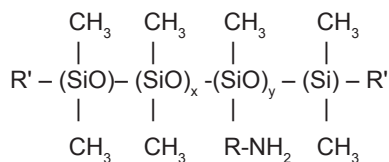


Amino Functional Silicone Polymers

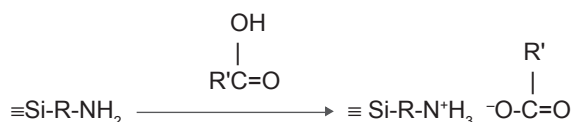
Dimethyl, Methyl-Amino Copolymer - (R'D) D_x D_y^R (DR')

- Today, aminofunctional silicones are mainly used in the preparation of textile finishes, as well as hair and automotive care products. A typical aminofunctional silicone structure is shown below.



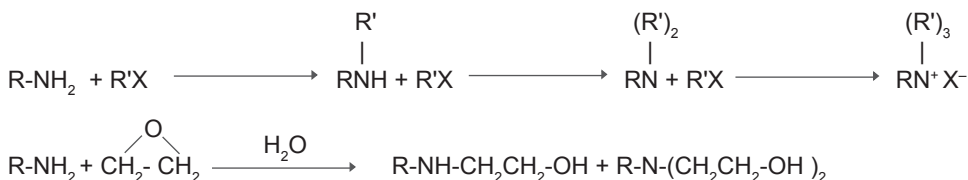
Where R' can be a methyl group or a reactive group, typically an alkoxy, hydroxy or even the amine group.

- Most aminofunctional silicones can readily form microemulsions that offer a number of unique surface properties. The microemulsification process is eased by the formation of an ammonium salt that typically results from the reaction of a carboxylic acid and the amine group attached to the silicone backbone:



The amine salt formation also occurs when aqueous mineral acids are used.

- Amine groups offer a site for polar interactions and many other chemical reactions that make them useful for other potential applications. Amines, for instance, can undergo direct alkylation when reacted with alkyl halides to form secondary, tertiary and/or quaternary ammonium salts. Other alkylating agents such as epoxides can also be used.



Further Information and References

Amines, Preparation & Physical Properties – Morrison, R., Boyd, R., *Organic Chemistry*, 883-906 (1985).
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 Chemistry of Amines – Loudon, G., *Organic Chemistry*, 980-1027 (1988).

Product Information

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