AEB® BREWING

BREWING PRODUCTS & SOLUTIONS

Let **AEB Brewing** quench your thirst for classic and contemporary styles of beers with our crafted portfolio of brewing products & solutions.

Who is the AEB Group?

Founded in 1963 AEB Group is a leader in yeast, fermentation, filtration, detergents, equipment and eco-technologies for the beer, wine, beverage, and food industries. AEB has a global presence with production sites worldwide and dedicated R&D facilities with quality control laboratories.
Headquartered in Brescia, Italy, we have a global presence. Our purpose is to inspire safe and refreshing beverage experiences, and our ambition is to do good for our customers, communities, and the environment.

About AEB Brewing

Our 60-years of winemaking expertise enables brewers to create beers with enhanced aromas and distinct taste profiles. Our team of brewers, microbiologists, and fermentation experts, give brewers the confidence to crate a wide range of alcoholic and non-alcoholic beer styles, with enhanced flavours and aromas.

AEB Brewing products and solutions

- → **Yeast**
- → **Yeast nutrients**
- → **Enzymes**
- → **Filtration solutions**
- → **Stabilisers**
- → **Clarifiers**
- → **Detergents for surface cleaning and CIP**
- → **AEB Brewing Technical support**

Availability of products may vary from country to country: contact your AEB sales representative for more information.

BREWING YEAST

Choose the yeast for the beer you want to brew.

FERMOLAGER W

A bottom fermenting yeast used by brewers all across the world. Perfect for a wide range of lager beer styles. Great for Pilsners, Helles, Munich Dunkel, Vienna, Märzen, Oktoberfestbier, Bock, Doppelbock and Rauchbier.

- Apparent attenuation: 82%
- Fermentation temp: 10-14°C I 50-57°F
- Flocculation: High
- Alcohol tolerance: 9-10%

Aroma & Flavour: A clean fermentation profile delivering crisp and fresh balanced flavours.

FERMOLAGER Crisp

Mexican lager yeast ideal for adjunct based lagers, and rice lagers such American, Asian and Australian style lagers; as well as contemporary India Pale Lagers and other dry-hopped lagers.

- Apparent attenuation: 75-85%
- Fermentation temp: 10-13°C I 50-55°F
- Flocculation: High
- Alcohol tolerance: 10%

Aroma & Flavour: Crisp brews perfectly clean, well-balanced lager style beers with a dry finish and high drinkability. This yeast ferments efficiently resulting in little to no residual sugars in the beer, giving a crisp, dry finish and a clean aftertaste. It is the perfect yeast for lager brewing aficionados and experimenters.

FERMOLAGER Munich Heritage

A hugely versatile bottom-fermenting yeast intended for the production of a wide range of European lager style beers, from the highly traditional Märzen styles of Munich and the more deeply coloured Dunkles and Bocks and the drier brews of Vienna to more contemporary styles like Bohemian Pilsner and Bavarian Helles.

- Apparent attenuation: 78-80%
- Fermentation temp: 10-14°C I 50-57°F
- Flocculation: Medium-High
- Alcohol tolerance: 9-10%

Aroma & Flavour: This low-diacetyl producing strain, produces low levels of esters, sulphur compounds and higher alcohols, leading to beers with a clean mouthfeel showing delicate noble hop flavours over an underlying malt structure.

FERMOLAGER Berlin

Great for a wide range of lager beer styles, especially from Northern Germany and including Pils, Helles, Schwarz and dark lagers. Also for strong lagers such as Bock and Doppelbock.

- Apparent attenuation: 75-85%
- Fermentation temp: 10-14°C I 50-57°F
- Flocculation: High
- Alcohol tolerance: 11%

Aroma & Flavour: Expresses subtle fruity notes perfectly balanced with light malty flavors to give an aromatic fresh finish.

FERMOALE

Perfect for British ales; Best Bitters, ESB's, Brown Ales, Mild Ales, Porters, Stouts, Strong Scotch Ales (Wee Heavy).

- Apparent attenuation: 75-80%
- Fermentation temp: 16-23°C I 61-73°F
- Flocculation: Low
- Alcohol tolerance: 12%

Aroma & Flavour: Very versatile strain. Low ester and neutral profile that allows expressing roasted malt and hop character. Perfect for a house ale yeast.

