

# How to improve your leak testing **RESULTS** **GUARANTEED...**



# Leak-Tec

## THIN FILM BUBBLE TESTING LIQUID

**A formula specifically designed for each application**

**Formulas meet the requirements of ASTM E515-11 R18**

### 160X

**For gaseous oxygen systems at normal temperature.**  
Exceeds MIL-PRF-25567E Type 1. Low viscosity, low residue (<.3% by weight evaporation residue) making it easy to paint over surfaces tested with 160X. Can detect very low pressure leaks. Sensitivity  $1 \times 10^{-6}$  std cc/second. Temperature range +35°F to 160°F (+2°C to 71°C). National Stock Numbers 6850-00-621-1820, 6850-00-185-0423, 6850-00-051-5052 and 6850-00-186-2963. Corrosion Index V.

### OX65-C

**For gaseous oxygen systems at low temperature.**  
Exceeds MIL-PRF-25567E Type II. Sensitivity  $1 \times 10^{-5}$  std cc/second. Temperature range -65°F to +180°F (-54°C to 82°C). National Stock Numbers 6850-00-621-1819 and 6850-00-880-9109. Corrosion Index V.

### 112

**For chlorine systems, including water purification and sewage disposal.**

When leak-indicating bubbles burst, puffs of white smoke are emitted. Sensitivity  $1 \times 10^{-5}$  std cc/second. Temperature range +35°F to 160°F (+2°C to 71°C). Corrosion Index VI.

### 277

**For use with polyethylene pipes and rubber seals.**

Will not stress crack polyethylene pipes and fittings, or rubber seals in gas system; Has medium viscosity so liquid spreads evenly and stays in place for a period sufficient for careful inspection. Sensitivity  $1 \times 10^{-5}$  std cc/second. Temperature range +35°F to 160°F (+2°C to 71°C). Corrosion Index IV.

### 277C

**For refinery and natural gas systems.**

Spreads well, covering complex welds and penetrating surface oil films. Will not harm rubber. Sensitivity  $1 \times 10^{-5}$  std cc/second. Temperature range +35°F to 160°F (+2°C to 71°C). National Stock Number 6850-00-825-0542. Corrosion Index IV.

### 277NE

**For nuclear applications; for dissimilar metal joints; for electrical systems)**

1. Meets the requirements of ANSI N45.2.1-1973 and Stone & Webster 2BVS-901 and NMP2-M060A and 211.160. Fully certified for use with high performance metal alloys like stainless, nickel and titanium. Halogens, sulfur and water leachable chlorides less than 4 ppm. One year shelf life for this application.

2. Has a specific resistance of 100,000 to 200,000 ohms which resists current seepage when testing electrical/electronic systems and does not promote electrolytic corrosion between dissimilar metals. Shelf life for electrolytic applications is 6 months. Sensitivity  $1 \times 10^{-6}$  std cc/second. Temperature range is +35°F to 160°F (+2°C to 71°C). Corrosion Index II, I, V.

### METAL CORROSION INDEX

Because the mechanisms of corrosion are not always the same, Leak-Tec solutions have been formulated with different types of inhibitor systems.

INDEX	DESCRIPTION
I	Inhibits stress corrosion cracking of stainless steels, magnesium and titanium alloys.
II	Inhibits electrolytic corrosion between dissimilar metals.
III	Inhibits surface corrosion on cast iron and mild steels. This system is poisonous and is not required for most steels. It may even cause slight corrosion on aluminum, copper and brass.
IV	Inhibits corrosion on aluminum, copper, brass and on most metals.
V	Meets the corrosion and faying edge requirements of MIL-PRF-25567E.
VI	Inhibits corrosion on zinc, copper and brass. Is not corrosive to iron or steel and passivates aluminum.

## GUARANTEE

### 30 day free trial

If Leak-Tec doesn't completely satisfy you, return the unused portion for a complete refund.

