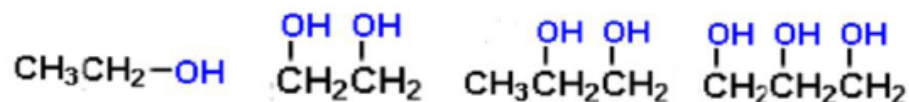


## Alcohol with More than one –OH group



(ethyl alcohol) (ethylene glycol) (propylene glycol) (glycerol)

| Structural Formula                                                   | Name           | Molecular Weight (g/mol) | Boiling Point (°C) | Solubility in Water |
|----------------------------------------------------------------------|----------------|--------------------------|--------------------|---------------------|
| $\text{CH}_3\text{OH}$                                               | methanol       | 32                       | 65                 | infinite            |
| $\text{CH}_3\text{CH}_3$                                             | ethane         | 30                       | -89                | insoluble           |
| $\text{CH}_3\text{CH}_2\text{OH}$                                    | ethanol        | 46                       | 78                 | infinite            |
| $\text{CH}_3\text{CH}_2\text{CH}_3$                                  | propane        | 44                       | -42                | insoluble           |
| $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$                         | 1-propanol     | 60                       | 97                 | infinite            |
| $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$                       | butane         | 58                       | 0                  | insoluble           |
| $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$   | 1-pentanol     | 88                       | 138                | 2.3 g/100 g         |
| $\text{HOCH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$            | 1,4-butanediol | 90                       | 230                | infinite            |
| $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$ | hexane         | 96                       | 69                 | insoluble           |

| Structural Formula                                                 | Name                           | Molecular Weight | Boiling Point (°C) | Solubility in Water |
|--------------------------------------------------------------------|--------------------------------|------------------|--------------------|---------------------|
| $\text{CH}_3\text{CH}_2\text{OH}$                                  | ethanol                        | 46               | 78                 | infinite            |
| $\text{CH}_3\text{OCH}_3$                                          | dimethyl ether                 | 46               | -24                | 7.8 g/100 g         |
| $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$            | 1-butanol                      | 74               | 117                | 7.4 g/100 g         |
| $\text{CH}_3\text{CH}_2\text{OCH}_2\text{CH}_3$                    | diethyl ether                  | 74               | 35                 | 8 g/100 g           |
| $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$ | 1-pentanol                     | 88               | 138                | 2.3 g/100 g         |
| $\text{HOCH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$          | 1,4-butanediol                 | 90               | 230                | infinite            |
| $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{OCH}_3$         | butyl methyl ether             | 88               | 71                 | slight              |
| $\text{CH}_3\text{OCH}_2\text{CH}_2\text{OCH}_3$                   | ethylene glycol dimethyl ether | 90               | 84                 | infinite            |

## dicarboxylic acid nomenclature

A mnemonic to aid in remembering the order of the common nomenclature for the first six dicarboxylic acids is

"Oh my, such great apple pie!" (oxalic, malonic, succinic, glutaric, adipic, pimelic). A variant for the first nine adds "Sweet as sugar!" (suberic, azelaic, sebacic) to the end of the mnemonic.