

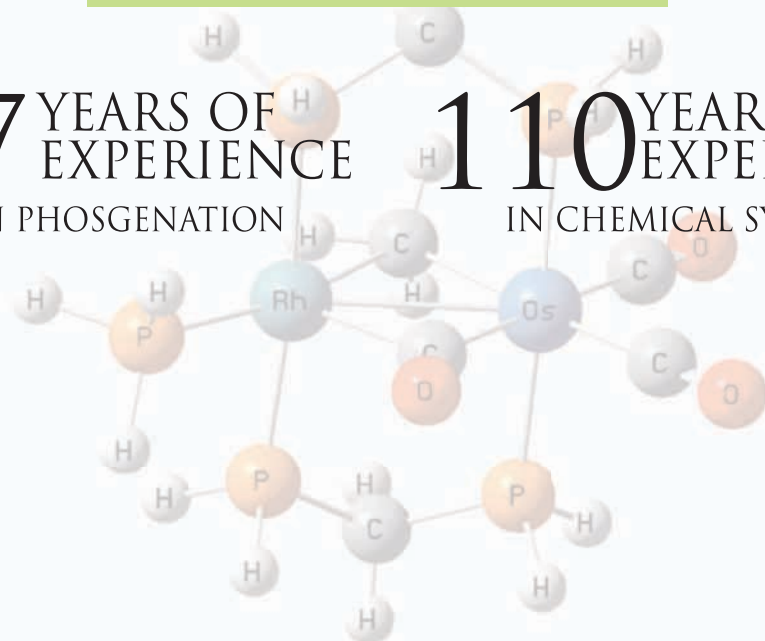
**PAUSHAK**  
Your Strategic Source For Phosgene Derivatives

**Alembic**  
Touching Lives over 100 years

Lab to plant scale manufacturing of  
**PHOSGENE**  
INTERMEDIATES

**37** YEARS OF  
EXPERIENCE  
IN PHOSGENATION

**110** YEARS OF  
EXPERIENCE  
IN CHEMICAL SYNTHESIS



**PAUSHAK LIMITED**

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## Your Strategic Source For Phosgene Derivatives



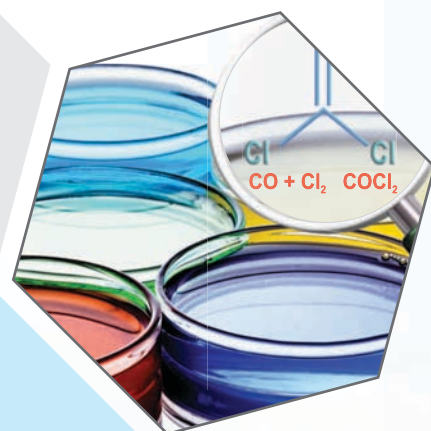
**PAUSHAK**





## BACKGROUND

Established in 1972, Paushak Limited is part of Alembic group of companies based in Vadodara, Gujarat, India. Paushak is India's largest Phosgene based Specialty chemical manufacturer with core competency in Isocyanates, Chloroformates, Carbamoyl Chlorides, Carbamates, Protecting agents & Acid chlorides. Paushak has proven track record of EHS including safe handling of phosgene since 1980. Paushak has strong workforce of more than 250 employees including more than 20 employees in R&D. Paushak is listed on Bombay Stock Exchange, Mumbai, India.



## ALEMBIC GROUP OVERVIEW

Alembic Ltd is the oldest Pharmaceutical Company in India founded in 1907. Alembic group has combined turnover of more than USD 600 Million with market cap of more than USD 2 Billion with diversified interests through following Group Companies:

- API & Formulations : Alembic Pharmaceuticals Ltd.
- API & Intermediates : Alembic Limited
- Specialty Chemicals : Paushak Limited
- Consumer Glass : Yera Glass
- Engineering & Real Estate : Shreno Limited

Alembic Pharmaceuticals Limited is among the top 15 Pharmaceuticals Companies in India and sites are USFDA/cGMP approved for API & Formulations with more than 50 ANDAs, 64 USDMFs & 250 EU DMFs.

