right for more information.

Structure of CSR Advancement

In accordance with the ISO26000 core subjects, we have assigned practical leaders and are implementing both measures and verifications to achieve our goals. The practical leaders determine their respective issues and themes, managing them throughout the year, thus contributing to the implementation of our basic CSR policy.



The United Nations Global Compact

The United Nations Global Compact (UNGC) is a voluntary initiative in which companies and organizations participate in the creation of a global framework to achieve sustainable growth, acting as good members of society by demonstrating responsible and creative leadership.



Taiyo Kagaku has been a participant of the United Nations Global Compact since September 2019.

EcoVadis Evaluation

EcoVadis reviews supply chains for sustainability and evaluates more than 95,000 companies in 160 countries around the world. It evaluates corporate CSR policies, measures, and performance in the four areas of "Environment," "Labor and Human Rights," "Ethics," and "Sustainable Material Procurement."

Taiyo has been evaluated by EcoVadis since 2020.

RSPO Certification

The Procurement Approach to Global Health.

Demand for sustainable ingredients in Western markets is increasing. RSPO certification is a certification system promoted by an international NPO that aims to promote the production and use of sustainable palm oil. To keep pace with the Western markets at the forefront of this trend, we have acquired this certification and are actively investing in this market, continuing to promote and enhance sustainable business activities.



RSPO Certification History

2017 : Membership
2018 : Acquired Mass Balance (MB) certification for supply chains
2019 : Began delivery of MB products
2021 : All products supplied to Europe are RSPO certified. Over 60% of products supplied to the United States are RSPO certified.
2022 : Over 80% of products supplied to the cosmetics industry are RSPO certified

Growth of MB Products

2019 : Fewer than 5 products
2021 : Expanded to more than 40 products
2022 : Expanded to more than 50 products

Current Status

2023 : More than 90% of the products we supply to the cosmetics industry will be RSPO compliant.

Target

2028 : All products to be RSPO certified in response to requests from all customers.

Together with Suppliers and Customers



We view our suppliers to be important partners, so we thoroughly carry out appropriate transactions and maintain fair, impartial relationships. Furthermore, we value communication with our customers, develop excellent products that meet market needs, and provide high-quality services and information, thereby building good relationships with everyone.

Procurement Policy

- | | |
|---|--|
| 1. Quality Orientation | We place safety as a priority during procurement. |
| 2. Supplier | We view suppliers as our important partners. |
| 3. Environmental Consideration | As a company who is friendly to people and the earth, we actively engage in procurement with an emphasis on reducing the burden on the global environment. |
| 4. Compliance with Laws and Regulations | We comply with laws and regulations, engaging in procurement with the aim of becoming a trusted corporation. |
| 5. Social contribution | We will make further social contributions through transparent and reliable procurement activities. |

Quality Policy

1. We comply with food-related regulations and provide safe products which bring peace of mind to our customers.
2. We establish and maintain quality systems to ensure the safety of our products.
3. We position HACCP as the foundation of our quality system.
4. We thoroughly fulfill our reporting obligations in the event of a product safety issue.
5. We review and improve our quality system every year.

Based on the Quality Policy stated to the left, we will carry out quality management activities, extrapolate risks through those activities, control those risks, and promote the production of safe products which provide peace of mind by creating products in their ideal form. We will also expand our quality management certification through the GFSI certification scheme, which is a global food safety management standard. (Domestic plants: SQF, Overseas Plants: FSSC22000)

Establishing CSR Procurement and Supplier Notification Guidelines

With the aim of contributing to the sustainable growth of society, we promote "CSR procurement" for expanding our CSR initiatives to the entire supply chain in cooperation with suppliers. Through this initiative, we also aim to improve the corporate value of both Taiyo Kagaku and our suppliers. Moreover, we have established guidelines for CSR procurement and shared those guidelines with our suppliers.

Procurement of Raw Materials

We procure raw materials by establishing guidelines in accordance with the requirements of the Safe Quality Food (SQF) Program, which is centered on HACCP as certified by the Global Food Safety Initiative (GFSI).

