KOKEN

Materials purely made in Japan produced using the fermentation technology of a long-established sake brewery

KOHAKUYUKI–
Sake Lees Aging Fermented Extract

Sake lees aging fermented extract derived from rice improves the skin barrier function and make the skin healthy

Natural ingredient and production

- Rice/Yeast
- Low temperature aging

Fermented extracts

- Amino acids
- Glucosylceramide
- Natural sugar
- Ferulic acids
- α-EG

Function

- Moisturizing
- Barrier on the skin
- Antioxidant
- Lather quality improvement

Verified by ECOCERT
COSMOS APPROVED

"raw material verified by ECOCERT GREENLIFE, conform to the COSMOS Standard and without animal origin".

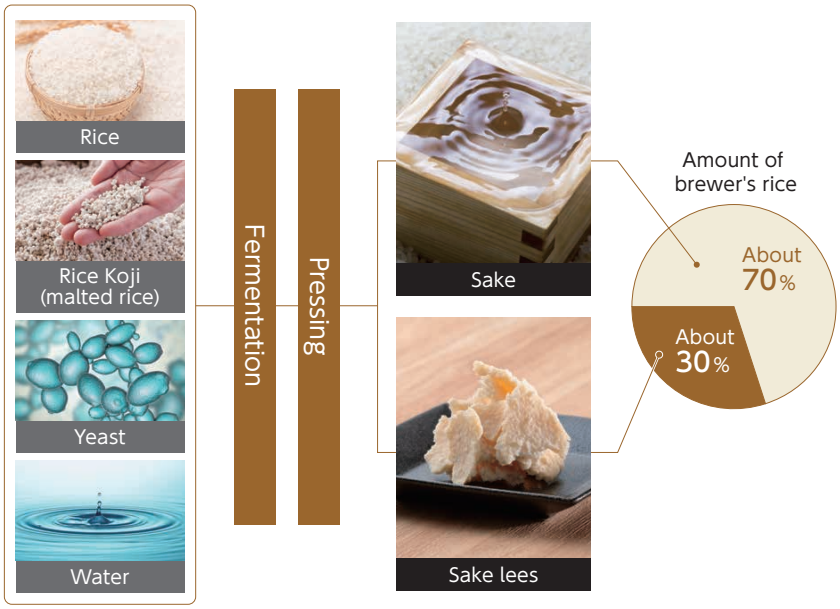
This product was jointly developed by Watarai Honten and KOKEN CO., LTD.

A fusion of traditional ingredients and natural fermentation technology developed over 1,000 years of history.
Towards a beauty ingredient to make the skin healthy.

What are sake lees, a traditional Japanese ingredient?

Sake is manufactured by fermenting rice, koji, yeast, and clean water.
Sake lees are a by-product obtained after filtering sake during the manufacturing process.
It is thought that Japan's culture of rice fermentation dates back more than 1,000 years. Both sake and sake lees are fermented materials with a long history in Japan.

Fermentation 1



Was it originally thought that sake lees, an ancient Japanese material, were an unwanted by-product?

Lees are the impurities or residues that remain after the target ingredients have been extracted.
The making of sake lees spread throughout Japan and became a part of its food culture, even though it is a byproduct of sake production. This is a uniquely Japanese culture born from the mottainai (too good to waste) spirit cultivated by the Japanese people since ancient times. People have also incorporated sake lees into daily skin care.

Sake lees are a probiotic rich in amino acids, peptides, sugars, organic acids, vitamins and other nutrients. In addition, sake lees reportedly contain many beauty ingredients such as glucosylceramide, kojic acid, and α-EG, which have attracted attention for their skin beautifying effects. This is what has led to the reevaluation of its value as a beauty material.

