The following group in an organic molecule is called the nitroso group.

\[
\begin{array}{c}
\text{N} \equiv \text{O} \\
\end{array}
\]

eg:

1. \[\text{CH}_3\text{N} \equiv \text{O}\]

2. \[\text{CH}_2\text{O} \equiv \text{N} \equiv \text{O}\]

3. \[
\begin{array}{c}
\text{N} \equiv \text{O} \\
\end{array}
\]

The nitrosyl group is stable only if there are no alpha hydrogens to it. Thus, 1 is unstable, and 2 and 3 are stable. 1 exists mostly as the tautomer (4), which is an oxime.

\[
\begin{array}{c}
\text{CH}_3\text{N} \equiv \text{O} \\
\xrightarrow{\text{t}} \\
\text{CH}_2\text{N} \equiv \text{O} + \text{HO} \\
\end{array}
\]

see also nitrosyl cation

**Contributors**

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