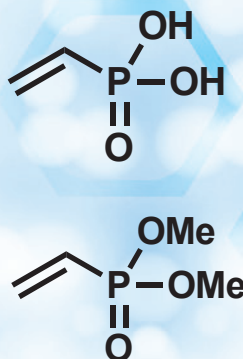


# Fine Chemical Coatings and Additives

Broad technological expertise in boronic acids, organometallics, cross couplings, performance reagents, prostaglandin precursors and enzymatic chemistry.

## Vinylphosphonic Acids – VPA



VPA, 90%, 80%

1746-03-8

VPA-DME

4645-32-3

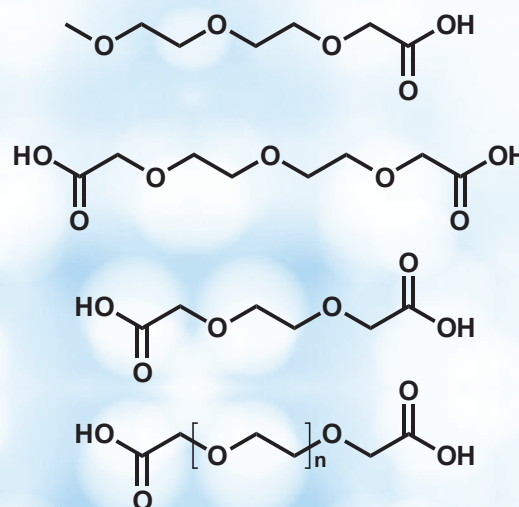
## Applications

- Adhesives (e.g. acrylic resins)
- Coatings (e.g. powder coatings)
- Surface treatment and passivation
- Lithography
- Halogen-Free Flame Retardant
- Dispersing Agent
- Dental ceramics and cements
- Oil field polymers
- Cement additive

## Benefits

- Increased adhesion between organic and inorganic layers
- Robust, flexible and efficient proton exchange membranes
- Helps to reduce maintenance and repair efforts
- Simplification of coating formulations

## Oxa Acids – Oxa



3,6,9-Trioxadecanoic acid (TODS)

16024-58-1

3,6,9-Trioxaundecanedioic acid (TUDS)

13887-98-4

3,6-Dioxaoctanedioic acid (DOODS)

23243-68-7

Polyglycol diacid 600 (PEGDA 600)

39927-08-7

## Applications

- Moisturizer, Exfoliate agent, Anti-aging agent
- Dispersing agent for solids
- Cleansing agent for semiconductors, LEDs
- Nanotechnology (e.g. Watertreatment)
- PEGylation technology in pharma

## Benefits

- Simplification of cosmetic formulations

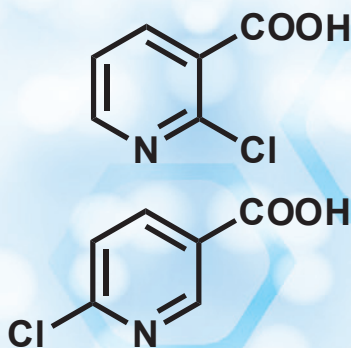
## Fine Chemicals – 4-FPBA



- Highly efficient Enzyme stabilizer
- Building block for APIs e.g. Telmisartan

Product	CAS #	Commercial	Regular Production
4-Formylphenylboronic acid	87199-17-5	X	X
5-Formylfuran-2-boronic acid	27329-70-0	X	X
1-THP-1H-Pyrazolyl-5-boronic acid pinacol ester	903550-26-5	X	X
EEPBP	1029716-44-6	X	X

## Chloronicotinic Acid



2-CNA	2942-59-8
6-CNA	5326-23-8

- Building Block for agrochemicals e.g. Boscalid, Diflufenican
- Building Block for APIs e.g. Neviramin