## VISION

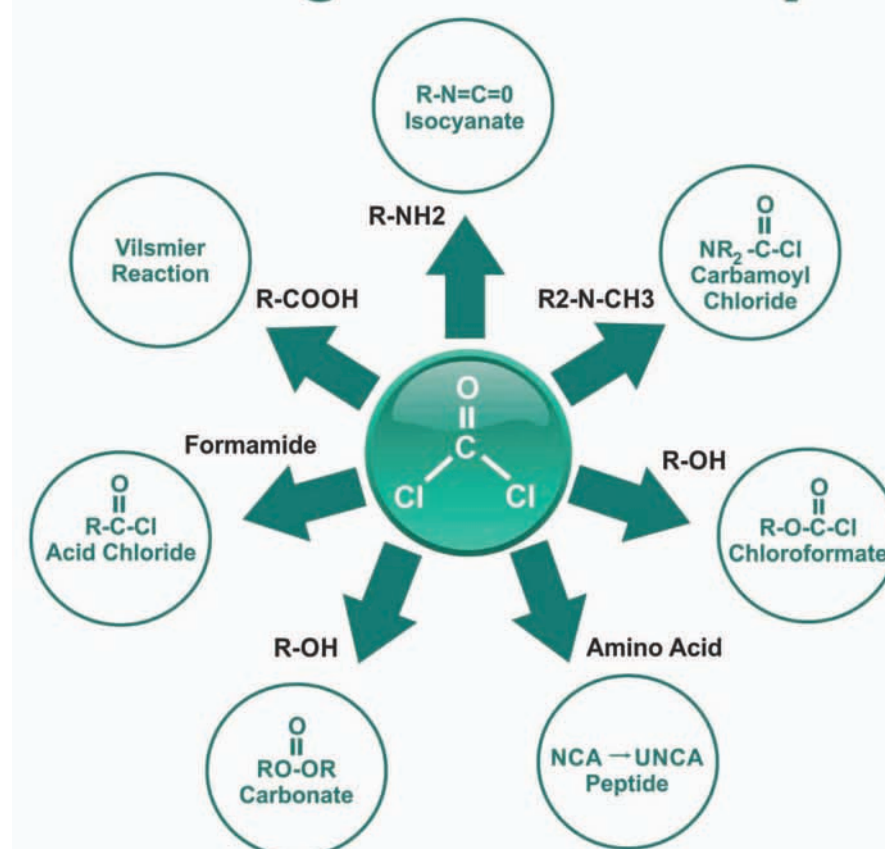
"To be a leader in strategic supplies of Phosgene intermediates and development compounds to Pharmaceuticals, Agrochemicals & Performance customers globally using novel technologies in a safe and clean environment"

## PHOSGENATION

*Your Strategic Partner for Phosgene Derivatives*

Paushak has more than 37 years of proven record for safe phosgene handling & Phosgenation. Paushak is India's Largest Phosgenation player in private sector. Paushak manufacturing facility is located at Halol, 40 km away from Vadodara, Gujarat, India. Paushak is committed and deeply invested in the future of the Phosgene chemistry. As an extension of this belief, the Company has been moving up the value chain into higher value specialty products to supplement the existing product portfolio including CO based chemistry.

## Phosgene Chemistry



## THE AREAS OF EXPERTISE

- Strong skill sets in other Chemistries :
  - Acetylation, Methylation, Nitration, Sulphonation, Isomerization, Hydrogenation, Decarboxylation, Diazotization.
  - Other Halogenation, High Temp. Reaction, CO Reaction.
- In-house process development capabilities in the state-of-the-art R&D centre.
- Proven capability in process development to commercialization
- Strong commitment for Quality and On-time delivery.







## R&D

Paushak has state of the art R&D centre at manufacturing site at Halol, nearby Vadodara, Gujarat, India. The R&D centre is manned by high end talent from some of the most reputed institutions of India.

Paushak has put research and development (R&D) at centre stage for future growth, and through its phosgenation expertise, it caters to the needs of pharmaceutical, agrochemical and other performance customers. Paushak has successfully developed and commercialized various Phosgene compounds with in-house R&D, engineering and project implementation.

The R&D Lab is equipped with cutting edge in-process and product testing facilities. The analytical wing of R&D develops procedures for new intermediates and products. The R&D centers have latest LC/MS, HPLC, GC/MS, IR Spectrophotometer; GCs, KF titrator, Potentiometric titrator etc. to support high quality analytical work.

## PILOT PLANT

The development work of new products and processes is well supported by state-of-the-art Pilot Plant. Pilot plant facilities are specifically designed and equipped for safely conducting phosgenation and related reactions. The plant is multi-purpose in nature, and can handle process development work with capacity to handle 10 liter to 200 liter. The plant equipment includes variety of reactors, distillation columns, scrubbers in various materials of construction, which is suitable for Phosgenation process conditions. Paushak also has infrastructure to make solid powder based product involving Phosgenation.



## PROCESS DEVELOPMENT & PROCESS ENGINEERING

Paushak provides an integrated service from research to kilo scale synthesis to commercial scale supply, supported by in-house process development leading to basic and detailed engineering expertise. The engineering team has rich experience of development and commercialization of complex chemistry molecules with a strong focus on EHS aspects. Paushak follows strong adherence to Intellectual Property Rights (IPR). Paushak has developed the expertise to handle the process requiring high temperatures & high pressures.



