

# SAFETY BULLETIN

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## NITROUS OXIDE SECURITY AND CONTROL

### Alert to the abusive use of nitrous oxide

There is growing concern by many in the medical profession, government, and industry about an increase in the abuse of nitrous oxide. The abuse has become enough of a problem that a number of states have enacted legislation that makes unauthorized use of nitrous oxide illegal. Theft of cylinders from suppliers and medical sources has made nitrous oxide available to many people, in many cases young, school-age people, who are unaware of the hazards of handling and using nitrous oxide but are seeking the euphoric qualities of the gas. The abuse of nitrous oxide can impair an individual's ability to make and implement life-sustaining decisions and can cause death by reducing the oxygen necessary to support life.

This bulletin is not an attempt to list all the possible dangers in the handling and use of nitrous oxide. It is an alert to producers; commercial carriers; container fillers; distributors; and legitimate medical, commercial, and industrial users about the misuse and abuse of nitrous oxide, so they can take effective steps to help prevent theft or improper use.

### Recommendations to manufacturers, repackagers, distributors, and legitimate users

Obtain *Nitrous Oxide Fact Sheet* from the Compressed Gas Association (CGA) or Gases and Welding Distributors Association (GAWDA) [1]. Members of CGA and GAWDA are joined by the medical profession, law enforcement, government, and the media in expressing concern over the abusive use of nitrous oxide, which has resulted in deaths and injuries.

Develop and implement policies and procedures specific to individual operations using the information and guidelines in *Nitrous Oxide Fact Sheet* [1].

### Considerations in developing individual policies and procedures

#### 1. Security of containers:

- Take physical security steps to prevent the theft of all containers of pure nitrous oxide, denatured product, and mixtures containing nitrous oxide. "Empty" containers can have residual product that also requires physical security;

NOTE—The objective of physical security is to deter, detect, and delay a malicious act. Physical security can include fences, walls, and other barriers that deter and delay someone from reaching the product. Alarms on storage areas can detect unauthorized entry.

- Allow only authorized persons in container storage areas by using locks, room enclosures, fencing, and/or surveillance;
- If at all possible, do not leave a delivery truck open and unattended. Provide means to prevent the theft of nitrous oxide containers from a truck;
- Report incidents involving thefts, misuse, or inventory discrepancies to law enforcement and the supplier. Provide support in prosecuting any suspects who are caught;
- Conduct an inventory of both full and empty containers on a regular basis and reconcile the inventory with your records to evaluate security measures; and
- Investigate any inventory discrepancies.

Additional security guidance can be found in the following publications:

- [CGA P-50](#), *Site Security Standard*, which provides guidance to the compressed gas industry for assessing security risks and identifying and implementing preventive security measures at fixed sites [2];
- [CGA P-51](#), *Transportation Security Standard*, which provides guidance for securing product during shipment [3]; and
- [CGA P-52](#), *Security Standard for Qualifying Customers Purchasing Compressed Gases*, which provides guidance to the compressed gas industry for qualifying potential customers who purchase products that are considered at risk for illegal use [4].

2. Sales:

- Provide reasonable assurance that sales are to legitimate users who understand the proper use and safe handling of nitrous oxide;
  - Screen existing accounts for unexpected changes in ordering patterns, cylinder balances or other indications of increased consumption beyond their normal order pattern; and
  - Sell denatured (rendered unfit for human consumption) product for enhancing performance of internal combustion engines. Package denatured product using connection CGA 660 as specified by [CGA V-7](#), *Standard Method of Determining Cylinder Valve Outlet Connections for Industrial Gas Mixtures* [5].
3. Alert employees and customers to the dangers of nitrous oxide abuse. Provide and review current safety data sheets and *Nitrous Oxide Fact Sheet* as appropriate [1].

## References

Unless otherwise specified, the latest edition shall apply.

[1] *Nitrous Oxide Fact Sheet*, Compressed Gas Association, Inc., 14501 George Carter Way, Suite 103, Chantilly VA 20151. <http://www.cganet.com/n20guidelines.php>

[2] [CGA P-50](#), *Site Security Standard*, Compressed Gas Association, Inc., 14501 George Carter Way, Suite 103, Chantilly VA 20151. [www.cganet.com](http://www.cganet.com)

[3] [CGA P-51](#), *Transportation Security Standard*, 14501 George Carter Way, Suite 103, Chantilly VA 20151. [www.cganet.com](http://www.cganet.com)

[4] [CGA P-52](#), *Security Guidelines for Qualifying Customers Purchasing Compressed Gases*, 14501 George Carter Way, Suite 103, Chantilly VA 20151. [www.cganet.com](http://www.cganet.com)

[5] [CGA V-7](#), *Standard Method of Determining Cylinder Valve Outlet Connections for Industrial Gas Mixtures*, 14501 George Carter Way, Suite 103, Chantilly VA 20151. [www.cganet.com](http://www.cganet.com)