



MATERIAL SAFETY DATA SHEET - CALIBRATION CHECK GAS

PRODUCT NAME: HYDROGEN (0-2.0%) IN AIR

MSDS NO: 86

Version:3

Date: January, 2000

1. Chemical Product and Company Identification

Gasco Affiliates, LLC
1933 Whitfield Park Loop
Sarasota, FL 34243

TELEPHONE NUMBER: (941) 755-8806
FAX NUMBER: (941) 755-8920
E-MAIL: gasco@gte.net

24-HOUR EMERGENCY NUMBER: 1-800-424-9300

PRODUCT NAME: HYDROGEN (0-2.0%) IN AIR
CHEMICAL NAME: Hydrogen in air
COMMON NAMES/ SYNONYMS: None
TDG (Canada) CLASSIFICATION: 2.2
WHIMIS CLASSIFICATION: A

2. COMPOSITION/ INFORMATION ON INGREDIENTS

Table with 5 columns: INGREDIENT, %VOLUME, PEL-OSHA, TLV-ACGIH, LD50 or LC50 Route/Species. Rows include Hydrogen (FORMULA: H2) and Air (FORMULA: Mixture).

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

This product is a colorless, odorless gas. Due to the small size of this cylinder of gas, no unusual health effects form over-exposure are anticipated under routine circumstances of use.

ROUTE OF ENTRY:

Skin Contact No, Skin Absorption No, Eye Contact No, Inhalation Yes, Ingestion No

HEALTH EFFECTS:

Exposure Limits No, Irritant No, Sensitization No, Reproductive Hazard No, Mutagen No

Carcinogenicity: --NTP: No IARC: No OSHA: No

EYE EFFECTS:

N/A

SKIN EFFECTS:

N/A



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INGESTION EFFECTS:

Ingestion unlikely. Gas at room temperature.

INHALATION EFFECTS:

Due to the small size of this cylinder of gas, no unusual health effects from over-exposure are anticipated under routine circumstances of use.

NFPA HAZARD CODES

Health: 1
Flammability: 0
Reactivity: 0

HMIS HAZARD CODES

Health: 1
Flammability: 0
Reactivity: 0

RATING SYSTEM

0= No Hazard
1= Slight Hazard
2= Moderate Hazard
3= Serious Hazard
4= Severe Hazard

4. FIRST AID MEASURES

EYES:

N/A

SKIN:

N/A

INGESTION:

Not required

INHALATION:

PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH THE SELF-CONTAINED BREATHING APPARATUS. Victims should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. If breathing has stopped administer artificial resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.

5. FIRE-FIGHTING MEASURES

These containers hold gas under pressure, with no liquid phase. If involved in a major fire, they should be sprayed with water to avoid pressure increases, otherwise pressures will rise and ultimately they may distort or burst to release the contents. The gases will not add significantly to the fire, but containers or fragments may be projected considerable distances - thereby hampering fire fighting efforts.

6. ACCIDENTAL RELEASE MEASURES

In terms of weight, these containers hold very little contents, such that any accidental release by puncturing etc. will be of no practical concern.

7. HANDLING AND STORAGE

Suck back of water into the container must be prevented. Do not allow backfeed into the container. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Use only in well-ventilated areas. Do not heat cylinder by any means to increase rate of product from the cylinder. Do not allow the temperature where cylinders are stored to exceed 130°F (54°C).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Use adequate ventilation for extended use of gas.



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9. PHYSICAL AND CHEMICAL PROPERTIES

PARAMETER:	VALUE:
Physical state	: Gas
Evaporation point	: N/A
pH	: N/A
Odor and appearance	: Colorless, odorless gas

10. STABILITY AND REACTIVITY

Stable under normal conditions. Expected shelf life 24 months.

11. TOXICOLOGICAL INFORMATION

No toxicological damage caused by this product.

12. ECOLOGICAL INFORMATION

No ecological damage caused by this product.

13. DISPOSAL INFORMATION

Do not discharge into any place where its accumulation could be dangerous. Used containers are acceptable for disposal in the normal waste stream as long as the cylinder is empty and valve removed or cylinder wall is punctured; but GASCO encourages the consumer to return cylinders.

14. TRANSPORT INFORMATION

	<u>United States DOT</u>	<u>Canada TDG</u>
PROPER SHIPPING NAME:	Compressed Gas N.O.S. (Hydrogen in Air)	Compressed Gas N.O.S. (Hydrogen in Air)
HAZARD CLASS:	2.2	2.2
IDENTIFICATION NUMBER:	UN1956	UN1956
SHIPPING LABEL:	NONFLAMMABLE GAS	NONFLAMMABLE GAS

15. REGULATORY INFORMATION

Hydrogen is listed under the accident prevention provisions of section 112(r) of the Clean Air Act (CAA) with a threshold quantity (TQ) of 10,000 pounds.

