



Università
Ca' Foscari
Venezia

PROJECT ACRONYM AND TITLE: Chemistry Beyond Chlorine: Dialkyl Carbonates for Biomass Upgrading and Synthesis of Heterocycles

FUNDING PROGRAMME: OPCW Organisation for the Prohibition of Chemical Weapons

CALL: OPCW – Technical Secretariat – International Cooperation and Assistance Division S/1258/2015/Rev.1

SCIENTIFIC FIELDS: Chemistry

HOST DEPARTMENT: DAIS – Department of Environmental Sciences, Informatics and Statistics

SCIENTIFIC RESPONSIBLE: Fabio Aricò

FINANCIAL DATA:

Project total costs	Overall funding assigned to UNIVE
€ 24.500,00	€ 24.500,00

ABSTRACT:

Chlorine is by far the most abundant in nature and is also the easiest and cheaper to produce and to use. This explains its predominant and irreplaceable role in the chemical industry. Chlorine is used extensively in organic and inorganic chemistry as an oxidizing agent and as a leaving group in substitution and elimination reactions. Chlorine compounds find use as intermediates in the production of a number of important commercial products that do not contain chlorine. Due to the high reactivity of chlorine and its derivatives, several chemical warfare agents (CWA) incorporate chlorine moiety i.e. the notorious mustard gases (iprits) are lethal CWAs owing to their vesicant and noxious properties.

Despite its numerous applications in the chemical industry chlorine-based chemistry very often does not obey to the principles of atom economy and waste minimization; in fact, halogen anions are by-products of many organic reactions and represent a waste to be disposed of. Chlorine and its derivatives have also a negative impact on global environment and health e.g., toxicity and ecotoxicity, ozone layer depletion, energy consumption, and climate change. In this prospect, there is indeed a need to go forward, more precisely to go beyond chlorine chemistry.

Planned Start date	Planned End date
1 st April 2019	1 st April 2022

PARTNERSHIP:

1 Università Ca' Foscari	Venice (IT)	Coordinator
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