FERMOALE AY3

This yeast strain originates from the UK and is perfect for English and American pale ales, IPAs, brown ales and porters.

- Apparent attenuation: 75-83%
- Fermentation temp: 16-23°C I 61-73°F
- Flocculation: High
- Alcohol tolerance: 12%

Aroma & Flavour: Helps deliver rich malty, biscuit, and caramel notes with a little citrus and mild esters.

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BREWING YEAST

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Choose the yeast for the beer you want to brew.

FERMOALE AY4

A classic Californian yeast strain, highly versatile for a wide range of American style ales.

- Apparent attenuation: 84%
- Fermentation temp: 16-23°C I 61-73°F
- Flocculation: High
- Alcohol tolerance: 10-11%

Aroma & Flavour: Great malt to ester balance with a clean citrusy finish. The perfect 'all-round' yeast.

FERMOALE New-E

For all American East Coast style ales: NEIPAs, hazy and juicy IPAs, double hazy IPAs, hazy pale ales and pastry stouts.

- Apparent attenuation: 78%
- Fermentation temp: 16-23°C I 61-73°F
- Flocculation: Low
- Alcohol tolerance: 10-11%

Aroma & Flavour: Intensifies hop driven tropical fruit notes of juicy mangos, passionfruit and guava, along with fresh peaches and citrus. Perfect for a beer that is soft in texture, full in mouthfeel.

FERMOALE Bel-Abbey

As the name suggests this yeast is for Strong Belgian style ales including Abbey ales, Blonde ales, Dubbel, Tripel, Quadruple and Strong Dark Ales.

- Apparent attenuation: 75-85%
- Fermentation temp: 16-25°C I 61-77°F
- Flocculation: Medium
- Alcohol tolerance: 12%

Aroma & Flavour: Delivers an elegant flavour profile of rich dried fruits, with spicy, phenolic notes and hints of caramel for a warming finish.

FERMOALE German K

A traditional German yeast strain ideal for producing the classic Kölsch and Altbier styles of Colgne and Dusseldorf, as well as more modern warm lager fermentation styles, where a clean, neutral palate with a gentle malt character is desired.

- Apparent attenuation: 75-80%
- Fermentation temp: 13-21°C I 55-70°F
- Flocculation: Medium
- Alcohol tolerance: 11%

Aroma & Flavour: German K gives a neutral profile that allows the expression of malt characters to give a dry clean finish. There is a very low level of diacetyl and subtle ester notes of pear, apple and citrus.

FERMOALE Weiss

A yeast that has evolved to work well with high-protein wheat-derived worts. FERMOALE Weiss is ideal to produce traditional German beer styles, from Hefeweizen, Dunkel Weizen and Weizenbock style beers to lighter styles such as Kristal Weizen and Leichtes Weizen.

- Apparent attenuation: 78-82%
- Fermentation temp: 16-24°C I 61-75°F
- Flocculation: Medium
- Alcohol tolerance: 9-10%

Aroma & Flavour: A highly versatile yeast strain capable of producing a wide range of aromatic compounds across the entire range of banana, toffee, clove, nutmeg esters associated with German style wheat-based beers.

FERMO Brew Acid

For sour beers including contemporary ones as well as traditional styles such as Belgian Lambics, Gueuze, Flanders red ale, Wild ales, German Gose, and Berliner Weisse.

- Apparent attenuation: 75-80%
- Fermentation temp: 19-25°C I 66-77°F
- Flocculation: High
- Alcohol tolerance: 9%

Aroma & Flavour: This natural yeast produces lactic acid during fermentation to give a rounded, refreshing acidity with all the layered taste complexity of a sour. The taste profile is dependent on the fruits and spices added during brewing allowing you to get creative.

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BREWING YEAST

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Choose the yeast for the beer you want to brew.

FERMO Brew Citrus, Fruity & Nectar

A range of aromatic yeast strains specifically selected for creating aroma in a range of beer styles, in particular low- and non-alcohol beers

- Apparent attenuation: 65-69%
- Fermentation temp: 11-16°C I 52-61°F
- Flocculation: Medium
- Alcohol tolerance: 14%

Aroma & Flavour: Depending on the strain these yeast impart citrus, herbal, fruity, and candy-like aroma and flavour profiles.

