

## **HELIUM**

### **MSDS Number**

BHBSZ

### **National Stock Number**

6830-00-169-0789

### **Product Name**

HELIUM

### **Manufacturer**

AIR PRODUCTS AND CHEMICALS INC

### **Product Identification**

Product ID:HELIUM

MSDS Date:06/13/1988

FSC:6830

NIIN:00-169-0789

MSDS Number: BHBSZ

### **Responsible Party**

AIR PRODUCTS AND CHEMICALS, INC.

ALLENTOWN , PA 18195

US

Emergency Phone: 1-800-523-9374 IN PA 1-800-322-9092

Info Phone: 215-481-4911

Cage: 00742

### **Contractor**

AIR PRODUCTS AND CHEMICALS INC

ALLENTOWN, PA 18195-1501

US

800-345-3148/ 800-752-1597

Cage: 00742

### **Ingredients**

4.003)

CAS: 7440-59-7

RTECS: NH6520000

### **Hazards**

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES

Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO

Health Hazards Acute and Chronic:HELIUM IS ODORLESS AND NONTOXIC BUT MAY PRODUCE SUFFOCATION BY DILUTING THE CONCENTRATION OF OXYGEN IN AIR BELOW LEVELS NECESSARY TO SUPPORT LIFE. EXTENSIVE TISSUE DAMAGE OR BURNS CAN RESULT FROM EXPO SURE TO LIQUID HELIUM OR COLD HELIUM VAPORS.

Explanation of Carcinogenicity:HELIUM IS A SIMPLE ASPHYXIANT AND HAS NO TRESHOLD LIMIT VALUE (TLV). HELIUM NOT LISTED AS CARCINOGEN BY NTP/IARC/OSHA.

Effects of Overexposure:DIZZINESS/NAUSEA/VOMITING/LOSS OF CONSCIOUSNESS. DEATH MAY RESULT FROM ERRORS IN JUDGEMENT, CONFUSION, OR LOSS OF CONSCIOUSNESS WHICH PREVENTS SELF-RESCUE. AT LOW OXYGEN CONCENTRATIONS UNCONSCIOUSNESS AND DEATH MAY OCCUR IN SECONDS WITHOUT WARNING.

## First Aid

First Aid:ASSISTED RESPIRATION AND SUPPLEMNETAL OXYGEN SHOULD BE GIVEN IF THE VICTIM IS NOT BREATHING. IF CRYOGENIC LIQUID OR COLD BOIL-OFF GAS CONTACTS A WORKERS SKIN OR EYES, FROZEN TISSUES SHOULD BE FLOODED OR SOAKED WITH TEPID WATER (105-115F; 41-46C) DO NOT USE HOT WATER. CRYOGENIC BURNS WHICH RESULTS IN BLISTERING OR DEEPER TISSUE FREEZING SHOULD BE SEEN PROMPTLY BY A PHYSICIAN.

## Fire Fighting

Flash Point:NONE LISTED  
Lower Limits:NONE LISTED  
Upper Limits:NONE LISTED

## Accidental Release

Spill Release Procedures:AVOID CONTACT OF SKIN WITH LIQUID HELIUM OR ITS COLD BOIL-OFF GAS. FLUSH LIQUID SPILL WITH WATER TO DISPERSE. VENTILATE ENCLOSED AREAS TO PREVENT FORMATION OF OXYGEN-DEFICIENT ATMOSPHERES CAUSED BY EV APORAT OR LIQ HELIUM OR RELEASE OF GASEOUS HELIUM.

## Handling

Handling and Storage Precautions:PREVENT ENTRAPMENT OF LIQUID IN CLOSED SYSTEMS. USE IN WELL VENTED AREAS. AVOID EXPOSURE TO AREAS WHERE SALT OR CORROSIVE CHEMICALS ARE PRESENT.  
Other Precautions:LIQUID HELIUM IN EXPOSED PIPING CAN CAUSE AIR TO CONDENSE AND LIQUIFY. UTILIZE OXYGEN-COMPATIBLE INSULATING MATERIALS AND MINIMIZE EXPOSED PIPING AREAS. AVOID USE OF CARBON STEEL AND OTHER METAL WHICH BECOME BRITTLE AT LOW TEMPERATURES.

## Exposure Controls

Respiratory Protection:USE SELF-CONTAINED BREATHING APPARATUS IN OXYGEN-DEFICIENT ATMOSPHERES. CAUTION-AIR PURIFYING RESPIRATORS WILL NOT FUNCTION. THEIR USE MAY RESULT IN ASPHYXIATION.  
Ventilation:NATURAL OR MECHANICAL WHERE GAS IS PRESENT.  
Protective Gloves:LEATHER IS RECOMMENDED.  
Eye Protection:SAFETY-GLASSES-SEE BELOW.  
Other Protective Equipment:NONE  
Supplemental Safety and Health  
EYE-SAFETY GLASSES ARE RECOMMENDED WHEN HANDLING HIGH-PRESSURE CYLINDERS. USE CHEMICAL GOGGLES OR A FACE SHIELD WITH SAFETY GLASSES WHEN HANDLING LIQUID. VENTILATION-VENTS SHOULD BE SITUATED TO AVOID HIGHER THAN NATURAL CONCENTRATION OF HELIUM IN WORK AREAS.

## Chemical Properties

Boiling Pt:B.P. Text:-452.F-268C  
Vapor Density:32F0.01114  
Spec Gravity:23F(OC)1ATM.138  
Solubility in Water:68F(20C)1 ATM 0.861%  
Appearance and Odor:HELIUM IS COLORLESS AND ODORLESS IN BOTH GASEOUS AND LIQUID STATES.

## Stability

Stability Indicator/Materials to Avoid:YES  
NONE  
Stability Condition to Avoid:NONE  
Hazardous Decomposition Products:NONE

## Disposal

Waste Disposal Methods:ALLOW LIQUID HELIUM TO EVAP IN A WELL-VENT LOCATION REMOTE FROM WORK AREAS. VENT HELIUM GAS SLOWLY TO A WELL-VENT OUTDOOR LOCATION REMOTE FROM WORK AREA. DO NOT ATTEMPT TO DISPOSE OF RESIDUAL HELIUM I N COMPRESSED GAS CYLINDERS.

Disclaimer (provided with this information by the compiling agencies):  
This information is formulated for use by elements of the Department

of Defense. The United States of America in no manner whatsoever, expressly or implied, warrants this information to be accurate and disclaims all liability for its use. Any person utilizing this document should seek competent professional advice to verify and assume responsibility for the suitability of this information to their particular situation.