

Introduction and use of nitrous oxide gas

Chemical name: nitrous oxide [compressed]; nitrous oxide; laughing gas

Chemical English name: Nitrogen oxide (compressed); laughing gas **GAS #:** 10024-97-2

molecular formula: N₂O

Molecular weight: 44.02

Recommended and restricted use of chemicals: for industry and specialty; risk assessment before use; for medical anesthetics, preservatives, and for air tightness; test / calibration gases; laboratory use; chemical reaction / synthesis; aerosol injection; for electronic / photovoltaic module manufacturing.

Nitrous oxide (Nitrous oxide), chemical formula N₂O, a colorless and sweet gas, is an oxidant, a dangerous chemical. Because after inhalation will feel euphoria, and can make people laugh, also known as "laughing gas". It is often used as a food additive, such as foaming cream, and is called "cream gas bomb". Nitrous oxide was used in anesthesia for dental surgery, and is one of the first human anesthetic used in medical treatment. Its anesthetic effect was discovered in 1799 by the British chemist Humphrey David^[1]. Nitrous oxide can support combustion under certain conditions, but stable at room temperature, soluble in water, ethanol, ether and concentrated sulfuric acid, can be used in surgery and dentistry for anesthesia and analgesia, as well as as rocket racing oxidant, and increase the output power of the engine.

| matter | component | CAS No | potency |
|----------------------------------|-----------------------------------|--|----------------|
| mixture | laughing gas | 10024-97-2 | |
| Appearance and traits | Colorless gas, with a sweet taste | | |
| PH price | insignificance | melting point (°C) | -90.8 |
| boiling point (°C) | -88.5 | Relative density (water =1) | 1.23 (-89°C) |
| Relative vapour density (air =1) | 1.53 (25°C) | Saturated steam pressure (kpa) | 506.62 (-58°C) |
| Heat of combustion (kj / mol) | non-avaible | critical temperatures (°C) | 36.5 |
| Critical Pressure (Mpa) | 7.26 | Octanol / water distribution coefficient | 0.35 |
| flash point (°C) | insignificance | autogenous ignition temperature (°C) | insignificance |
| low explosive limit (%) | insignificance | upper explosive limit (%) | insignificance |
| decomposition temperature (°C) | non-avaible | viscosity (mPa.S) | 0.01(25°C) |

| | |
|-------------------|---|
| solubility | Microsoluble in water, dissolved in ethanol, ether, concentrated sulfuric acid |
|-------------------|---|

| | | | |
|------------------------------------|--|--|--------------------|
| stability | stabilize | | |
| Dangerous reaction | Contact with strong reducing agents, flammable or combustible substances and other prohibited compounds, there is a risk of fire or explosion | | |
| Conditions to avoid contact | non-avaible | Hazardous decomposition product | non-avaible |
| Ban the match | Strong reducing agent, flammable or combustible, ether, ethylene | | |