

Praxair Material Safety Data Sheet

(See section 15, under TSCA, for important restrictions on product use.)

1. Chemical Product and Company Identification

| | |
|--------------------------------------|---------------------------------------|
| Product Name: Tracer W | Trade Names: Tracer W |
| Chemical Name: Trade Secret | Synonyms: Trade Secret. |
| Chemical Family: Trade Secret | Product Grades: None assigned. |
| Telephone: | Company Name: Praxair, Inc. |
| Emergencies: 1-800-645-4633* | 39 Old Ridgebury Road |
| CHEMTREC: 1-800-424-9300* | Danbury, CT 06810-5113 |
| Routine: 1-800-PRAXAIR | |

*Call emergency numbers 24 hours a day only for spills, leaks, fire, exposure, or accidents involving this product. For routine information, contact your supplier, Praxair sales representative, or call 1-800-PRAXAIR (1-800-772-9247).

2. Hazards Identification

EMERGENCY OVERVIEW

**CAUTION! Liquid and gas under pressure.
May be harmful if inhaled.
May irritate the eyes, skin, and respiratory tract.
Self-contained breathing apparatus and protective clothing
may be worn by rescue workers.
Under ambient conditions, this is a colorless, odorless gas.**

OSHA REGULATORY STATUS: This material is considered hazardous by the OSHA Hazard Communications Standard (29 CFR 1910.1200)

POTENTIAL HEALTH EFFECTS:

Effects of a Single (Acute) Overexposure

Inhalation. May irritate the respiratory tract.

Skin Contact. No harm expected from vapor; liquid may cause frostbite.

Swallowing. This product is a gas at normal temperature and pressure.

Eye Contact. No harm expected from vapor; liquid may cause frostbite.

Effects of Repeated (Chronic) Overexposure. No harm expected.

Other Effects of Overexposure. None known.

Medical Conditions Aggravated by Overexposure. None known.

CARCINOGENICITY: This material is not listed by NTP, OSHA, or IARC.

POTENTIAL ENVIRONMENTAL EFFECTS: None known. For further information, see section 12, Ecological Information.

A vertical line in the left margin indicates revised or new material.

3. Composition/Information on Ingredients

See section 16 for important information about mixtures.

| COMPONENT | CAS NUMBER | CONCENTRATION |
|--------------|--------------|---------------|
| Trade Secret | Trade Secret | >99%* |

*The symbol > means "greater than."

4. First Aid Measures

INHALATION: Immediately remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, qualified personnel may give oxygen. Get immediate medical attention, even if no symptoms are present. Call a physician.

SKIN CONTACT: For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105°F (41°C). Water temperature should be tolerable to normal skin. Maintain skin warming for at least 15 minutes or until normal coloring and sensation have returned to the affected area. In case of massive exposure, remove clothing while showering with warm water. Seek medical attention and treatment as soon as possible.

SWALLOWING: An unlikely route of exposure. This product is a gas at normal temperature and pressure.

EYE CONTACT: For exposure to liquid, immediately flush eyes thoroughly with warm water for at least 15 minutes. Hold the eyelids open and away from the eyeballs to ensure that all surfaces are flushed thoroughly. See a physician, preferably an ophthalmologist, immediately.

NOTES TO PHYSICIAN: *There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.*

5. Fire Fighting Measures

FLAMMABLE PROPERTIES: Nonflammable.

SUITABLE EXTINGUISHING MEDIA: Use media appropriate for surrounding fire.

PRODUCTS OF COMBUSTION: Not applicable. See section 10 for thermal decomposition products.

PROTECTION OF FIREFIGHTERS: CAUTION! Liquid and gas under pressure. Gas may irritate the respiratory tract. Evacuate all personnel from danger area. Immediately deluge cylinders with water from maximum distance until cool; then move them away from fire area if without risk. Self-contained breathing apparatus may be required by rescue workers. On-site fire brigades must comply with OSHA 29 CFR 1910.156 and applicable standards under 29 CFR 1910 Subpart L—Fire Protection.

Specific Physical and Chemical Hazards. Heat of fire may build pressure in container, causing rupture. No part of a container should be subjected to temperatures above 125°F (52°C).

Protective Equipment and Precautions for Firefighters. Firefighters should wear self-contained breathing apparatus and full fire-fighting turnout gear.

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6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

CAUTION! Liquid and gas under pressure. Gas may irritate the respiratory tract.

Personal Precautions. Asphyxiant. Lack of oxygen can kill. Immediately evacuate all personnel from danger area. Use self-contained breathing apparatus where needed. Shut off flow if you can do so without risk. Ventilate area or move cylinder to a well-ventilated area. Test for sufficient oxygen, especially in confined spaces, before allowing reentry.

Environmental Precautions. Prevent waste from contaminating the surrounding environment. Discard any product, residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with federal, state, and local regulations. If necessary, call your local supplier for assistance.

