
List of contents

List of Abbreviations	1
1. Introduction.....	3
1.1 Motivation.....	3
1.2 Scientific question.....	4
2. Theoretical Background.....	7
2.1 Benzoxazine	7
2.1.1 Properties of Benzoxazines.....	7
2.1.2 Polymerization conditions of Benzoxazines	8
2.1.3 Catalysts for the ROP.....	11
2.1.4 Modified Benzoxazines.....	13
2.2 Flame Retardancy	16
2.2.1 Combustion process of polymers.....	16
2.2.2 Mode of action for different FR groups.....	17
2.2.3 Combustion tests to evaluate the reaction versus small flames	21
3. Results and Discussion.....	26
3.1 Flame retardancy in conventional benzoxazine networks	26
3.2 Development of new polybenzoxazine networks	26
3.2.1 Development of new benzoxazine monomers	26
3.2.2 Development of new formulated benzoxazine networks.....	31
3.3 Thermal analysis of polybenzoxazines	36
3.4 Combustion initiated by small flames.....	39
4. Conclusions and Perspective.....	44
4.1 Conclusions	44
4.2 Perspective	47
5. References.....	50
6. Scientific publications.....	66
7. Appendix.....	i