

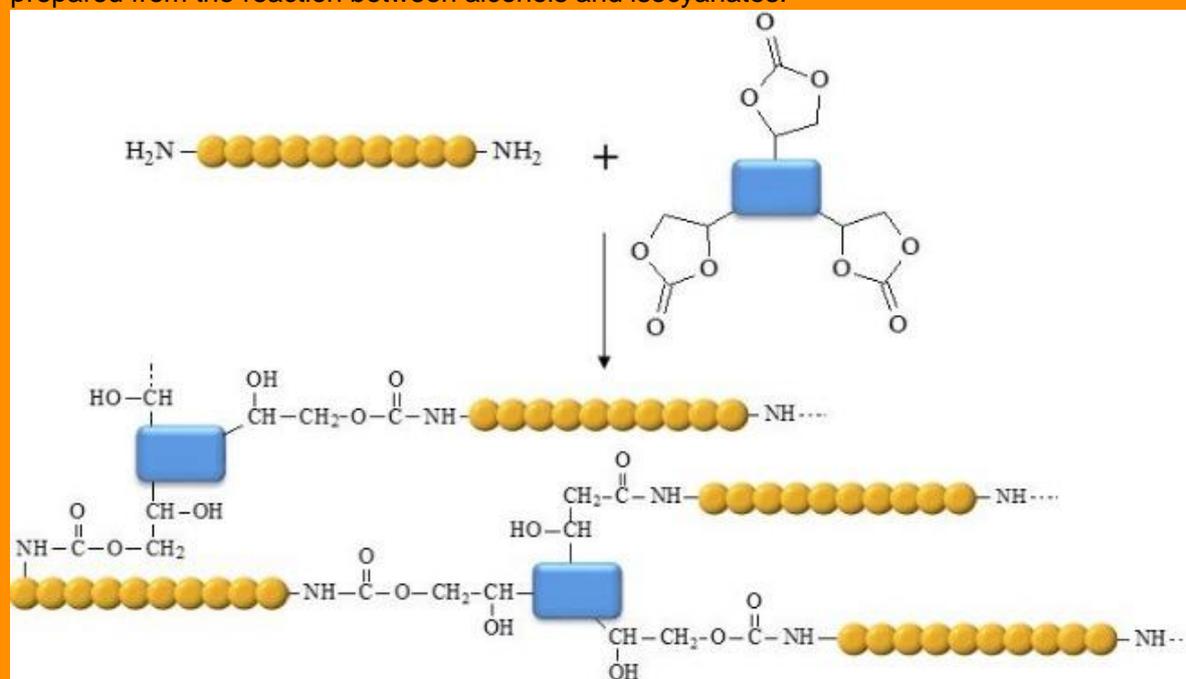
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CYCLOCARBONATES

TOWARD SUSTAINABLE THERMOSET MATERIALS

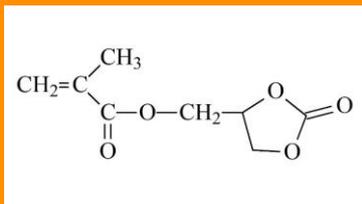
For several years, SPECIFIC POLYMERS has developed the synthesis of several cyclocarbonates-containing building-blocks, monomers or polymers. The latter were proved to be very interesting in the synthesis of linear or crosslinked poly(hydroxyurethane)s (PHU). Such polymer materials, also called isocyanate-free polyurethanes (NiPU), are obtained by reaction of carbonates with amines and thus exhibit lower toxicity than classical polyurethanes prepared from the reaction between alcohols and isocyanates.



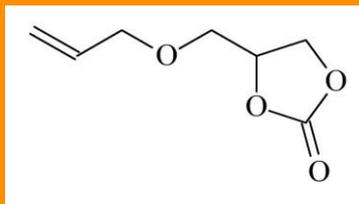
PHU have been widely studied in the last decades and have found applications in a large range of fields such as battery electrolytes, enzyme immobilization, adhesives, bio-based materials or photopolymerizable coatings.

