

CONTENTS

1	Introduction	4
1.1	The World Consumption of Polyurethanes	4
2	Polyurethane Polyols and Polyamines	5
2.1	Polyethers for Flexible Polyurethanes	5
2.2	Polyester Polyols for Flexible Polyurethanes	7
2.3	Other Polyols Flexible Polyurethanes	7
2.4	Polyols for Rigid Polyurethanes	8
2.5	Flame-Retardant Polyols	10
3	Di-and Poly-Isocyanates	10
3.1	Aromatic Di-and Poly-Isocyanates	10
3.2	Aliphatic Diisocyanates	11
3.3	Blocked Diisocyanates	11
3.4	Isocyanates having other Functional Groups	12
3.5	Diisocyanates Cross-Linkers and ‘Curing Agents’	12
4	Chain-Extenders, Cross-Linkers and ‘Curing Agents’	12
4.1	Chain-Extenders and Cross-Linkers	13
4.2	Curing Agents	13
5	Additives	14
5.1	Catalysts	14
5.2	Blowing Agents	17
5.3	Flame-Retardants/Smoke-Suppressants	17
5.4	Other Additives	19
6	Processes and Applications	20
6.1	Reaction Injection Moulding (RIM) and /reinforced RIM (RRIM)	20
6.2	Flexible Foams	22
6.3	Rigid Foams	24
6.3	Rigid Foams	24
6.4	Elastomers	25
6.5	Polyurethane	28
6.6	Urethane Modified Polymers	30
6.7	Application Developments	30
6.8	Recycling Processes	32
6.9	Environmental Effects of Polyurethane Manufacture	32

Additional References	32
References and Abstracts	37
Index	105