Common Functional Groups

General		
Formula	Example	Name
RH	CH₃CH₂CH₃	Alkane (Alkanes have no functional group.)
$RCH = CH_2$	$CH_3CH_2CH=CH_2$	Alkene (The functional group is the carbon-carbon double bond.)
RC≡CH	CH ₃ C≡CH	Alkyne (The functional group is the carbon-carbon triple bond.)
ArH		Arene (A six-membered ring with three double bonds has different reactions than an alkene so it is given a different name. Arenes or aromatic rings can have alkyl or other groups attached to the ring.)
RX	CH ₃ CH ₂ CH ₂ CI	Alkyl halide (The functional group is the carbon-halogen bond.)
ROH	CH₃CH₂OH	Alcohol (The functional group is the C—O—H.)
ROR	CH ₃ CH ₂ OCH ₃	Ether (The functional group is the $C-O-C$. The alkyl groups on the O can be the same or different.)
RNH ₂	CH ₃ CH ₂ CH ₂ NH ₂	Amine (The $C-N$ is the functional group. The other H's on the N can be replaced with alkyl groups.)
O RCH	O ∥ CH₃CH₂CH	Aldehyde (The functional group is the C=0 with at least one H on the C.)
O RCR	O CH ₃ CCH ₃	Ketone (The functional group is the C=O with two alkyl groups on the C. The alkyl groups need not be the same.)
RCOH	CH₃CH₂COH	Carboxylic acid (The functional group is the COH.)
O 	O ∥ CH₃CCI	Acyl chloride (The functional group is the CCl.)
O O RCOCR	O O CH ₃ COCCH ₃	\bigcirc \bigcirc \parallel
O RCOR	O ∥ CH₃COCH₂CH₃	O
O RCNH ₂	O ∥ CH₃CH₂CNHCH₃	
RC≡N	CH ₃ CH ₂ CH ₂ C≡N	Nitrile (The functional group is the carbon-nitrogen triple bond.)