

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

MINE SAFETY APPLIANCES COMPANY
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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 476303 Calibration Check Gas, 1000 ppm Pentane in Air
CHEMICAL NAME - Pentane, Oxygen, Nitrogen Mixture
ADDITIONAL IDENTITIES - MSA P/N 476303 Calibration Gas
FORMULA - C₅H₁₂ in Air

APPLICABLE CHEMICAL CONTENTS

	%	TWA
Pentane (CAS 109-66-0)	0.1	0.06%
STEL 750 ppm (ACGIH 1995-96)		
Air	Balance	None

NOTE: Gas Under Pressure, 300 PSIG at 70°F, Approx. 19 Liters at Atmospheric Pressure

PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR - Colorless, Nearly Odorless

BOILING POINT - N/A

SPECIFIC GRAVITY (H₂O = 1) - N/A

VAPOR PRESSURE - N/A

PERCENT VOLATILE BY VOLUME - N/A

VAPOR DENSITY (AIR = 1) - > 1

SOLUBILITY IN WATER -	Pentane - $11 \text{ cm}^3/100 \text{ ml}$ (16°C)
	Oxygen - $3.2 \text{ cm}^3/100 \text{ ml}$ (25°C)
	Nitrogen - $2.3 \text{ cm}^3/100 \text{ ml}$ (0°C)

N/A - Not Applicable

PHYSICAL HAZARD INFORMATION

PHYSICAL HAZARD - Compressed Gas, 300 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 Next Item

UNUSUAL FIRE AND EXPLOSION HAZARDS - Gas Under Pressure. 300 PSIG at 70°F. Do Not Exceed 120°F.

HEALTH HAZARDS

HEALTH HAZARDS - Pentane may be irritating to mucous membranes.

SIGNS AND SYMPTOMS OF EXPOSURE - Irritation of eyes and nose

PRIMARY ROUTES OF ENTRY - Inhalation

TARGET ORGANS - Mucous membranes

MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE - No Information

EXPOSURE LIMITS - (ACGIH, 1995-96). Pentane 600 ppm STEL 750 ppm

CARCINOGENICITY DATA - Component gases are not listed by NIOSH RTECS, OSHA, NTP or IARC.

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. 8, June 1999

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.