

LIQUID CHEMICAL BLENDING FAQ GUIDE



Thank you for downloading the Royal Chemical Liquid Blending FAQ Guide. Our goal is to provide you with a comprehensive understanding of the basics of chemical blending and what it's like to partner with Royal Chemical.

It's important to understand liquid blending, whether you're a novice or an industry veteran, so you can produce the high-quality liquid chemicals your customers need efficiently and profitably.

If you're looking for liquid chemical blending, industrial chemical packaging and chemical warehousing services, you likely have several important questions related to your potential partner's capabilities, processes, quality and logistics.

Let's dive into frequently asked questions (FAQs) the team at Royal Chemical often fields from our prospects and clients.

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CAPABILITIES

Q: What types of liquids can you blend?

A: At Royal Chemical, we're proficient in blending a diverse range of chemical products thanks to our unmatched expertise and cutting-edge facilities.

We specialize in processing cleaners — both thin and viscous — foams, caustic substances and acids.

Our facility is equipped to handle flammable raw materials, provided that the flashpoint of the final product exceeds 100 degrees F. This approach underscores our commitment to maintaining strict safety standards while accommodating a diverse range of chemical compositions.

By prioritizing safety and quality assurance, Royal Chemical is the partner of choice for businesses seeking dependable and tailored chemical blending solutions.

Q: Are there liquid materials Royal Chemical does not blend?








A: Safety is paramount in our operations. Therefore, we refrain from processing known carcinogens or mutagens, as well as combustible dusts or flammable finished goods.

However, we handle flammable raw materials, provided that the flashpoint of the final product surpasses 100 degrees F.

CAPABILITIES

Q: What is your experience with specific industries or applications?

A: At Royal Chemical, we proudly develop chemical manufacturing solutions for an array of industries, including:

-  Industrial and institutional cleaning
-  Metal cleaning
-  Car care
-  Food processing plant cleaning
-  Janitorial and household cleaning
-  Laundry chemicals
-  Sanitizers and disinfectants

Q: What types of packaging and labeling services do you offer?

A: Royal Chemical is capable of packaging both liquid and powder chemical products in many sizes — from a few ounces to tank trucks.

When it comes to liquids, we offer bottles, pails, drums, totes and bulk tank trucks. We're experienced in filling a wide range of configurations, including round, flat panel, trigger sprayer, goose-neck, laundry and measure-pour bottles.

We have bottling capabilities at three of our five locations, with eight bottling lines that can efficiently fill 8-ounce to 2.5-gallon bottles. High-speed bottling capabilities are available in our Chattanooga, Tenn., facility. Our quick-changeover methods allow us to produce in affordable lot sizes.

Royal Chemical also handles repackaging. We can transload materials from a tank truck or other bulk containers and repackage them into smaller sizes, such as drums or totes, to meet your needs.

PROCESSES

Q: Who supplies the materials — Royal Chemical or the client?

A: Most of our customers prefer to let us provide all the materials. Royal Chemical purchases more than 1,500 materials from 450 suppliers and invests considerable resources in developing outstanding supply relationships and low costs.

If you wish to supply some or all of the materials, we are happy to accommodate your arrangements.

Q: What equipment and technology do you employ for precise blending?

A: Royal Chemical has the liquid mixing capabilities and capacity to handle a broad range of custom chemical blends.

Our equipment includes 60 liquid mixers designed to handle various order quantities. Our chemical mixer sizes range from 200 gallons to 8,000 gallons, depending on location; mixer designs include stainless steel, polyethylene, Hastelloy and glass-lined units. The variety allows us to handle your specific chemical compositions, such as acid, alkaline and water-soluble organic blends.

Additionally, our mixer variety allows us to provide high shear mixing capabilities and variable speeds for foam control, with the ability to produce viscous chemical blends up to 50,000 centipoise (cps).

Q: Does Royal Chemical advise clients on formulations?

A: While Royal Chemical does not advise clients on or provide chemical formulations, we have relationships with experts who can provide chemical formulation consulting services. We're happy to connect you with these consultants.

Q: Can you handle custom or proprietary formulations?

A: Yes, we specialize in producing custom and proprietary formulations. We don't formulate, brand or manufacture our own products, so everything we do – purchasing raw materials, handling materials, managing inventory, mixing, blending, packaging and shipping – is done for the benefit of our clients. We will never compete with you.

By handling some or all of our customers' production, we allow you to focus your capital and resources on the aspects of your business that increase value, such as product development or sales and marketing, and reduce the complexity of your operations.

QUALITY

Q: What certifications does Royal Chemical hold?