7. Handling and Storage

PRECAUTIONS TO BE TAKEN IN HANDLING: *Protect cylinders from damage.* Use a suitable hand truck to move cylinders; do not drag, roll, slide, or drop. **Never attempt to lift a cylinder by its cap;** the cap is intended solely to protect the valve. Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. **Open valve slowly.** If valve is hard to open, discontinue use and contact your supplier. Close valve after each use; keep closed even when empty. **Never apply flame or localized heat directly to any part of the cylinder.** High temperatures may damage the cylinder and could cause the pressure relief device to fail prematurely, venting the cylinder contents.

PRECAUTIONS TO BE TAKEN IN STORAGE: *Store and use with adequate ventilation.* Store only where temperature will not exceed 125°F (52°C). **Firmly secure cylinders upright to keep them from falling or being knocked over.** Screw valve protection cap firmly in place by hand. **Store full and empty cylinders separately.** Use a first-in, first-out inventory system to prevent storing full cylinders for long periods.

RECOMMENDED PUBLICATIONS: For further information on storage, handling, and use, see Praxair publication P-14-153, *Guidelines for Handling Gas Cylinders and Containers*. Obtain from your local supplier.

8. Exposure Controls/Personal Protection

| COMPONENT | OSHA PEL | ACGIH TLV-TWA (2014) |
|--------------|------------------|----------------------|
| Trade Secret | Not Established. | Not Established. |

IDLH = Not available.

ENGINEERING CONTROLS:

Local Exhaust. Use a local exhaust system, if necessary, to prevent oxygen deficiency, and to keep hazardous fumes and gases in the worker's breathing zone below all applicable exposure limits.

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Mechanical (General). General exhaust ventilation may be acceptable if it can maintain an adequate supply of air and keep hazardous fumes and gases in the worker's breathing zone below all applicable exposure limits.

Special. None

Other. None

PERSONAL PROTECTIVE EQUIPMENT:

Skin Protection. Wear work gloves and metatarsal shoes for cylinder handling. Select in accordance with OSHA 29 CFR 1910.132, 1910.136, and 1910.138.

Eye/Face Protection. Select in accordance with OSHA 29 CFR 1910.133.

Respiratory Protection. Use air-purifying or air-supplied respirators where local or general exhaust ventilation is inadequate to keep worker exposure below all applicable exposure limits for fumes, gases, and other by-products. See section 16 for details. Air-supplied respirators must be used in confined spaces. Respiratory protection must conform to OSHA rules as specified in 29 CFR 1910.134.

9. Physical and Chemical Properties

| | |
|---|---|
| APPEARANCE: | Colorless gas |
| ODOR: | Odorless |
| ODOR THRESHOLD: | Not available. |
| PHYSICAL STATE: | Gas at normal temperature and pressure |
| pH: | Not applicable. |
| MELTING POINT at 1 atm: | <0°F (<-18°C) Specific value withheld for trade secret protection |
| BOILING POINT at 1 atm: | -0 °F (<-18°C) Specific value withheld for trade secret protection |
| FLASH POINT (test method): | Not applicable. |
| EVAPORATION RATE (Butyl Acetate = 1): | Not available. |
| FLAMMABILITY: | Nonflammable |
| FLAMMABLE LIMITS IN AIR , % by volume: | LOWER: Not applicable. UPPER: Not applicable. |
| VAPOR PRESSURE at 68°F (20°C): | <100 psia (<7000 mbar) Specific value withheld for trade secret protection |
| VAPOR DENSITY at 77°F (25°C) and 1 atm: | <0.12 lb/ft ³ (<0.0020 kg/L) Specific value withheld for trade secret protection |
| SPECIFIC GRAVITY (H ₂ O = 1): | >1.2 Specific value withheld for trade secret protection |
| SPECIFIC GRAVITY (Air = 1) at 77°F (25°C) and 1 atm: | >1.5 Specific value withheld for trade secret protection |
| SOLUBILITY IN WATER 68°F (20°C): | Insoluble |
| PARTITION COEFFICIENT: n-octanol/water: | Not available. |

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| | |
|-------------------------------------|-----------------|
| AUTOIGNITION TEMPERATURE: | Not applicable. |
| DECOMPOSITION TEMPERATURE: | >400°C |
| PERCENT VOLATILES BY VOLUME: | 100 |

10. Stability and Reactivity

CHEMICAL STABILITY: Unstable Stable

CONDITIONS TO AVOID: Fire, hot surfaces (>400°C)

INCOMPATIBLE MATERIALS: Lithium, sodium, potassium, calcium, and barium

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition may produce hydrogen fluoride and toxic products.

POSSIBILITY OF HAZARDOUS REACTIONS: May Occur Will Not Occur

Thermal decomposition may produce hydrogen fluoride and toxic products.

11. Toxicological Information

ACUTE DOSE EFFECTS: None known.

STUDY RESULTS: None known.

12. Ecological Information

ECOTOXICITY: No known effects.

OTHER ADVERSE EFFECTS: This material does not contain any Class I or Class II ozone-depleting chemicals.

13. Disposal Considerations

WASTE DISPOSAL METHOD: Do not attempt to dispose of residual or unused quantities. Return cylinder to supplier.