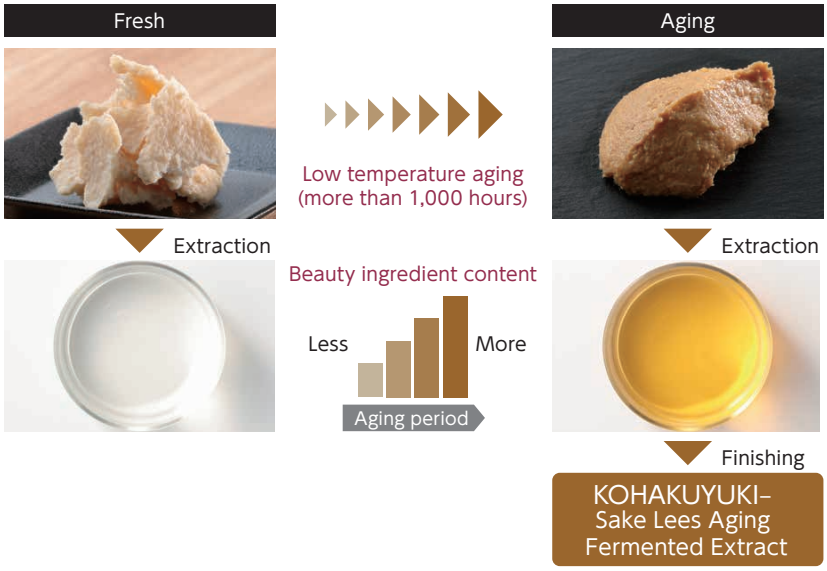
Sake lees, a true representative of the ancient fermentation technology of Japan can be seen as a treasure trove of beauty ingredients with concentrated functional components derived from rice, koji, and yeast.

What is KOHAKUYUKI–
Sake Lees Aging Fermented Extract?

"Watarai Honten", a long-established sake brewery founded in the Edo Period. (about 400 years ago)
We have focused on aged sake lees produced using a traditional technique passed down from generation to generation. Through a natural extraction method without any solvents or chemicals, the aged sake lees were transformed into the amber-colored fermented beauty ingredient, KOHAKUYUKI–Sake Lees Aging Fermented Extract.

Special aging fermentation evolved from traditional manufacturing methods

Fermentation 2: Aging



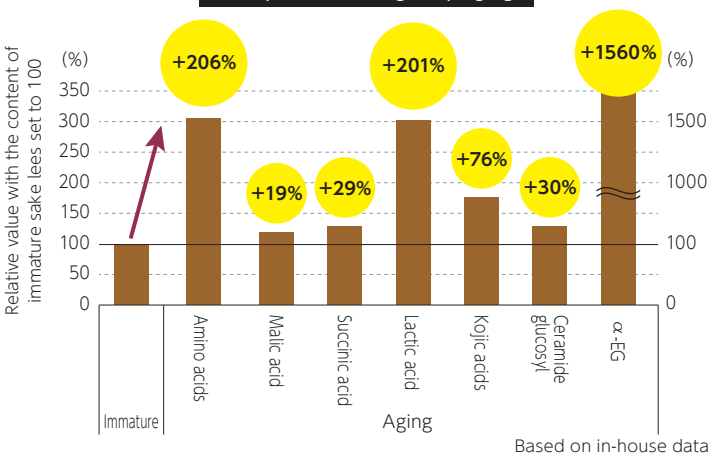
Fresh sake lees are a white, plate-like material rice grains remaining in them. Sake lees are carefully fermented at low temperature for more than 1,000 hours through a two-stage process, resulting in aged sake lees with a soft texture.

The extract from fresh sake lees is clear and colorless, while that from aging sake lees has a beautiful amber color.
This shows that the fermentation-derived ingredients have been concentrated and enriched through aging.
KOHAKUYUKI–Sakes Lees Aging Fermented Extract was developed by refining this extract to the specification that make it easy to formulate into cosmetics.

Functional ingredients that increase through aging

Analysis of the composition of immature and aging sake lees revealed increased amino acid, organic acid, and kojic acid content in the sake lees, as well as glucosylceramide, which regulates the skin barrier function, and α-ethylglucoside (α-EG), which promotes collagen production, after the aging process.

Composition changes by aging



Based on in-house data

STORY OF KOHAKUYUKI

Watarai Honten, which makes use of rice fermentation with its traditional techniques, is located in the snowy northern part of Japan. It is also known as Dewanoyuki Sake Brewery.
The name KOHAKUYUKI comes from the snow (yuki) associated with Watarai Honten and the beautiful amber color (kohaku) of the extract.

Amber colored extract + Snowy northern area + Dewanoyuki Sake Brewery (another name for Watarai Honten) = KOHAKUYUKI

The product's name implies the expectation that it will bring beautiful skin as clear as snow, thanks to the aged fermented extract derived from rice grown in northern earth and traditional technology.

Functions and content of the ingredients

Beauty ingredients contained in KOHAKUYUKI

Sake lees, a natural material that Japanese people have continuously used in their daily lives.
Aged fermented extract, developed by harmonizing traditional fermented materials and science,
help make the skin supple and clear.

