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Hydrogen Sulfide Detection Kit

Part No. #145-60

Instruction Manual

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Ver. 2.0

OFI Testing Equipment, Inc.

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Introduction

Hydrogen sulfide is a colorless gas with a characteristic foul odor of rotten eggs. It is slightly heavier than air, very poisonous, corrosive to metals, flammable, and explosive. Hydrogen sulfide often results from the bacterial anaerobic (without oxygen) decomposition of organic matter and is present in many water supplies. H₂S is found in swamps, sewers, and geological formations which are tapped when drilling oil or water wells. It occurs naturally in volcanic vents, hot springs, and in natural gas. Sulfate-reducing bacteria live in oxygen deficient environments and obtain their energy by oxidizing organic compounds or molecular hydrogen (H₂) while reducing sulfate (SO₄²⁻). These organisms literally “breathe” sulfate rather than oxygen in a form of anaerobic respiration which converts natural sulfates in water to hydrogen sulfide. Small amounts of hydrogen sulfide occur in crude petroleum, but natural gas can contain up to 90%.

The OFITE Hydrogen Sulfide Detection Kit is the most economical method for determining the hydrogen sulfide content in water samples.

Range: 0 - 5 mg/L

Smallest Increment: 0.1 mg/L

Components

#145-601	Hydrogen Sulfide Test Papers
#145-602	Hydrogen Sulfide Test Bottle
#145-603	Hydrogen Sulfide Color Chart
#145-604	Alka Seltzer Tablets, Packet of 2
#151-17	Octyl Alcohol (Defoamer), 2 oz
#167-01	Carrying Case
#230-15	*Sulfuric Acid, 5 N, 2 oz

Optional

#145-60-H	Hydrogen Sulfide Detection Kit without HAZMAT items
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Safety

Concentration of H ₂ S (ppm)	Symptoms / Effects
0.01 - 1.5	Rotten egg smell
2 - 5	Prolonged exposure can cause nausea, tearing of the eyes, headaches, and loss of sleep. Odor becomes more offensive.
20	Possible fatigue, loss of appetite, headache, irritability, poor memory, dizziness.
50 - 100	Respiratory tract irritation after one hour. May cause loss of appetite.
100	Death may occur after 48 hours. Coughing, eye irritation, loss of smell after 2 - 15 minutes, drowsiness.
100 - 150	Loss of smell
200 - 300	Marked respiratory tract irritation after one hour. Pulmonary edema may occur after long exposure.
500 - 700	Staggering / collapse in 5 minutes. Serious eye damage in 30 minutes. Death after 30 - 60 minutes.
700 - 1,000	Rapid unconsciousness, immediate collapse with 1 - 2 breaths. Death within minutes.
1,000 - 2,000	Instant Death

Procedure

1. Add 2.5 mL of filtrate (or whole mud) to the test bottle.

Soluble sulfides can be determined using mud filtrates. Total sulfides can be determined using mud.

2. Add 22.5 mL of fresh water.
3. Insert the test paper inside the cap of the test bottle.
4. Place a film of octyl alcohol (#151-17) above the water line in the test bottle to eliminate excessive foaming.
5. Add 1 mL of sulfuric acid (#230-15).
6. Add one fresh Alka Seltzer tablet and immediately screw the cap containing the test paper onto the bottle.

Always use fresh tablets.

7. After the tablet has dissolved, remove the test paper and compare it to the color chart. Multiply the result by 10.

Warranty and Return Policy

Warranty:

OFI Testing Equipment, Inc. (OFITE) warrants that the products shall be free from liens and defects in title, and shall conform in all respects to the terms of the sales order and the specifications applicable to the products. All products shall be furnished subject to OFITE's standard manufacturing variations and practices. Unless the warranty period is otherwise extended in writing, the following warranty shall apply: if, at any time prior to twelve (12) months from the date of invoice, the products, or any part thereof, do not conform to these warranties or to the specifications applicable thereto, and OFITE is so notified in writing upon discovery, OFITE shall promptly repair or replace the defective products. Notwithstanding the foregoing, OFITE's warranty obligations shall not extend to any use by the buyer of the products in conditions more severe than OFITE's recommendations, nor to any defects which were visually observable by the buyer but which are not promptly brought to OFITE's attention.

In the event that the buyer has purchased installation and commissioning services on applicable products, the above warranty shall extend for an additional period of twelve (12) months from the date of the original warranty expiration for such products.

In the event that OFITE is requested to provide customized research and development for the buyer, OFITE shall use its best efforts but makes no guarantees to the buyer that any products will be provided.

OFITE makes no other warranties or guarantees to the buyer, either express or implied, and the warranties provided in this clause shall be exclusive of any other warranties including ANY IMPLIED OR STATUTORY WARRANTIES OF FITNESS FOR PURPOSE, MERCHANTABILITY, AND OTHER STATUTORY REMEDIES WHICH ARE WAIVED.

This limited warranty does not cover any losses or damages that occur as a result of:

- Improper installation or maintenance of the products
- Misuse
- Neglect
- Adjustment by non-authorized sources
- Improper environment
- Excessive or inadequate heating or air conditioning or electrical power failures, surges, or other irregularities
- Equipment, products, or material not manufactured by OFITE
- Firmware or hardware that have been modified or altered by a third party
- Consumable parts (bearings, accessories, etc.)

Returns and Repairs:

Items being returned must be carefully packaged to prevent damage in shipment and insured against possible damage or loss. OFITE will not be responsible for equipment damaged due to insufficient packaging.

Any non-defective items returned to OFITE within ninety (90) days of invoice are subject to a 15% restocking fee. Items returned must be received by OFITE in original condition for it to be accepted. Reagents and special order items will not be accepted for return or refund.

OFITE employs experienced personnel to service and repair equipment manufactured by us, as well as other companies. To help expedite the repair process, please include a repair form with all equipment sent to OFITE for repair. Be sure to include your name, company name, phone number, email address, detailed description of work to be done, purchase order number, and a shipping address for returning the equipment. All repairs performed as "repair as needed" are subject to the ninety (90) day limited warranty. All "Certified Repairs" are subject to the twelve (12) month limited warranty.

Returns and potential warranty repairs require a Return Material Authorization (RMA) number. An RMA form is available from your sales or service representative.

Please ship all equipment (with the RMA number for returns or warranty repairs) to the following address:

OFI Testing Equipment, Inc.
Attn: Repair Department
11302 Steeplecrest Dr.
Houston, TX 77065
USA

OFITE also offers competitive service contracts for repairing and/or maintaining your lab equipment, including equipment from other manufacturers. For more information about our technical support and repair services, please contact techservice@ofite.com.