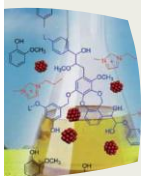




▶ FINE OR SPECIALTY CHEMICALS?



▶ CHEMICAL INTERMEDIATES?



▶ R & D SERVICES?

REACTIMEX, S. A. DE C.V.®



Outsourcing...

...Think Mexico

Reactimex, S.A. de C.V. is a Mexican privately held corporation dedicated to produce and sell fine chemicals and intermediates mostly for the pharmaceutical and cosmetic industries.

COMPANY OVERVIEW

Reactimex started operations in 1987. From the beginning the company gave top priority to maintaining a strong process-oriented research and development program. Through the years, this emphasis led to the development of an extensive portfolio of competencies in the areas of chemical synthesis, design and operation of fine chemical processing plants, and a strong quality system that adheres to current Good Manufacturing Practices.

Reactimex currently produces and sells a range of fine chemicals used in the cosmetic, pharmaceutical and other specialty chemical industries, as well as selected active pharmaceutical ingredients. Aside from its regular product line, Reactimex also offers process development and custom manufacturing services. Last but not least, toll manufacturing services using process technologies and raw materials supplied by the client under confidentiality, are also offered.



OUR CREDO

1. We will actively aim to identify and serve market niches for advanced intermediates and other fine chemical products whose manufacturing involves multi-step batch processes.
2. We will strive to develop sustainable competitive advantages by:
 - Maintaining lower costs via the development and use of efficient process technologies, backward integrated to the extent needed to make it possible to start from basic and widely available raw materials.
 - Offering higher value to our clients, by adapting the specifications and characteristics of our products to optimally respond to the client's product performance needs.

To make this possible, we will rely on our own research and development capabilities, and on our ability to locate, absorb and adapt outside chemical expertise, two capacities which we consider are essential for our long term growth and prosperity.

3. We will emphasize quality at all levels of our company's endeavors, and for such purpose will:
 - Hire, train and retain bright, hard working, and responsible personnel.
 - Design and maintain state of the art production facilities.
 - Run a strong quality assurance system.
 - Observe all applicable health, safety, and environmental protection regulations.
4. Our commitment to quality shall be reflected by our ability to deliver products and services of high quality as measured by our client's standards, at competitive prices, while assuring a fair compensation to our employees and adequate economic returns to our shareholders.



REGULAR PRODUCT LINE:

- Pharma intermediates:
 - Sodium 2-ethyl hexanoate (dry powder and solvent solution)
 - 3-Sulfamoyl-4-chloro benzoic acid
 - Dimethyl amine hydrochloride
 - Substituted Sulfonylureas
- Active Pharmaceutical Ingredients:
 - Metformin HCl
 - Chlorpropamide
- Fine Chemicals:
 - Indole-3-butyric acid (auxin)

CUSTOM SYNTHESIS:

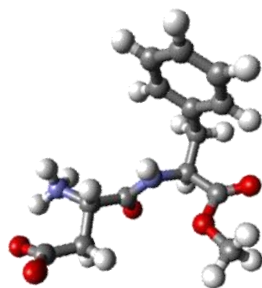
- Fine chemicals involving formylations with phosphorous oxychloride
- Additives for the plastics industry

TOLL MANUFACTURING:

- USP-grade UV filters for cosmetic applications
- Esters for Flavors and Fragrances
- Extraction of botanical active ingredients for pharmaceutical applications

CHEMICAL EXPERTISE

- Acetylation
- Aliphatic & aromatic acid chlorination
- Amidation
- Benzyl halogenation
- Chlorosulfonation
- Esterification
- Friedel & Crafts acylation
- Michaels addition
- Oxidation
- Reduction
- Sulfonation



Reactimex also offers expertise in chlorination, alkylation, diazotization, hydrogenation, and ethoxylation.

ENVIRONMENTAL COMPLIANCE



WASTEWATER TREATMENT:

Reactimex operates a neutralization system that uses ammonia gas injection to control effluent pH. The wastewater thus treated is discharged to the wastewater treatment plant for further processing, where it is treated (if needed) for suspended solids, color and COD. The water is then discharged to the municipal industrial wastewater treatment network.

