

NEW

PHOSPHORUS DENDRIMERS

NEW

In recent years, a new structural class of macromolecules, the dendritic polymers, has attracted the attention of the scientific community. Dendrimers, the most regular members of the class, are characterized by nearly spherical structures, nanometer sizes, large numbers of reactive endgroup functionalities, and shielded interior voids. This unique combination of properties makes them ideal candidates for nanotechnology applications in both biological and materials sciences. Applications highlighted in recent literature include drug delivery, gene transfection, catalysis, energy harvesting, photoactivity, molecular weight and size determination, rheology modification, and nanoscale science and technology.¹

Aldrich is pleased to offer two new families of phosphorus-based dendrimers. In addition to the properties mentioned above, the **Thiophosphoryl Dendrimers** and **Cyclotriphosphazene Dendrimers** exhibit high solubility, air stability, and large dipole moments (10–300 Debyes). For our complete product list of dendrimers, including PAMAM dendrimers up to Generation 10, with different surface modifications, please contact our Technical Services Department at aldrich@sial.com. If you have not already received the **Aldrich Polymer Products CD – Catalog & Reference Guide**, please request your **FREE CD** today by emailing SAMS-USA@sial.com (in the USA) or request one from your local office.

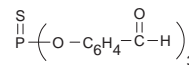
(1) *Functional Polymers and Dendrimers: From Synthesis to Application*. Proceedings of the American Chemical Society Division of Polymeric Materials: Science & Engineering, San Diego, CA, April 1-5 2001; ACS, 2001

THIOPHOSPHORYL DENDRIMERS

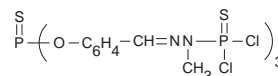


22,429-4

Thiophosphoryl chloride, Gen. 0.0



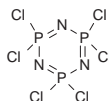
55,176-7

Thiophosphoryl-PMMH-3
Dendrimer, Gen. 0.5

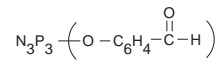
55,177-5

Thiophosphoryl-PMMH-3
Dendrimer, Gen. 1.0

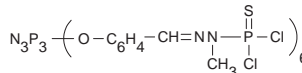
CYCLOTRIPHOSPHAZENE DENDRIMERS



23,028-6

Hexachlorocyclotriphosphazene,
Gen. 0.0

55,201-1

Cyclotriphosphazene-PMMH-6,
Gen. 0.5

55,205-4

Cyclotriphosphazene-PMMH-6,
Gen. 1.0

THIOPHOSPHORYL-PMMH* DENDRIMERS

Catalog No.	Generation	No. of Surface Groups	Unit Size
Surface Group: Aldehyde			
55,176-7	0.5	3	1g
55,167-8	1.5	6	500mg
55,169-4	2.5	12	500mg
55,171-6	3.5	24	500mg
55,173-2	4.5	48	500mg
55,175-9	5.5	96	300mg
Surface Group: Dichlorophosphinothioyl			
55,177-5	1.0	3	500mg
55,168-6	2.0	6	500mg
55,170-8	3.0	12	500mg
55,172-4	4.0	24	500mg
55,174-0	5.0	48	300mg

CYCLOTRIPHOSPHAZENE-PMMH* DENDRIMERS

Catalog No.	Generation	No. of Surface Groups	Unit Size
Surface Group: Aldehyde			
55,201-1	0.5	6	1g
55,206-2	1.5	12	500mg
55,213-5	2.5	24	500mg
55,211-9	3.5	48	500mg
55,209-7	4.5	96	500mg
55,214-3	5.5	192	300mg
Surface Group: Dichlorophosphinothioyl			
55,205-4	1.0	6	500mg
55,207-0	2.0	12	500mg
55,212-7	3.0	24	500mg
55,210-0	4.0	48	500mg
55,208-9	5.0	96	300mg

*PMMH = PhenoxyMethyl(MethylHydrazono)

Larger quantities are available through **Sigma-Aldrich Fine Chemicals**. Please call **800-336-9719** or **314-534-4900 (USA)**, contact your local office, or visit us on the web at www.sigma-aldrich.com/safc for competitive quotes and availability.



ALDRICH® chemists helping chemists in research and industry

P.O. Box 355, Milwaukee, WI 53201 USA Telephone: 414-273-3850 • 800-558-9160 Fax: 414-273-4979 • 800-962-9591 Web Site: www.sigma-aldrich.com

Aldrich is a member of the Sigma-Aldrich family.

