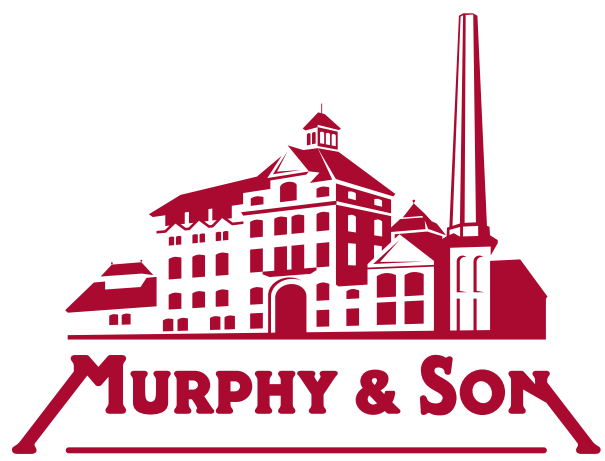


# KEY PRODUCTS

UNLOCKING BREWING SOLUTIONS

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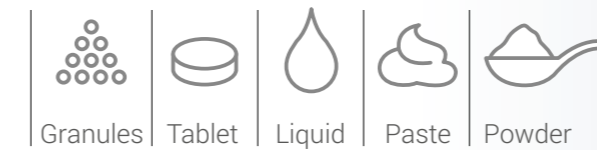
Quality, Consistency & Support



Quality, Consistency & Support

- Supporting the brewing industry for over 130 years
- Consulting brewers, qualified scientists and food grade manufacturers
- Product range that will streamline your process, increase efficiency and troubleshoot
- Comprehensive brewing laboratory providing analytical and microbiological services
- Supply over 90% of the British Brewing Industry
- Comprehensive and growing global efforts
- Work throughout the industry; small, large, craft, regional and international
- Experts in clarification, stabilisation, flavour modification and product consistency

Key to Product Formats

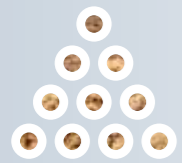


All pack sizes are in kilograms

## Contents

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[www.murphyandson.co.uk](http://www.murphyandson.co.uk)  
[export@murphyandson.co.uk](mailto:export@murphyandson.co.uk)  
+44 (0) 1462 457 186



# Water Treatments

**The essential building blocks of great beer;** our water treatments will assist through the brewing process and complement the full flavour of your chosen beer styles.

- **Control pH throughout the brewing process**
- **Tailored ionic compositions highlight beer flavour attributes**

Create tailored brewing liquor with our classic treatments. We have been supporting brewers with water treatments since our founding in 1887. Our laboratory provides bespoke analysis and treatment recommendations, which can be used to create traditional and craft beers.

## Alkalinity reduction using food grade acids



### AMS

An acid blend formulated to effectively reduce water alkalinity whilst adding useful chloride and sulphate ions.

AMS | Liquid | 12.5 25 200 1000



**TIP** - Can be used to create nearly any style when used in conjunctions with the correct salt blends.



### Lactic Acid

Organic acid used to reduce alkalinity without adding sulphate and chloride ions.

Lactic Acid | Liquid | 25 240 1200



**TIP** - Can also be used for minor corrections in brewing pH and can be used at higher levels for beer souring.



Send in a sample  
for complimentary  
analysis and  
recommendations

For more information email:  
[export@murphyandson.co.uk](mailto:export@murphyandson.co.uk)

## Brewing Salts



### DWB

A classic salt blend most suited to Pale Ale styles.

DWB | Powder | 20



**TIP** - Brewing salts vary in solubility so mixing evenly through the grist is the best way to ensure optimal use for reactions during mashing.

**TIP** - The use of calcium chloride with DWB will increase versatility as it adjusts the chloride sulphate ratio making it more suitable for darker beer styles, promoting full, sweet and roast characteristics.



# Wort Clarification

**Carrageenan based kettle finings** (historically referred to as copper finings) are described as the ultimate processing aid! Manufactured from selected seaweeds and in partnership with carefully audited farmers, these products provide multiple benefits.

