

## ETHERS

Ethers are a class of organic compounds that contain an oxygen between two alkyl or aryl groups. They have the formula R-O-R', where R and R' are alkyl groups. These compounds are used in dye, perfumes, oils, waxes and industrial use. Ethers are named as alkoxyalkanes.

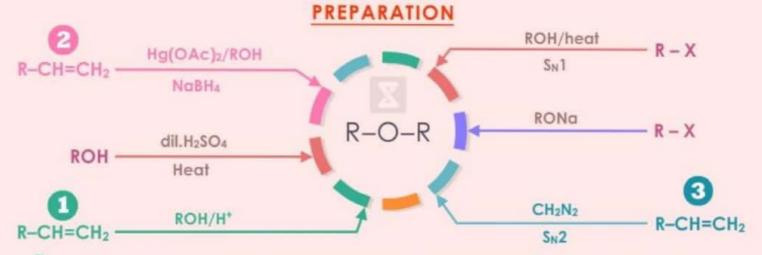


## NOMENCLATURE OF ETHERS

Ethers are compounds having two alkyl or aryl groups bonded to an oxygen atom, as in the formula  $R_1 - O - R_2$ . The ether functional group does not have a characteristic IUPAC nomenclature suffix, so it is necessary to designate it as a substituent. To do so the common alkoxy substituents are given names derived from their alkyl component (below):

ALKYL GROUP	NAME	ALKOXY GROUP	NAME
CH₃⁻	Methyl	CH <sub>3</sub> O-	Methoxy
CH <sub>3</sub> CH <sub>2</sub> -	Ethyl	CH₃CH₂O⁻	Ethoxy
(CH₃)₂CH-	Isopropyl	(CH₃)₂CHO-	Isopropoxy
(CH₃)₃C−	Tert- Butyl	(CH <sub>3</sub> ) <sub>3</sub> CO-	Tert- Butoxy
C <sub>6</sub> H <sub>5</sub> -	Phenyl	C <sub>6</sub> H <sub>5</sub> O -	Phenoxy

Ethers can be named by naming each of the two carbon groups as a separate word followed by a space and the word ether. The -OR group can also be named as a substituent using the group name, alkoxy.



- Procees via carbocation intermediate, rearrangement may take place.
- 2 Do not procees via carbocation intermediate, rearrangement is avoided.
- 3 Gives methyl ether (RCH2CH2OCH3)



