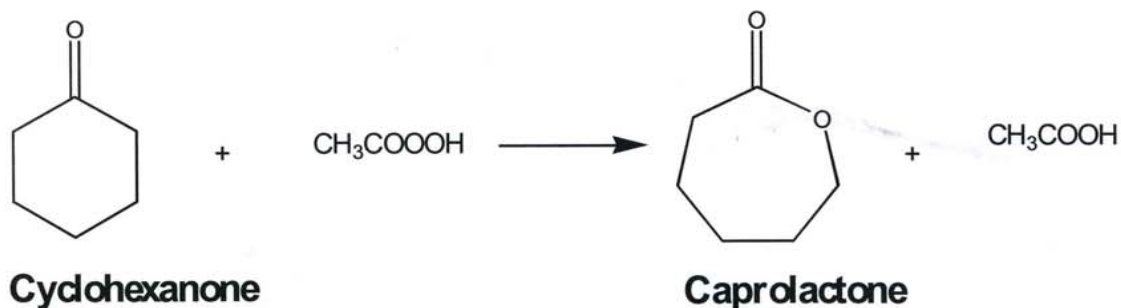


Solvay Caprolactones

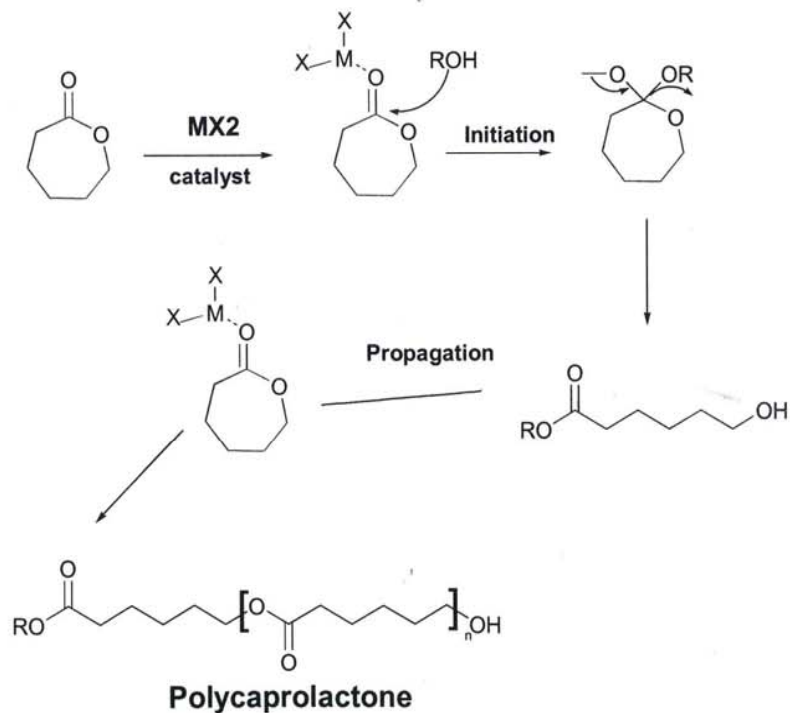
CAPA[®]