Kosher and Halal Certification Rooted in Diverse Lifestyles around the World.

We provide safe and secure food ingredients that have been rigorously checked through the entire manufacturing process, from raw materials to finished products. Many of our products are certified kosher and halal; a fact we indicate for consumers who are highly concerned about food safety as well as for religious reasons. In addition, we are active in acquiring Informed Choice, Non-GMO, and other certifications for a



Sunfiber®
Sunphenon®
Suntheanine®
SunActive®

Our Employees



We respect each other's personality and individuality, promoting the creation of a healthy, motivated workplace where diverse human resources can work while maintaining a work-life balance.

Human Rights Policy

1. Respect for human rights
 2. Prohibition of discrimination
 3. Prevention of harassment
 4. Prohibition of forced labor and child labor
 5. Promotion of diversity
 6. Promotion of awareness for human rights
 7. Together with our suppliers
- We respect the human rights of each and every person involved in our business activities.
We do not discriminate on the basis of race, nationality, place of origin, religion/faith, gender, sexual orientation, gender identity, social status, disabilities, etc.
We do not engage in or permit any form of harassment.
We do not engage in or permit forced labor or child labor.
We respect the individuality of our diverse workforce and aim to be a company that maximizes the strengths of each individual.
We continually educate our employees to deepen their understanding and knowledge of respect for human rights.
We also urge our suppliers to understand this policy, respect human rights, and not infringe on those rights.

Diversity and Equal Opportunity

Employees are given the opportunity every year to self-report on their current work situation and future career aspirations. We have introduced a system that reflects the employee's desire to expand his/her work domain while considering their own careers. We have developed an environment in which employees can take on challenges in new work areas in addition to contents related to their current job duties. Furthermore, employees can utilize the shortened working hours system for childcare until the child reaches the start of the second grade of elementary school. This enables employees who are raising children to balance their work and family. By clarifying work processes and procedures, we strive to share work contents among employees, creating an environment where employees can continue to work with peace of mind; for example, making it easier to use leave for childcare or family care and the system for shortened working hours.

Job Rotation A work initiative by Taiyo Kagaku

Each employee improves their skills and becomes a professional

Although there is also a need for specialists who pursue expertise in a certain field, Taiyo Kagaku expects our employees to become professionals who possess expertise in multiple fields rather than becoming such specialists. For that purpose, we implement periodic job rotations that are intended to expand our employee's horizons through broad experiences. Furthermore, we frequently hold internal training which is led not only by external instructors, but also by employees who serve as in-house instructors who provide instruction to other employees. We promote the growth of our employees by encouraging them to think and take action.



Health Management Philosophy

Taiyo has been certified as a "2024 Health and Productivity Management Outstanding Organization" by the Nippon Kenko Kaigi's (Japan Health Conference) Secretariat for certified KENKO Investment for Health Outstanding Organizations Recognition Program. Our company has continuously received this certification since fiscal 2022, and we will continue to promote "health and productivity" in the future as well.



2024
健康経営優良法人
Health and productivity



For the Earth



As a company who is friendly to people and the earth, we constantly consider the environmental impact of our business activities and actively work to reduce the burden on the global environment.

Environmental Policy

As a food material manufacturer, Taiyo Kagaku is grateful for the blessings of nature. Furthermore, as a company who is friendly to people and the Earth, we actively work to reduce the burden on the global environment. We aim to be a corporation that is trusted by everyone.

1. Comply with environment-related laws and regulations.
2. Take measures to conserve resources and energy: Electricity, fuel (LNG, city gas, LPG, gasoline, light oil), industrial gasses, water, paper, plastic.
3. Promote 3R sustainability.
4. Strengthen the maintenance and management of wastewater.
5. Consider green procurement.
6. Set environmental goals and promote activities to realize initiatives by all employees.
7. Implement thorough measures against leaks.
8. Promote measures to reduce greenhouse gas emissions.

