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

1. Molecular formula: HIO\(_4\)
   Structural formula:
   ![Structural formula of HIO\(_4\)]

2. Molecular formula: H\(_5\)IO\(_6\), also shown as HIO\(_4\) • 2 H\(_2\)O
   Structural formula:
   ![Structural formula of H\(_5\)IO\(_6\)]

Hydration of HIO\(_4\) gives H\(_5\)IO\(_6\) and dehydration of H\(_5\)IO\(_6\) gives HIO\(_4\).

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

The commercially available periodic acid is usually H\(_5\)IO\(_6\).

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

eg:

![Chemical reaction diagram]

see also [periodate ester](#), [hydroxylation](#)

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**Contributors**

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