

AIR PRODUCTS AND CHEMICALS INC. -- OXYGEN, LOX (LIQUID ONLY), GOX (GAS ONLY) --  
1660-00-806-0569

===== Product Identification =====

Product ID:OXYGEN, LOX (LIQUID ONLY), GOX (GAS ONLY)

MSDS Date:06/01/1990

FSC:1660

NIIN:00-806-0569

MSDS Number: BRLYT

=== Responsible Party ===

Company Name:AIR PRODUCTS AND CHEMICALS INC.

Address:7201 HAMILTON BLVD

City:ALLENTOWN

State:PA

ZIP:18195-1501

Country:US

|

Info Phone Num:215-481-4911

Emergency Phone Num:215-481-4911 OR 800-523-9374

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:LITTON SYSTEMS INC INSTRUMENTS & LIFE SUPPORT DIV

Address:2734 HICORY GROVE RD

Box:4508

City:DAVENPORT

State:IA

ZIP:52808-4508

Country:US

Phone:319-383-6000

CAGE:99251

===== Composition/I

Information on Ingredients =====

Ingred Name:OXYGEN  
CAS:7782-44-7  
RTECS #:RS2060000

===== Hazards Identification =====

LD50 LC50 Mixture:NONE SPECIFIED BY MANUFACTURER.  
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO  
Health Hazards Acute and Chronic:OXYGEN IS NON TOXIC UNDER MOST  
CONDITIONS OF USE AND IS NECESSARY TO SUPPORT LIFE. LIQUID OXYGEN  
OR COLD GAS WILL FREEZE TISSUES AND CAN CAUSE SEVERE CRYOGENIC  
BURNS. BREATHING OF PURE OXY  
GEN AT 60% MAY PRODUCE COUGH & CHEST  
PAIN, CNS MANIFESTATIONS. INFANTS EXPOSED TO 35-40% OXYGEN MAY  
SUFFER PERMANENT VISUAL DAMAGE.  
Effects of Overexposure:WHEN EXPOSED TO 60% OXYGEN, SYMPTOMS INCLUDE  
COUGHING AND CHEST PAIN. THESE SYMPTOMS MAY BE SEEN IN SEVERAL  
DAYS. AT TWO ATMOSPHERES SYMPTOMS OCCUR IN 2-3 HOURS. INFANTS  
EXPOSED TO OXYGEN LEVELS IN EXCESS OF 35-40% MAY SUFFER PERMANENT  
VISUAL IMPAIRMENT OR BLINDNESS.  
Medical Cond Aggravated by Exposure:NONE SPECIFIED  
BY MANUFACTURER.

===== First Aid Measures =====

First Aid:IF CRYOGENIC LIQUID OR COLD BOIL-OFF GAS CONTACTS A WORKER'S  
SKIN OR EYES, FROZEN TISSUES SHOULD BE FLOODED OR SOAKED WITH TEPID  
WATER (105-115F; 41-46C). DO NOT USE HOT WATER. BURNS WHICH RESULT  
IN BLISTERING OR DEEPER TISSUE FREEZING SHOULD BE SEEN PROMPTLY BY  
A PHYSICIAN.

===== Fire Fighting Measures =====

Flash Point:NONE  
Extinguishing Media:  
NONE SPECIFIED BY MANUFACTURER.  
Fire Fighting Procedures:OXYGEN IS NONFLAMMABLE, BUT SUPPORTS AND  
VIGOROUSLY ACCELERATES COMBUSTION OF FLAMMABLES. TO FIGHT FIRES,  
SHUT OFF SOURCES OF OXYGEN AND FIGHT FIRE.  
Unusual Fire/Explosion Hazard:OXYGEN SUPPORTS AND VIGOROUSLY  
ACCELERATES COMBUSTION OF FLAMMABLES. SOME MATERIALS WHICH ARE  
NONCOMBUSTIBLE IN AIR WILL BURN IN THE PRESENCE OF OXYGEN.

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

Spill Release Procedures:

PREVENT LIQUID OXYGEN FROM CONTACTING GREASE,  
OIL AND OTHER COMBUSTIBLES. VENTILATE AREA TO DISPERSE OXYGEN,  
AVOID SMOKING, EVACUATE ALL PERSONNEL FROM RELEASE AREA. DO NOT  
ENTER AREAS OF HIGH OXYGEN CONCENTRATION, WHICH CAN SATURATE  
CLOTHING.

Neutralizing Agent:NOT APPLICABLE.

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

Handling and Storage Precautions:PREVENT CONTACT OF LIQUID OXYGEN WITH  
EXPOSED SKIN. PREVENT ENTRAPMENT OF LIQUID IN CLOSED SYSTEM.

USE

ONLY IN WELL VENTILATED AREAS.

Other Precautions:SECURE CYLINDERS WHEN NOT IN USE. AVOID DRAGGING,  
ROLLING, OR SLIDING CYLINDERS, EVEN FOR SHORT DISTANCE. USE A  
SUITABLE HAND TRUCK.

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

Respiratory Protection:NONE SPECIFIED BY MANUFACTURER.

Ventilation:PREVENT ACCUMULATION WITH NATURAL OR FORCED AIR. USE  
VENTILATION AS NECESSARY.

Protective Gloves:LEATHER GLOVES FOR HANDLING CYLINDERS.

Eye Protection:CHEMICAL

GOGGLES OR SAFETY GLASSES.

Other Protective Equipment:SAFETY SHOES

Work Hygienic Practices:OBSERVE GOOD PERSONAL HYGIENE PRACTICES AND  
RECOMMENDED PROCEDURES.

Supplemental Safety and Health

OXYGEN IS NOT TO BE USED AS A SUBSTITUTE FOR COMPRESSED AIR.

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

HCC:G4

Boiling Pt:B.P. Text:-297F,-183C

Vapor Density:0.08279

Spec Gravity:1.14

Solubility in Water:MODERATE

Appearance and Odor:GASEOUS OXYGEN IS COLORLESS AND ODORLESS.LIQU  
ID

OXYGEN IS PALE BLUE AND ODORLES

Percent Volatiles by Volume:100

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

Stability Indicator/Materials to Avoid:YES

ALL FLAMMABLES, ESPICALLY PETROLEUM PRODUCTS, ASPHALT, OTHER VOLATILE  
FLAMMABLES.

Stability Condition to Avoid:MATERIALS WHICH BURN IN AIR WILL BURN  
VIOLENTLY IN ATMOSPHERE RICHER THAN APPROX. 25% OXYGEN.

Hazardous Decomposition Products:NONE SPECIFIED BY MANUFACTURER.

=====  
===== Disposal Consid

erations =====

Waste Disposal Methods:ALLOW LIQUID OXYGEN TO EVAPORATE IN A WELL VENTILATED OUTDOOR AREA. VENT OXYGEN GAS TO OUTSIDE LOCATION. DISPOSAL SITE SHOULD BE REMOTE FROM WORK AREAS, OPEN FLAMES OR SOURCES OF IGNITION AND COMBUSTIBLES. RETURN CYLINDERS TO AIR PRODUCTS.

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.