FERMO Kveik SV

Originating from Voss, Norway, this yeast is perfect for Norwegian farmhouse ales as well as a range of classic and contemporary ale and lager styles styles including IPAs, NEIPAs, pale ales, blondes and lagers.

- Apparent attenuation: 75-80%
- Fermentation temp: 34-40°C I 93-104°F
- Flocculation: Medium
- Alcohol tolerance: 16%

Aroma & Flavour: Fast fermenting while imparting a fruity flavour profile. A high ester formation gives an intense yet pleasant notes of peaches.

AEB Brewing yeast are available in 500g pack size in active dry form.

FERMOALE AY3, AY4, New-E and FERMOLAGER W are also available in all-new 11.5g pack size for small-scale trials and for homebrewing.

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BREWING YEAST

AEB Brewing Yeast – delivering safe solutions for brewers

From production and testing to supply logistics and continual monitoring, brewing yeast quality is of paramount importance for AEB. We are committed to food safety at every level. That is what makes AEB a responsible and trusted supplier.

Our Quality Management System (QMS) assures brewers the control of their brewing process, optimising beer quality and safety when using AEB brewing yeast.

AEB's QMS ensures yeast quality and food safety targets are met in full. That means:

- **SAFETY -** our documented Quality Policy and support programmes ensure brewing yeast are free from all potential health hazards
- **PURITY** - we ensure our yeast cultures do not contain any microbiological and other contaminants
- **VITALITY** - making sure our yeast cultures have optimum viability for quality and consistency
- **STABILITY** - the purity and vitality of our yeasts ensures optimal product shelf-life

These four key principles are fundamental to AEB's Quality Management Practices where product quality and product safety are vital standards. They are continually monitored to AEB's comprehensive QC standards and certifications.

Product Quality parameters include culture purity and viability. We look at morphological appearance, monitor colour, moisture, and take accurate cell counts.

From a Product Safety perspective, we continually check for microbiological and pathogenic contaminants. Our Quality Control standards ensure we check each batch for microbiology purity including for wild yeast and diastaticus yeast.

Our practices and facilities are

- ISO 22000 certified for all food safety parameters, applying HACCP principles
- ISO 9001, for our in-house Quality Management
- ISO 14001 for our Environmental Management, cause Environmental Compliance is super important for us
- GMP - we apply Good Manufacturing Processes
- ISO 45001 is for Occupational Safety and SA 8000 for Social Responsibility

BREWING YEAST

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YEAST NUTRIENTS

Enhance the aroma profile of your beer whilst boosting yeast performance

Brewers go to great lengths to ensure yeast remain healthy, viable and perform optimally during fermentation. Yet the use of nutrients, further minimises the risk of problematic fermentations by providing the essential nutrients yeast need to stay in peak condition. But what if the yeast nutrient also enhances the aroma profile of your beer? Wouldn't that be a big bonus? Well, AEB Yeast Nutrients do just that.
With their natural amino acids and unique formulation **FERMOPLUS® Yeast Nutrients** enhance yeast's ability to convert hop-derived aroma-active thiol precursors via the process of biotransformation. FERMOPLUS® Yeast Nutrients are perfect for boosting the aroma profile of hop-forward ales, hoppy lagers, and low- and non-alcohol beers.

FERMOPLUS® Fragrance

A Yeast Nutrient with natural amino acids for enhancing **floral aromas** evocative of **orange blossom** and **fragrant elderflower**, with light touches of **fresh mint**.

FERMOPLUS® Fruity

A Yeast Nutrient with natural amino acids for enhancing fruity tropical aromas of **peaches**, **mangos**, **passionfruit**, and **guava**, as well as refreshing hints of **oranges** and **limes**.

FERMOPLUS® Integrateur

A Yeast Nutrient that provides all the **essential nutrients** needed to ensure yeast remain healthy and perform optimally during fermentation. Use alongside FERMOPLUS® Fragrance, Fruity, or Sauvignon.

FERMOPLUS® AromaGlow

FERMOPLUS® AromaGlow maximises the ability of yeast strains which express the IRC-7 gene to synthesize aroma active compounds boosting the **tropical fruit**, **citrus** and **floral** characteristics of hop forward beers.

