

AIR PRODUCTS AND CHEMICALS INC. -- OXYGEN, LOX (LIQUID ONLY), GOX (GAS ONLY) --
9135-00-965-2527

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

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

MSDS Date:06/01/1990

FSC:9135

NIIN:00-965-2527

MSDS Number: BTKSL

=== Responsible Party ===

Company Name:AIR PRODUCTS AND CHEMICALS INC.

Address:7201 HAMILTON BLVD

City:ALLENTOWN

State:PA

ZIP:18195-1501

Country:US

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nfo 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

===== Composition/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 OXYGEN AT 60% MAY PRODUCE COUGH & CHEST PAIN, CNS MANIFESTATIONS. INFANTS EXPOSED TO 35-40% OXYGEN MAY SUFFER PERMANENT VISUAL DAMAGE.

Explanation of Carcinogenicity:NONE SPECIFIED BY MANUFACTURER.

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 ACCEL

ERATES 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,
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VOID 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.LIQUID OXYGEN IS PALE BLUE AND ODORLESS

Percent Volatiles by Volume:100

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

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Stability Indicator/Materials to Avoid: YES

ALL FLAMMABLES, ESPECIALLY 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 Considerations =====

Waste Disposal Methods: ALLOW LIQUID OXYGEN TO EVAPORATE IN A WELL VENTILATED OUTDO

OR 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.

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