1. Sulfonic acids

2. Organic derivatives of carbonic acid

Vladimíra Kvasnicová

Sulfonic acids

- **functional group**: $-SO_3H$
- **names**: *hydrocarbon* sulfonic acid / **trivial** names
- **prefix**: sulfo- *(the prefix used for **-SH** group is **sulfanyl-** !!!)*
- crystalline or syrupy water soluble compounds
- **strong acids**
- formed by oxidation of thiols or by reaction of hydrocarbons with H_2SO_4
- their **sodium salts** are used as detergents

Sulfonic acids and their derivatives

- CH_3-SO_3H
- C_6H_5-SO_3H
- CH_3-$(CH_2)_2$-SO_3H
- CH_3-$(CH_2)_{15}$-SO_3H
- CH_3-$CH(SO_3H)$-CH_2-CH_3
- C_6H_5-SO_3^- Na^+

- methanesulfonic acid
- benzenesulfonic acid
- propanesulfonic acid
- hexadecane-1-sulf.a.
- butane-2-sulfonic ac.
- sodium benzenesulfonate

Sulfonic acids and their derivatives

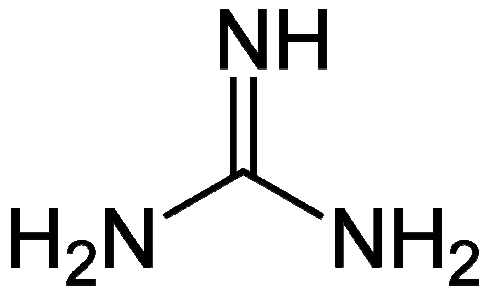
- CH_3-SO_2Cl
- C_6H_5-SO_2-O-CH_3
- H_2N-CH_2-CH_2-SO_3H
- H_2N-C_6H_4-SO_3H
- R_1-**HN**-C_6H_4-SO_2**NH**-R_2

- methanesulfonyl chloride
- methyl benzenesulfonate
- 2-aminoethanesulfonic acid (= **taurine**)
- 4-aminobenzenesulfonic acid (= **sulfanilic acid**)

sufonamides

Organic derivatives of carbonic acid

- **carbonic acid:** HO-CO-OH = H_2CO_3
- **carbamic acid:** HO-CO-NH_2
- **urea:** H_2N-CO-NH_2
- thiourea: H_2N-CS-NH_2
- phosgene: Cl-CO-Cl *toxic gas*
- **guanidine:**



Exercise - repetition

- toluene
- m-cresol
- o-xylene
- naphtalene
- benzyl
- phenyl
- anthracene
- benzoic acid
- p-benzoquinone
- cyclohexanol
- acetaldehyde
- phenol
- acetone
- diethylether
- formaldehyde
- vinylchloride
- methanethiol
- hydroquinone