Amino acids
Natural moisturizing factor (NMF)

Kojic acids
Boosts transparency, firmness, and elasticity of the skin.

Ceramide
Strengthens skin barrier function and involved in improvement of sensitive skin. Increases skin elasticity.

Ferulic acids
Protects the skin from UV rays. Involved in transparency and anti-aging of the skin.

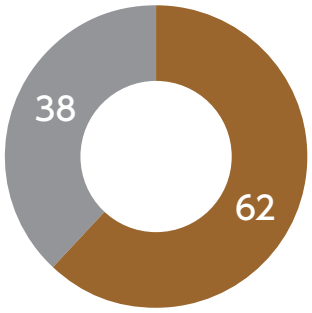
Organic acids
(lactic acid, malic acid, and succinic acid)
Smoothens rough skin. Promotes metabolism and softens the skin. Tightens the skin and improves its texture.

Natural sugar
Moisturizes the skin and retains moisture.

α-EG
Increases dermal collagen density and improves skin elasticity.

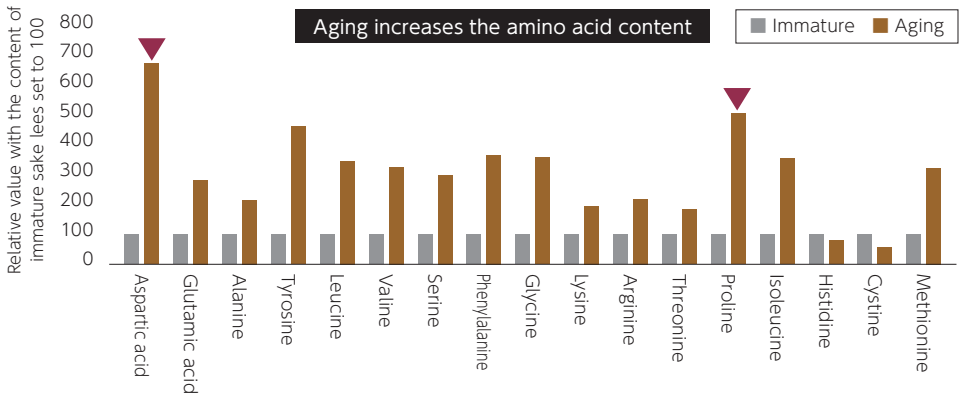
α-GG
Increases the amount of collagen and hyaluronic acids and increases the skin's moisture-retaining property.
Brightens the skin.

Amino acid composition



62% of the contained amino acids are NMF components.

Aging increases the amino acid content



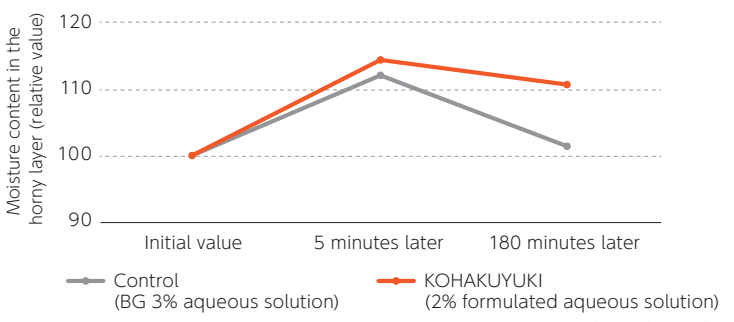
Looking at each amino acid, significant increase in aspartic acid, a source of energy metabolism, and proline, a raw material for collagen involved in skin hydration, was confirmed after aging.

Moisturizing effect (human study)

The addition of KOHAKUYUKI helped maintain a high moisturizing effect even 3 hours after application. Immediate and persistent moisturizing effect can be expected.

Test method

Apply each sample to the forearm. Measure the change in skin moisture content after application.