- Protein removal - providing consistent particle levels
- Improved beer stability and brighter final beer
- Improved, consistent and vigorous fermentations
- Longer filtration runs for all filter types, including cross-flow
- Cleaner yeast for repitching with less trub
- Reduces processing time



## Protafloc [Granules]

Food grade semi refined kettle finings which are added 10 minutes from the end of the boil. Optimised use at 1-5g/HL provides all the benefits above. Suitable for most brewers-an economical and highly effective product.

Protafloc | Granules | 2 20 KG



**TIP** - 'Cold break' checks can be performed in-house to validate effectiveness. Contact our team for further info.

## Protafloc [Tablets]

Tabletted semi refined kettle finings added at the end of the wort boil. Optimised use typically 1/2 to 2 tablets per HL will provide the benefits above. Popular with smaller brewers, they are extremely convenient and easy to use with fast dispersal and solubilisation

Protafloc | Tablets | 2 25 KG

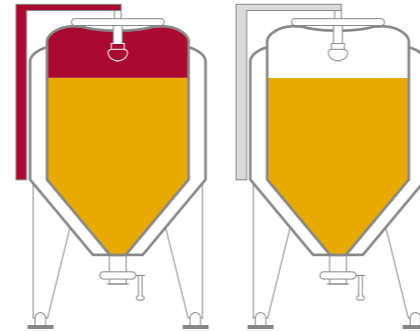


**TIP** - Our laboratory and technical teams can support you with full optimisations, this is a typical requirement when there's a change in raw materials or equipment e.g. new season malt or new brewhouse equipment.

# Foam Control

**Beer foam stability** is a critical part of most beer styles. However, with many complex factors contributing and impeding beer foam, stability can be very difficult to achieve.

- Increases vessel utilisation
- Improved hop utilisation
- Prevents losses and unhygienic spillages
- Can reduce cleaning demands caused by excessive foam
- Can be used to reduce foaming of detergents during CIP



## Antifoam

Although it may be a surprise to some, correct antifoam use actually improves final beer foam! Our food grade formulation has versatile applications and is highly effective at low rates. It can be used in the kettle or fermentation vessels and is classed as a processing aid, as it does not carry over to the final product with standard beer processing and usage rates.

Antifoam FD20PK | Liquid | 5 20 25 200 1000 KG



**TIP** - Our antifoam is concentrated so a 1 in 10 pre-dilution with water makes our antifoam very economical.



## Foam Clear

Our new non-silicon based antifoam is a concentrated agent, based on fatty acids and polyalkylene oxides. It is both Kosher and Halal certified. A flexible product that can be added prior to foam generation and additionally during processing if greater control is required.

Foam Clear Esca NP01 | Liquid | 25



# Enzymes

**Murphy & Son** work with global leaders in enzyme manufacture, to provide an extensive range of brewing solutions. The enzymes we supply have been fashioned through controlled fermentations from select microorganisms to produce natural biological catalysts.

**Enzymes** are biological catalysts that speed up the rate of chemical reactions. They are highly specific in their function, so different enzymes are used at different stages of the brewing process to bring about a range of effects. These include making wort more fermentable, reducing wort viscosity, breaking down haze forming proteins and cutting maturation time by preventing the formation of diacetyl.

## Brewers Clarex and Brewers Clarity

A simple to use, convenient and cost-effective enzyme stabilization option, which helps brewers maintain clarity through shelf life. Clarex/Clarity are also widely used in the production of gluten free beers by reducing gluten under the regulatory threshold.

- Prevents chill and permanent haze from forming by hydrolysing "haze sensitive proteins"
- Highly selective with no impact on foam stability
- Convenient addition to cold wort
- It can be used to prevent the need for expensive cold conditioning
- Reduces gluten levels

\*Brewers Clarity is the small pack version of Brewers Clarex; the same enzyme available in handy 1Kg packs to suit the needs of smaller breweries.

**Brewers Clarex** | Liquid | 5 20 KG

5 20

**Brewers Clarity** | Liquid | 1KG

1

**TIP** - 1-3 g/Hl added upstream is typically all that is required and many brewers find this much more convenient to use than traditional stabilisers



## AMG

The glucoamylase enzyme is used to convert dextrins into fermentable sugars. This enzyme is popular with brewers aiming to produce "low carb" super dry beers and "Brut IPA" styles, as well as distillers looking to increase alcohol yield.

