An oxonium ion is a species containing an oxygen atom that has an octet of valence electrons, but bears a formal charge of +1. E.g.,

\[
\begin{array}{c}
\text{H} \\
\text{H} \\
\text{O}^+ \\
\text{H}
\end{array}
\quad
\begin{array}{c}
\text{H} \\
\text{H} \\
\text{O}^+ \\
\text{H}
\end{array}
\]

Some oxonium ions are resonance stabilized, in which case not all resonance forms of the species fit the above definition, e.g.:

\[
\begin{array}{c}
\text{H} \\
\text{O}^+ \quad \rightarrow \\
\text{H} \\
\text{H}
\end{array}
\quad
\begin{array}{c}
\text{H} \\
\text{O}^+ \\
\text{H}
\end{array}
\]

Alternatively, the above species is a hybrid of an oxonium ion and a carbocation.

---

**Contributors**

- Gamini Gunawardena from the OChemPal site (Utah Valley University)