## 372E

### **For general purpose applications involving compressed air and stable gases.**

Stable gases including but are not limited to carbon dioxide, carbon monoxide, argon, sulfur hexafluoride, propane, butane, nitrogen, hydrogen, helium and ammonia. Relatively viscous allowing for easy testing of vertical surfaces. Sensitivity  $1 \times 10^{-5}$  std cc/second. Temperature range +35°F to 160°F (+2°C to 71°C). National Stock Numbers 6850-00-543-7692, 6850-01-247-1327 and 6850-00-056-7901. Corrosion Index IV.

## 372E-HV

### **For general purpose applications involving testing on vertical surfaces.**

Used with stable gases including but are not limited to carbon dioxide, carbon monoxide, argon, sulfur hexafluoride, propane, butane, nitrogen, hydrogen, helium and ammonia. Highly viscous allowing for easy testing of vertical surfaces. Sensitivity  $1 \times 10^{-5}$  std cc/second. Temperature range +35°F to 160°F (+2°C to 71°C). Corrosion Index IV.

## 372G

### **For air conditioning/refrigeration systems, vacuum box testing and medium low/high temperature testing.**

Will not boil easily under vacuum and can be applied to seams well in advance of testing. It is often used for vacuum box testing. Will bubble even in the presence of liquid halocarbons. Sensitivity  $1 \times 10^{-4}$  std cc/second. Temperature range -35°F to 190°F (-37°C to 88°C). Corrosion Index IV.

## 372H

### **For very low temperature testing.**

Temperature range -65°F to +180°F (-54°C to 82°C). Sensitivity  $5 \times 10^{-4}$  std cc/second. National Stock Number 6850-00-552-9172. Corrosion Index IV.

## 415

### **For very high temperature testing.**

Used with hot gas chromatography and other uses where cooling wastes time or hides leaks. Also used for high temperature immersion testing. Sensitivity  $5 \times 10^{-5}$  std cc/second. Temperature range +200°F to 410°F. (93°C to 210°C). Corrosion Index V.

## 577V

### **For fluorescent and vacuum testing.**

Highly fluorescent under black light. Widely used for vacuum testing in the nuclear industry. If the interior of the evacuated systems is not visible the fluorescence can easily be seen on disassembly of critical parts showing defective o-rings, gaskets, etc. Sensitivity  $5 \times 10^{-6}$  std cc/sec  $1 \times 10^{-5}$  torr liters/sec. Temperature range +35°F to 160°F (+2°C to 71°C). National Stock Number 6850-01-053-9422. Corrosion Index I, IV.

## 72V

### **For high pressure gross leaks and vacuum leaks.**

An aerosol foam that captures large high pressure leaks causing a bubbling action of the foam. Also widely used as a vacuum leak detector; the foam craters at the point of a leak. Temperature range +35°F to 170°F (+2°C to 77°C). Sensitivity  $5 \times 10^{-4}$  std cc/sec,  $1 \times 10^{-3}$  torr liters/sec. Corrosion Index V.

## FM1

### **For missile fuel and oxidizer systems.**

Inert to nitrogen dioxide, hydrazines, hydrogen peroxide, liquid oxygen, other oxidizers, and concentrated nitric and sulfuric acids. Sensitivity  $1 \times 10^{-6}$  std cc/second. Temperature range +32°F to +160°F (+2°C to 71°C). Corrosion Index V.

## OX-315

### **For liquid oxygen systems.**

LOX compatible (residue will not cause explosion with liquid oxygen). Less than 0.35% evaporation residue. Exceeds AMS-3159. Sensitivity  $1 \times 10^{-6}$  std cc/second. Temperature range +35°F to +160°F (+2°C to 71°C). Corrosion Index IV, V.

## OX-315 III

### **For applications where metal corrosion is a severe problem.**

Originally developed for NASA to combat corrosion on the aluminum alloy of the shuttle. It works well on carbon steel and galvanized metals to prevent corrosion. Meets the requirements of Martin Marietta Y824-1. Sensitivity  $1 \times 10^{-5}$  std cc/second. Temperature range +35°F to 160°F (+2°C to 71°C). Corrosion Index III.

