



# SAVING YOUR Treasures

A Website about what you can do to protect and preserve the things of importance in your life



## Gerald R. Ford Conservation Center Nebraska State Historical Society

1326 S. 32<sup>nd</sup> Street, Omaha, NE 68105 (402) 595-1180, Fax: (402) 595-1178

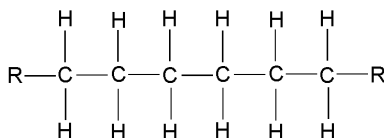
[treasures@nebraskahistory.org](mailto:treasures@nebraskahistory.org)

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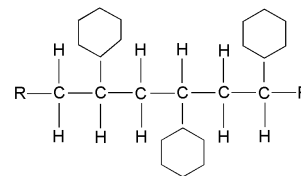
### GLOSSARY OF SELECTED TERMS AND STRUCTURES FOR POLYMERS

- Plastic:** pliable, capable of undergoing deformation, any of a number of organic compounds produced by polymerization
- Polymer:** Greek, meaning many parts, a large molecule built up of repeated smaller chemical units
- Monomer:** the smaller, repeating chemical units in a polymer
- Synthetic polymer:** a polymer that is man-made

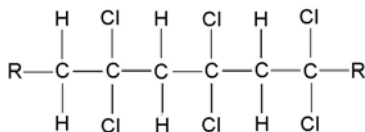
#### Polyethylene:



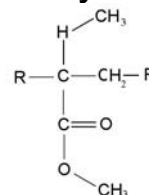
#### Poly vinyl chloride:



#### Polystyrene:



#### Poly methyl methacrylate:



- Thermosetting:** a polymer that has cross linked primary bonds that were formed during polymerization, a polymer that won't flow or melt with heat, epoxy
- Thermoplastic:** a polymer that is primarily linear, that will soften and melt with heat, may have secondary cross links that provide strength or rigidity, PVC

<b>T<sub>g</sub>:</b>	Glass Transition Temperature, the temperature at which molecular motion slows enough to cause a plastic to become rigid, glass-like, brittle, hard
<b>Chain Scission:</b>	breakage of the polymer chain between monomers or along the carbon backbone
<b>Cross linking:</b>	bonds that form from one polymer chain to another or from one side chain to another, formed during polymerization (primary) or as a result of ageing
<b>Gutta Purcha:</b>	trans-polyisoprene, a rubber-like substance that exudes from Malaysian trees of the <i>Payena</i> or the <i>Palaquium</i> genera
<b>Cellulose nitrate:</b>	polymer made by nitrating the cellulose polymer
<b>Casein:</b>	polymer made from milk proteins
<b>Alginates:</b>	polymer made from seaweed proteins
<b>Zein:</b>	plastics made from corn proteins
<b>Phenol-, Urea-formaldehyde:</b>	extremely strong plastics, Bakelite, can off-gas volatile organic acids, especially phenol- formaldehydes