An N-nitrosamine is a compound that has the following general structural formula.

\[
\begin{array}{c}
\text{R}^1 \\
\text{N} \quad \text{N} \quad \text{O} \\
\text{R}^2
\end{array}
\]

\( \text{R}^1 \) and \( \text{R}^2 \) could be hydrogen atoms, alkyl groups, aryl groups, or any combination thereof.

\text{eg: }

\[
\begin{array}{c}
\text{CH}_3 \\
\text{H} \\
\text{1}
\end{array}
\quad \quad
\begin{array}{c}
\text{CH}_3 \\
\text{H} \\
\text{2}
\end{array}
\quad \quad
\begin{array}{c}
\text{CH}_3 \\
\text{H} \\
\text{aromatic} \\
\text{3}
\end{array}
\]

An \( N \)-nitrosamine is stable only if neither \( \text{R}^1 \) nor \( \text{R}^2 \) is a hydrogen atom. Thus, \( \text{1} \) is unstable, and \( \text{2} \) and \( \text{3} \) are stable. \( \text{1} \) exists mostly as the \text{tautommer (4)}, which is called a diazotic acid.

\[
\begin{array}{c}
\text{CH}_3 \\
\text{H} \\
\text{N} \quad \text{N} \quad \text{O} \\
\text{N} \quad \text{N} \quad \text{OH}
\end{array}
\quad \text{diazoacid}
\]

see also \text{nitroso group}

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**Contributors**

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