FERMOPLUS® PerfectBrew-Zn

A yeast nutrient designed to improve the **quality** of brewers' sleep, by reducing worries about yeast viability. FERMOPLUS ® PerfectBrew-Zn is a zinc enhanced nutrient that enables brewers to extend the range of their usual brewing parameters to **higher gravity brews** and grater adjunct use as well as assisting where poor malts, slow or stuck fermentations, or inconsistent yeast sedimentations are an issue.

- Yeast nutrients support the increase in overall conversion rate of aroma-active thiol precursors by yeast.
- Yeast nutrients can reduce the need to use high thiol hop varieties, some of which are grown only in selected regions. In addition, high levels of dry-hopping can be costly with respect to water and raw material use – and there is also beer loss related to spent hops.
- **Yeast Nutrients boost aroma profiles in beer in a more natural and sustainable way.**

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YEAST NUTRIENTS

BREWING ENZYMES

Brew better with AEB brewing enzymes

Today's brewers increasingly appreciate the contribution enzymes can make to modern beer production. Processing under-modified malt and adjuncts such as barley, rice, corn/maize, oats, and sorghum, using enzymes helps minimize the bottlenecks in brewing to give a faster throughput and greater yield. Enzymes also allow you to create new beers using different raw materials. Which means you can experiment with the flavours, taste, and texture of your beer.
AEB brewing enzymes help to off-set raw material costs and allow for greater flexibility in brewing recipes, especially when using alternative raw materials. Look for the **ENDOZYM®** range of brewing enzymes designed to help with brewing efficiency, consistency, and new recipes.

- **ENDOZYM® Brewmix Plus** is a complex blend of thermostable α-amylase, β-glucanase, xylanase, and neutral protease. It is designed to give a high brewing fermentability and an efficient filtration, allowing for greater flexibility in malt and adjunct choice.

- **ENDOZYM® Alphamyl SB1** is a thermostable α-amylase that enables efficient starch liquefaction, whatever the adjunct, for a higher extract yield.

- **ENDOZYM® Glucacel UHT** is a thermostable ß-glucanase which breaks down complex ß-glucans into smaller units to reduce wort viscosity and improve lautering and filtration.

- **ENDOZYM® Protease GF** breaks down protein fraction with proline and glutamine content found in gluten. This leads to better beer clarification and lower gluten content. Ideal for production of gluten-free beers.

- **ENDOZYM® AMG** is the saccharification enzyme glucoamylase applied during mashing to break down starch and dextrins into glucose. It is also the enzyme to use when brewing light or low-calorie beers.

- **ENDOZYM® AGP 120** is a blend of α-amylase, amyloglucosidase, and pullulanase designed to maximise starch conversion into fermentable sugars. It is intended for highly attenuated beers such as low carb beers with a dry and crisp finish.

- **NEW ENZYMES** - COMING SOON

What are enzymes?

Enzymes are proteins that are found everywhere in nature – in all living things, in saliva and digestive systems. Their purpose is to catalyze biochemical reactions. Each enzyme is made up of long amino acid chains folded together into a distinct shape - this shape gives an enzyme specificity for a particular reaction.

Did you know that the molecule an enzyme acts upon, known as the substrate, usually gives the enzyme its name? For example, a ß-glucanase acts on ß-glucans.

The rate at which an enzymatic reaction occurs is determined by temperature, pH, and the amount of enzyme and substrate. This is why brewers are always seeking to adjust their brewing regimes to optimise enzyme performance.

We are enzyme formulation experts helping you brew more sustainably and cost effectively, without compromising taste and quality.

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BREWING ENZYMES

STABILISATION & CLARIFICATION

AEB's silica technology offers a cost-effective and more sustainable way to brew great beer that's as clear as daylight!

Achieving a truly clear beer can be a challenge. As is achieving the required clarity or haze for an unfiltered beer without adversely affecting the taste profile, the foam stability, and overall shelf-life.