**AMG** (amyloglucosidase/glucoamylase) | Liquid | 1 5 KG

1 5

**TIP** - Although optimum temperatures are suited to mashing, the enzyme will still work at fermentation temperatures. Thus, addition into the fermentation vessel will ensure complete dryness. For example, a 55° gravity wort (~13.75 Plato) will produce a beer of ~7.2% ABV.



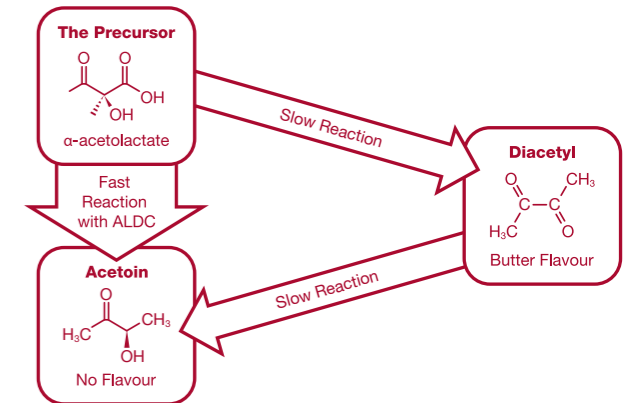
## ALDC

Bypass the formation of diacetyl by using ALDC! A simple addition makes it possible to consistently control a troublesome area of brewing and so, consistently prevent one of the most common flavour complaints. Diacetyl is expensive to measure and control, so bypassing its formation altogether has become very popular with brewers, especially those brewing lagers and dry-hopped pale ales.

**ALDC** (Alpha Acetolactate Decarboxylase) | Liquid | 1 25 KG

1 25

**TIP** - Our laboratory can measure diacetyl (and total VDKs) through GC analysis, email them on [laboratory@murphyandson.co.uk](mailto:laboratory@murphyandson.co.uk) to find out more.



## Trizyme

Although many maltsters do a fantastic job, uneven modification can still cause many issues in the brewery. Poor run off, haze and filtration issues can occur even when malt analysis seems to be within specification. Trizyme is a blend of Alpha amylase, proteases and B-gluconases. This broad spectrum enzyme cocktail effectively counteracts the issues encountered in the brewery as a result of poor malt modification.

**Trizyme** | Liquid | 5 25 KG

5 25

**TIP** - Trizyme can be an extremely useful aid when processing difficult adjuncts such as wheat, rye and unmalted barley.



# Yeast Nutrients

**Brewers' yeast is a complex, domesticated and single-celled organism**, which has diverse nutritional needs. Our formulated yeast nutrients, provide nutrients which supplement those present in wort to keep this wonderful microorganism healthy and improve fermentation performance and consistency.

**With correct yeast handling and storage**, reusing yeast can result in significant savings and quality benefits, however to ensure the best results a yeast food is always recommendable. Following on from which, many flavour defects in beer result from poor yeast health. So, making sure your yeast has everything it needs is paramount



## Yeast Vit

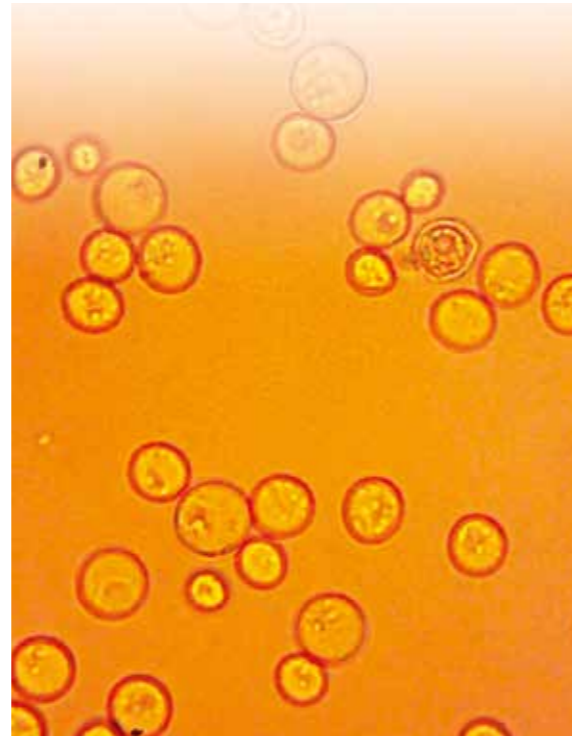
A comprehensive formulation that includes amino acids, vitamins and trace elements, so comprehensive that it can be used with even the most nutritionally deficient worts!

