

SAFETY DATA SHEET (SDS)

GHS and OSHA 29 CFR §1910.1200 (eCFR) compliant

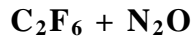
UN1956



Revision: 0
ISSUE DATE: May 25, 2015

Hexafluoroethane-Nitrous Oxide 90/10

R-116 Refrigerant, Hexafluoroethane 90% Nitrous Oxide 10% Compressed Gas



STOODY INDUSTRIAL AND WELDING SUPPLY, INC.

3316 National Ave., San Diego, Ca. 92113

Phone: 619-234-6750

WWW.STOODYIND.COM

PHONE NUMBERS

Product Information: 619-234-6750

24-hour Emergency Response
Professional Emergency Resource Services
800-633-8253

MILITARY EMERGENCY RESPONSE
800-851-8061

NSN

6830-01-296-2459

SUPPLIER INFORMATION:

Safety and handling equipment, gas cylinders and refills, personal protection equipment, fire extinguishers, cylinder services, respirators, etc. are available at Stody Industrial and Welding Supply, Inc. Our main location is at 3316 National Avenue, (near the 32nd Street Naval Base) in San Diego California 92113. Call 1-619-234-6750 or visit our web site, stodyind.com for more information.

DISCLAIMER: The information contained herein is accurate to the best of our knowledge. Stody Industry and Welding Supply Inc., does not assume any responsibility or liability for user's reliance or consequences of reliance on the information provided in this SDS. **Stody industrial and Welding Supply, Inc. makes no warranty or guarantee of any kind, expressed or implied, concerning the safe use of this material in your process or in combination with other substances.**

'STOODY INDUSTRIAL AND WELDING SUPPLY, INC.' is not sponsored, affiliated or in any way related to 'STOODY COMPANY', a division of 'Victor Technologies'.

SAFETY DATA SHEET (SDS)

GHS and OSHA 29 CFR §1910.1200 (eCFR) compliant




Hexafluoroethane 90% Nitrous Oxide 10%, Compressed Gas

1 IDENTIFICATION

- 1(a) **Product identifier used on label:**
Hexafluoroethane-Nitrous Oxide 90/10
- 1(b) **Other means of identification:** R-116 Refrigerant, Hexafluoroethane 90% Nitrous Oxide 10% Compressed Gas
- 1(c) **Recommended use of the chemical and restrictions on use:**
Recommended use; Refrigerant gas
Restrictions on use; None
- 1(d) **Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party**
Responsible Party: STOODY INDUSTRIAL AND WELDING SUPPLY, INC
3316 National Avenue, San Diego, CA 92113
619-234-6750
- 1(e) **Emergency phone number**
Professional Emergency Resource Services: **800-633-8253**
Military Emergency Resource: **800-851-8061**

2 HAZARD(S) IDENTIFICATION

- 2(a) **Classification of chemical in accordance with paragraph (d) of §1910.1200**
Nonflammable Gas
- 2(b) **Signal word, hazard statement(s), symbol(s) and precautionary statement(s) in accordance with paragraph (f) of §1910.1200**

Signal Word	Hazard Statement(s)	Symbol(s)	Precautionary Statements
Warning	May displace oxygen and cause rapid suffocation. (H280) Contains Gases under Pressure; may explode if heated.	 Compressed Gas	(P410 + P403) Protect from sunlight. Store in a well-ventilated place.

- 2(c) **Describe any hazard not otherwise classified that have been identified during the classification process**
Contains gas under pressure; may explode if heated. Large amount of potential energy resulting from compression of the gas makes the cylinder a potential rocket or fragmentation bomb.
The gas is heavier than air and may accumulate in low ceiling spaces causing deficiency of oxygen.
- 2(d) **Where an ingredient with unknown acute toxicity is used in a mixture at a concentration = 1% and the mixture is not classified based on testing of the mixture as a whole, a statement that X% of the mixture consist of ingredient(s) of unknown acute toxicity is required.**
This product consists of < 1% concentration of unknown acute toxicity.

3 COMPOSITION / INFORMATION ON INGREDIENTS

3(a) Chemical name (Components)	3(b) Common name (Components)	3(c) CAS Number and other unique identifiers		
		CAS Number	Component Percent	Other / Identifiers
1,1,1,2,2,2-Hexafluoroethane	Hexafluoroethane	76-16-4	90 %	C ₂ F ₆
Dinitrogen monoxide	Nitrous Oxide	10024-97-2	10 %	N ₂ O

- 3(d) **Impurities and stabilizing additives which are themselves classified and which contribute to the classification of the substance.**
Classification contributing impurities or stabilizing additives, if applicable, are identified in Section 15 of this SDS.