INCINERATION:

Reactimex uses the services of Proambiente, S.A. de C.V., a company that offers waste incineration services (cement kiln type) to treat its non-aqueous liquid streams with high caloric content. It also uses the services of Residuos Industriales Multiquim, S.A. de C.V., a hazardous landfill operator, to dispose of its solid or semisolid hazardous waste. Both companies are approved by SEDESOL.

AIR EMISSIONS:

Reactimex has an acid/alkali gas absorption and neutralization system to prevent the release of emissions to the atmosphere. It also has dust collectors in place to prevent the release of particles from its process and finishing operations to the air.



RAW MATERIALS HANDLED

Reactimex has years of experience handling hazardous and difficult to handle raw materials, such as:

- Ammonia and amines
- Boron Trifluoride
- Chlorine
- Chlorosulfonic acid
- Oleum
- Phosphorous oxychloride
- Thionyl chloride
- Anhydrous aluminum chloride
- Dimethyl sulfate
- Ethylene oxide

ANALYTICAL CAPABILITIES

Reactimex's analytical capabilities are listed below, along with those available from our affiliated group of companies:

- Atomic Absorption – Flame & Furnace
- Capillary Gas Chromatography
- Gas Chromatography with Mass Detector
- High Pressure Liquid Chromatography
- Infra Red Spectroscopy
- Karl Fisher Titration
- Mass Spectroscopy
- Optical Microscopy
- Particle Size Distribution (laser)
- Potentiometric Titration
- Thin Layer Chromatography - Preparative
- Thin Layer Chromatography - Qualitative
- Total Organic Carbon (TOC)
- Turbidity
- UV – Visible Spectroscopy - Diode Array

Outsourcing?... Think Mexico

- ✓ Same time zone
- ✓ Same business language
- ✓ Same quality culture
- ✓ Direct flights from several US intercontinental airports
- ✓ Expedite land freight to continental USA

Reactimex, S.A. de C.V. ®

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Mexico, 64410. PO Box 409
Tel: (+5281) 8331-3805
www.reactimex.com



MAIN PROCESS EQUIPMENT

Stainless steel type 316 reactors:

1 x 400 gal, 1 x 750 gal, 1 x 1300 gal, 1 x 1500 gal, 1 x 3000 gal and 4 x 3500 gal

Glass lined reactors:

4 x 500 gal and 2 x 2000 gal

Process tanks:

2 x 3500 gal and 1 x 2500 gal stainless steel agitated process tanks, 1 x 3000 gal polypropylene agitated process tank with internal cooling/heating coils.

Peripheral equipment:

All reactors are equipped with condensers, phase separators, receivers, and ancillary equipment. The 3000 gal stainless steel reactor is fitted with a 12" diameter x 10' high packed column for solvent fractionation. One 2000 gal glass-lined reactor is also fitted with an 18" diameter x 10' high packed column.

Filtration:

Filtration capabilities include two 48" diameter x 30" bottom discharge stainless steel centrifuges, one 48" diameter x 24" and two 32" diameter x 18" top unload stainless steel centrifuges, one 12" two stage pusher centrifuge, one stainless steel liquid-liquid decanter, several Sparkler pressure leaf filters, several Buchner type vacuum filters, etc.

Drying:

Drying equipment include four stainless steel shelf dryers, 2 stainless steel vacuum shelf dryers, and one 45" diameter by 3 ft drum flaker.

Milling:

Milling is performed using 2 x Fitzmill D-6, one of them water cooled and auger fed.

Utilities and services:

Available utilities and services include vacuum to 29" Hg, steam pressure to 8 kg/cm², thermal oil to 250°C, cooling brine at minus 5°C.

Safety and environmental protection:

All electrical installations are explosion proof, and the production area is equipped with acid gas scrubbing and acid effluent neutralization systems.

**For further information
contact Mr. Jorge Fernández**

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