## 162FC

### **For food compatible/oxygen compatible compressed air and stable gas testing.**

Meets the requirements of CFR21 for substances used in food-contact articles. Developed to have medium viscosity so the liquid spreads evenly and stays in place. Meets requirements of MIL-PRF-25567E for compatibility with oxygen systems. Meets the requirements of ANSI N45.2.1-1973 and Stone & Webster 2BVS-901 and NMP2-M060A and 2199.170.915 (REV3). Sensitivity  $1 \times 10^{-5}$  std cc/second. Temperature range +35°F to 160°F (+2°C to 71°C). Corrosion Index V.

## 161FC

### **For low temperature food compatible/oxygen compatible compressed air and stable gas testing.**

Meets the requirements of CFR21 for substances used in food-contact articles. Developed to have medium viscosity so the liquid spreads evenly and stays in place. Meets requirements of MIL-PRF-25567E for compatibility with oxygen systems. Meets the requirements of ANSI N45.2.1-1973 and Stone & Webster 2BVS-901 and NMP2-M060A and 2199.170.915 (REV3). Sensitivity  $1 \times 10^{-4}$  std cc/second. Temperature range -35°F to 190°F (-37°C to 88°C). Corrosion Index V.

# ENGINEERED TO SAVE

Everything which is manufactured to contain gas or liquids is subject to leakage at material junctions, such as, seams, connectors, and fittings. This leakage can often cause warranty returns, production shutdowns, and loss of human life. With spiraling liability judgements and increased costs of reworking finished products, reliable leak testing saves *time and money!* In addition, leak testing is a major factor in the fight to save energy. Testing can locate leakage of fuels, like natural gas, as well as leakage of indirect energy such as steam and compressed air. Because leak testing saves time, saves money, and saves energy, it has assumed an important industrial role.

Bubble testing is the most common and one of the most reliable methods of detecting and locating leaks. As scientific leak testing has grown in importance, so has bubble testing. Bubble testing has many inherent advantages:

- It is easy to use and requires little operator training.
- It is inexpensive to use and not subject to break down like complex instrumentation.
- It operates immediately and continues to give indications.
- It can be extremely sensitive, finding leaks down to  $1 \times 10^{-6}$  (.000001) standard cc/second. The equivalent of losing a pound of Freon every 3,200 years.

With the increasing importance of bubble testing, the old time standby—soap and water—is gone forever. Soap and water has low sensitivity and tends to obscure small leaks by foaming when applied. Many industrial companies and organizations, such as the USAF, ASTM and ASME have banned the use of soap. These organizations require only synthetic bubble solutions like Leak-Tec.

Over the last fifty years, Leak-Tec bubble solutions have become synonymous with quality leak testing. With over 6,000 customers (including almost all of the Fortune 500 Industrials) depending upon us, we are called upon repeatedly to solve difficult leakage problems. As a result, we have developed, and continue to improve upon, the most comprehensive line of field proven bubble solutions. With this background of development technology, our products represent the forefront in leak testing science.

In addition to a complete line of scientifically developed formulas, we fully support our products with a comprehensive quality control program, detailed certifications, and process specifications. Our large stock and record for on-time delivery makes us easy to deal with and will save you *time*.

Besides the bubble solutions described here, we manufacture a great variety of other leak detectors, both electronic and chemical, which are currently being used to solve such problems as:

- 1) Vacuum leak testing
- 2) Hydrostatic testing
- 3) Dangerous gas monitoring & testing
- 4) Internal system leakage
- 5) Production line leak testing
- 6) Immersion testing

If the products in this brochure are not the answer to your leak detection problem, call today (1-800-288-3647). Let us put our expertise to work for you.



## PACKAGING OPTIONS:

All formulas are available in 4 oz. squeeze bottles, 1 gallon jugs, 5 gallon carboys, and 55 gallon drums. Many are available in 10 oz. aerosols, 8 oz. squeeze bottles, bottles with daubers, and 16 oz. bottles with pump sprayers.



**american gas & chemical co. ltd.**

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