

This product contains butane, carbon dioxide, and nitrogen, substances subject to the Pennsylvania Worker and Community Right-To-Know Act.

PRODUCT IDENTITY

LABEL IDENTITY - MSA P/N 460345 Calibration Check Gas, 8.0% Butane in 13.8% Carbon Dioxide, bal Nitrogen

CHEMICAL NAME - N-Butane, Carbon Dioxide, Nitrogen Mixture

ADDITIONAL IDENTITIES - MSA P/N 460345 Calibration Gas

FORMULA - C₄H₁₀, CO₂, N₂

APPLICABLE CHEMICAL CONTENTS

	<u>%</u>	<u>TWA</u>	<u>STEL</u>
Butane (CAS 106-97-8)(ACGIH 2013)	8.0	1000 ppm	None
Carbon Dioxide (CAS 124-38-9) (2013 ACGIH)	13.8	5000 ppm	30,000ppm
Nitrogen (CAS 7727-37-9)	bal	None	None

NOTE: Gas Under Pressure, 240 PSIG at 70°F, Approx. 16 Liters Gas at Atmospheric Pressure

PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR - Colorless, faint odor.

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)

SOLUBILITY IN WATER - Butane - 15 cm³/100 ml (17°C)
Carbon Dioxide - 179 cm³/100 ml (0°C)
Nitrogen - 2.3 cm³/100 ml (0°C)

N/A - Not Applicable

PHYSICAL HAZARD INFORMATION

PHYSICAL HAZARD - Compressed gas, 240 PSIG at 70°F. Flammable gas.

CONDITIONS OR MATERIALS TO AVOID - Avoid sparks, flames, and other sources of combustion. Avoid caustic substances.

FLASH POINT - N/A Butane LEL - 1.8% Butane UEL - 8.4%

EXTINGUISHING MEDIA – Extinguish fires of this gas by shutting –off the source of gas. Use water spray to cool fire-exposed containers, structures and equipment.

UNUSUAL FIRE AND EXPLOSION HAZARDS – When involved in a fire, Butane (the flammable component of this gas mixture) will ignite and decompose to produce toxic gases including carbon monoxide and carbon dioxide. Gas under pressure do not exceed 120°F.

HEALTH HAZARDS

HEALTH HAZARDS - Carbon Dioxide and Nitrogen are asphyxiants. High concentrations of butane can cause CNS depression and cardiac sensitization.

SIGNS AND SYMPTOMS OF EXPOSURE - Exposure to butane may cause drowsiness. Exposure to 5-10% Carbon dioxide may cause Headache, ringing in ears, labored breathing followed by loss of consciousness. Exposure to Nitrogen may cause asphyxiation.

PRIMARY ROUTES OF ENTRY – Inhalation, skin, and eyes.

TARGET ORGANS – Respiratory system, eyes, heart, cardiovascular system.

MEDICAL CONDITIONS GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE – Acute or chronic respiratory conditions may be aggravated by overexposure to the contents of this cylinder.

EXPOSURE LIMITS – (ACGIH 2013) Butane 1000 ppm. Carbon Dioxide 5000 ppm TWA; STEL 30,000ppm. Nitrogen None

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

EMERGENCY AND FIRST AID PROCEDURES - Remove from exposure

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. Avoid breathing gas.

WASTE DISPOSAL - Do not puncture or incinerate cylinder. Before discarding cylinder, slowly release contents to a safe exhaust. Dispose of cylinder in accordance with local, state and federal regulations

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 - Mechanical ventilation is suitable.

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. 14, October 2013

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.