A nucleophilic atom is an electron-rich atom in a molecule or ion. Use the following generalizations to identify the most common types of electron-rich atoms.

1. An atom bearing one or more lone pairs but not a formal positive charge is electron-rich.

   eg. 1:
   
   ![Diagram of O\textsuperscript{2-}](image)
   
   eg. 2:
   
   ![Diagram of H-O\textsuperscript{2-}](image)

2. A formally neutral atom bearing a partial negative charge is electron-rich.

   eg. 1:
   
   ![Diagram of H\textsubscript{2}C-Mg-Br](image)
   
   eg. 2:
   
   ![Diagram of H\textsubscript{2}B](image)

3. A carbon atom not bearing a formal or partial positive charge and multiple-bonded to another carbon atom is electron-rich.

   ![Diagram of H\textsubscript{2}C-Mg-Br](image)
eg. 1:

\[
\begin{array}{c}
\text{H} \\
\text{C} = \text{C} \\
\text{H} \\
\end{array}
\]

\text{electron-rich}

eg. 2:

\[
\begin{array}{c}
\text{H} \\
\text{C} = \text{C} \\
\text{H} \\
\end{array}
\]

\text{electron-rich}

see also electrophilic atom, nucleophile, electrophile

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