4 FIRST-AID MEASURES

- 4(a) **Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion:**

ROUTES OF EXPOSURE (OVER EXPOSURE) (yes or no)			
INHALATION: Yes*	SKIN: Yes	EYE CONTACT: Yes	INGESTION: No
Short Term Effects: Nausea, Headache, weakness, dizziness, confusion, incoordination, unconsciousness, irregular pulse, palpitations Long Term Effects: None identified	Short Term Effects: Temporary tingling, numbness, coldness drying skin. Liquid contact may cause frostbite. Long Term Effects: None identified	Short Term Effects: Irritation, tearing, blurred vision. Liquid contact may cause frostbite. Long Term Effects: (frostbite) None identified	Short Term Effects: None identified Long Term Effects: None identified

* Intentional misuse or deliberate inhalation may cause death without warning. Inhalation of high concentrations of vapor is very harmful, may cause heart irregularities, unconsciousness, death. Vapor reduces available oxygen and is heavier than air, liquid contact can cause frostbite.

Continued on next page

SDS – Hexafluoroethane 90% Nitrous Oxide 10%, Compressed Gas

4 FIRST-AID MEASURES (4(a) continued from page 1)

UNCONSCIOUSNESS: PLACE PERSON IN RECOVERY POSITION AND SEEK MEDICAL ADVICE. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

Inhalation: Remove to fresh air, if breathing is difficult give oxygen. Call a physician. Do not give epinephrine**

Skin contact: Flush skin with water for at least 15 minutes after excessive contact. Seek medical assistance if irritation is present. Wash contaminated clothing before reuse. Treat for frostbite if necessary by gently warming affected area.

Eye contact: Hold eyelids apart and flush eyes with cool water for 15 minutes and obtain immediate medical attention if.

Ingestion: Unlikely route of exposure.

** Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, should only be used with special caution in situations of emergency life support.

5 FIRE-FIGHTING MEASURES

5(a) Suitable (and unsuitable) extinguishing media

All known extinguishants can be used. Use extinguishing media appropriate for surrounding fire. Combat fire from a sheltered position. Keep cylinder cool by spraying with water. This product is a gaseous fire suppressant.

5(b) Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products).

- Pressure in a container can build up due to heat and it may violently rupture if pressure relief devices should fail to function.
- May decompose on contact with flame or extremely hot metal, giving off irritating or toxic fumes (or gases). See Section 10.
- Self-contained breathing apparatus (SCBA) may be required if cylinders rupture or contents are released under fire conditions.
- Damaged cylinders should be handled only specialists.

6 ACCIDENTAL RELEASE MEASURES

6(a) Personal precautions, protective equipment, emergency procedures.

- Stop leak if possible without personal risk. Turn leaking cylinder with the leak up to prevent escape of gas in liquid state.
- Ventilate enclosed area or move leaking container to a well-ventilated area.
- Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

6(b) Method and materials for containment and cleaning up.

Ventilate area using forced air particularly low or enclosed areas where heavy vapor could collect and displace oxygen. .
Wear chemical protection suit including self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.

7 HANDLING AND STORAGE

Never rely on the color of the cylinder for identification. (Colors may vary with suppliers.)

Be aware of any signs of dizziness or fatigue; exposures to fatal concentrations of this product could occur without any significant warning symptoms. Avoid breathing mist or vapors. Avoid contact with eyes or skin.

HOW TO DETECT THIS SUBSTANCE (warning properties): There are no unusual warning properties associated with a release of this product. In terms of leak detection, fittings and joints can be painted with a soap solution to detect leaks, which will be indicated by a bubble formation.

7(b) Conditions for safe storage, including any incompatibilities.

Conditions for safe storage	Incompatibilities
<ol style="list-style-type: none"> 1. Store and use with adequate ventilation. 2. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling or being knocked over. 3. Protect cylinders from physical damage; do not drag, roll, slide or drop. 4. Full cylinders should be segregated from empty cylinders. 5. Do not allow storage area temperature to exceed 125°F (52°C). 6. Use a first-in, first-out inventory system to prevent full containers from being stored for long periods of time. 7. Use a suitable hand truck for cylinder movement. 8. Never attempt to lift a cylinder by its valve protection cap. 9. Keep cylinders and their valves free from oil and grease. 10. Never insert an object (e.g., wrench, screwdriver, pry bar, etc.) into valve cap openings. Doing so may damage valve, causing a leak to occur. 	<p>See Section 10</p>