Taiyo Kagaku's Environmental Education

Taiyo Kagaku strives to reduce the company's environmental impact in all aspects of our business activities, and we continually hold company-wide environmental activities. We have established an internal Environmental Management Committee, with subcommittees actively engaged in recycling, reducing CO2 emissions / waste, and other such programs. Taiyo Kagaku's initiatives to raise awareness through daily activities and firmly establish environmental awareness in the company are well regarded. In 2009, we were awarded the Minister of Agriculture, Forestry and Fisheries Award in the Environmental Category of the Food Industry Excellent Company Awards in recognition of these efforts. In addition, we introduced a system in fiscal 2016 to visualize energy consumption, and since then the system has been used for integrated management of information from each plant. Any employee can view the energy consumption of the 10+ plants. With visualization, we are striving to enhance awareness of our usage and more effectively reduce consumption.



Environmental Management Committee

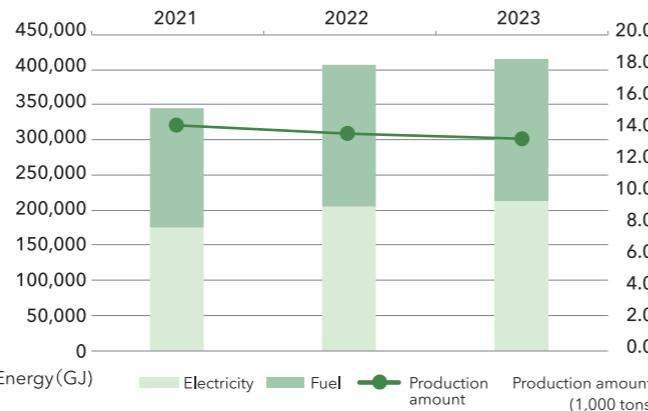
Holding of periodic study sessions for sub-committees
[Example of Activities]

Energy Sub-Committee	Wastewater Sub-Committee	Waste Material Sub-Committee
Promote reduction activities using visuals of energy use.	Promote wastewater management that complies with agreed-upon values that are stricter than laws and regulations	Achieve a waste recycling rate of 99%

Award System

We have established an annual award system for outstanding employees who have brought about improvements in environmental issues (including energy consumption). Rewards are paid to these exceptional employees.

Energy Consumption vs Production



CO2 Emissions

As a food manufacturer, Taiyo Kagaku's production processes include heating and sterilization steps, meaning heat generating equipment is absolutely necessary. Since this process uses fuel and emits greenhouse gases, we view it as a major issue regarding the risk of climate change.

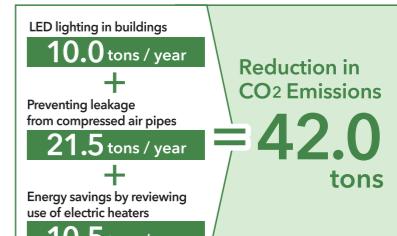
To promote low-carbon sources of heat at our production centers in Japan, we proceeded to convert to natural gas, a fuel that emits less greenhouse gases than heavy oil, completing the fuel source switch in fiscal 2021. We have set a mid- to long-term target of reducing greenhouse gas emissions by 46% by 2030, with 2013 as a baseline. Going forward, we will continue to incorporate new technologies and promote the reduction of CO2 emissions using new, higher-efficiency equipment.

Changes in Scope 1 & 2 CO2 Emissions (Total domestic sites)

FY 2020	19,432 tons
FY 2021	15,928 tons
FY 2022	19,596 tons
FY 2023	19,644 tons

Efforts to Reduce Greenhouse Gases

FY 2023



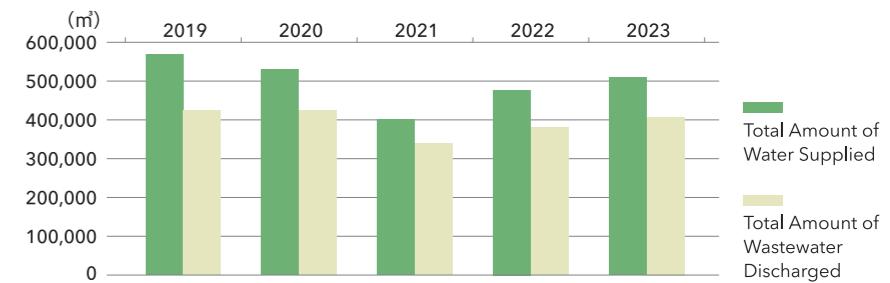
FY 2022

Reduction by introducing high-efficiency equipment, and LED lighting in building 21.4 tons

