

MATERIAL SAFETY DATA SHEET
29 CFR 1910.1200 OSHA Hazard
Communication Rule Format
Chem-Tel 24 Hour Emergency # 1-800-255-3924

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This product contains pentane, oxygen and nitrogen, substances subject to the Pennsylvania Worker and Community Right-To-Know Act.

PRODUCT IDENTITY

LABEL IDENTITY - MSA P/N 10014894 Calibration Check Gas, 1000 ppm (0.1%) Pentane in Air

CHEMICAL NAME - Pentane, Oxygen, Nitrogen Mixture

ADDITIONAL IDENTITIES - MSA P/N 10014894 Calibration Gas

FORMULA - $C_5H_{12} + O_2 + N_2$

APPLICABLE CHEMICAL CONTENTS

	<u>%</u>	<u>TWA</u>
Pentane (CAS 109-66-0) (ACGIH 2011)	0.1	600 ppm
Oxygen (CAS 7782-44-7)	15	None
Nitrogen (CAS 7727-37-9)	Balance	None

NOTE: Gas under pressure, 1000 PSIG at 70°F, Approx. 100 Liters at Atmospheric Pressure

PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR - Colorless, Nearly Odorless

Following information is for Nitrogen the main component of this gas mixture

BOILING POINT : -320.4 °F (-195.8 °C) SPECIFIC GRAVITY (air = 1) @70°F (21.1 °C): 0.906

VAPOR PRESSURE @70°F (21.1 °C): N/A* PERCENT VOLATILE BY VOLUME - N/A*

GAS DENSITY @32°F (0 °C) and 1 atm: 0.072 lbs/ft³ (1.153 kg/ m³)

VAPOR DENSITY (AIR = 1) - 1

SOLUBILITY IN WATER - Pentane - 11 cm³/100 ml (16°C)
Oxygen - 3.2 cm³/100 ml (25°C)
Nitrogen - 2.3 cm³/100 ml (0°C)

N/A - Not Applicable

PHYSICAL HAZARD INFORMATION

PHYSICAL HAZARD - Compressed Gas, 1000 PSIG at 70°F

CONDITIONS OR MATERIALS TO AVOID - None

FLASH POINT - N/A LEL - N/A UEL - N/A

EXTINGUISHING MEDIA - This gas mixture is not flammable.

SPECIAL FIRE FIGHTING PROCEDURES - See item

UNUSUAL FIRE AND EXPLOSION HAZARDS - Gas Under Pressure, 1000 PSIG at 70°F. Do Not Exceed 120°F.

HEALTH HAZARDS

HEALTH HAZARDS - Pentane may be cause narcosis and mucous membrane irritation.

SIGNS AND SYMPTOMS OF EXPOSURE - Acute: Irritation to skin, eyes, mucous membranes and digestive & respiratory tracts. Inhalation or ingestion may cause dizziness, headache, or unconsciousness and respiratory arrest. Chronic: Dermatitis, eye damage, lung damage.

PRIMARY ROUTES OF ENTRY: Inhalation, ingestion or skin absorption.

TARGET ORGANS - Nerves, lungs.

MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE - Persons with preexisting skin, eye or respiratory disorders may be more susceptible.

EXPOSURE LIMITS – TWA (ACGIH 2011) of Pentane is 600 ppm

CARCINOGENICITY DATA - NIOSH RTECS, OSHA, NTP or IARC does not list component gases.

EMERGENCY AND FIRST AID PROCEDURES - None

SAFE HANDLING AND USE

HYGIENIC PRACTICES - Avoid Breathing Gas

PROTECTIVE MEASURES DURING REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT - N/A

PROCEDURES FOR SPILL OR LEAK CLEANUP - Ventilate Area.

WASTE DISPOSAL - Do not puncture or incinerate cylinder. Before discarding cylinder, slowly release contents to a safe exhaust.

STORAGE - Store in a cool, dry, well-ventilated area. Do not exceed 120°F.

CONTROL MEASURES

PERSONAL PROTECTIVE EQUIPMENT - Due to the limited amount of gas in the cylinder, and the low release rate employed in instrument calibration, respiratory protection is not indicated under conditions of intended use.

ENGINEERING CONTROLS - None

WORK PRACTICES - Avoid breathing gas. Use in well-ventilated areas. Follow the calibration procedure detailed in the MSA instruction manual provided with the instrument under calibration.

DATE OF PREPARATION - Rev. 2, May 2011

WARNING: This is a hazardous chemical product. By following the directions and warnings provided with this product, the hazards associated with the use of this product can be greatly reduced but never entirely eliminated. Mine Safety Appliances Company makes no warranties, expressed or implied, with respect to this product and EXPRESSLY DISCLAIMS THE WARRANTY OF MERCHANTABILITY AND ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. Users assume all risks in handling, using or storing this product.