ISOTECH
a Stratum Reservoir brand

www.isotechlabs.com

Shipment of Flammable Gas Samples in Single-Use IsoTubes®

NOTE: IsoTubes® are NOT suitable for gases containing hydrogen sulfide (H_2S, sour gas)

You must be certified to ship hazardous goods in order to legally ship flammable gas samples in IsoTubes®

IMPORTANT NOTICE:

ISOTECH DOES NOT DO BUSINESS OR RENDER SERVICES TO CUBA, IRAN, NORTH KOREA, SUDAN, OR SYRIA.
SAMPLES FROM THESE COUNTRIES WILL BE REJECTED.

If the samples collected are at atmospheric pressure, and they are all known to contain less than 5% methane or other hydrocarbons (and therefore are not flammable), they need not be considered hazardous for shipping purposes. The following instructions apply only to samples that are flammable and/or pressurized.

Samples of flammable and/or pressurized gas must be identified as hazardous materials. We have enclosed the hazard labels that you will need and have listed below the information required by shipping companies who accept hazardous materials, such as Federal Express. Please don't hesitate to ask your shipper for assistance in attaching labels and filling out the required forms. Each shipper has its own forms for Dangerous Goods.

1. Return the IsoTubes® (with the white copy of the sample identification) to the UN certified box and seal the box with tape. Please note that the IsoTubes® were originally shipped to you in an outer carton. **The original outer carton can be discarded**; only the UN certified box is used for return shipments.

2. International Air Transport Association (IATA) Regulations require the following labels attached to the outside of the box:
   FLAMMABLE GAS Label
   UN2037 Label
   AIR ELIGIBLE Sticker
   You have been provided with one label that includes all three of the above components. This label should be attached on the same side as the address label or airway bill, as shown in the picture. Labels must not be folded or affixed in such a manner that parts of the same label appear on different faces of the package.

3. Complete a "SHIPPERS DECLARATION FOR DANGEROUS GOODS" which can be obtained from your shipping company. The information that may be needed on this form is given below. Although not generally required as part of the shipping documents, an SDS (Safety Data Sheet) for your files is included with these instructions.

   UN or ID Number: UN2037
   Proper Shipping Name: Receptacles, small, containing gas
   Class or Division: 2.1
   Subsidiary Risk: None (leave blank)
   Packaging Group: None (leave blank)
   Quantity & Type of Packaging: ___ Fibreboard box(es) x 0.1 Kg
   Packing Instructions: 203
   Shipment Type: Non-Radioactive
   Prepared per: ICAO/IATA
   Additional Information: Your company's emergency response telephone number
   Limitations: None (leave blank)

4. Note: As required by the Department of Transportation (49 CFR - Part 172, Subpart G, §172.604) a person who offers a hazardous material for transportation must provide an emergency response telephone number, including the area code or intenational access code, for use in the event of an emergency involving the hazardous material. You MUST use your company's emergency response telephone number. If one is not available to you please contact us and we can advise you on how to obtain one.

5. To facilitate the scheduling and processing of your samples, please fax copies of all shipping documents to 217/398-3493 at the time of shipment. For international shipments, follow the special instructions enclosed.

These instructions have been prepared to simplify the task of shipping samples and are based on the "IATA Dangerous Goods Regulations 55th Edition, 2014". However, it is you, the shipper, who is ultimately responsible for the safe and legal shipment of these samples in compliance with the most recent applicable local, state and international shipping regulations. Isotech assumes no liability resulting from the improper packaging and shipment of samples and makes no guarantees regarding the validity of the information presented here.

Warning: Samples containing high concentrations of hydrogen sulfide (>50ppm) cannot be shipped in IsoTubes. Samples containing hydrogen sulfide are Class 2.3, toxic gas, and have additional shipping restrictions.

Safety Data Sheet (SDS)

For Transporting Natural Gas Samples in Receptacles
(for Single-Use IsoTubes only)

SECTION I **CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Trade name: Receptacles, small, containing gas (flammable) without a release device, non-refillable (UN2037)
Chemical name and synonyms: Mud Gas, Hydrocarbon Gas Mixture, Natural Gas
Company identification: Isotech, 1308 Parkland Court, Champaign, IL 61821; (217) 398-3490

SECTION II **COMPOSITION/INFORMATION ON INGREDIENTS**

Methane (CAS 74-82-8)	5-99%
Carbon dioxide (CAS 124-38-9)	0 - 50%
Nitrogen (CAS 124-38-9)	0 - 95%
Ethane (CAS 74-84-0)	0 - 10%
Propane (CAS 74-98-6)	0 - 5%
Butane (CAS 106-97-8)	0 - 2%
C_xH_{2x+2} (x=5 and above)	0 - 1%

Gas samples may also contain some air and trace quantities (<0.1%) of various organic gases not listed above.