- Better storage viability
- Shortened lag phase
- Consistent fermentation
- Consistent flocculation

Yeast Vit | Powder | 5 25 KG



**TIP** - Poor yeast health can also have a negative impact on membrane filtration.



# Beer Clarification

**Finings agents have been used for centuries** to produce bright and clear beer. Finings can be used on their own or to supplement and improve the efficiency of filtration or centrifugation. Murphy & Son manufacture a range of products to suit different brewing challenges and our team are happy to help find the best option for you.



## Super F

A blended formulation of silica and polysaccharides designed for the rapid sedimentation of yeast, protein and other haze forming particles. Primarily used in tank to supplement or replace centrifugation or filtration.

- Fast, effective protein and yeast reduction
- Low dose rates
- Suitable for heavily dry hopped beer styles
- 9 month shelf life
- Vegan friendly manufacturing process
- Stable at ambient temperatures
- Consistent clarity without centrifugation and filtration

Super F | Liquid | 5 25 200



**TIP** - Best results achieved below 5°C and even works well with dry hopped beer, if the bulk of hop solids are removed prior to addition.



# Laboratory Services

**Quality Management Packages** - We now offer a range of annual Quality Assurance Packages to help you demonstrate due diligence. Testing is important to evidence your commitment to the highest quality standards and manage food safety risk and that you take a proactive rather than reactive approach to quality control!

**It's simple**, we send you pre-labelled bottles when samples are required, which you fill as relevant and send back to us. Your detailed report will arrive in your inbox in a maximum of 10 working days from receipt of your sample(s).

**We offer four distinct levels; Bronze, Silver, Gold and Platinum.**

Each feature the core quality-based and food-safety analysis you require and can be tailored to your recipes and brewery. When you sign up for an annual package you gain access to further discounts should you need any additional analysis!



## Bronze

This will tick the boxes for your SALSA audit and demonstrates a basic level of external analysis to back up your own quality checks. Analysis includes combined analysis (OG, PG, ABV, Colour and Bitterness) SO2, ABV, ATNC and some micro contamination.



## Silver

This is the next step up and shows your thinking goes beyond ticking the boxes and you understand the benefits of extending your level of analysis, even though you may not have the time or equipment to do this yourself. This package includes heavy metals in both your brewing liquor and beer which helps to demonstrate legal compliance for food safety.



# Laboratory Services & Equipment

**At Murphy & Son we offer a wide range of laboratory services and equipment.**

Our Quality Management Packages are designed to help you plan ahead and keep on top of your routine tests. However, we also understand that you can't foresee everything, so we continue to offer a variety of tests which you can book ad hoc, alongside free advice when results are not as you anticipate.

**Like further information?**

email us via [laboratory@murphyandson.co.uk](mailto:laboratory@murphyandson.co.uk)

tel: +44(0)115 978 5494



## Gold

This is our gold standard and demonstrates you are actively paying attention to quality and food safety. In addition to the silver package this level incorporates pesticide analysis as well as increased monitoring of chemistry and microbiological based analysis.



