

AIR PRODUCTS AND CHEMICALS INC -- HELIUM, COMPRESSED, (SEE SUPPL.) -- 5855-01-465-6144

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Product Identification
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Product ID:HELIUM, COMPRESSED, (SEE SUPPL.)

MSDS Date:03/01/1994

FSC:5855

NIIN:01-465-6144

Status Code:A

MSDS Number: CLNJY

=== Responsible Party ===

Company Name:AIR PRODUCTS AND CHEMICALS INC

Address:7201 HAMILTON BLVD

City:ALLENTOWN

State:PA

ZIP:18195-1501

Country:US

Info P

Phone Num:800-345-3148/ 800-752-1597

Emergency Phone Num:(800) 752-1597

Resp. Party Other MSDS Num.:1008 REVISION: 4; PUB # 310-409

CAGE:00742

=== Contractor Identification ===

Company Name:AIR PRODUCTS AND CHEMICALS INC

Address:7201 HAMILTON BLVD

Box:City:ALLENTOWN

State:PA

ZIP:18195-1501

Country:US

Phone:800-345-3148/ 800-752-1597

CAGE:00742

Company Name:RAYTHEON CO DBA RAYTHEON SYSTEMS CO

Address:2501 W UNIVERSITY

Box:City:MC KINNEY

State:TX

ZIP:75070-2899

Country:US

Phone:972-952-2001

Contra

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Composition/Information on Ingredients
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Ingred Name:HELIUM
CAS:7440-59-7
RTECS #:MH6520000
> Wt:99.
ACGIH TLV:SIMPLE ASPHYXIAN

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Hazards Identification
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Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO
Health Hazards Acute and Chronic:INHALATION: SIMPLE ASPHYXIAN. HELIUM
IS NONTOXIC, BUT MAY CAUSE SUFFOCATION BY DISPLACING THE OXYGEN IN
AIR. LACK OF SUFFICIENT OXYG
EN CAN CAUSE SERIOUS INJURY OR DEATH.
EYE CONTACT: NO ADVERSE EFFEC T. SKIN CONTACT: NO ADVERSE EFFECT.
ROUTE OF ENTRY: INHALATION. TARGET ORGANS: NONE. EFFECT:
ASPHYXIATION (SUFFOCATION). WARNING ! THE PRACTICE OF INTENTIONALLY
INHALING HELIUM FOR A VOICE ALTERING EF FECT IS EXTREMELY DANGEROUS
AND MAY RESULT IN SERIOUS INJURY OR DEATH !

Explanation of Carcinogenicity:HELIUM IS NOT LISTED AS A CARCINOGEN OR
POTENTIAL CARCINOGEN BY NTP, IARC, OR OSHA SUBPART Z.

Effects of

Overexposure:EXPOSURE TO AN OXYGEN DEFICIENT ATMOSPHERE
(LESS THAN 19.5%) MAY CAUSE DIZZINESS, DROWSINESS, NAUSEA,
VOMITING, EXCESS SALIVATION, DIMINSHED MENTAL ALERTNESS, LOSS OF
CONSCIOUSNESS AND DEATH. EXPOSURE TO ATMOSPHERES CONTAINING 8-10%
OR LESS OXYGEN WILL BRING ABOUT UNCONSCIOUSNESS WITHOUT WARNING AND
SO QUICKLY THAT THE INDIVIDUALS CANNOT HELP OR PROTECT THEMSELVES.

Medical Cond Aggravated by Exposure:NONE.

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First Aid Measures
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First Aid:INHALATION: PERSONS SUFFERING FROM LACK OF OXYGEN SHOULD BE
MOVED TO FRESH AIR. IF VICTIM IS NOT BREATHING, ADMINISTER
ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, ADMINISTER
OXYGEN. OBTAIN PROM PT MEDICAL ATTENTION. EYE/SKIN CONTACT: NOT
APPLICABLE.

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Fire Fighting Measures
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Extinguishing Media:HELIUM IS NONFLAMMABLE AND DOES NOT SUPPORT
COMBUSTION. USE EXTINGUISHING MEDIA APPROPRIATE FOR THE SURROU

NDING

FIRE.

Fire Fighting Procedures:HELIUM IS A SIMPLE ASPHYXIANT. IF POSSIBLE, REMOVE HELIUM CYLINDERS FROM FIRE AIREA OR COOL WITH WATER. SELF CONTAINED BREATHING APPARATUS MAY BE REQUIRED FOR RESCUE WORKERS.

Unusual Fire/Explosion Hazard:UPON EXPOSURE TO INTENSE HEAT OR FLAME CYLINDER WILL VENT RAPIDLY AND OR RUPTURE VIOLENTLY. MOST CYLINDERS ARE DESIGNED TO VENT CONTENTS WHEN EXPOSED TO ELEVATED TEMPERATURES. PRESSURE IN A CONTAINER CAN BUILD UP DUE TO HEAT AND

IT MAY RUPTURE IF PRESURE RELIEF DEVICES SHOULD FAIL TO FUNCTION.