Water Supplies and Drainage

Taiyo Kagaku is a manufacturer specializing in food ingredients production and sales. Given our production processes' reliance on high-quality water for ingredient preparation, cleaning, cooling, and other essential operations, we acknowledge the critical importance of effectively managing our water usage. Therefore, we are committed to carefully monitoring both the water supplied for our processes and the wastewater discharged, ensuring their sustainable management and usage efficiency.

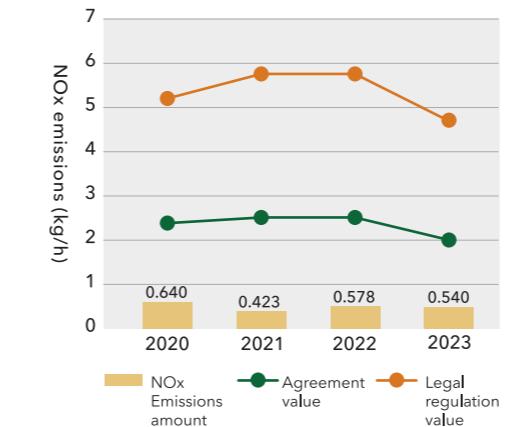
Total Water Supply and Wastewater at Domestic Production Sites



Prevention of Air Pollution

Although there are legal standards for exhaust gas, Taiyo Kagaku has entered into agreements with cities and set standards that are stricter than legal regulations. We use liquefied natural gas (LNG) and city gas as fuels, with both the Nanbu and Shiohama plants achieving zero SOx emissions in fiscal 2022. Furthermore, we use low NOx burners in steam boiler equipment to reduce nitrogen oxide emissions.

Nanbu Plant Emissions Regulation Graph



Wastewater

Treated wastewater from the Nanbu Plant is discharged into a river. Strict emissions standards have been established for this, as discharging into rivers has a greater impact on the environment than creating sewage effluent. In accordance with an agreement with Yokkaichi City, the Nanbu Plant manages its discharge according to standards that are stricter than the legal regulations. The wastewater treatment facility has established a system to measure both the effluent and the treatment process, monitoring for early detection of irregularities. The wastewater treatment facility also incorporates an IC (Internal Circulation) reactor, which treats industrial wastewater to values 60 times stricter than those in public sewage regulations. Wastewater from the Shiohama Plant is discharged into the public sewage system.

Waste Recycling

We strive to reduce the generation of waste through daily improvement activities. Waste is thermally recycled (used for thermal energy), materially recycled (feed and fertilizer), incinerated, and finally sent to landfills, achieving a waste recycling rate of 99%.

Management of Chemical Substances

In fiscal 2021, we upgraded the last of the heavy oil boilers at our domestic plants to natural gas, completing the fuel conversion plan in Japan. As a result, starting in fiscal 2022, we have been operating our facilities without discharging substances subject to the Pollutant Release and Transfer Register Law (PRTR Law).



Other information on our "For the Earth" activities can be found on our website.



Taiyo Kagaku strives to coexist with the local community by supporting society, fostering academia, and growing industries through local activities. We also work hard to be a corporation trusted by society.

On-site Class at Yokkaichi Municipal Minami Junior High School

Taiyo Kagaku held an on-site class at Yokkaichi Municipal Minami Junior High School, a school located near our Yokkaichi Head Office (Mie Prefecture). As part of the science lesson, students studied nutrition with experiments under the theme of "Talking About the Stomach: Intestines are the Source of Energy," where they learned about the function and importance of the intestines. We conducted a lecture about the relationship between nutrition and the intestines as well as the importance of that relationship. This was followed by a talk about diet and health from the perspective of sales staff and research and development personnel.



