There are two oxoacids referred to as periodic (pronounced per-iodic) or iodic (VII) acid:

1. Molecular formula: HIO₄
   Structural formula:
   
   ![Structural formula of HIO₄]

2. Molecular formula: H₅IO₆, also shown as HIO₄ • 2 H₂O
   Structural formula:
   
   ![Structural formula of H₅IO₆]

Hydration of HIO₄ gives H₅IO₆ and dehydration of H₅IO₆ gives HIO₄.

\[
\text{HIO}_4 \quad + \quad 2 \text{H}_2\text{O} \quad \leftrightarrow \quad \text{H}_5\text{IO}_6
\]

The commercially available periodic acid is usually H₅IO₆.

Periodic acid is a strong oxidizing agent, commonly used to oxidize glycols.

eg:

![Reaction diagram]

see also periodate ester, hydroxylation

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