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# Organic Synthesis

Supporting every step of your reaction

Find it at [eu.fishersci.com](http://eu.fishersci.com)

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part of Thermo Fisher Scientific

# Supporting every step of your organic synthesis

With chemicals, reagents, metals and materials from the Acros Organics™, Alfa Aesar™ and Fisher Chemical™ brands

## Step 1: Reaction planning



What reagents do I need?

How do I find them?

- [Chemical structure search tool\\*](#)
- CAS#, product name search\*
- Ordering information: Sales rep details, web shop
- [Named reactions\\*](#)
- [Popular organic reactions\\*](#)
- [Organic compounds web page\\*](#)
- [Building blocks, catalysts and reagents](#)
- [Chemical essentials](#)

Is this compound commercially available?

How do I order what I need?

## Step 2: Reaction Setup



Do I have a robust reaction protocol to refer to?

How do I troubleshoot the setup? (prevent issues)

- [Popular organic reactions\\*](#)
- "Non-reagents" essentials: Sand, oil, silica gels, lubricants, general use, solvents/cleaning solutions
- Plates, agitators, plastic consumables
- Glassware, Quick-Fit and others
- Fisherbrand plates, centrifuges

Do I have correct glassware/vessel setup?

What are the chemical essentials that I will need?

## Step 3: Reaction Management Control

What are the hazards of the reaction and how do I prevent or control them?

- [Safety Data Sheets\\*](#)
- [AcroSeal™ products for low water content reagents](#)
- Acid or base solutions
- Titration solutions, acids, bases, indicators
- pH meters, electrodes, calibrating solutions, other electrochemistry consumables
- TLC plates, tanks, jars, solvents, ninhydrin
- Humidity traps, desiccants, silica/celite, MgSO<sub>4</sub>, activated alumina
- Chemical traps
- Fisherbrand™ pipettes, vials, caps

Do I need consumables, equipment or chemicals for thermal control of the reaction?

How do I monitor progress conversion? (sampling, titration, TLC, etc.)

## Step 4: Reaction Work Up

What do I need to do to isolate the product(s)?

Precipitation/crystallisation?

- Acids/bases for salt formation
- Precipitation and flocculation agents
- Silica gel for chromatography
- Preparative HPLC – columns, solvents and chromatography consumables
- Solvents for gel permeation, extraction
- Glassware for gel permeation, extraction, soxhlet
- Chemicals for dessication (e.g. K/MgSO<sub>4</sub>, etc.)
- Fisherbrand centrifuges, filters, Buchner, paperfilters

Gel permeation?

Extraction?

## Step 5: Analysis / Characterization

How do I characterise the products?

Using pH testing or Karl Fischer titration.

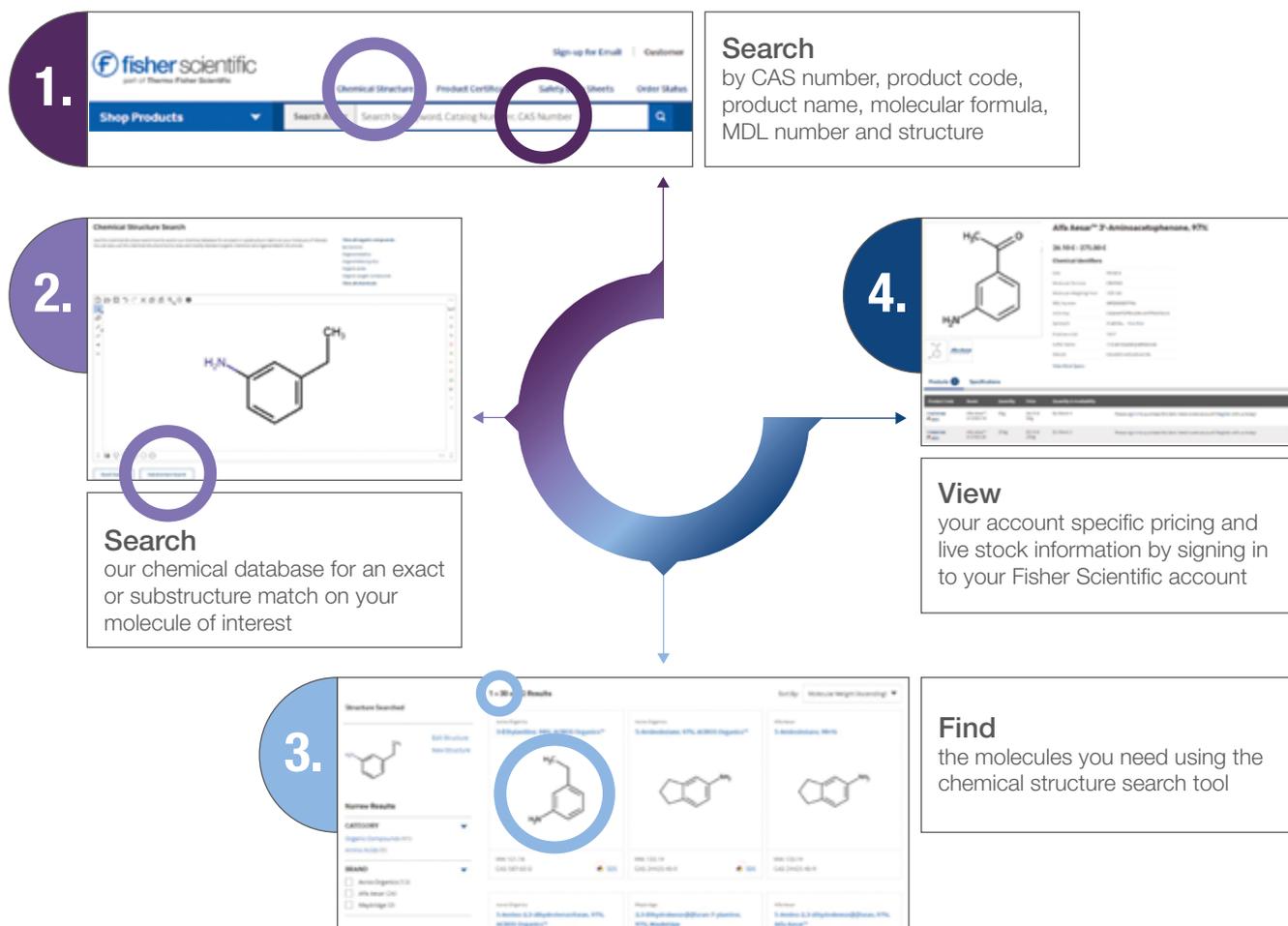
- HPLC, GC, MS solvents and analytical chemical essentials
- Deuterated solvents for NMR, NMR tubes and caps
- Infra-red: potassium bromide, sodium chloride, calcium fluoride
- Acid/base/buffer solutions
- pH meters, calibrating solutions
- Fisherbrand consumables and small instruments

How do I assess purity?

Using HPLC, LC-MS, GC, IR, UV or NMR techniques.

\* All of these resources are available from your local Fisher Scientific website

# Find the reagents, catalysts and other chemicals you need



► In-stock items are shipped the same day your order is received

## Useful links

- [Chemical structure search tool – via your local homepage](#)
- [Safety Data Sheets](#)
- [Top 5 reactions](#)
- [Product literature](#)

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