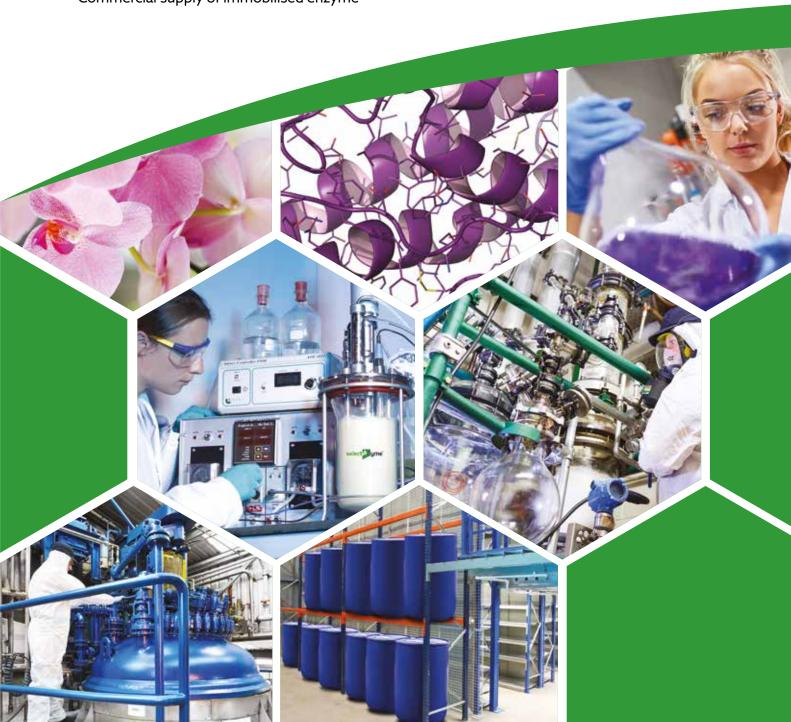


# Chemical solutions

- · Commercial manufacture of intermediates and regulatory starting materials
- · Chemical route scouting, process development and scale-up to multi-tonne supply
- · Thin film evaporation / distillation expertise
- selectAZyme<sup>™</sup> enzyme technology and biotransformation scale-up
- Commercial supply of immobilised enzyme





## What we offer:

- Gram to tonne manufacture of intermediates and speciality chemicals
- · Chemocatalysis and biocatalysis
- Enzyme technology (selectAZyme<sup>™</sup>) and enzyme immobilisation
- Kilo laboratory and pilot plant from 10 L to 1000 L in glasslined and stainless steel vessels
- Production scale from 1000 L to 6000 L in glasslined and stainless steel vessels
- Working temperature range 50°C to +220°C
- Short path distillation/thin film evaporation

#### **Chemistry expertise:**

## Our technology expertise includes:

- Alkylation
- Aminoalkylation
- Asymmetric synthesis
- Biocatalysis selectAZyme™
- Base catalysis
- · Catalytic transfer hydrogenation
- Condensations
- Darzens synthesis
- Dealkylation
- · Dieckmann condensation
- Diels Alder
- Esterification
- Grignard chemistry
- Leuckhart reaction
  Michael reaction
- Michael reaction
- Methacrylate based monomers
- Organolithium chemistry
- Organometallics
- Organosilicon chemistry
- · Oxidation chemistry
- Stereoselective chemistry

# Chiral chemistry & biocatalysis

Arran is a specialist in the development and scale-up of chiral chemistry and biotransformations. The selectAZyme $^{\text{\tiny M}}$  enzyme platform contains a diverse array of enzymes classes, many of which are ready for deployment at kilogram to tonne scale.

Arran partners with its clients in the application of industrial biocatalysis in a production environment to meet efforts to reduce waste, satisfy environmental controls and fulfil green chemistry obligations.



## **Established products include:**

- · Aroma intermediates and final products
- Intermediates specialising in chiral amines and chiral alcohols
- · Biocatalysis derived products
- · Enzymes and immobilisation
- · Grignard and organolithium derived products
- · Chiral catalysts and associated ligands
- Specialist monomers





#### Regulatory

- Certified to ISO 9001:2015 and ISO 14001:2015
- · Adheres to responsible care programme
- IPPC licence
- · Safety management system in place
- · Compliance with REACH
- · Multiple customer audits each month
- · Good environment compliance

## Challenge us with your chemistry problems

See how we can apply innovative technologies in a production environment to increase process scalability, lower cost-of-goods and build a long term supply relationship.

Arran welcomes on-site visits and audits at our Athlone headquarters.

# Get in touch

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