Yokkaichi Municipal Shiohama Junior High School: Environmental Studies Collaboration

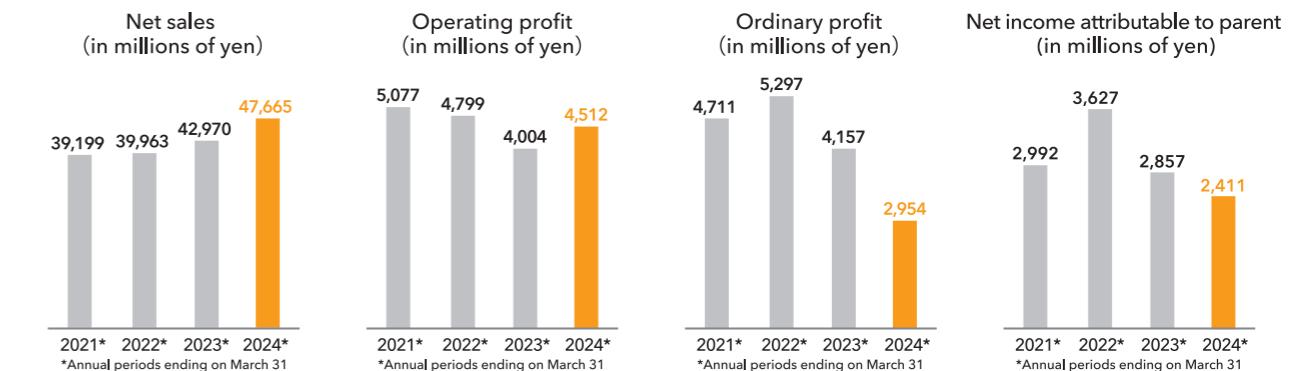
We collaborated in lessons held at Yokkaichi Municipal Shiohama Junior High School, a school located near our Shiohama Plant (Mie Prefecture). During the school's comprehensive learning period, part of a national educational initiative for junior high schools, we conducted a study session focused on environmental studies. The session aimed to educate students on the importance of harmonizing the environment with business operations. Specifically, we explored how our company, as a member of society, contribute to people's lives, exchanging views on our environmental initiatives.



Creating original health-focused beverages and implementing health management assessments

As a company with roots in the local community, we participated in a workshop and exhibition as part of a project to promote health management and learning programs. The activity was held at a facility adjacent to our Tokyo Head Office (Hamamatsu-cho, Minato-ku).

People of all ages, from young children to the elderly, had an opportunity to check out the taste of functional ingredients and gauge their health status with health-measuring devices. They also created original beverages with a combination of functional ingredients. With many individuals showing tremendous interest in extending their healthy lifespan and managing their health, we interacted with local people while introducing them to the connection between food and health.



Financial Information (Consolidated)

	Units	2020*	2021*	2022*	2023*	2024*
Net sales	in millions of yen	40,364	39,199	39,963	42,970	47,665
Operating profit	in millions of yen	4,630	5,077	4,799	4,004	4,512
Ordinary profit	in millions of yen	4,667	4,711	5,297	4,157	2,954
Net income attributable to parent	in millions of yen	3,167	2,992	3,627	2,857	2,411
Net assets	in millions of yen	40,078	42,338	44,159	46,292	48,958
Total assets	in millions of yen	49,751	52,867	54,714	58,622	60,619
Return on equity (ROE)	%	8.3	7.4	8.6	6.5	5.2
Capital investment	in millions of yen	2,305	3,836	4,051	2,622	1,746
Depreciation	in millions of yen	1,138	1,272	1,497	1,984	2,049
R&D expenses	in millions of yen	1,413	1,392	1,379	1,266	1,334
Ratio of R&D expenses to net sales	%	3.50	3.55	3.50	2.94	2.80
Equity ratio	%	78.8	78.0	78.3	76.5	78.2
Cash flow from operating activities	in millions of yen	4,217	4,674	5,122	557	5,547
Cash flow from investing activities	in millions of yen	△2,869	△4,365	△2,915	△3,266	△1,573
Cash flow from financial activities	in millions of yen	△1,002	△1,506	△2,379	742	△2,965
Net income per share	Yen	174.64	165.42	209.04	168.48	142.36
Dividend per share	Yen	53.00	50.00	64.00	51.00	55.00
Dividend payout ratio	%	30.3	30.2	30.6	30.3	38.6