Specific requirements are listed in NFPA 50A. Cylinder storage locations should be well-protected, well-ventilated, dry, and separated from combustible and reducing materials. Cylinders should never knowingly be allowed to reach a temperature exceeding 125°F (52°C)

SDS – Hexafluoroethane 90% Nitrous Oxide 10%, Compressed Gas

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

- 8(a) OSHA permissible exposure limit (PEL), American Conference of Governments Industrial Hygienists (ACGIH) Threshold Limits Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available.**
 PEL Time-Weighted Average (TWA) = None established ; TLV TWA = None established.
- 8(b) Appropriate engineering controls.**
 Natural or mechanical air circulation is needed to maintain a safe working environment. Oxygen detectors should be used when asphyxiating gases may be released
- 8(c) Individual protection measures, such as personal protective equipment.**
 Wear cold insulating gloves / face shield / eye protection (chemical splash goggles) use as needed.

9 PHYSICAL and CHEMICAL PROPERTIES

a) Appearance (physical state, color, etc.)	Clear colorless gas
b) Odor	Ethereal (slight)
c) Odor threshold	Not available
d) pH	No data available
e) Melting point/freezing point	-199° C (-326° F)
f) Initial boiling point	-78° C (-109° F)
g) Flash point	No applicable – does not flash
h) Evaporation rate	Rapid
i) Flammability (solid, gas)	Nonflammable (gas)
j) Upper/lower flammability or explosive limits	Nonflammable (gas)
k) Vapor pressure	836 psia
l) Vapor density (Air = 1)	3.9
m) Relative density	No data available
n) Solubility(ies) Water	Slight
o) Partition coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	Nonflammable (gas)
q) Decomposition temperature	No data available
r) Viscosity	No data available

10 STABILITY and REACTIVITY

- 10(a) Reactivity**
 Stable
- 10(b) Chemical stability**
 Stable
- 10(c) Possibility of hazardous reactions**
 None identified
- 10(d) Conditions to avoid (e.g., static discharge, shock, or vibration)**
 High temperatures, open flame, glowing metal surfaces
- 10(e) Incompatible materials**
 Alkali or alkaline earth metals, powdered aluminum, zinc beryllium and others.
- 10(f) Hazardous decomposition products**
 At high temperature decomposition could produce hydrofluoric hydrochloric and hydrofluoric acid, possible carbonyl fluoride, and oxides of nitrogen.

11 TOXICOLOGICAL INFORMATION

- 11(a) Information on likely routes of exposure (inhalation, ingestion, skin and eye contact);**
 No known toxicological effects from this product in normal use.
- 11(b) Symptoms related to the physical, chemical and toxicological characteristics;**
 None known. Not classified as a human carcinogen.

11 TOXICOLOGICAL INFORMATION (continued from page 3)**11(c) Delayed and immediate effects and also chronic effects from short- and long-term exposure;**

See Para. 4(a).

Note: Individuals with preexisting disease of the central nervous, cardiovascular, ocular or reproductive system (s) may have increased susceptibility to the toxicity of excessive exposure.

11(d) Numerical measures of toxicity (such as acute toxicity estimates)

Not available

11(e) Whether the hazardous chemical is listed in the International Toxicology Program (NTP) Report on Carcinogenic (latest edition) or has been found to be a potential carcinogenic in the International Agency for Research on Cancer (IARC) Monographs (latest edition), or by OSHA.None of the components present in this product at concentrations $\geq 0.1\%$ are listed by IARC, NTP < OSHA or ACGIH as a carcinogen.**12 ECOLOGICAL INFORMATION****12(a) Ecotoxicity (aquatic and terrestrial, where available)**

No Information Available

12(b) Persistence and degradability

Produces carbon oxides, nitrogen oxides and halogen compounds

12(c) Bioaccumulative potential

No Information Available

12(d) Mobility in soil

No Information Available

12(e) Other adverse effects (such as hazardous to the ozone layer)

Hexafluoroethane and nitrous oxide are each identified as greenhouse gases; nitrous oxide also causes ozone depletion.

13 DISPOSAL CONSIDERATIONS**13(a) Description of waste residue and information on their safe handling and method of disposal, including the disposal of any contaminated packaging.**

Do not attempt to dispose of cylinder or its contents. Return cylinder and unused contents to supplier for disposal in accordance with appropriate Federal, State, local regulation.