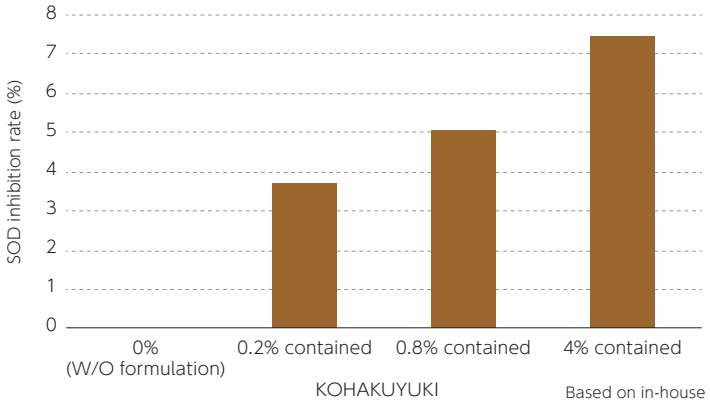
Based on in-house data

Antioxidant *(In vitro)*

KOHAKUYUKI was found to have a concentration-dependent effect scavenging active oxygen (antioxidant effect).
KOHAKUYUKI is expected to have an inhibitory effect on aging (wrinkles, sagging, pigmentation, etc.) caused by active oxygen.

Test method

Use an SOD Assay kit to measure the SOD inhibition rate by absorbance measurement. Calculate SOD-like activity rate (%, active oxygen scavenging activity) (absorbance: 450 nm).



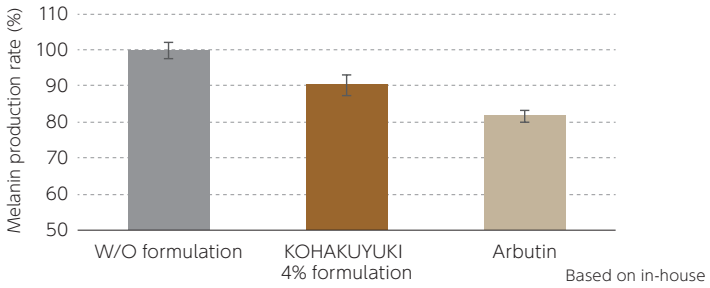
Based on in-house data

Brightening effect *(In vitro)*

KOHAKUYUKI was found to have a melanin production inhibitory effect. It is expected to reduce the production of melanin, which causes blemishes and dullness, leading to clearer skin.

Test method

Add each sample to melanin-producing cells. After 72 hours of incubation, calculate the rate of melanin production by measuring absorbance.



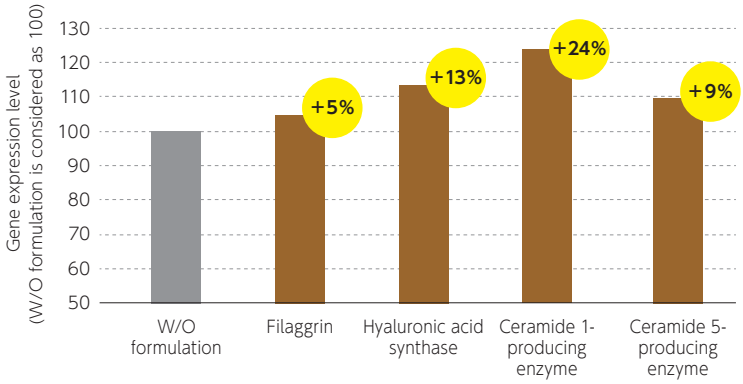
Based on in-house data

Skin barrier and moisturizing effect *(In vitro)*

KOHAKUYUKI was found to increase the gene expression levels of filaggrin, hyaluronic acid synthase, and ceramide producing enzymes related to skin barrier and moisturizing functions. It can be expected to regulate the natural barrier function and moisturizing power from within the skin.

Test method

Add a medium containing 1% KOHAKUYUKI to human epidermal keratinocytes. After 48 hours of culture, analyze the gene expression levels using real-time PCR.



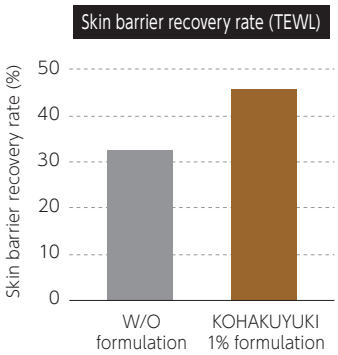
Based on in-house data

Skin barrier (human study)

The application of KOHAKUYUKI to the rough skin made the dry areas of the skin (white areas in the image) less noticeable and the skin smoother.
It was also confirmed that the skin barrier function recovered more quickly than the control.

Test method

Create skin roughness by tape stripping and acetone treatment. Observe appearance after the application of KOHAKUYUKI for three consecutive days. In addition, measure the transepidermal water loss (TEWL), and calculate the skin barrier recovery from the results.



Based on in-house data

Characteristics of the base material

The foam texture can be controlled by adjusting the content of KOHAKUYUKI.