## Platinum

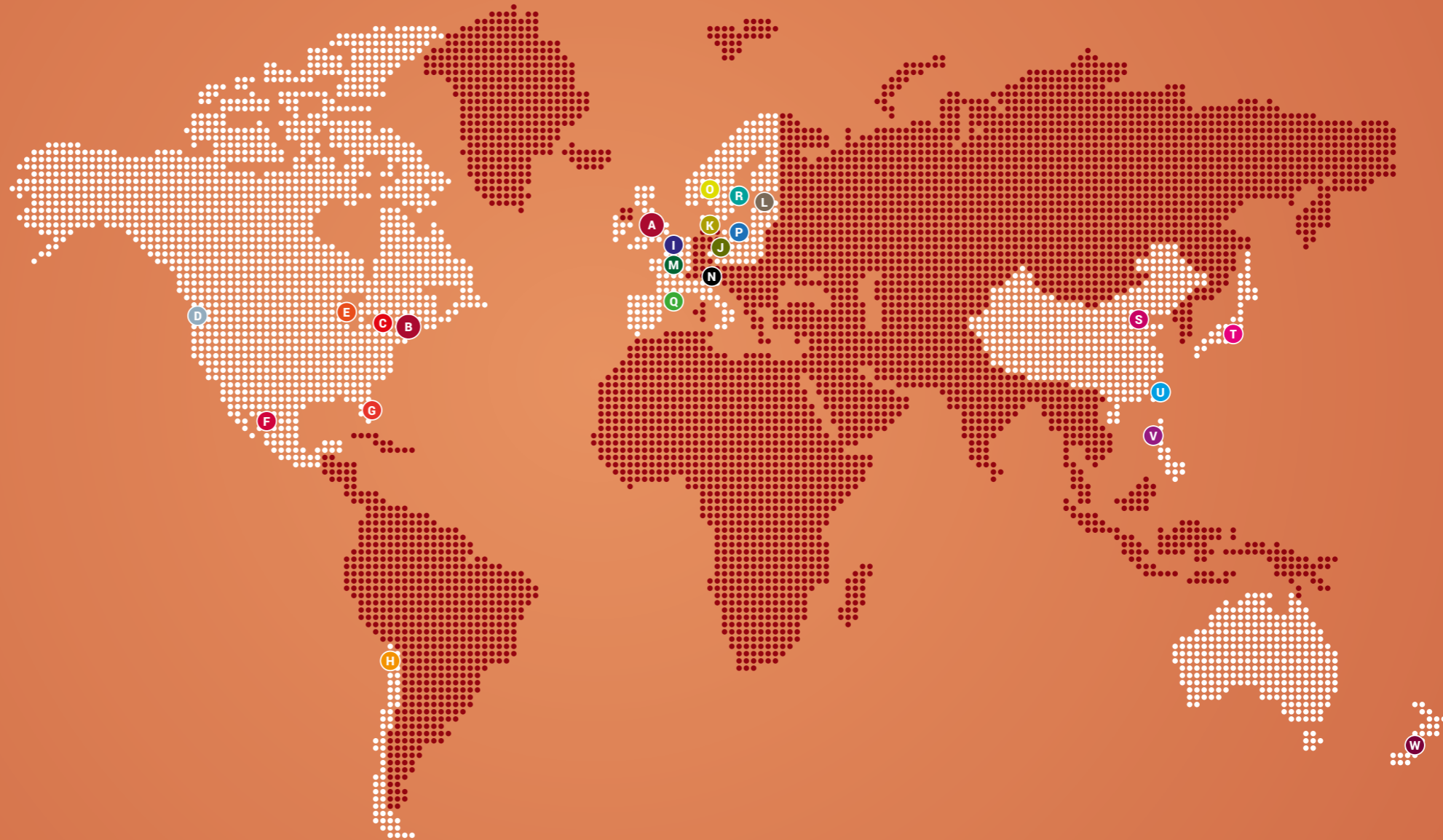
With this package we not only provide regular reports, but we will also trend the results on graphs that provide a visual picture of what's working well and what's not. This allows you to make informed improvements to your processes to increase quality and efficiency and so better manage costs.



# Distributors

We have a worldwide network of trusted partners stretching across five continents and numerous countries, in order that we can provide brewers with the same quality products and service no matter what their location.

Today, you will find Murphy & Son Ltd in the UK and Murphy & Son Inc in the US, alongside distributors in Canada, Chile, China, Japan, Mexico, New Zealand and anywhere in the heart of Europe.



