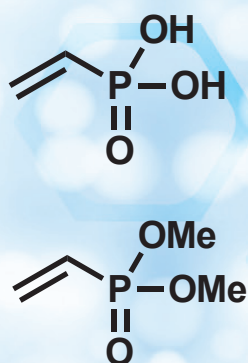


Fine Chemical Coatings and Additives

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 |
|---------|-----------|

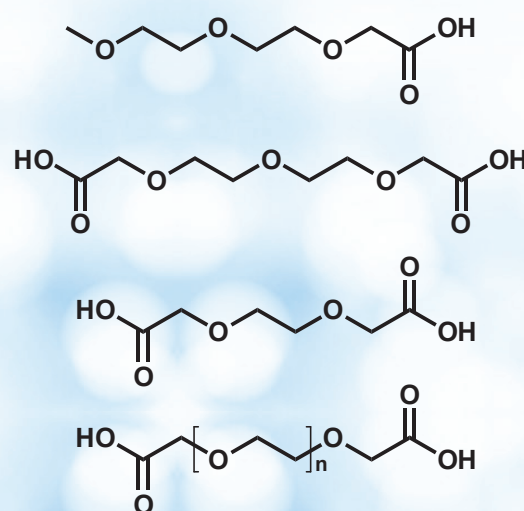
Applications

- 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

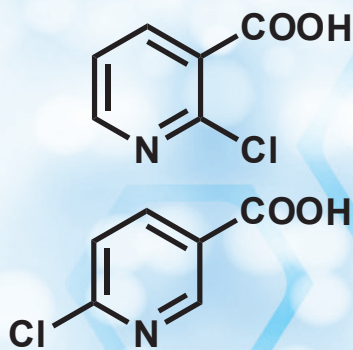
Fine Chemicals – 4-FPBA



- 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