- Pleasantly sticky and elastic foam
- Fine, weighty and moist foam

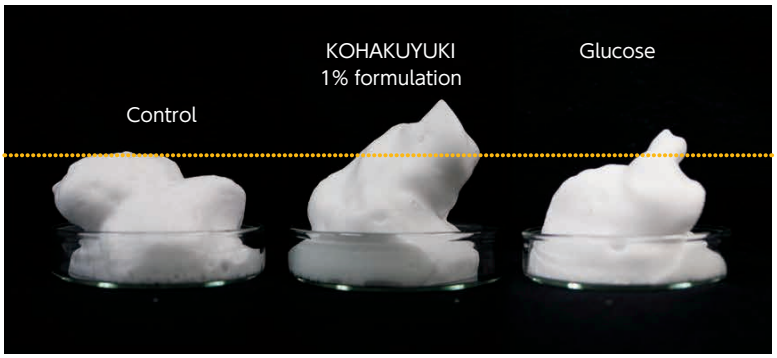
Foam improving effect

Improvement of foaming

The addition of KOHAKUYUKI improved foaming.
It is also expected to produce a fine foam and enable it to be more persistent.

Test method

Foam the soap containing each sample and observe how it foams.



Based on in-house data

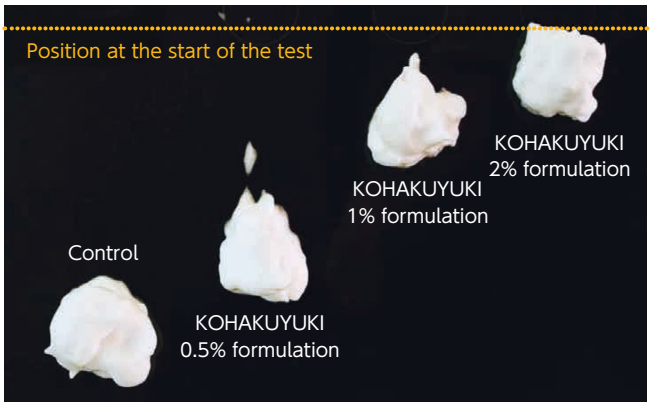
Adhesive foam

The addition of KOHAKUYUKI improved the foam adhesion in a concentration-dependent manner.

Test method

Foam the facial cleanser containing KOHAKUYUKI. Allow to stand on a plate and observe the degree of foam sliding after tilting the plate.

Appearance of foam after 75 seconds



Adhesive foam

Based on in-house data

The addition of KOHAKUYUKI improved the foam's adhesion.

Elastic foam

KOHAKUYUKI is expected to improve the foam elasticity of the facial cleanser.

Test method

Foam the facial cleanser containing KOHAKUYUKI. Place a coin weighing 2 g on top of the foam to observe the foam elasticity.

Appearance of foam after 30 seconds

Elastic foam

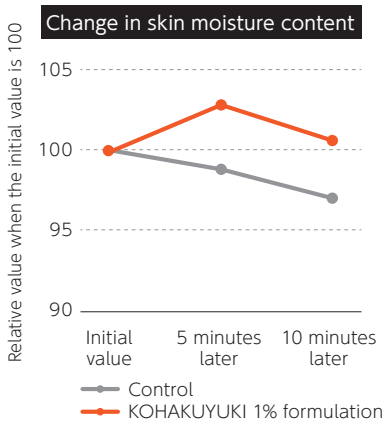
Based on in-house data

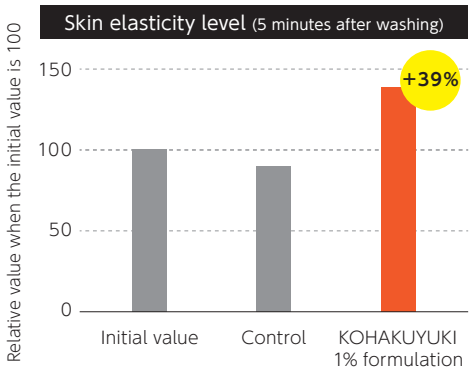
Moisture content and skin elasticity immediately after washing (human study)

KOHAKUYUKI was found to reduce dryness and increase skin elasticity after washing. KOHAKUYUKI is expected to reduce the dryness and tightness of the skin caused by washing, and to make the skin feel supple after washing.