Malt, adjuncts and hops contribute to the overall amount of proteins and polyphenols (tannins). Colloidal haze (or non-biological haze) is caused by a series of reactions that bind these proteins and polyphenols. These complexes then precipitate as the finished beer is cooled to give chill haze, while others form clumps leading to permanent haze. That's why grain selection, hopping rates, choice of yeast strain, recipe design, and the brewing process, are all contributing factors that need careful consideration. Look out for **POLYGEL** and **SPINDASOL** range for stabilisation and clarification.

POLYGEL BH

POLYGEL BH is a silica gel (hydrogel) combined with single-use polyvinylpolypyrrolidone (PVPP) and is an adsorptive beer stabiliser. It absorbs the hydrophilic, haze-active proteins of molecular weight approx. 40,000 kDa, leaving the hydrophobic proteins of 10,000 to 20,000 kDa that promote beer foam formation and stability.

Benefits:

- Reduces chill haze and permanent haze
- Produces a more compact trub
- Reduces beer losses
- Gives an efficient beer filterability
- No negative impact on beer foam or flavour
- Enhances beer shelf-life

Application: add to the wort 5 to 10 mins before boil ends or directly into the whirlpool post wort boil

Dosage: 10-40 g/hl of wort

Available in powder form in 500g pack size.

SPINDASOL SB1

SPINDASOL SB1 is a silica sol based precipitant for chillproofing containing pure colloidal silicon dioxide (SiO_2) that is formulated to clarify wort and improve beer filtration. The surface area, particle size and the charge are optimised for adsorption of haze forming particles.

Benefits:

- Improves filterability
- Produces a more compact trub
- Reduces beer losses
- No negative impact on beer quality parameters
- Enhances beer shelf-life

Application: add directly into the wort kettle at end of boil

Dosage: 15-30 g/hl of wort

Available in liquid form in 1kg bottle size.

SPINDASOL SB3

SPINDASOL SB3 is a silica sol based precipitant for chillproofing containing pure colloidal silicon dioxide (SiO_2) especially formulated for beer clarification.
The surface area, particle size and the charge are optimised for adsorption of colloidal particles and provides excellent sedimentation properties.

Benefits:

- Improves beer clarity and stability
- Promotes efficient sedimentation and reduces volume of yeast cells in maturation
- Improves filterability and reduces the filter run
- No negative impact on beer quality parameters
- Enhances beer shelf-life

Application:add directly into the fermenter or maturation tank or in-line during transfer from the fermenter. Note that proper mix of Spindasol SB3 with the beer and maximising the contact time to at least 48h is crucial to achieving optimal beer clarification.

Dosage: 15-30 g/hl (green) beer; mix thoroughly

Available in liquid form in 25kg drum size.

AEB's silica solutions for wort and beer stabilisation and clarification are easy to apply with no need for capital spend on specialised equipment. They are allergen-free and non-GMM derived. They also meet the requirements of the 'German Purity Law' (Reinheitsgebot).

Availability of products may vary from country to country: contact your AEB sales representative for more information.

STABILISATION & CLARIFICATION

ANTIOXIDANTS

AEB Brewing Antioxidants improve beer flavour stability and extend shelf-life

While oxidative reactions in brewing are complex, AEB Brewing offer brewers two very easy and cost-effective solutions. They are called: **ANTIOXIN SB** and **ANTIOXIN SBT**. Both are antioxidants and each protect against oxidation and off-flavour formation.

