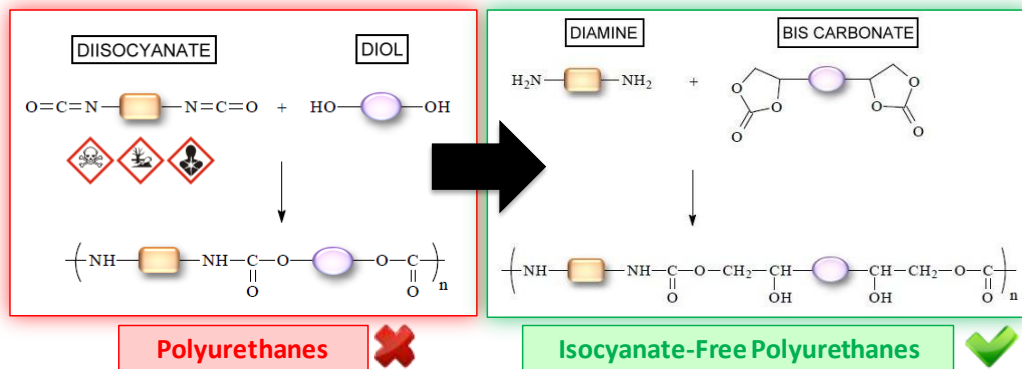


CYCLOCARBONATES BUILDING-BLOCKS, MONOMERS AND POLYMERS

Toward isocyanate-free Polyurethane materials

Monomers, Polymers and Building-Blocks containing cyclocarbonate moieties have shown to be very interesting in the synthesis of linear or crosslinked poly(hydroxyurethane)s. Such polymer materials, also called **isocyanate-free polyurethanes**, are obtained by reaction of carbonates with amines and are way less toxic than classical polyurethanes prepared from the reaction between alcohols and isocyanates.¹⁻³



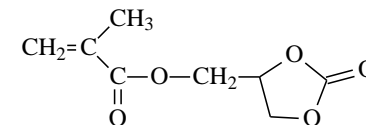
SPECIFIC POLYMERS synthesized and provided to its customers a wide range monomers, polymers and building-blocks containing cyclocarbonate moieties. Such isocyanate-free polyurethanes as been widely studied in the last decades and found applications in a versatility of fields such as batteries electrolytes, enzyme immobilization, adhesives, bio-based materials or photopolymerizable coatings.⁴ Besides, poly(hydroxyurethane)s appears as an innovative and promising alternative for tomorrow's materials.

1. Besse, V., R. Auvergne, et al. (2013). " *Reactive & Functional Polymers* **73(3)**: 588-594.
2. Besse, V., G. Foyer, et al. (2013). *Journal of Polymer Science Part a-Polymer Chemistry* **51(15)**: 3284-3296.
3. Guan, J., Y. H. Song, et al. (2011). *Industrial & Engineering Chemistry Research* **50(11)**: 6517-6527.
4. Webster, D. C. (2003). *Progress in Organic Coatings* **47(1)**: 77-86.

Highlighted Products

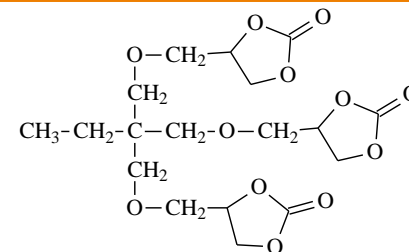
SP-40-001

Glycerol carbonate methacrylate



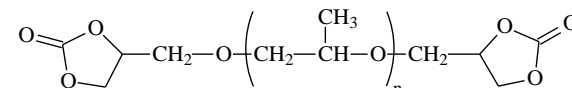
SP-3-00-003

TMP Tri Carbonate



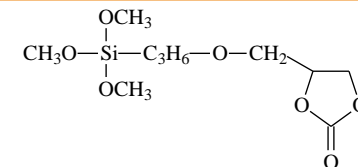
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PPO Bis Carbonate