14. Transport Information

DOT/IMO SHIPPING NAME: Liquefied gas, n.o.s. (withheld from MSDS as a trade secret)

| HAZARD CLASS: | PACKING GROUP/Zone: | IDENTIFICATION NUMBER: | PRODUCT RQ: |
|---------------|---------------------|------------------------|-------------|
| 2.2 | NA* | UN3163 | None |

SHIPPING LABEL(s): NONFLAMMABLE GAS

PLACARD (when required): NONFLAMMABLE GAS

*NA-Not applicable.

SPECIAL SHIPPING INFORMATION: Cylinders should be transported in a secure position, in a well-ventilated vehicle. Cylinders transported in an enclosed, nonventilated compartment of a vehicle can present serious safety hazards.

Shipment of compressed gas cylinders that have been filled without the owner's consent is a violation of federal law [49 CFR 173.301(b)].

MARINE POLLUTANTS: This material is not listed as a marine pollutant by DOT.

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15. Regulatory Information

The following selected regulatory requirements may apply to this product. Not all such requirements are identified. Users of this product are solely responsible for compliance with all applicable federal, state, and local regulations.

U.S. FEDERAL REGULATIONS:

EPA (ENVIRONMENTAL PROTECTION AGENCY)

CERCLA: COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 (40 CFR Parts 117 and 302):

Reportable Quantity (RQ): None

SARA: SUPERFUND AMENDMENT AND REAUTHORIZATION ACT:

SECTIONS 302/304: Require emergency planning based on Threshold Planning Quantity (TPQ) and release reporting based on Reportable Quantities (RQ) of Extremely Hazardous Substances (EHS) (40 CFR Part 355):

TPQ: None

EHS RQ (40 CFR 355): None

SECTIONS 311/312: Require submission of MSDSs and reporting of chemical inventories with identification of EPA hazard categories. The hazard categories for this product are as follows:

IMMEDIATE: No

PRESSURE: No

DELAYED: No

REACTIVITY: No

FIRE: No

SECTION 313: Requires submission of annual reports of release of toxic chemicals that appear in 40 CFR Part 372.

This material is not subject to reporting under Section 313.

40 CFR 68: RISK MANAGEMENT PROGRAM FOR CHEMICAL ACCIDENTAL RELEASE PREVENTION: Requires development and implementation of risk management programs at facilities that manufacture, use, store, or otherwise handle regulated substances in quantities that exceed specified thresholds.

This material is not listed as a regulated substance.

TSCA: TOXIC SUBSTANCES CONTROL ACT: This material is not listed on the TSCA inventory.

CAUTION: This material is supplied under a "Low Volume Exemption" (40 CFR 723) of the Toxic Substances Control Act. As such, its use is restricted to use as a fluid marker.

OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION:

29 CFR 1910.119: PROCESS SAFETY MANAGEMENT OF HIGHLY HAZARDOUS CHEMICALS: Requires facilities to develop a process safety management program based on Threshold Quantities (TQ) of highly hazardous chemicals.

This material is not listed in Appendix A as a highly hazardous chemical.

STATE REGULATIONS:

CALIFORNIA: This material is not listed by California under the SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 (Proposition 65).

PENNSYLVANIA: This material is subject to the PENNSYLVANIA WORKER AND COMMUNITY RIGHT-TO-KNOW ACT (35 P.S. Sections 7301-7320).

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16. Other Information

Be sure to read and understand all labels and instructions supplied with all containers of this product.

OTHER HAZARDOUS CONDITIONS OF HANDLING, STORAGE, AND USE: *Liquid and gas under pressure.* Store and use with adequate ventilation at all times. Keep cylinder closed when not in use, even when empty. Use a backflow prevention device in any piping. Use only with compatible materials and equipment.

Mixtures. When you mix two or more chemicals, you can create additional, unexpected hazards. Obtain and evaluate the safety information for each component before you produce the mixture. Consult an industrial hygienist or other trained person when you evaluate the end product. Remember, chemicals have properties that can cause serious injury or death

HAZARD RATING SYSTEMS:

NFPA RATINGS:

HEALTH = 1
FLAMMABILITY = 0
INSTABILITY = 0
SPECIAL = None

HMIS RATINGS:

HEALTH = 1
FLAMMABILITY = 0
PHYSICAL HAZARD = 1

Praxair asks users of this product to study this MSDS and become aware of product hazards and safety information. To promote safe use of this product, a user should (1) notify employees, agents, and contractors of the information in this MSDS and of any other known product hazards and safety information, (2) furnish this information to each purchaser of the product, and (3) ask each purchaser to notify its employees and customers of the product hazards and safety information.

The opinions expressed herein are those of qualified experts within Praxair, Inc. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Praxair, Inc., it is the user's obligation to determine the conditions of safe use of the product.

Praxair MSDSs are furnished on sale or delivery by Praxair or the independent distributors and suppliers who package and sell our products. To obtain current MSDSs for these products, contact your Praxair sales representative or local distributor or supplier. If you have questions regarding Praxair MSDSs, would like the form number and date of the latest MSDS, or would like the names of the Praxair suppliers in your area, phone or write the Praxair Call Center (**Phone:** 1-800-PRAXAIR; **Address:** Praxair Call Center, Praxair, Inc., PO Box 44, Tonawanda, NY 14151-0044).

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