

GAS INNOVATIONS

MATERIAL SAFETY DATA SHEET (MSDS)

ISOPENTANE

PRODUCT IDENTIFICATION

▪D.O.T. SHIPPING NAME	Isopentane
▪SYNONYM (S)	Isopentane, 2-Methylbutane, Ethyldimethyl
▪D.O.T. I.D. NUMBER	UN-1265
▪D.O.T. HAZZARD CLASS	3 Flammable Liquid
▪D.O.T. LABEL (S)	Flammable Liquid
▪C.A.S. NUMBER	78-78-4
▪CHEMICAL FORMULA	C ₅ H ₁₂ or (CH ₃) ₂ CHCH ₂ CH ₃

PHYSICAL DATA

▪MOLECULAR WEIGHT	72.0
▪FREEZING POINT	-160°C, -256°F
▪BOILING POINT	30.6°C, 87°F
▪VAPOR PRESSURE	10 psia @ 1 atm, 60°F
▪SPECIFIC VOLUME	0.19 gal./lb. @ 1 atm, 68°F
▪RELATIVE DENSITY, (air=1)	Heavier than air
▪SOLUBILITY IN WATER	Negligible
▪DESCRIPTION	At room temperature and atmospheric pressure isopentane is clear with little or no color, flammable, and has a characteristic odor.

FIRE AND EXPLOSION HAZARD DATA

▪FLAMMABLE LIMITS IN AIR	1.4 – 8.3 % by volume
▪AUTO-IGNITION TEMPERATURE	420°C, 788°F
▪ FLASH POINT	Below 0° F
▪ FIRE FIGHTING PROCEDURES	The only safe way to extinguish an isopentane fire is to stop the flow. Fires may be brought under control by using foam, carbon dioxide or a dry chemical fire extinguisher. Personnel may have to wear approach type protective suits and positive pressure self-contained breathing apparatus. Firefighters' turnout gear may be inadequate.
▪ UNUSUAL HAZARDS	<ol style="list-style-type: none">1. Cylinders exposed to fire may rupture with violent force. Keep cylinders cool by applying water from a maximum possible distance with a water spray. Avoid spreading burning liquid with water used for cooling.2. Keep work areas free of hot metal surfaces and other sources of ignition.

Date prepared: September 7, 2007

HEALTH HAZARD DATA

▪ PERMISSIBLE EXPOSURE
LIMITS

OSHA TWA None established.

ACGIH TWA None established.

▪ ACCUTE EFFECTS
OVEREXPOSURE

Isobutylene is a simple asphyxiant.

Inhalation of high concentrations may cause rapid respiratory tract irritation, lightheadedness, central nervous system and depression at high concentrations. Can also sensitize the heart muscle.

▪ CHRONIC EFFECTS
OF OVEREXPOSURE

Chronic exposure may effect the liver.

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. Do not administer Epineprine or other heart stimulants. Call a physician.

▪ SKIN

Wash with soap and large quantities of water.

▪ EYE

Flush with large quantities of water for at least 15 minutes and Seek immediate medical attention.

▪ INGESTION

DO NOT INDUCE VOMITING. Seek immediate medical attention.

REACTIVITY DATE

▪ STABILITY
▪ INCOMPATIBILITY
▪ HAZARDOUS
DECOMPOSITION/
OXIDATION PRODUCTS

(X) Stable. () Unstable.

Oxidizing agents, acids, bases, and selected amines.

Carbon monoxide, carbon dioxide.

▪ POLYMERIZATION

(X) Will not occur () May occur

SPILL OR LEAKAGE PROCEDURE

Shut off all ignition sources, remove hot metal surfaces, and ventilate the area. For controlling large flow, personnel may have to wear approach-type protective suits and self-contained breathing apparatus. Flush spilled material into suitable retaining areas or containers with large quantities of water. Small amounts of spilled material may be absorbed into an appropriate absorbent.

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PRECAUTIONS

▪ STORAGE
RECOMMENDATIONS

Cylinders should be stored and used in dry, cool, well-ventilated areas away from sources of heat or ignition. Do not store with oxidizers. Avoid direct sun light.

▪ PERSONAL PROTECTIVE
EQUIPMENT

1. Eye protection – Safety glasses, chemical goggles, and/or face shields should be worn.
2. Respiratory protection – Approved respiratory equipment must be worn when airborne concentrations exceed safe levels.
3. Skin protection – Use impermeable gloves and impermeable aprons. The availability of eye washes and safety showers in work areas is recommended.

▪ 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 event of an accidental release.
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DISCLAIMER

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