SECTION III **HAZARDS IDENTIFICATION**

Eye Contact: Not expected to cause eye irritation.
Skin Contact: Not expected to be irritating to the skin.
Inhalation: Breathing high concentrations of gas samples is not expected.
Chronic Effects: Not expected.
Overview: Colorless gas with no to slight hydrocarbon odor, or mercaptan may be added as an odorant. Extremely flammable, can be ignited by heat, spark or flame. May release explosive vapors that can travel, be ignited at remote locations, and flash back. This material is classified as hazardous under OSHA regulations.

SECTION IV **FIRST AID MEASURES**

Eye Contact: If irritation occurs, flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open.
If irritation continues, seek medical attention.
Skin Contact: Not applicable
Inhalation: Not applicable
Ingestion: Not applicable

SECTION V **FIRE FIGHTING MEASURES AND EXPLOSION HAZARD DATA**

Gas Samples can present a fire hazard. Being a mixture, the gas can explode violently on contact with any source of ignition.
Flash Point: -306°F to -305°F
Autoignition Temp.: 930°F to 1000°F
Flammability Limits: LEL 5% to UEL 15%
Extinguishing Media: Carbon dioxide or dry chemical.
Special Fire Fighting Procedures: For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment. Read the entire MSDS.

SECTION VI **ACCIDENTAL RELEASE MEASURES**

Eliminate all sources of ignition in vicinity of released gas. Stop gas flow if it can be done without risk. Ventilation is required to keep concentrations below the explosive range.
Waste Disposal Methods: Burn through a flare stack in accordance with federal, state and local regulations.

SECTION VII **HANDLING AND STORAGE**

Use spark-proof tools. Material may be under pressure (<100 psig). Exercise care when opening sampling ports. Keep away from heat, sparks, flame, and other sources of ignition.

SECTION VIII **SPECIAL PROTECTIVE INFORMATION**

Eye Protection: No special eye protection is required.
Skin Protection: No special skin protection is required.
Respiratory Protection: No special respiratory protection is normally required.
Ventilation: No special ventilation is usually necessary. However, if operating conditions create high concentrations of this material that could approach the explosive range, special ventilation may be needed.

SECTION IX PHYSICAL AND CHEMICAL DATA

Solubility: appreciable
Appearance (Color, Odor, etc.): colorless, tasteless and normally odorless gas, however may have a characteristically organic odor.
Boiling Point: From -260°F to -258°F
Specific Gravity: see Gas Density
Vapor Pressure: not established
Percent Volatile (Volume %): 100
Evaporation: n/a
Gas Density: 0.6 to 1.2 (air = 1.0)

SECTION X STABILITY AND REACTIVITY DATA

Stability (Thermal, Light, etc.): Stable, avoid heat, sparks and open flame.
Incompatibility (Materials to Avoid): Oxidizers
Hazardous Decomposition Products: Combustion may produce carbon monoxide, carbon dioxide, ethylene, and acetylene.
Hazardous Polymerization: Will not occur.

SECTION XI TOXICOLOGICAL INFORMATION

Toxicity: Oral; rat - LD50: >5 g/kg
Teratogenicity: Not established Reproductive
Toxicity: Not established
Mutagenicity: Not established
Synergistic Products: Not established
Sensitization to Product: Not established
Carcinogenicity: Contains more than 0.1% by weight of a material listed as a potential carcinogen
by NTP: NO
by IARC: NO
by OSHA: NO.
Other Chronic Effects: Not Determined
Signs and Symptoms of Overexposure: nausea, fatigue, sleepiness, confusion, dizziness, headache, vomiting, narcosis, unconsciousness, and death by/from asphyxiation.

SECTION XII ECOLOGICAL INFORMATION

No data is available on the adverse effects of this material on the environment. Neither COD nor BOD data are available.

SECTION XIII DISPOSAL CONSIDERATIONS

Dispose of container and unused contents in accordance with federal, state and local requirements.

SECTION XIV TRANSPORT INFORMATION

UN or ID Number: UN2037
Proper Shipping Name: Receptacles, small, containing gas
Class or Division: 2.1
Subsidiary Risk: None
Packaging Group: None
Shipment Type: Non-Radioactive
Prepared per: ICAO/IATA

SECTION XV REGULATORY INFORMATION

TSCA Inventory: No.
Reportable Quantity (RQ) Under US EPA CERCLA Regulations: Not listed.
SARA Hazard Notification Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370): Yes.
Section 313 Toxic Chemical(s): Not listed.
Hazardous Chemical(s) Under OSHA Hazard Communication Standard: Yes.

SECTION XVI SPECIAL PRECAUTIONS

Flammable gas. Ground all lines and equipment used with gas to prevent static sparks. Do not smoke where gas is used or stored. A 19.5% oxygen concentration in air is the minimum recommended for working without special breathing equipment.

n/a = Not Applicable

The information contained herein has been developed based upon current available scientific data. New information may be developed from time to time which may render the conclusions of this report obsolete. Therefore, no warranty is extended as to the applicability of this information to the user's intended purpose or for the consequences of its use or misuse.

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