**An Introduction to the Chemistry,
Properties and Versatility of CAPA[®]
Caprolactone and Polycaprolactones**

The Preparation of ϵ -Caprolactone Monomer



Ring Opening Polymerisation of ϵ -Caprolactone for CAPA[®] Polyols



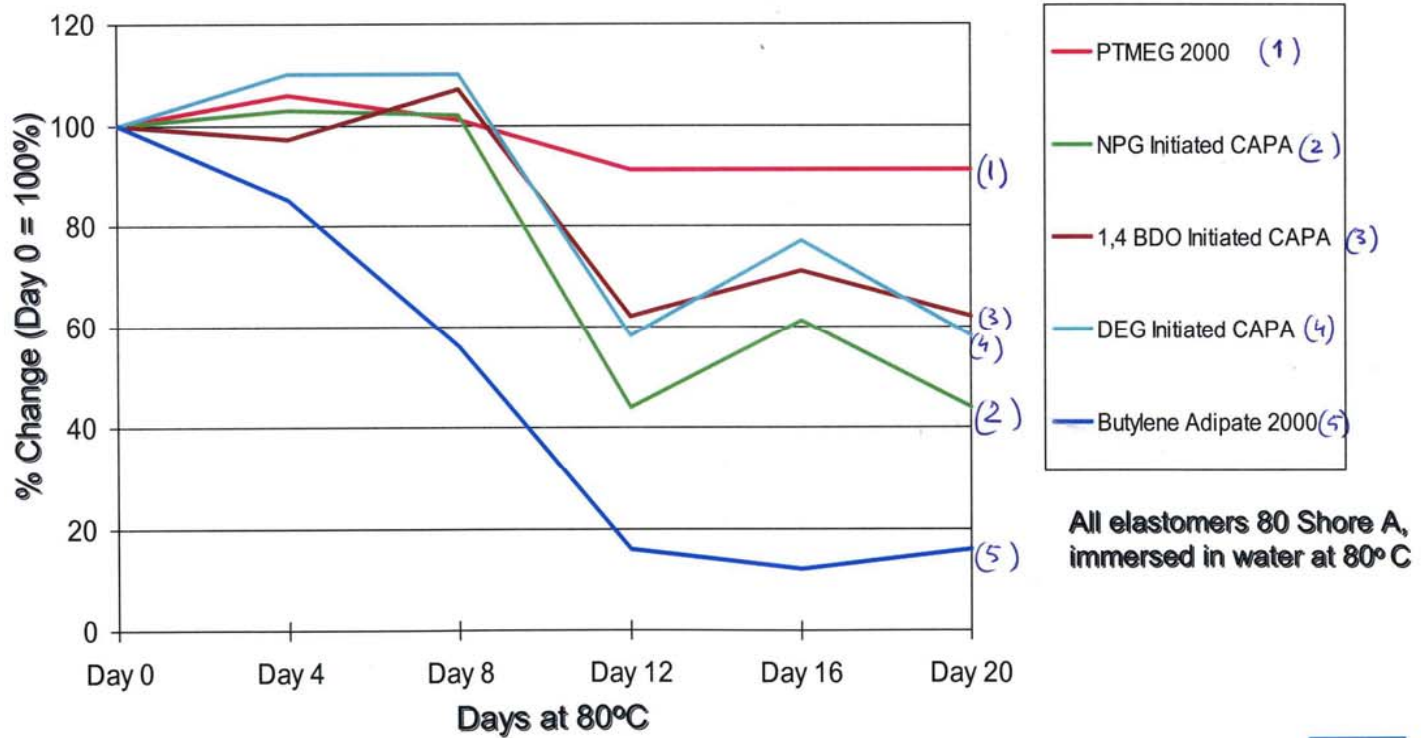
CAPA[®] Polyol Properties Compared to Polyethers

- Chemical resistance
- UV stability
- Solvent/oil resistance
- Cut and tear strength
- Abrasion resistance
- All primary hydroxyl groups
- Narrow molecular weight distribution
- Controlled functionality

