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radical ion

Also contains definitions of: anion radical, cation radical, radical anion, radical cation

A radical that carries an electric charge. A positively charged radical is called a 'radical cation' (e.g. the benzene radical cation $C_6H_6^{\cdot +}$); a negatively charged radical is called a 'radical anion' (e.g. the benzene radical anion $C_6H_6^{\cdot -}$ or the benzophenone radical anion $Ph_2C–O^{\cdot -}$). Commonly, but not necessarily, the odd electron and the charge are associated with the same atom. Unless the positions of unpaired spin and charge can be associated with specific atoms, superscript dot and charge designations should be placed in the order $^{\cdot +}$ or $^{\cdot -}$ suggested by the name 'radical ion'. (e.g. $C_3H_6^{\cdot +}$).
Note:
In the previous edition of this Compendium, it was recommended to place the charge designation directly above the centrally placed dot. However, this format is now discouraged because of the difficulty of extending it to ions bearing more than one charge, and/or more than one unpaired electron. In mass spectroscopic usage the symbol for the charge precedes the dot representing the unpaired electron.

Source:
PAC, 1994, *66*, 1077 *(Glossary of terms used in physical organic chemistry (IUPAC Recommendations 1994))* on page 1156
PAC, 1995, *67*, 1307 *(Glossary of class names of organic compounds and reactivity intermediates based on structure (IUPAC Recommendations 1995))* on page 1363