14 TRANSPORTATION INFORMATION**14(a) UN number:** UN1956**14(b) UN proper shipping name:** Compressed Gas N.O.S. (90% Hexafluoroethane and 10% Nitrous Oxide)**14(d) Packing group, if applicable:** Not applicable**14(e) Environmental hazards (e.g.,) Marine pollutant (yes/No):** No**14(f) Transport in bulk (according to Annex II of MARPOL 73/78 and IBC Code):** Does not apply**14(g) Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside of their premises:**

Cylinders should be properly separated from non-compatible gas cylinders and transported in a upright, secure position, in a well ventilated vehicle. The transportation of compressed gas cylinders in automobiles or in closed-body vehicles can present serious safety hazards and should be discouraged.

15 REGULATORY INFORMATION**15(a) Safety, health and environmental regulations specific for the product in question.**

User(s) of this product are solely responsible for regulatory compliance on a federal, state, and local level.

U.S. FEDERAL REGULATIONS:

EPA - ENVIRONMENTAL PROTECTION AGENCY

40 CFR PART 68, Risk Management for Chemical Accidental Release, does not list components as regulated substances.

SDS – Hexafluoroethane 90% Nitrous Oxide 10%, Compressed Gas

15 REGULATORY INFORMATION (continued from page 4)

SARA: Superfund Amendment and Reauthorization Act

SECTION 302/304: Requires emergency planning on threshold planning quantities (TPQ) and release reporting based on reportable quantities (RQ) of EPA's extremely hazardous substances (40 CFR Part 355).
 Extremely Hazardous Substances: None
 Threshold Planning Quantity (TPQ): None

SECTIONS 311/312: Require submission of (material) safety data sheets (SDSs) and chemical inventory reporting with identification of EPA defined hazard classes (40 CFR Part 370). The hazard classes for this product are:

ACUTE HEALTH (Immediate): Yes	CHRONIC HEALTH (Delayed): No
PRESSURE: Yes	REACTIVITY: No
FIRE: No	

TSCA: Toxic Substance Control Act: On the inventory, or in compliance with the inventory. See Para. 16(b)

OSHA - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION:

29 CFR 1910.119, Appendix A, does not list this product as a highly hazardous chemical.

Product components are listed as a Class I ozone depleting chemical (40 CFR Part 82).

Shipment of compressed gas cylinders which have not been filled with the owner's consent is a violation of Federal law (49 CFR Part 173.301 (b)).

FDA – FOOD AND DRUG ADMINISTRATION: None

CALIFORNIA PROPOSITION 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): Contains Nitrous Oxide, reproductive

CANADIAN REGULATIONS:

WHIMS Classification; A - Compressed Gas

Class D-2A: Material causing other toxic effects

Note: "The Canadian supplier / Canadian importer has the legal responsibility to assess their products against the criteria set out in the Controlled Products Regulations."

16 OTHER INFORMATION, Including date of preparation or last revision

16(a) OTHER INFORMATION:

NFPA RATINGS:

HEALTH-Blue: = 1 FLAMMABILITY-Red: = 0 INSTABILITY-Yellow: = 1 SPECIAL HAZARDS*-White: =

LEGEND: 0-4 – 0-least hazardous; 4-most hazardous

**OX (Oxidizers), W (Water reactives), SA (Simple Asphyxiants), (blank if no special hazard)*

16(b) Greenhouse Gas: This product (R-116) components are identified as a greenhouse gas that contribute to global warming.

SUPPLIER INFORMATION:

Safety and handling equipment, gas cylinders and refills, personal protection equipment, fire extinguishers, cylinder services, respirators, etc. are available at Stoodly Industrial and Welding Supply, Inc. Our main location is at 3316 National Avenue, (near the 32nd Street Naval Base) in San Diego California 92113. Call 1-619-234-6750 or visit our web site, stodyind.com for more information

Revision: 0
ISSUE DATE: May 24, 2015

Information Sources: Data is compiled from a variety of sources, including publicly available documents, internal data and other sources.

DISCLAIMER: The information contained herein is accurate to the best of our knowledge. Stoodly Industry and Welding Supply Inc., does not assume any responsibility or liability for user's reliance or consequences of reliance on the information provided in this SDS. **Stoodly industrial and Welding Supply, Inc. makes no warranty or guarantee of any kind, expressed or implied, concerning the safe use of this material in your process or in combination with other substances.**

'STOODY INDUSTRIAL AND WELDING SUPPLY, INC.' is not sponsored, affiliated or in any way related to 'STOODY COMPANY', a division of 'Victor Technologies'