



Phosgene

ISOCHEM develops and produces two types of phosgene derivatives

• Conventional derivatives

Chloroformates

α -Chloro Chloroformates

Carbamates

α -Chloro Carbonates

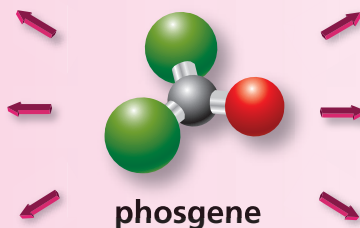
Acid Chlorides

Carbamoyl Chlorides

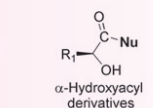
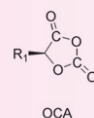
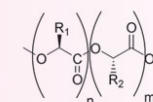
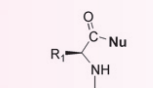
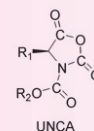
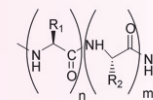
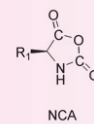
Isocyanates

Chloro Heterocycles

Ureas



• Sophisticated derivatives



Conventional derivatives

ISOCHEM offers a number of phosgene derivatives requiring one or two synthesis steps, in volumes ranging from a **few dozen tons to several hundred tons**, using either batch or continuous production processes. The company's wide range of products and services is based on its long experience with phosgene and phosgene derivative chemistry, processes and safety.

Sophisticated derivatives

ISOCHEM has developed recognized expertise in N-carboxy anhydrides (NCA), which are amino acid derivatives that are the basic building blocks in multistep synthesis or polymer precursors.

ISOCHEM offers powerful innovative processes to deliver NCA with the degree of purity required for polymerization or chemical synthesis.

The company's industrial expertise in this type of chemical process is based on production runs ranging from **several tons to several dozen tons per year**.

ISOCHEM produces and uses urethane N-carboxy anhydrides (UNCA) for solution-phase short peptide synthesis processes involving up to **one hundred kilograms**.

"THE KEY SOLUTION PROVIDER"



Custom manufacturing

A significant share of phosgene derivative production concerns exclusive multistep synthesis processes. The production of active pharmaceutical ingredients (API) or intermediates takes advantage of the specific chemical properties of phosgene.

Production volumes in this case range from a **few dozen kilos to several tons**, or even several dozen tons. ISOICHEM's custom manufacturing service draws on extensive expertise in production, basic chemical development and industrial applications of the most sophisticated phosgene derivative building blocks. It often provides a decisive technical breakthrough, giving producers of fine chemicals a clear competitive advantage.

PHOSGENE CAPACITIES

Vert-Le-Petit

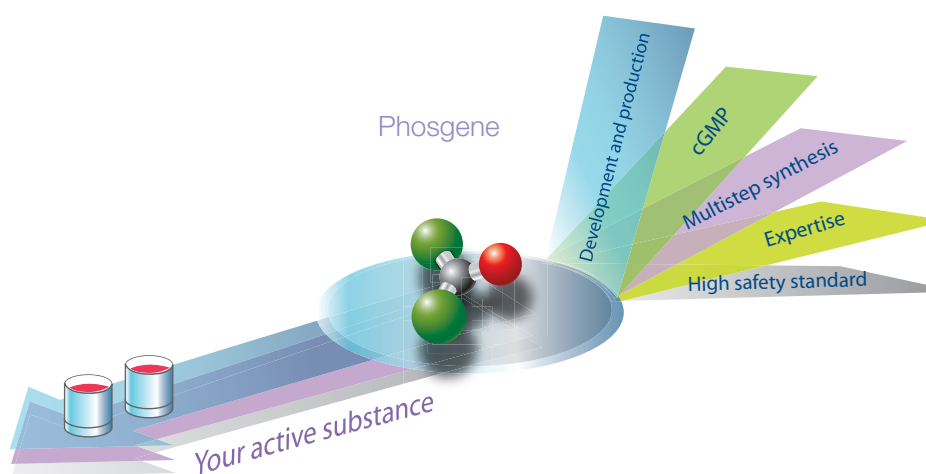
R&D lab: up to 10L;
cGMP facilities:
Pilot reactors: 100L, 250L, 400L;
Production reactors:
1,000L, 2,500L, 6,000L;
Distillation, hastelloy filters and dryers;
Batch processes.

Kazincbarcika

Reactors from 2,000 to 12,000L;
Distillation;
Batch processes.

Pont-de-Claix

Dedicated units;
Batch or continuous processes for agrochemical intermediates or active ingredients.



The benefits of phosgene chemistry have been amply proven for activated amino acids, peptide synthesis and many other key areas.

Along with phosgene-based chemical products, ISOICHEM offers a wide array of services, including development, processes, analysis, Quality Assurance, Health-Safety-Environment assessment, Project management.

ISOICHEM's API volume and pilot production facilities comply with cGMP standards.



Contact ISOICHEM

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