Test method

Wash the back of hands with a facial cleanser containing KOHAKUYUKI. (Wash for 30 seconds and rinse for 15 seconds)
Measure the skin moisture content over time after lightly wiping them. In addition, measure the skin elasticity level 5 minutes after washing it under the same conditions.





Based on in-house data

Basic physical properties

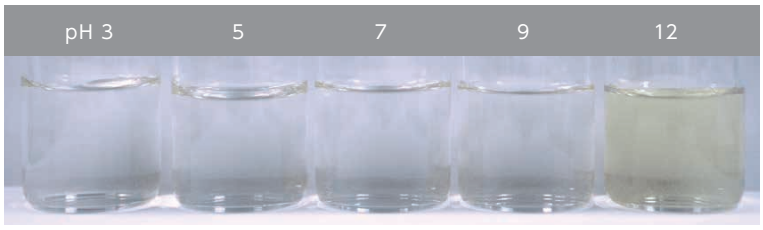
Physical property data

Product specifications

A tendency is observed that the color darkens at pH 12.

Test method

Adjust the pH of KOHAKUYUKI (undiluted) to 3, 5, 7, 9, and 12, and measure the tint.



Based on in-house data

Quality standard

Property		Specifications
Description		Light yellow to yellow colored liquid with a weak characteristic odor.
Identification	(1) Amino acids	Exhibits dark purple color
	(2) Sugars	Red precipitation is formed
Purity	(1) Arsenic	Not more than 2 ppm
	(2) Heavy metals	Not more than 20 ppm
pH		4–6
Residue on Ignition		0.3–0.8 %
Quantitative Method: Sugar concentration		0.4–0.7%
Aerobic plate count		Not more than 100 CFU/mL

Temperature stability

The color tended to slightly darken after storage at high temperature for two weeks, but the physical properties were within specifications. No significant impact is expected when formulated.

Test method

Store KOHAKUYUKI (undiluted) at 60 ℃ for 2 weeks and observe the color change.

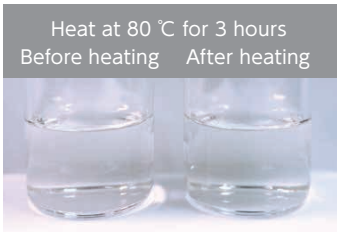
Based on in-house data

Color change due to heating

The color remained almost unchanged even after heating at high temperature for a short time.

Test method

Heat KOHAKUYUKI (undiluted) at 80 ℃ for 3 hours and observe the color change.



Based on in-house data

Special attention to materials and fermentation

Place of origin

Tsuruoka City,
Yamagata Prefecture

One of Japan's leading rice-growing regions, where the vast Shonai Plain is located

UNESCO Creative City Of Gastronomy

Materials

Sake lees fermented through low temperature aging

Purely domestic materials

100% plant-derived

Natural origin index: 1

*Contains water in accordance with ISO16128
*Plant-derived BG

Manufacturing method

Verified by ECOCERT

COSMOS APPROVED

"raw material verified by ECOCERT GREENLIFE, conform to the COSMOS Standard and without animal origin".

Aging through a two-stage fermentation

Natural extraction

No solvents or chemicals used

COSMOS approved

Long-established sake brewery "Watarai Honten"

The sake breweries are open to talking with the media. Please contact us in advance.

Tsuruoka City, Yamagata Prefecture, is the only city in Japan designated as a UNESCO Creative City of Gastronomy. It is one of Japan's leading rice-growing regions, as the vast Shonai Plain is located in the area which is blessed with rich water and a wonderful climate. Therefore, it is home to many highly skilled sake breweries.
The long-established sake brewery "Watarai Honten," the joint developer of KOHAKUYUKI, has an approximately 400-year-long history and a high level of technology handed down from generation to generation. It has applied brewing technology that combines traditional Japanese techniques and personalization to cosmetics raw materials.

Recommended formulation ratio: 1-3%

Safety evaluation: Human Repeat Insult Patch Test (HRIPT) Conducted
Skin irritation alternative test (OECD TG439) No irritation

Product number	Product name	INCI name ／中文名称	Other ingredient	Package	Sample
SLE-121	Sake Lees Aging Fermented Extract KOHAKUYUKI BG	ORYZA SATIVA (RICE) LEES EXTRACT / 稻(ORYZA SATIVA)糟提取物	Butylene glycol (plant-derived)	1kg	30g

The country of origin: Japan, The place of origin: Yamagata Prefecture

Contact

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