Country	Company	Address	Email	Website
UK	<b>A</b> Murphy & Son Ltd.	Alpine Street, Old Basford, Nottingham, NG6 0HQ, UK	export@murphyandson.co.uk	murphyandson.co.uk
USA	<b>B</b> Murphy & Son Inc.	295 High St #213, Holyoke, Massachusetts, MA 01040		
Canada	<b>C</b> Charles Faram Brewing Supplies Inc.	136 Skyway Avenue, Toronto, M9W 4Y9, Canada	Sales.Canada@charlesfaram.co.uk	charlesfaram.ca
USA	<b>D</b> Charles Faram Inc.	4000 SE International Way, Suite F203, Portland OR, 97222, USA	Sales.USA@charlesfaram.co.uk	charlesfaram.us
USA	<b>E</b> Brewers Supply Group	800 West First Avenue, Shakopee, Minnesota 55379, USA	sales@bsgcraft.com	bsgcraftbrewing.com
Mexico	<b>F</b> Micervesas	Republica de Uruguay 309-A, Col. Panamericana, Chihuahua, CP 31210, Mexico	jose.ruiz@micerveresa.mx	micerveresa.mx
USA	<b>G</b> J. Tech Sales	L.L.C. Headquarters, 6531 Park of Commerce Blvd, Suite 170, Boca Raton, FL 33487	bill@jtechsales.com	
Chile	<b>H</b> Navarro Y Cia Ltd	Av. Pdte. Allende 73, San Joaquín, Stgo, Chile	francisco.oryan@navarroycia.cl	navarroycia.cl
Belgium Netherlands	<b>I</b> IMCD Benelux N.V.	Zenith Business Park, Zandvoortstraat 49, B-2800 Mechelen, Belgium	tim.maes@imcd.be	
Czech Republic Slovakia	<b>J</b> Hop Products, s.r.o.	Jaroslava Seiferta 2179/9, 434 01 Most, Czech Republic	hr@hopproducts.cz	
Denmark Norway Finland	<b>K</b> Caldic Group	Odinsvej 23, 8722 Hedensted, Denmark	m.jensen@caldic.dk	

Country	Company	Address	Email	Website
Estonia Lithuania Latvia Finland	<b>L</b> Baltic Brewing Supplies OU	Narva mnt 122-17, 10127 Tallinn linn, Harju maakond, Estonia	info@balticbrewing.eu	balticbrewing.eu
France Belgium Netherlands	<b>M</b> Brewpark	Rue des Colinettes, ZI Mardeuil, 51530, Mardeuil, France	vianney.giot@brewpark.com	brewpark.com
Italy Slovenia	<b>N</b> Mr Malt	via V.M. Moretti, 33037 Passignano di Prato (UD), Italy	cristiano@mr-malt.it	mr-malt.it
Norway Sweden	<b>O</b> Craft Co.	Craft Co. AS, Sofiemyrveien 4, 1412 Sofiemyr, Norway	denise@craftco.no	craftco.no/om-oss
Poland	<b>P</b> Biochem-Art	ul. Elfow 75, 80-180 Gdansk, Poland	biuro@biochem-art.pl	biochem-art.pl
Spain Portugal	<b>Q</b> Agronet SL	P.I. Fabra I Coats, fabrica no.4, 08571 Borgonya (Barcelona), Spain	jordi@agronetbrewing.com	agronetbrewing.com
Sweden	<b>R</b> Humlegårdens Ekolager AB	Bergkallavägen 28, SE-19279 Sollentuna, Sweden	peter.hogstrom@humle.se	shop.humle.se
China	<b>S</b> Barth Haas Beijing Trading Ltd	Unit 30-32, Level 6, China World Trade Tower 1 No.1, JianGuoMenWai Avenue, 100004 Beijing, P.R. China	yiyaowu@barthhaaschina.com	
Japan	<b>T</b> Bright Wave Media	231-0063 Yokohama, Hanasaki, CHO-1-42-1, Noge Hana Hana 2f, 2310063, Japan	brian@japanbeertimes.com	
Taiwan	<b>U</b> Giff Chemicals Co., Ltd	9F NO 402 SEC, 1 Jen Ai Road, Lin-KO Hsiang, Taipei, Taiwan	kenny.giff@msa.hinet.net	
Philippines	<b>V</b> Rudolf Lietz Inc.	Lietz Industrial Complex, Edison Avenue (P. Leviste), KM 14 SLEX, 1709 Paranaque City, Metro Manila, Philippines	arjl.mgt@juanbrew.com	
New Zealand Australia	<b>W</b> Gladfield Malt	721 Hororata Dunsandel Road, RD2, Leeston 7682, New Zealand	gabi@gladfieldmalt.co.nz	gladfieldmalt.co.nz







Quality, Consistency & Support

Murphy & Son Limited  
Alpine Street  
Old Basford  
Nottingham  
NG6 0HQ  
United Kingdom

[www.murphyandson.co.uk](http://www.murphyandson.co.uk)  
[export@murphyandson.co.uk](mailto:export@murphyandson.co.uk)  
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