MATERIAL SAFETY DATA SHEET (MSDS)  PROPYLENE

CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

GAS INNOVATIONS
18005 E. Hwy 225
La Porte, TX 77571

Emergency Contact:
3 E Company 866-303-2640

Information: 281-471-2200

Call Originating Outside the US:
281-471-2200 (Collect Calls Accepted)

SUBSTANCE: PROPYLENE

Date prepared: September 7, 2007

PRODUCT IDENTIFICATION
▪ D.O.T. SHIPPING NAME           Propylene
▪ SYNONYM (S)                      Propene
▪ D.O.T. I.D. NUMBER               UN-1077
▪ D.O.T. HAZZARD CLASS            2.1 Flammable Gas
▪ D.O.T. LABEL (S)                 Flammable Gas
▪ C.A.S. NUMBER                   115-07-01
▪ CHEMICAL FORMULA                C₃H₆ or CH₃CH:CH₂

PHYSICAL DATA
▪ MOLECULAR WEIGHT               42.081
▪ FREEZING POINT                 -185.2°C, -301.4°F
▪ BOILING POINT                  -47.7°C, -53.9 °F
▪ VAPOR PRESSURE                 942 kPa (gauge), 136.5 psig
▪ SPECIFIC VOLUME                0.567 m³/kg, 9.06ft³/lb @ 1 atm, 21.1°C
▪ RELATIVE DENSITY, (air=1)      1.48 @ 1 atm, 20°C
▪ SOLUBILITY IN WATER            22.05 cm³/100 ml @ 1 atm, 20°C
▪ DESCRIPTION

At room temperature and atmospheric pressure propylene is a colorless, flammable, relatively nontoxic gas, with a characteristic natural gas odor. It is shipped as a liquefied gas under its own vapor pressure.

FIRE AND EXPLOSION HAZARD DATA
▪ FLAMMABLE LIMITS IN AIR         2.0 – 11.1 % by volume
▪ AUTO-IGNITION TEMPERATURE       480.0°C, 896.0°F
▪ FIRE FIGHTING PROCEDURES

The only safe way to extinguish a propylene fire is to stop the flow of gas. IF the flow cannot be stopped, let the fire burn out while cooling the cylinder and the surroundings using a water spray. Personnel may have to wear approach-type protective suits and positive pressure self-contained breathing apparatus. Firefighters' turnout gear may be inadequate.

▪ UNUSUAL HAZARDS

1. Cylinders exposed to fire may rupture with violent force. Extinguish surrounding fire and keep cylinders cool by applying water from a maximum possible distance with a water spray.
2. Flammable gases may spread from a spill after the fire is extinguished and be subject to re-ignition.
HEALTH HAZARD DATA

- PERMISSIBLE EXPOSURE LIMITS
  OSHA TWA  None established.
  ASGIH TWA  None established.

- ACUTE EFFECTS OVEREXPOSURE
  Propylene is nontoxic but can act as a simple asphyxiant by displacing air. Symptoms of asphyxia include rapid respirations, dizziness and fatigue. Contact with the liquid phase or with the cold gas escaping from cylinder may cause frostbite.

- CHRONIC EFFECTS OF OVEREXPOSURE
  None known.

FIRST AID INFORMATION

- INHALATION
  Move victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.

- CONTACT
  Treat for frostbite.

REACTIVITY DATE

- STABILITY
  (X) Stable. ( ) Unstable.

- INCOMPATIBILITY
  Oxidizing material.

- HAZARDOUS DECOMPOSITION/OXIDATION PRODUCTS
  Carbon monoxide, carbon dioxide

- POLYMERIZATION
  (X) Will not occur ( ) May Occur

SPILL OR LEAKAGE PROCEDURE

Shut off all ignition sources and ventilate the area. For controlling large flows, personnel may have to wear approach-type protective suits and self-contained breathing apparatus.

PRECAUTIONS

- STORAGE RECOMMENDATIONS
  Cylinders should be stored and used in dry, well-ventilated areas away from sources of heat or ignition. Do not store with oxidizers.

- PERSONAL PROTECTIVE EQUIPMENT
  1. Eye protection – Safety glasses should be worn.
  2. Respiratory protection – Approved respiratory equipment must be worn when airborne concentrations exceed safe levels.
  3. Skin protection – No special equipment is required. Gloves are recommended for cylinder handling.

- BEFORE USING THE GAS
  1. Secure the cylinder to prevent it from falling or being knocked over.
  2. Install check valves or traps to prevent suckback to the cylinder.
  3. Ground all lines and equipment.
  4. Leak check the lines and equipment.
  5. Have an emergency plan covering steps to be taken in the even of an accidental release.

DISCLAIMER

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