Non-Financial Information (Social Indicators)

	Units	2019	2020	2021	2022	2023
Rate of occupational accidents ^{※1}	%	0.00	2.21	2.28	3.45	4.45
Domestic employees ^{※2}	People	547	534	519	498	488
Overseas employees ^{※3}	People	311	305	411	429	471
Average years of service	Years/ Months	20yrs &1mos	20yrs &9mos	20yrs &7mos	20yrs &11mos	20yrs &11mos
Hiring ratio for women (new graduates)	%	37.5	33.3	50.0	33.3	45.0
Ratio of women in management positions	%	5.8	5.7	4.7	5.2	8.7
Employment ratio of persons with disabilities	%	2.71	2.73	2.50	2.26	2.76
Rate of female employees taking long-term childcare leave	%	100	100	100	100	100
Rate of male employees taking long-term childcare leave	%	—	—	—	36.40	66.67
Rate of employees taking paid leave ^{※2,4}	%	67.07	62.93	61.40	66.71	68.94
Number of employees taking childcare leave	People	14	14	16	11	9

^{※1} Calculated using the following formula : (number of injuries & deaths due to occupational accidents / total number of actual working hours) x 1,000,000

^{※2} Employees/contract employees ^{※3} Employees of overseas subsidiaries

^{※4} Calculated based on date on which paid leave was granted (as of March 31, 2024)



TAIYO KAGAKU Report 2024

Company Profile

As of March 31, 2024

Trade name	Taiyo Kagaku Co., Ltd.
Established	January 28, 1948 (founded: May, 1946)
Capital	7,730.62 million yen
Representative	Nagahiro Yamazaki
Employees	888 (including 239 temporary employees) / Consolidated
Net sales	47,665 million yen / Consolidated
Head office location	Yokkaichi Head Office: 800 Yamada-cho, Yokkaichi, Mie 512-1111 Tokyo Head Office: 1-6-3 Hamamatsu-cho, Minato-ku, Tokyo 105-0013
	https://www.taiyokagaku.com/

Sales Offices

U.S.A., Thailand, China, Taiwan, Korea, Vietnam, Philippines, Indonesia, Europe, India

Sales Agents

Argentina, United Kingdom, Italy, Uruguay, Ecuador, Netherlands, Australia, Austria, Canada, Greece, Colombia, Singapore, Switzerland, Spain, Czech Republic, Chile, Finland, Brazil, Bulgaria, Peru, Belgium, Poland, Malaysia, South Africa

Overseas Sites

Germany

Taiyo GmbH

Established 2012 in Germany as a sales subsidiary for our products in the EMEA (Europe, Middle East, Africa) region.



China

Kaifeng Jinming Food

Uses microwave processing technology to supply products for the rapidly-growing instant food markets in China and other parts of Asia.



China

JEANAVICE (Tianjin) Food Co., Ltd.

Established 2012 in Tianjin, China to manufacture and sell bakery products.



China

Taiyo Green Power

A plant producing plant-derived functional ingredients such as green tea extract. It also supplies Kosher and Halal-certified food products to global markets.



China

Taiyo Kagaku China Co., Ltd.

Identifying Asia as an important region for international strategy, Taiyo Kagaku China was established in January 2006 as a sales subsidiary of raw materials for food processing as well as functional ingredients.



South Korea

TAIYO INTER KOREA Co., Ltd

Established in 2001 as a sales subsidiary for the South Korean market. It is actively conducting sales activities for the food product and cosmetics markets in South Korea.



Taiwan

Taiwan Office

Philippines

Philippines Office

Indonesia

Indonesia Office

Vietnam

Vietnam Office



Domestic Sites



Nanbu
Yokkaichi Head Office
Nanbu Plant



Shiohama
Research Center Shiohama Plant



Tokyo Head Office
Food Analysis Technology Center
(OISHISA KAGAKUKAN)
Taiyo-labo Shop