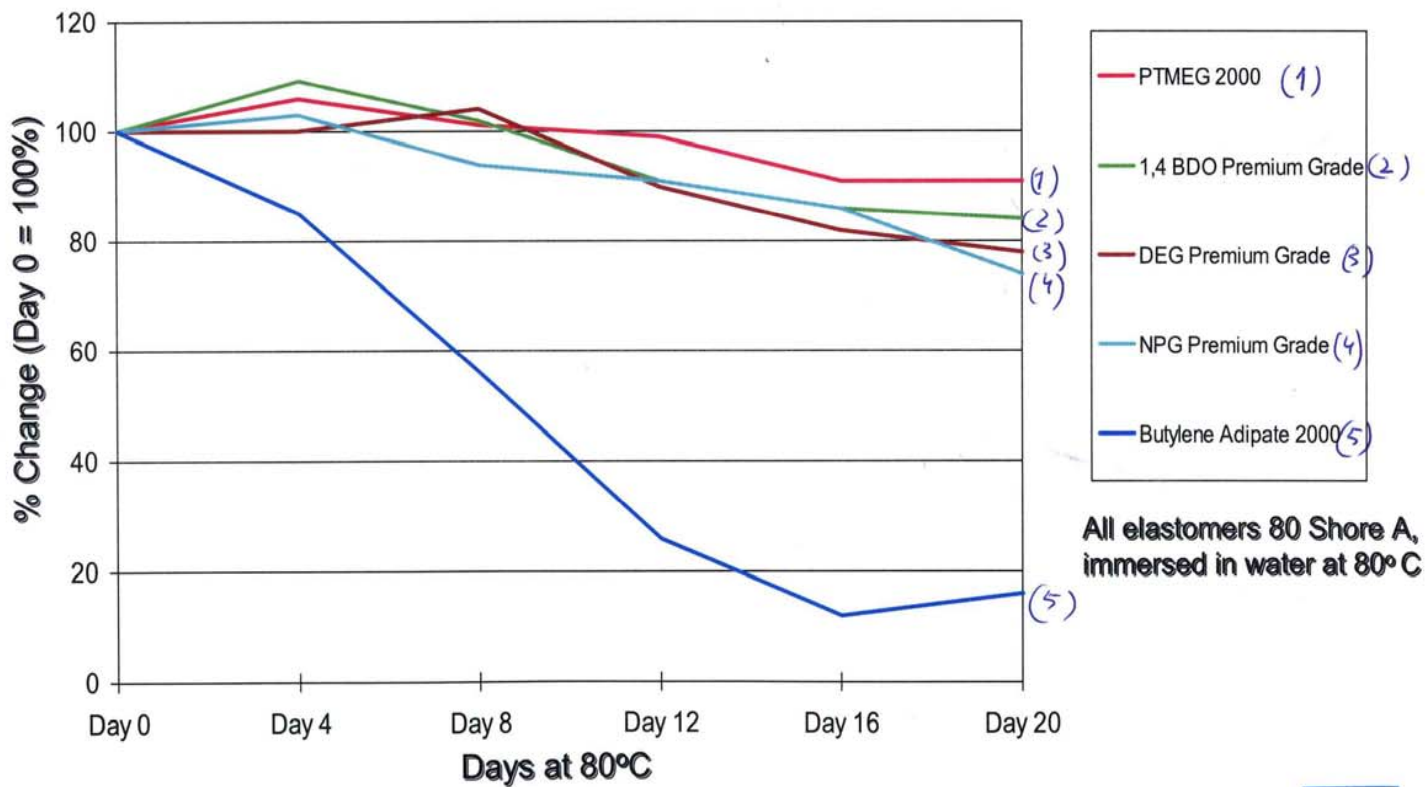
CAPA[®] Polyol Properties Compared to other Polyesters

- Hydrolysis resistance
- Tear strength
- Cold flex
- Flex fatigue
- Low density PUs
- Low viscosity polyol
- Consistent reactivity
- Narrow molecular weight distribution
- Low acid value
- Primary hydroxyl groups