## KEY PROCESS EQUIPMENTS

- Phosgene Reactors
- Glass lined reactors
- CO Generators
- SS 316 Reactors
- Hastelloy Reactor
- Rotocone Vacuum Dryer
- Fluid Bed Dryer
- Dryer (Tray & Vacuum)
- Liquid Filling Station
- Pilot plant Glass Assembly



Paushak stands for high quality products conforming to international standards aided by an effective quality assurance system – which assures best standards from sourcing the raw material to packing of the finished goods. The QA Lab is well equipped with talented manpower & necessary resources. Our Group company also operate research centre with more than 250 scientist working with all modern instrument capabilities, which also provide synergies.

## ENVIRONMENT, HEALTH AND SAFETY

### *Driven By Eco Friendly Policies*

Paushak is highly proactive on environmental consciousness, health of our employees and safety. Besides ISO 9001:2008, our facility is also accredited with ISO 14001 for international environmental management standards, OHSAS 18001 for occupational health and safety management systems. We are consistently trying to find ways to reduce waste generation and consume less energy via efficient processes by using renewable energy resources wherever possible. Moving with the times, the company has implemented ERP, connecting its office and plant, thereby achieving an enviable position of a systems-oriented reliable supplier. Some of the salient features of our strong commitment to EHS are:

- Paushak is a zero discharge facility.
- We produce steam using bio-waste on site while reducing carbon footprint.
- Adoption of continuous process in some reactions which utilize less energy than batch process.
- We conduct HAZOP study on a regular basis from external agencies to ensure safe process and plant operations.
- We adopt a system based approach to reduce risk of accidents or hazards so as to continuously improve the working condition at the plant.







## PAUSHAK : A PREFERRED BUSINESS PARTNER

Paushak stands for high quality products conforming to international standards aided by an effective quality assurance system – which assures best standards from sourcing the raw material to packing of the finished goods. The QA Labs are well equipped with talented manpower & necessary resources.

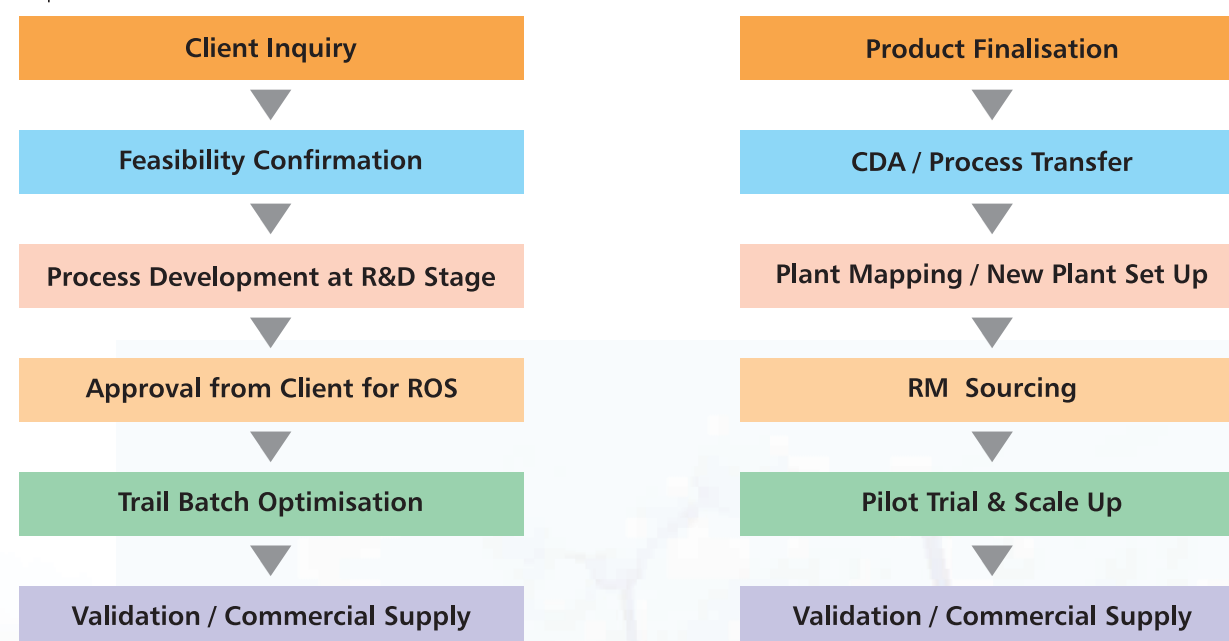
## CUSTOM SYNTHESIS

Paushak will partner with customers globally and cultivate opportunities to research, manufacture and develop compounds across the entire the product life cycle.

We also work as preferred Business partner for Development molecule for future rollout with strong R&D set up to support the development work.

## CRAMS

Paushak offers end to end solution from Process development to contract manufacturing:



Paushak follows strong adherence to Intellectual Property Rights (IPR)

## Paushak serves to

### Pharmaceuticals



### Agrochemicals



### Performance