16. OTHER INFORMATION

This MSDS has been prepared in accordance with the Chemicals (Hazard Information and Packaging for Supply (Amendment) Regulation 1996. The information is based on the best knowledge of GASCO, and its advisors and is given in good faith, but we cannot guarantee its accuracy, reliability or completeness and therefore disclaim any liability for loss or damage arising out of use of this data. Since conditions of use are outside the control of the Company and its advisors we disclaim any liability for loss or damage when the product is used for other purposes than it is intended.

MSDS/S010/86/January, 2000

Bowman Distribution, Barnes Group Inc.

HMIS

NFPA

Loctite Nickel Grade Anti-Seize Lubricant

1
1 0

Manufacturer MSDS Number:

HEALTH	1
FIRE	1
REACTIVITY	0
PPE	*

SECTION 1 : Chemical Product and Company Identification

MSDS Name: Loctite Nickel Grade Anti-Seize Lubricant
Distributor Name: Bowman Distribution, Barnes Group Inc.
Distributor Address:
1301 E, 9th St.,
Suite 700, Cleveland,
Ohio 44114-1824

24 HR. EMERGENCY TELEPHONE NO.:
(303) 623-5716

For information in North America, call: (216) 416-72000
Manufacturer MSDS Revision Date:
4/23/99

Chemical Family: Lubricant

NFPA

Health: 1
Flammability: 1
Reactivity: 0
Other: W

HMIS

Health Hazard: 1
Fire Hazard: 1
Reactivity: 0
Personal Protection: *

Business Phone:(216) 416-72000

FORMULA:
77124, 77164

TRANSPORTATION INFORMATION: DOT (49 CFR 172) DOMESTIC GROUND
TRANSPORT

Proper Shipping Name, Hazard Class or Division: Unrestricted; ID Number: None;
Marine Pollutant: None

TRANSPORTATION INFORMATION: IATA

Proper Shipping Name: Unrestricted; Class or Division: Unrestricted; UN or ID
Number: None

Product Codes:

77124 , 77164



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SECTION 2 : Hazardous Ingredients/Identity Information

Chemical Name	CAS#	% Weight	
Mineral Oil	64742-52-5	55-60	

OSHA PEL TWA: 5 mg/m3 mist

ACGIH TLV TWA: 5 mg/m3 mist

Carcinogen Paragraph:

Listed as Carcinogen NTP, IARC or OSHA 1910(z) (specify): No

Other Exposure Guidelines:

5 mg/m3 mist

5 mg/m3 mist STEL

Chemical Name	CAS#	% Weight	
*Nickel	7440-02-0	15-20	

OSHA PEL TWA: 1 mg/m3

ACGIH TLV TWA: 1.5 mg/m3 Inhalable fract

Carcinogen Paragraph:

Listed as Carcinogen NTP, IARC or OSHA 1910(z) (specify): NTP, IARC (2B)

Other Exposure Guidelines:

None

Chemical Name	CAS#	% Weight	
Graphite	7782-42-5	10-15	

OSHA PEL TWA: 15 mppcf; 5 mg/m3 resp

ACGIH TLV TWA: 2 mg/m3

Carcinogen Paragraph:

Listed as Carcinogen NTP, IARC or OSHA 1910(z) (specify): No

Other Exposure Guidelines:

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None

Chemical Name	CAS#	% Weight	
Oxygenated aliphatic hydrocarbon	Proprietary	10-15	

OSHA PEL TWA: Not Determined

ACGIH TLV TWA: Not Determined

Carcinogen Paragraph:

Listed as Carcinogen NTP, IARC or OSHA 1910(z) (specify): No

Other Exposure Guidelines:

Not Determined

Chemical Name	CAS#	% Weight	
Lithium Soap	7620-77-1	3-5	

OSHA PEL TWA: Not Determined

ACGIH TLV TWA: Not Determined

Carcinogen Paragraph:

Listed as Carcinogen NTP, IARC or OSHA 1910(z) (specify): No

Other Exposure Guidelines:

Not Determined

Chemical Name	CAS#	% Weight	
Aluminum	7429-90-5	1-3	

OSHA PEL TWA: 15 mg/m³ dust; 5 mg/m³ respirACGIH TLV TWA: 15 mg/m³ dust; 5 mg/m³ respir

Carcinogen Paragraph:

Listed as Carcinogen NTP, IARC or OSHA 1910(z) (specify): No

Other Exposure Guidelines:

None

*This component is listed as a SARA Section 313 Toxic Chemical



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SECTION 3 : Physical And Chemical Characteristics

Physical State/Appearance:

Paste

Color:

Gray

Odor:

Petroleum odor

Physical State:

MATERIAL IS: Paste

pH:

