





PRODUCT ID

Formula	$[\text{CH}(\text{CH}_3)\text{CH}_2\text{OCO}_2]_n$	CAS nr.	25511-85-7
Molecular weight (g/mol)	100 000 to 600 000	EC nr.	

VISUAL CLASSIFICATIONS

Market	Energy demand	Maturity.	Price
			

KEY MARKET DATA

Market size (ton/year)	6 millions	Estimate (1% share of plastics market)
Product price (€/ton)	3400	
CO ₂ uptake potential (ton/ton product)	0,5	
CO ₂ uptake potential (ton/year)	3 millions	3,5 reference plants 0,3% capture target (1.05Gt/year)
State-of-the-art production technology	From CO ₂ utilization, see description below	

TECHNOLOGY ROUTE: POLYMERIZATION

TRL = 9	Example of commercial product: Converge® from Aramco Services Company and Saudi Aramco Technologies		
Reactions			
$\text{O}=\text{C}=\text{O} + \text{C}_3\text{H}_6\text{O} \longrightarrow \left[\text{O}-\text{C}(=\text{O})-\text{O}-\text{CH}_2-\text{CH}(\text{CH}_3)-\text{O}-\text{CH}_2-\text{CH}(\text{CH}_3)-\text{O} \right]_n$ <p style="text-align: center;">$m = 1, 2, \dots$</p>			
Reaction conditions			
Temperature	75	°C	
Pressure	Ca. 20	Bar	
Catalysts	Double metal cyanide (DMC)		
Reaction time	3	Hours	
Selectivity	> 94%		

For sources and definitions, please consult the original report at the [CEMCAP WEBSITE](#)