===== Accidental Release Measures =====

Spill Release Procedures:EVACUATE ALL PERSONNEL FROM AFFECTED AREA. INCREASE VENTILATION TO RELEASE AREA AND MONITOR OXYGEN LEVEL. USE APPROPRIATE PROTECTIVE EQUIPMENT (SCBA). IF LEAK IS FROM CONTAINERS OR ITS VALVE, CALL THE AIR PRODUCTS' EMERGENCY TELEPHONE NUMBER. IF LEAK IS IN USER'S SYSTEM CLOSE CYLINDER VALVE AND VENT PRESSURE BEFORE A TTEMPTING REPAIRS.

===== Handling and Storage =====

Handling and Storage Precautions:CYLINDERS SHOULD BE STORED UPRIGHT IN A WELL-VENTILAED, SECURE AREA, PROTECTED FROM THE WEATHER. STORAGE AREA TEMPERATURES SHOULD NOT EXCEED 125F (52C) AND AREA SHOULD BE FREE OF COMBUSTIBLE MATERIALS . STORAGE SHOULD BE AWAY FROM HEAVILY TRAVELED AREAS AND EMERGENCY EXITS.

Other Precautions:AVOID AREAS WHERE SALT OR OTHER CORROSIVE MATERIALS ARE PRESENT.

VALVE PROTECTION CAPS AND VALVE OUTLET SEALS SHOULD REMAIN ON CYLINDERS NOT CONNECTED FOR USE. SEPARATE FULL FROM EMPTY CYLINDERS. AVOI D EXCESSIVE INVENTORY AND STORAGE TIME. USE A FIRST-IN FIRST-OUT SYSTEM. KEEP GOOD INVENTORY(CONTD. SEE "TOXICOLOGICAL")

===== Exposure Controls/Personal Protection =====

Respiratory Protection:GENERAL USE: NONE REQUIRED. EMERGENCY: USE SCBA OR POSITIVE PRESSURE AIR LINE WITH MASK AND ESCAPE PACK IN AREAS WHERE OXYGEN

CONCENTRATION IS LESS THAN 19.5%. AIR PURIFYING RESPIRATORS WILL NOT PROVIDE PROTECTION.

Ventilation: PROVIDE GOOD VENTILATION &/OR LOCAL EXHAUST TO PREVENT ACCUMULATION OF HIGH CONCENTRATION OF GAS. OXYGEN LEVELS IN WORK AREA SHOULD BE MONITORED TO ENSURE THEY

Other Protective Equipment: SAFETY SHOES ARE RECOMMENDED WHEN HANDLING CYLINDERS.

Work Hygienic Practices: WARNING: THE PRACTICE OF INTENTIONALLY INHALING HELIUM FOR A VOICE ALTERING EFFECT IS EXTREMELY DANGEROUS AND MAY

RESULT IN SERIOUS INJURY OR DEATH !

Supplemental Safety and Health

THIS NSN IS FOR A CRYOGENIC COOLER CONTAINING COMPRESSED HELIUM AS COOLING MEDIUM. MSDS IS FOR CYLINDERS OF COMPRESSED HELIUM. HCC FOR THE COOLER IS HCC=G3. TRANSPORTATION DATA IS BASED ON NSN DESIGNATED COOLER CONTAINING COMPRESSED HELIUM AND IS NOT REGULATED FOR TRANSPORTATION PER 49 CFR 173.307 (A) (4).

===== Physical/Chemical Properties =====

HCC:G3

Boiling Pt:=-268.9C, -45

2.1F

B.P. Text:(1 ATM)

Melt/Freeze Pt:M.P/F.P Text:NONE

Vapor Density:0.0103P/CF

Spec Gravity:0.138 (AIR=1)

Solubility in Water:0.0094 VOL/VOL @ 32F

Appearance and Odor:COLORLESS GAS; ODORLESS.

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES

NONE

Stability Condition to Avoid:NONE

Hazardous Decomposition Products:NONE

Conditions to Avoid Polymerization:WILL NOT OCCUR.