Not Applicable

Vapor Pressure:

Less than 5mm at 80 deg F

Vapor Density:

(AIR = 1): Not available

Boiling Point:

Not available

Solubility:

IN WATER: Less than 1%

Specific Gravity:

(H2O = 1): 1.1

Evaporation Point:

(Either = 1): < 1

Volatile Organic Compound Content:

(%): 2.47%

(G/L): 27 grams/liter

Viscosity:

Not Determined

Odor Threshold:

No Data

PERCENT SOLID BY WEITHG (%): Not Determined



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SECTION 4 : Fire And Explosion Hazards

Flash Point:

> 200 deg F

Flash Point Method:

Taglibue Close Cup

Upper Flammable or Explosive Limit: Not Available.

Lower Flammable or Explosive Limit: 30% Aluminum metal

Extinguishing Media:

Carbon dioxide, foam, dry chemical. Do not use water.

Fire Fighting Instructions:

Not available.

Unusual Fire Hazards:

None

Hazardous Decomposition Byproducts:

HAZARDOUS PRODUCTS FORMED BY FIRE OR THERMAL DECOMPOSITION:

Metal vapors, oxides of carbon, barium, zinc, smoke, fumes.



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SECTION 5 : Health Hazards

Applies to all ingredients:

Route of Exposure:

Inhalation, ingestion.

Signs/Symptoms:

May cause skin or eye irritation, dermatitis, oil acne, or defatting of skin on prolonged on repeated contact, inhalation may cause nausea dizziness, irritation of nose and throat, watering of eyes. Ingestion may cause irritation, vomiting, diarrhea, nausea.

Aggravation of Pre-Existing Conditions:

Graphite powder: emphysema, asthma.

Mineral Oil:

Other Potential Health Effects:

Irritant.

***Nickel:**

Target Organs:

Kidney, reproductive, respiratory.

Other Potential Health Effects:

Allergen, human carcinogen, irritant, mutagen

Graphite:

Target Organs:

Lung.

Oxygenated aliphatic hydrocarbon:

Target Organs:

No data.

Other Potential Health Effects:

No data.

Lithium Soap:**Target Organs:**

No data.

Other Potential Health Effects:

No data.

Aluminum:**Target Organs:**

Central nervous system, lung.

Other Potential Health Effects:

Irritant

Applies to All Ingredients:**Acute Health Effects:**

May irritate eyes or skin. Estimated oral LD50 more than 5000 mg/kg. Estimated dermal LD50 more than 2000 mg/kg.

**SECTION 6 : Emergency And First Aid Procedures****Eye Contact:**

Flush at least 15 minute with water. Obtain medical attention.

Skin Contact:

Wash with soap and water.

Inhalation:

Oil mist: Remove to fresh air. If symptoms persist, obtain medical attention.

Ingestion:

Do not induce vomiting. Keep individual calm. Obtain medical attention.

**SECTION 7 : Reactivity Data****Chemical Stability:**

Stable.

Incompatibilities with Other Materials:

(materials to avoid): Strong oxidizers.

Hazardous Polymerization:

WILL NOT OCCUR
CONDITIONS TO AVOID: Will not occur.



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SECTION 8 : Precautions For Safe Handling

Spill Cleanup Measures:

Remove sources of ignition. Take up with an inert absorbent. Store in a closed container until disposal.

Handling:

Keep away from eyes. Avoid prolonged skin contact. Avoid prolonged breathing of vapors.

Storage:

Keep away from sources of ignition and hot surfaces.

Waste Disposal:

Incinerate following EPA and local regulations.

EPA Waste Number:

NH - Not a RCRA hazardous material.

DOT Shipping Name:

Unrestricted

Hazard Class or Division: Unrestricted

DOT Identification Number: None

IATA:

Class or Division: Unrestricted
UN or ID Number: None

IATA Shipping Name:

Unrestricted

Maritime Pollutant: None



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SECTION 9 : Control Measures

Ventilation System:

Provide adequate local ventilation to maintain vapor concentration below TLV if misting of oil occurs or compound becomes dry.

Skin Protection Description:

Oil resistant plastic gloves

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Eye/Face Protection:
Safety glasses or goggles.

Respiratory Protection:
Not available.

See Section 2 for exposure limits



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SECTION 10 : Other Information

Applies to all ingredients:

State:

CALIFORNIA PROPOSITION 65:

Warning: This product contains a chemical known to the state of California to cause cancer, Nickel.

HMIS:

Health Hazard: 1

Fire Hazard: 1

Reactivity: 0

Personal Protection: W

NFPA:

Fire Hazard: 1

Health: 1

Reactivity: 0

Specific Hazard: *

MSDS Revision Date:

4/23/99

Abbreviation:

N.A. - Not Applicable

N.E. - Not Established

N.D. - Not Determined

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