A: Royal Chemical maintains various certifications relevant to chemical manufacturers. Our certifications and registrations include:

- Kosher
- Halal
- NSF
- ISO-9001



Additionally, we are in compliance with EPA regulations and we adhere to Good Manufacturing Practices (GMP), ensuring the highest standards of quality and safety in our processes. We also work with FDA-approved materials for medical devices.

If your market requires additional certifications, Royal Chemical is capable of and willing to secure further accreditations.

Q: What quality control measures do you have in place?

A: Quality control is a priority at Royal Chemical, which is why it's a key component of our production process. The Royal Chemical Quality Management System (QMS) conforms to the current ISO 9001:2015 standard.

All five of our locations feature quality-control laboratories to ensure we meet your specifications and achieve consistency with your products.

We lab test every batch of product we produce to ensure it meets the required specifications. All samples must pass inspection before the products move onto the packaging process. If a sample fails to pass, we notify you about the nonconforming product and provide options going forward.

Quality control checks include:

- Appearance
- Acidity
- Alkalinity
- Freeze/thaw
- Percent solids
- pH
- Specific gravity
- Viscosity

Q: What quality assurance measures do you offer for packaging?

A: Royal Chemical's quality control checks for packaging include:

- Pallet specification
- Labels
- Lot numbers
- Overall appearance

LOGISTICS

Q: What are your typical lead times?

A: During the onboarding process, we recommend you provide us with a Tech Transfer Packet (TTP), designed to facilitate and optimize your communication with Royal Chemical.



The TTP covers information such as:

- ✓ Nondisclosure agreements (NDAs)
- ✓ Safety data sheets (SDSs)
- ✓ Packaging instructions
- ✓ Quality control requirements/verification
- ✓ Certification requirements
- ✓ Other formulation details

The TTP process typically requires eight weeks for completion, although the timeline varies based on the quantity of units involved.

After onboarding, our lead times for bulk production average 21 days. Small packaging orders require approximately 10 weeks for fulfillment.

Q: What is your minimum order quantity?

A: At Royal Chemical, our minimum order quantity (MOQ) is 1,000 to 2,000 gallons for any bottled products that run on our rotary and in-line fillers.

The MOQ for our high-speed bottling line is 40,000 bottles, but we have equipment well-suited for lower volumes.

For large pack, the MOQ is 220 gallons.

Q: Is Royal Chemical adaptable to seasonal fluctuations in clients' business needs?

A: Yes, we understand that many industries experience seasonal variations in demand. We pride ourselves on our flexibility and the ability to adapt to our clients' changing needs. If your business is affected by seasonal trends or market fluctuations, we have strategies in place to ensure your success year-round.

Q: Do you provide inventory management?

A: Royal Chemical has a bill-and-hold process. Customers place a production purchase order and are then invoiced for it. Our customers own the stock and we ship from your own stock.

Q: Do you offer a climate-controlled environment?

A: No, we do not offer a climate-controlled environment at Royal Chemical; however, we have approximately 300,000 square feet of warehouse space.

LOGISTICS

Q: How do you handle supply chain logistics and shipping?

A: We offer chemical warehousing and shipping options designed to cut your freight, inventory and material costs.

Our five plants are strategically located to reach 83 percent of the continental U.S. population within one shipping day and 100 percent within two days. Your chemical products are available when you need them with minimal lead time required.

Our 300,000 square feet of total warehousing space means we have the capacity to store a large volume of inventory for you.

Additionally, we have locked-in rates with an industry-leading third-party logistics provider (3PL), so you gain pricing advantages without having to search for your own transportation partner. We also offer drop shipping directly to you or your distribution center.

Q: Do you ship carcinogens, mutagens or flammable materials?

A: Royal Chemical does not ship carcinogens, mutagens, flammables (materials must have a flashpoint of 100 degrees F or greater), food-grade materials, heavy metals or combustibles.

Q: Do you charge for warehousing?

A: We provide complimentary warehousing for items produced by Royal Chemical, whereas warehousing for customer-supplied finished goods may incur a charge.

Q: What are the steps from initial contact to project initiation?

A: Following the initial contact, there are five steps in the process of working with Royal Chemical:

1. Quotation, including consultation and contract negotiation
2. Pre-activation
3. Pre-production
4. Production and shipping
5. Invoicing and pricing

For more details, access the [Royal Chemical Tech Transfer Package](#).

Q: What sets your company apart from other contract chemical manufacturers?

A: For more than 80 years, Royal Chemical has been building strong, trusted mutually beneficial partnerships with clients.

In addition to our long history, we boast:

- Unmatched quality, safety and compliance
- Superior transportation, logistics and warehousing capabilities
- Raw-material buying power
- Five strategic locations across the U.S.
- Flexibility, whether you need product in 8-ounce bottles or 5,000-gallon tankers