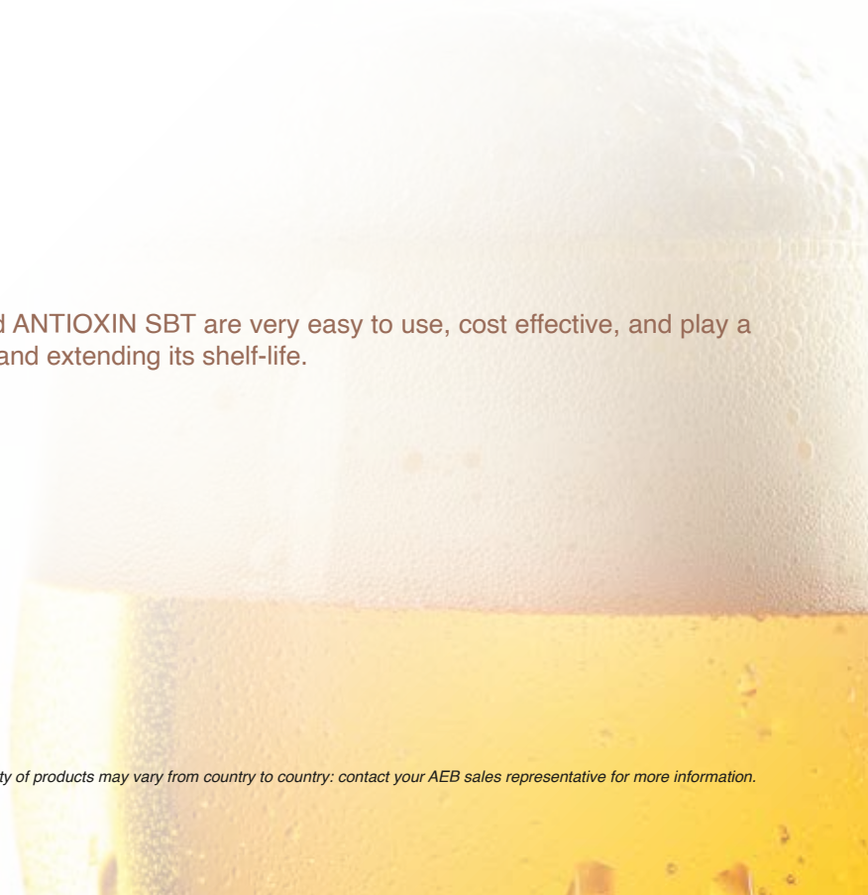
ANTIOXIN SB is an antioxidant that improves flavour stability and extends beer shelf-life by protecting the beer against oxidation and off-flavour formation. Simply add at beer maturation, post-fermentation. It is a blend of SO_2 and Ascorbic acid.

- → Prevents the oxidation of polyphenols
- → Improves flavour stability
- → Reduces beer haze formation
- → Extends beer shelf-life

ANTIOXIN SBT is an antioxidant that contains gallotannin which protects against the oxidation of wort during mashing to reduce beer ageing, improve flavour stability and extend the beer's shelf-life. Gallotannin inhibits off-flavour formation that results from the oxidation of lipids by the enzyme Lipoxygenase (LOX) found in malt and other raw materials. LOX creates the compound Trans-2-Nonenal which is responsible for beer staling and for producing off-flavours described as papery, or wet cardboard. Simply add ANTIOXIN SBT into the mash. ANTIOXIN SBT is a blend of ascorbic acid, SO_2, and gallotannin.

- → Gallotannin increases the antioxidant power
- → Limits oxidation during mashing
- → Improves beer flavour stability
- → Reduces beer ageing
- → Extends beer shelf-life

AEB Brewing's Antioxidants ANTIOXIN SB and ANTIOXIN SBT are very easy to use, cost effective, and play a positive role in improving beer flavour stability and extending its shelf-life.



