

# Phosphitylating and Phosphorylating Agents

*Useful for the production of amidites for DNA and RNA nucleotide oligomers and in production of APIs*

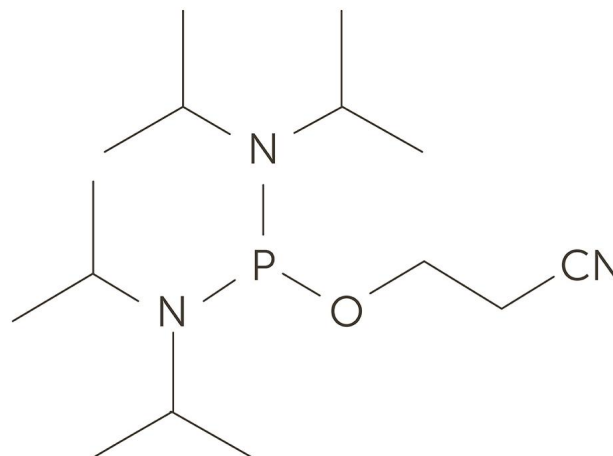
As a leader in specialty chemicals and advanced materials for the microelectronics, life sciences, and other high-tech industries, we can accelerate your new product development efforts and manufacturing supply chain by providing critical materials at the appropriate scale, and within the communi-cated delivery schedule. Our portfolio of phosphitylating and phosphorylating agents is tailored to your manufacturing requirements and specifications to meet your high-quality customized needs.

These agents are used in the production of amidites for DNA and RNA nucleotide oligomers, or “oligonucleotides” and in the production of active pharmaceutical ingredients (APIs). They are also used in chemical manufacturing processes, including organic synthesis.

Our experienced R&D teams provide deep chemistry expertise in an innovative culture to deliver custom synthesis solutions that meet your proprietary development needs. With our extensive manufacturing capabilities, we can handle a range of projects from grams to metric ton quantities, through scale-up and full commercialization. We also provide chemical process development, piloting, and custom chemical manufacturing.

## APPLICATIONS

- Synthesis of DNA- and RNA-based drugs
- Active pharmaceutical ingredients for small molecule drug manufacturing
- Preparation of oligonucleotide sequences in bioprocessing, cell and gene therapy, diagnostics, and pharmaceutical applications
- Organic synthesis in chemical manufacturing processes



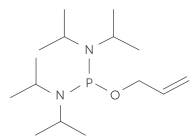
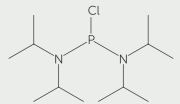
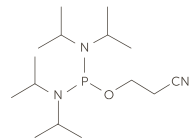
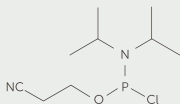
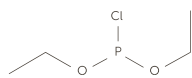
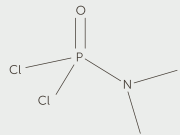
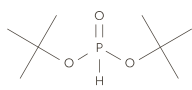
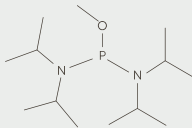
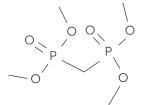
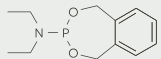
## FEATURES & BENEFITS

<b>High purity</b>	Enables reproducible and economical manufacturing with highest quality and purities for consistent yields and results
<b>Customer collaboration</b>	Proactive and regular team communication and encouraged site visits enable beneficial idea exchange and enhance on-track progress
<b>Advanced scientific expertise</b>	Technical transfers, R&D, scale-up optimization, and continuous improvement are conducted by PhD chemist-led teams that are supported by world-class quality and analytical resources
<b>ISO 9001 and 14001 certifications</b>	<p>The Entegris quality management system (QMS) certified by the ISO 9001 standard ensures provision of consistent quality products meeting customer and regulatory requirements</p> <p>The Entegris environmental management system (EMS) following the ISO 14001 standard assures a strategic and integrated approach to managing and improving environmental performance</p>

## SPECIFICATIONS

Our products are made to strict specifications and our experienced R&D teams can partner with you to meet your proprietary development needs. With our manufacturing capabilities and resources, we can deliver on communicated timing requirements as well as high-quality customized solutions. [Contact us](#) with your specifications.

## Product Portfolio

Catalog #	CAS #	Product	Structure
ALL1497	108554-72-9	Allyl <i>N,N,N',N'</i> -tetraisopropylphosphorodiamidite	
BIS0400	56183-63-2	Bis(diisopropylamino)chlorophosphine	
CYA0269	102691-36-1	2-Cyanoethyl <i>N,N,N',N'</i> -tetraisopropylphosphorodiamidite Phos-reagent	
CYA0399	89992-70-1	2-Cyanoethyl <i>N,N</i> -diisopropylchlorophosphoramidite	
DIE0135	589-57-1	Diethyl chlorophosphite	
DIM0830	677-43-0	<i>N,N</i> -Dimethylphosphoramidodichloridate	
DIT0494	13086-84-5	Di-tert-butyl phosphite	
MET0773	92611-10-4	Methyl <i>N,N,N',N'</i> -tetraisopropylphosphorodiamidite	
TET0489	16001-93-7	Tetramethyl methylenediphosphonate	
XYL2346	82372-35-8	<i>o</i> -Xylylene <i>N,N</i> -diethylphosphoramidite	

#### FOR MORE INFORMATION

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