CYCLOCARBONATE MONOMERS

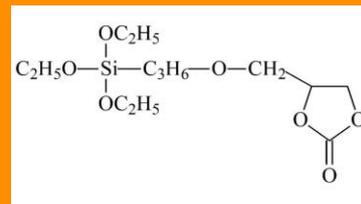
Most often used to synthesize functional polymers, cyclocarbonate-containing monomers can also be introduced in thermoset material formulations (UV crosslinkable, sol-gel, etc.) in order to bring cyclocarbonate functionality in the material bulk.



SP-40-001
Glycerol carbonate
methacrylate



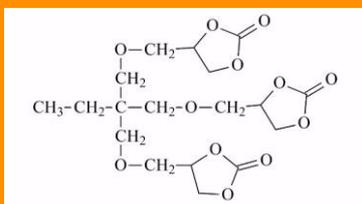
SP-60-001
Allyl Glycerol carbonate



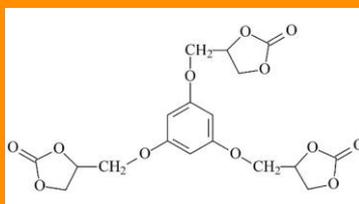
SP-3-02-001
Alkyl C3 Triethoxysilane
cyclocarbonate

CYCLOCARBONATE BUILDING-BLOCKS

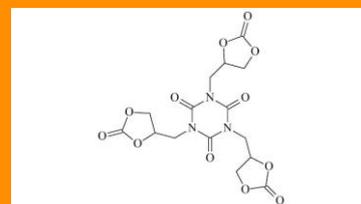
Cyclocarbonates Building-Blocks aim at adjusting the crosslinking density and thus thermo-mechanical properties of corresponding PHU. Higher functionality will bring higher mechanical properties.



SP-3-00-003
TMP Tricyclocarbonate



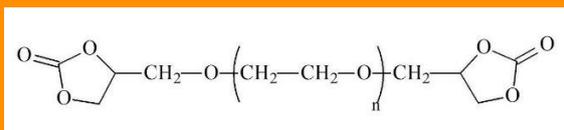
SP-68-020
Phloroglucinol
Tricyclocarbonate



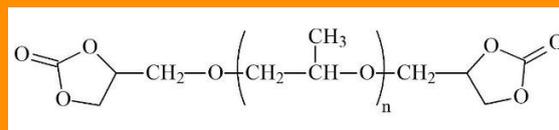
SP-68-019
Isocyanurate
Tricyclocarbonate

CYCLOCARBONATE POLYMERS

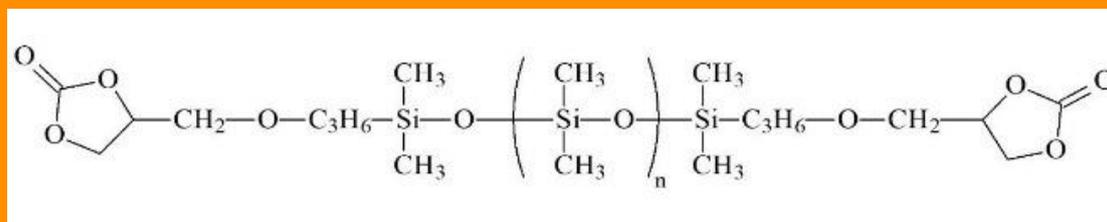
Cyclocarbonate-containing polymers can also be used to adjust the mechanical properties of corresponding thermoset materials but also to bring additional properties such as hydrophilicity, hydrophobicity and/or oleophobicity.



SP-1P-0-003
PEG bis-cyclocarbonate



SP-1P-1-004
PPG bis-cyclocarbonate



SP-8P-00-001
PDMS bis-cyclocarbonate

[More cyclocarbonates containing macromolecules here](#)

Looking for a specific monomer, building-block or polymers containing cyclocarbonate functionality?
SPECIFIC POLYMERS offer CUSTOM SYNTHESIS programs

- SPECIFIC POLYMERS can produce **from grams to hundred grams** depending on the targeted molecule.
- All products are delivered with a **synthesis report** including experimental details and analyses.
- Report on the project progress by **regular phone meeting**
- **Feasibility evaluation** can be proposed depending of customer wishes (targeted structures, quantities)

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SPECIFIC POLYMERS

ZAC Via Domitia

150 Avenue des cocardières - 34160 - Castries - France
Tel: +33(0) 4 99 74 91 35 Fax: +33(0) 4 99 74 91 52

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