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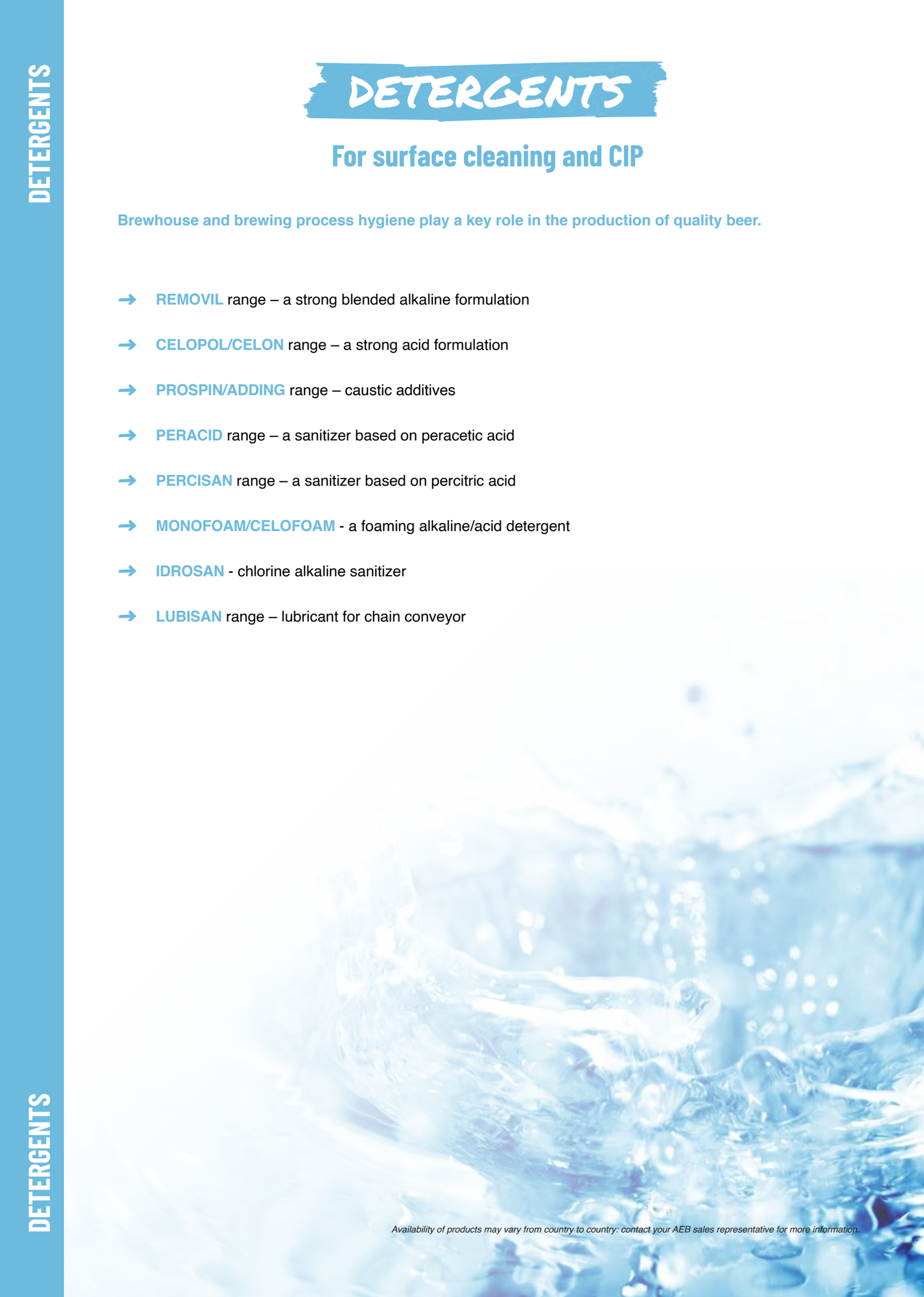
ANTIOXIDANTS

DETERGENTS

For surface cleaning and CIP

Brewhouse and brewing process hygiene play a key role in the production of quality beer.

- **REMOVIL** range – a strong blended alkaline formulation
- **CELOPOL/CELON** range – a strong acid formulation
- **PROSPIN/ADDING** range – caustic additives
- **PERACID** range – a sanitizer based on peracetic acid
- **PERCISAN** range – a sanitizer based on percitric acid
- **MONOFOAM/CELOFOAM** - a foaming alkaline/acid detergent
- **IDROSAN** - chlorine alkaline sanitizer
- **LUBISAN** range – lubricant for chain conveyor



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DETERGENTS

There are three easy ways to find out more about our products, their application, benefits, and place an order

1

Use the AEB eCommerce online platform. Discover our products at aeb-group.com and head to the e-Commerce page. Simply register, browse at your leisure, and begin ordering when it's convenient for you. You can ever order free samples for small-scale trials. Our direct-to-customer model supports our sustainable supply chain initiatives

2

Talk to your local AEB representative from our international sales team or an AEB appointed agent or distributor. Technical support is available when you use any AEB Brewing product.

3

Get in touch via the Contact Us page on aeb-group.com and tell us what you need. Our team of brewers, microbiologists, and fermentation experts, give brewers the confidence to brew a wide range of beer styles, including low and no alcohol, with enhanced aroma and taste.

aeb-group.com

AEB® BREWING

aeb-group.com

Discover our complete range
of **brewing solutions**

BE CREATIVE
BE PASSIONATE
BE AEB