



 **Richman**Chemical



custom solutions

Infinite Possibilities in Custom Manufacturing and Product Sourcing

Our Mission

As a preferred outsourcing partner to life science, specialty chemical and emerging technology companies, Richman Chemical Inc. (RCI) provides custom manufacturing, product sourcing, and project management solutions that save time and are cost-effective.

Our Business

Working primarily with North American partners, RCI places and manages custom manufacturing projects and also custom sources raw materials. By streamlining the project management process, we deliver lower costs and accelerate time-to-market for our clients' products. When appropriate, we also source from qualified partners in Asia and Europe. We identify whatever solution works best for our client and we pursue, manage and ultimately deliver it.

Our History

In 1988 we pioneered the Independent Outsourcing Business Model. We identify the optimal manufacturing partner on a project-by-project basis. The strong relationships we have developed with our capable partners enable us to bring successful solutions to our clients. Our growth from a one man start-up to a corporation with a skilled staff of project managers and logistic experts has validated our business model. Our knowledge of custom manufacturing and chemical sourcing is unmatched in the industry. We are not fee based. Consequently, we work very hard to achieve win-win solutions. We succeed only when you succeed. Frankly, you wouldn't want it any other way.

Product lists, capabilities and inquiry forms are available at www.richmanchemical.com.

Life Sciences

Specialty Chemicals

Emerging Technologies

Custom Services

Raw Material Sourcing

Project Management

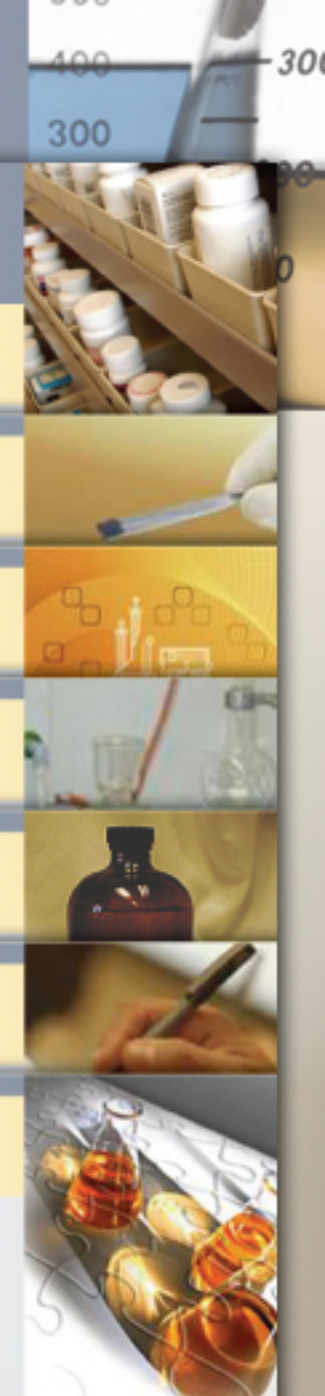
Philosophy, Benefits and Solutions

OUR PHILOSOPHY

Our approach to business is simple. We achieve success when we deliver a solution to your project requirements on budget and on time. Our project managers employ innovative methods—both technical and logistical—whenever necessary to accomplish this goal.

BENEFITS OF WORKING WITH RCI

- Access to appropriate manufacturing sites



Life Sciences

Within the life sciences market, RCI serves pharmaceutical, medical device, biotech, personal care, nutritional and diagnostic testing companies. For nearly 20 years, we have delivered full scale commercial cGMP manufacturing and DMF filing for both FDA and foreign regulatory agencies and recently, device-drug product innovation. RCI's project management solutions effectively complement the in-house efforts of our life science clients. Working with RCI is equivalent to having a large outsourcing department – without the cost.

Our extensive experience with complex, multi-step organic syntheses, polymerizations, and pharmaceutical formulations enables us to improve technical development, reduce time to market and lower overall project costs. In addition our outsourcing services are cost effective in preparing novel metabolites and reference standards.

RCI has been particularly effective in assisting clients with their exciting breakthroughs in the relatively new device-drug field. We identify optimal chemical synthesis methods for excipients and drugs used in new medical devices. We use our established relationships with cGMP manufacturers to quickly satisfy our client's manufacturing requirements. We help navigate the regulatory pathway for the drug portions of devices.



www.richmanchemical.com

Phone 215.628.2946

Fax 215.628.4262



Specialty Chemicals

Custom manufacturing for the specialty chemicals market poses its own unique set of challenges. RCI understands this market's critical requirements: low unit costs, consistent large scale production and expertise in specific types of organic or polymer chemistry. We bring more than 60 years of Fortune 500 and small chemical company experience to our manufacturing projects.

Our understanding of both large and small company cultures allows us to make effective client-manufacturer partnerships.

Raw material cost is a major factor in the competitiveness of custom manufactured specialty chemicals.

RCI combines global raw material sourcing capabilities with diverse custom manufacturing options to deliver successful, cost effective solutions.

CHALLENGES...

EXPERTISE...

OPTIONS...

SUCCESS.



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Emerging Technologies

RCI provides valuable outsourcing solutions to biotech, medical device, electronics, and energetic materials companies in the Emerging Technologies (ET) market.

We are the smart choice in part because of our unique portfolio of partner manufacturers. They include many small scale synthesis labs who offer rapid turn around, cost effective, expert custom synthesis services. Our established relationships and bulk buying power allow us to deliver solutions to our ET clients, faster and better. Our experience in this field typically surpasses that of our clients. But by working with us, they directly benefit from it.

