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dipolar compounds

Electrically neutral molecules carrying a positive and a negative charge in one of their major canonical descriptions. In most dipolar compounds the charges are delocalized; however the term is also applied to species where this is not the case. 1,2-Dipolar compounds have the opposite charges on adjacent atoms. The term 1,3-dipolar compounds is used for those in which a significant canonical resonance form can be represented by a separation of charge over three atoms (in connection with 1,3-dipolar cycloadditions). Subclasses of 1,3-dipolar compounds include:

1. Allyl type $X{=}Y^{+}{-}Z^{-} \leftrightarrow X^{-}{-}Y^{+}{=}Z \leftrightarrow X^{+}{-}Y{-}Z^{-} \leftrightarrow X^{-}{=}Y{-}Z^{+}$ (X, Z = C, N, or O; Y = N or O)
   See: azo imides, azomethine imides, azomethine ylides, azoxy compounds, carbonyl imides, carbonyl oxides, carbonyl ylides, nitrones, nitro compounds
2. Propargyl type $X{\equiv}N^{+}{-}Z^{-} \leftrightarrow X^{-}{=}N^{+}{=}Z \leftrightarrow X^{-}{=}N{-}Z^{+} \leftrightarrow X{-}N{=}Z$ (X = C or O, Z = C, N, or O)
   See: nitrile imides, nitrile oxides, nitrile ylides, nitrilium betaines, azides, diazo compounds
3. Carbene type $X{:}{-}C{=}Z \leftrightarrow X^{+}{=}C{-}Z^{-}$ (X = C or N; Z = C, N, or O)
   See: acyl carbenes, imidoyl carbenes, vinyl carbenes
   See: betaines

Source:
PAC, 1995, *67*, 1307 *(Glossary of class names of organic compounds and reactivity intermediates based on structure (IUPAC Recommendations 1995))* on page 1333