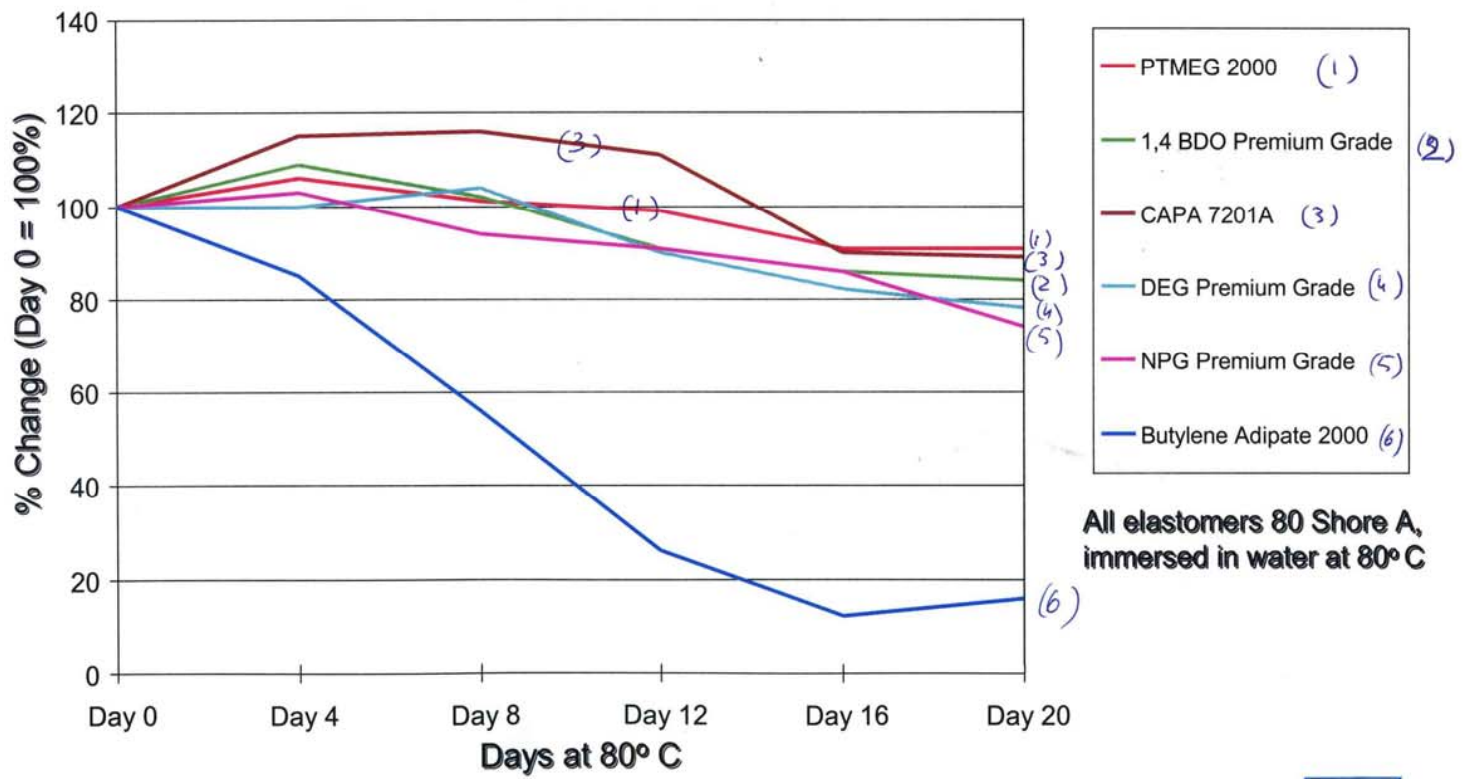
CAPA® Polyol Properties Hydrolysis Resistance Change in Stress at Break



CAPA® Polyol Properties Hydrolysis Resistance Change in Stress at Break



CAPA® Polyol Properties Hydrolysis Resistance Change in Stress at Break



All elastomers 80 Shore A, immersed in water at 80° C



Performance Benefits Imparted to Polyurethanes by Soft Segment Polyols

PROPERTY	PCL	PTMEG	POLYBUTYLENE ADIPATE
Compression Set	+	--	-
Tensile Strength	+	-	+
Elongation	-	+	+
Hydrolysis Resistance	+	++	-
Oil Resistance	+	-	+
Effective Temperature Range:			
High	+	--	
Low	+	++	-
Flex Fatigue	+	-	+
Cold Flex	+	++	-
Cut and Tear	+	-	+
UV Resistance	+	-	+
SG of PU	+	++	-
Viscosity	+	+	-
Polydispersity	++	-	-

Capa®

Comparison with polyesters in VULKOLLAN

94 Shore A	V30 PEA / NDI	CAPA 220 / NDI
Polyol pph	100	100
Desmodur 15	30	21,2
Pot life , mn	1	3
specific gravity	1,26	1,16
Tensile strength Mpa	27	55
Elongation	450	500
Tear	+	++
Cold flex	-	+
Price index	100	97