



# Johnson Matthey Macfarlan Smith

**Macfarlan Smith Ltd.**, is a manufacturer of active pharmaceutical ingredients (APIs) and specialised pharmaceutical intermediates. It is also a world leader in the production of alkaloid opiates and other controlled drugs.

The company operates a state-of-the-art plant to the highest level of cGMP, and offers a comprehensive contract manufacturing facility ranging from the development of novel synthetic processes, through lab-scale production to the provision of multi-tonne custom synthesis, including the toll extraction of active principles from natural products.

A high level of product containment is maintained throughout the production cycle and all products are isolated in controlled environment finishing suites.

We offer a comprehensive and confidential contract manufacturing service for products from development through to bulk production:

- process development and optimisation
- process scale-up and validation
- stability studies
- preparation and international submission of Drug Master Files and Certificates of Suitability
- multi-kilo pilot plant production
- bulk production
- extraction and purification of natural products
- chiral resolution