===== Toxicological Information =====

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Toxicological Information:HELIUM IS SIMPLE ASPHYXIANT. (CONTD. FROM "OTHER PRECAUTIONS") RECORDS. HANDLING: DO NOT DRAG, ROLL, OR SLIDE CYLINDER. USE A SUITABLE HANDTRUCK DESIGNED FOR CYLINDER MOVEMENT. NEVER ATTEMPT TO LIFT CYLINDER BY ITS CAP. SECURE CYLINDERS AT ALL TIMES WHILE IN USE. USE A PRESSURE REDUCING REGULATOR OR SEPARATE CONTROL VALVE TO SAFELY DISCHARGE GAS FROM CYLINDER. USE A CHECK VALVE TO PREVENT REVERSE FLOW INTO CYLINDER. DO NOT OVERHEAT CY

LINDER TO INCREASE PRESSURE OR DISCHARGE RATE. IF
USER EXPERIENCES ANY DIFFICULTY OPERATING CYLINDER VALVE,
DISCONTINUE USE AND CONTACT SUPPLIER. NEVER INSERT A N OBJECT
(CONTD. SEE "ECOLOGICAL")

===== Ecological Information =====

Ecological:HELIUM IS NOT TOXIC. NO ADVERSE ECOLOGICAL EFFECTS ARE
EXPECTED. HELIUM DOES NOT CONTAIN ANY CLASS I OR CLASS II OZONE
DEPLETING CHEMICALS. HELIUM IS NOT LISTED AS A MARINE POLLUTANT BY
DOT (49 CF

R 1 71). (CONTD. FROM TOXICOLOGICAL) (E.G., WRENCH,
SCREWDRIVER, PRYBAR, ETC.) IN VALVE CAP OPENINGS. DOING SO MAY
DAMAGE VALVE CAUSING A LEAK TO OCCUR. USE AN ADJUSTABLE
STRAP-WRENCH TO REMOVE OVER-TIGHT OR RUSTED CAPS. HELIUM IS
COMPATIBLE WITH ALL COMMON MATERIALS OF CONSTRUCTION. PRESSURE
REQUIREMENTS SHOULD BE CONSIDERED WHEN SELECTING MATERIALS AND
DESIGNING SYSTEMS. SPECIAL REQUIREMENTS: ALWAYS STORE (CONTD SEE
"OTHER INFO")

===== Disposal C
onsiderations =====

Waste Disposal Methods:UNUSED PRODUCT / EMPTY CONTAINER: RETURN
CONTAINER AND UNUSED PRODUCT TO SUPPLIER. DO NOT ATTEMPT TO DISPOSE
OF RESIDUAL OR UNUSED QUANTITIES. FOR EMERGENCY DISPOSAL, SECURE
THE CYLINDER AND SLOWLY DI SCHARGE GAS TO THE ATMOSPHERE IN A WELL
VENTILATED AREA OR OUTDOORS.

===== MSDS Transport Information =====

Transport Information:THIS NSN IS FOR A CRYOGENIC COOLER CONTAINING
COMPRESSED
HELIUM AS COOLING MEDIUM. MSDS IS FOR CYLINDERS OF
COMPRESSED HELIUM. THE HCC FOR THE HELIUM INGREDIENT IN THE COOLER
IS HCC=G3. TRANSPROTATION DATA IS BASED ON THE NSN DESIGNATED
CRYOGENIC COOLER UNIT CONTAINING COMPRESSED HELIUM. THIS COOLER
UNIT IS NOT REGULATED FOR TRANSPORTATION BY D.O.T. BASED ON 49 CFR
173.307 (A) (4); IATA BASED ON SPECIAL PROVISIONS, A26; I.M.O.
BASED ON SPECIAL PROVISIONS CHAPTER 3.3.1 119; AFI BASED ON SPECIAL
PROVISIONS TABLE , A6.3.2.8

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===== Regulatory Information =====

SARA Title III Information:SECTION 302: HELIUM IS NOT LISTED AS AN EXTREMELY HAZARDOUS SUBSTANCE. SECTIONS 311 / 312: HAZARD CLASS OF THE INGREDIENT: IMMEDIATE HEALTH: NO; DELAYED HEALTH: NO; PRESSURE: YES; REACTIVITY: NO; FIRE : NO. SECTION 313: HELIUM IS NOT LISTED AS A TOXIC CHEMICAL.

Federal Regulatory Information:CERCLA REPORTABLE QUANTITY: NONE. 40 CFR PART 68: HELIUM IS NOT LISTED AS A REGULATED SUBSTANCE. TSCA -

TOXIC SUBSTANCE CONTROL ACT: HELIUM IS LISTED ON THE TSCA INVENTORY. OSHA: 29 CFR 1910.119: HELIUM IS NOT LISTED AS A HIGHLY HAZARDOUS CHEMICAL.

State Regulatory Information:CALIFORNIA: PROPOSITION 65: THIS PRODUCT DOES NOT CONTAIN ANY LISTED SUBSTANCES WHICH THE STATE OF CALIFORNIA REQUIRES WARNING UNDER THIS STATUE. SCAQMD RULE: VOC=NOT APPLICABLE.

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===== Other Information =====

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