BIOTECH

MEDICAL DEVICES

ELECTRONICS

ENERGETIC MATERIALS



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Custom Services



CUSTOM MANUFACTURING

TECHNICAL EXPERTISE: Custom manufacturing of chemical entities for pharmaceutical and chemical applications is our core competency. We also have expertise in delivering solutions requiring unit operations such as distillation, drying, and particle size processing. Projects at all scales are welcome. Please check our updated capabilities list at www.richmanchemical.com.

Compliance Offerings:

cGMP (pharmaceutical)
cGMP (food)
DEA license
DMF preparation
Food Grade
Kosher
ISO 900x

Scales:

Small Scale Synthesis
(mg to kg)
Pilot Scale Preparation (kg)
Full Scale Manufacture
(kg to millions of pounds)

Reaction Capabilities:

Alkylation
Amidation
Bromination
Chiral Resolution/Synthesis
Condensation
Cyanoethylation
Dehydrohalogenation
Diazotization
Enzymatic Synthesis
Esterification
Ethoxylation
Fluorination
Hydrogenation
Nitration
Oxidation
Organometallic Synthesis
Phosgenation
Phosphation
Polymerization
Quaternization
Reductive Amination
Sulfonation

Unit Operations:

Blending and Dispersing
Distillation
Drying
Emulsification
Extraction
High Pressure Reactions
Recrystallization
Solvent Recovery

Special Solids Handling Capabilities:

Double Drum Drying
Spray Drying
Fluid Bed
Agglomeration
Flaking
Grinding
Granulation
Chilsonation
Milling
Micronization



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Raw Material Sourcing

CHEMICALS

RCI maintains a comprehensive pharmaceutical/chemical raw material and intermediates product list comprised of research, pilot and full scale quantities. We will also conduct custom searches for products not on our list. Refer to www.richmanchemical.com to make an inquiry.

RCI offers these benefits:

- One-stop shopping – satisfy all your sourcing needs with just one contact!
- Access to RCI's established working relationships with a large network of domestic and international suppliers
- Warehousing and logistics services for Just-in-time delivery
- Custom sourcing for difficult to find products and those in short supply

If there are no commercial sources, our Custom Manufacturing group will develop a new source. Please check our "Chemical Products Directory" at www.richmanchemical.com.

NUTRITIONALS

RCI has a successful history in the nutritional market. We established the first wood-based Sterols U.S. manufacturing. We were an early domestic toll manufacturer of Creatine. We continue to build a large network of reliable manufacturers and suppliers with competitively priced nutritional ingredients. Our experience allows us to ensure successful sourcing of your nutritional products from order through delivery.

We have nutritional sourcing in the U.S., Asia and Europe. We use our supply chain expertise to offer our clients the best product options, wherever they can be found.

Please check our "Nutritional Products Directory" at www.richmanchemical.com.



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Project Management

RCI's project management team combines more than 90 years of experience in custom manufacturing pharmaceutical and chemical products.

We deliver a "total solution" to our clients. They receive technical support for synthesis and manufacturing as well as comprehensive project management services. RCI's business model allows us to manage your project from inception to completion. Your project manager oversees and ensures fulfillment of the following:

- Process development and optimization
- Pilot scale-up
- Full raw material sourcing
- Dispute resolution
- Regulatory compliance monitoring and filing
- Intellectual property advice
- Logistics coordination services

We realize that companies have choices for each aspect of their custom projects. Our objective is to offer superior, comprehensive solutions, in an easy one-stop shopping process, for your most important and complex projects.



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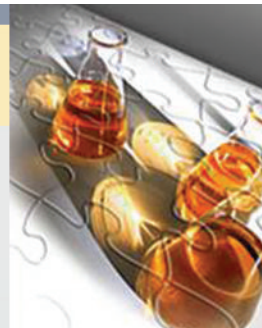
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BENEFITS OF WORKING WITH RCI

- Access to appropriate manufacturing sites
- Cost Savings via RCI's "total solution" approach
- Accelerated timelines through our efficient business model
- Problem solving via critical path focus
- Win-win results, as RCI's success is wholly dependent on our clients' success!

SOLUTIONS

Since 1988, Richman Chemical Inc. has used its unique business model to help companies outsource their projects efficiently. RCI provides expert custom synthesis, custom manufacturing, product sourcing and project management services to emerging technology, established pharmaceutical and specialty chemical firms. Our clients benefit from our consistent delivery of cost savings and accelerated timelines.



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Case #97

EMERGENCY! Need a Novel Chemical Recipient – STAT!

A medical device company was in need of a crucial organic chemical component for a new product in advanced clinical trials. The company, however, had a BIG problem: they made medical devices and had no expertise in organic synthesis!

Soon after contacting Richman Chemical, the company's fears were alleviated. Our project management experience enabled us to quickly evaluate the technology, optimize the synthetic process, scale up to the appropriate manufacturing size, and develop an FDA-approved, cGMP manufacturing protocol for successfully making the critical material.

As a result of our cooperative efforts, enough material was prepared to satisfy the anticipated market demand in time for FDA approval.

Case #239

Business in Jeopardy – Why You Need Richman Chemical

Recently, Richman Chemical was contacted by an electronic chemicals firm with a serious supply problem. A key imported raw material was unavailable to fill a last minute requirement, putting an upcoming new product roll-out in serious jeopardy. Fortunately, the company contacted Richman Chemical just in time. We were able to quickly locate several hundred kilograms of the raw material in the U.S. and expedite delivery within 10 days, while staying within the project's cost parameters. Another satisfied Richman Chemical customer!