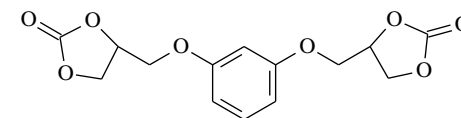
SP-3-02-002

Alkyl C3 Trimethoxysilane Carbonate



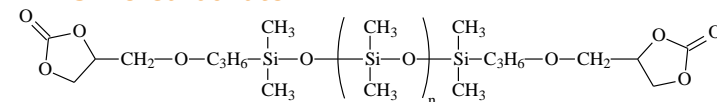
SP-68-007

Resorcinol Bis carbonate



SP-8P-00-001

PDMS Bis Carbonate

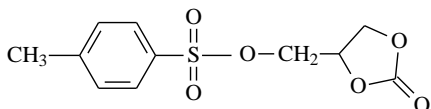


CYCLOCARBONATES BUILDING-BLOCKS, MONOMERS AND POLYMERS

Cyclocarbonate Building Blocks

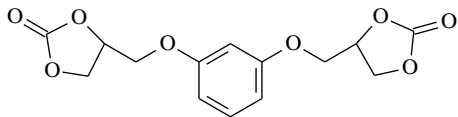
SP-68-004

*Glycerol carbonate
Tosyl end group*



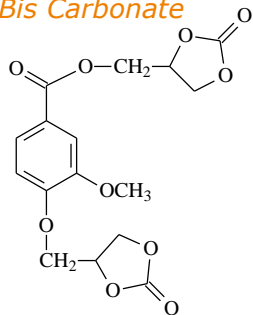
SP-68-007

*Resorcinol
Bis carbonate*



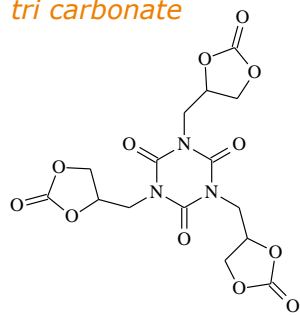
SP-68-014

*Vanillic Acid
Bis Carbonate*



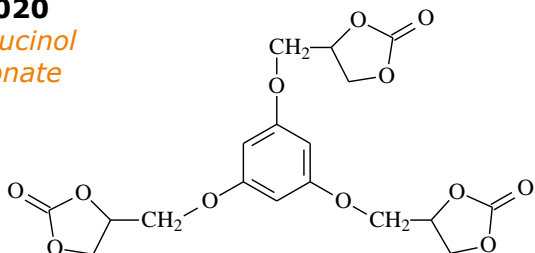
SP-68-019

*Isocyanurate
tri carbonate*



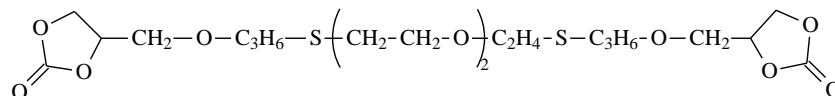
SP-68-020

*Phloroglucinol
tri carbonate*



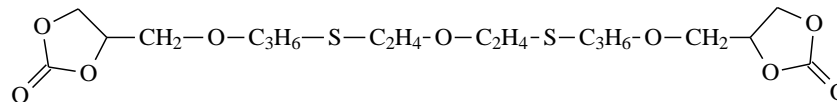
SP-68-006

DMDO Bis carbonate



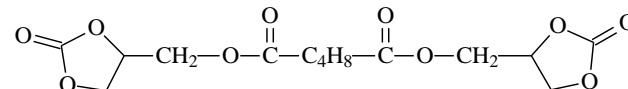
SP-68-009

OET Bis carbonate



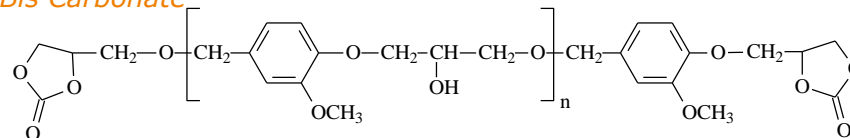
SP-68-011

*Adipate
Bis carbonate*



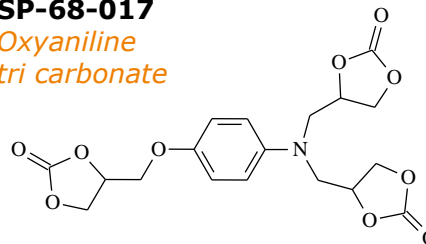
SP-68-015

Vanillin Bis Carbonate



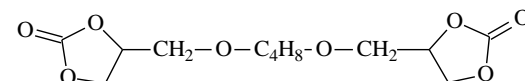
SP-68-017

*Oxyaniline
tri carbonate*



SP-68-021

*Butanediol
Bis Carbonate*

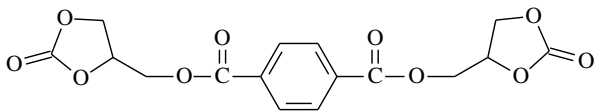


CYCLOCARBONATES BUILDING-BLOCKS, MONOMERS AND POLYMERS

Cyclocarbonate Building Blocks

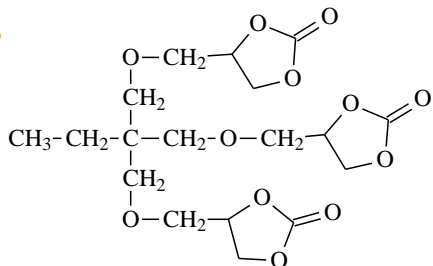
SP-3-00-002

Bis carbonate terephthalate



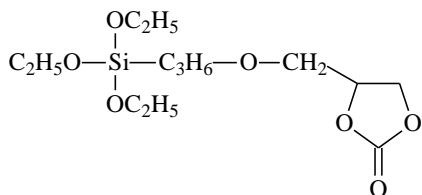
SP-3-00-003

TMP Tri Carbonate



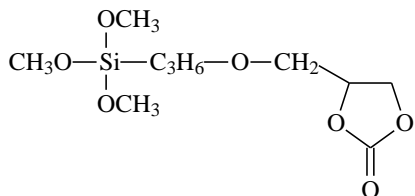
SP-3-02-001

*Alkyl C3
Triethoxysilane
Carbonate*



SP-3-02-002

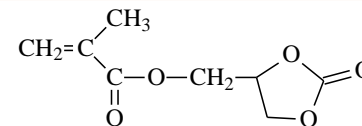
*Alkyl C3
Trimethoxysilane
Carbonate*



Cyclocarbonate Monomers

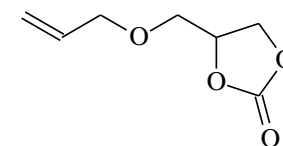
SP-40-001

*Glycerol carbonate
methacrylate*



SP-60-001

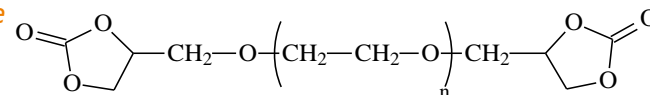
*Allyl Glycerol
carbonate*



Cyclocarbonate Polymers

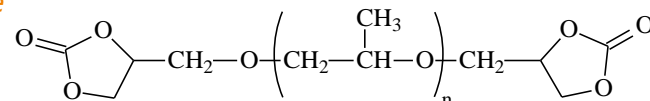
SP-1P-0-004

PEO Bis Carbonate



SP-1P-0-004

PPO Bis Carbonate



SP-8P-00-001 - PDMS Bis Carbonate

