OPERATOR'S MANUAL



Diagnostic Smoke® Vapor Machine

with UltraTraceUV® Dye Solution

Leak Detection System

Model No. GLD-40

CE

USA | Canada Patents ● 6,392,227 • 6,526,808 | 2,279,147 | Int'l Patents Pending

Caution



TO PREVENT PERSONAL INJURY
AND / OR DAMAGE TO VEHICLE OR EQUIPMENT



- **ALWAYS use on vehicle with engine turned <OFF>.**
- Use this equipment in the manner specified by the manufacturer.
- Understand operating procedures / Follow all safety precautions.
- Connect Tester to chassis ground.
- Use UltraTraceUV® Smoke Solution No. GLD0712UV in this Tester. Using a non-approved solution may cause damage to vehicles being tested and may cause personal injury.



- Never leave the Tester's hoses or power cables connected to the vehicle for extended periods of time when tests are not being performed.
- Do not perform test near source of spark or ignition.
- Wear eye protection that meets OSHA standards.
- Follow safety precautions when using ultraviolet light source.
- Always use hood support if hanging Tester from hood of car.



- Air pressure (or gas pressure) supplied to Tester can be between 50-175 PSI (3.4 to 12 bar).

Usage Tips

- Connect to workshop airline for general purpose leak detection applications.
- Smoke exiting a very small leak is sometimes even easier to see if <u>after</u> filling the system with smoke you reduce the smoke flow by turning the flow control knob clockwise, which slows the exiting smoke velocity and helps you see very small leak(s)
- Use the white light provided to highlight the smoke exiting a leak.
- Use the Ultraviolet (UV) light and yellow glasses provided to look for the fluorescent deposit at the exact location of a leak. When using alternate source of UV light, be sure it is one that covers the 400 nanometer (nm) UV light range.
- When operating the Tester in near freezing temperatures, cycle the operation of the Tester 15 seconds ON and 15 seconds OFF for approximately the first minute or two of operation. This will allow the Tester to reach its optimum operating temperature.
- When testing an engine's intake or exhaust system for leaks, it is recommended that the engine be cold. Small leaks may be sealed due to thermal expansion.

Table of Contents

Included with the Smoke Wizard	**Page 1**
Prior to using Smoke Wizard® for the First Time	**Page 2**
Specifications	**Page 3**
Smoke Wizard® Overview	**Page 3 & 4**
Basic Testing Procedure	**Page 5**
Leak Detection Applications	**Page 6 – 8**
Troubleshooting	**Page 9**
Warranty	**Page 10**
Material Safety Data Sheet (MSDS)	**Page 11 – 14**
CE Certificate	**Page 15**

Be sure to visit our website http://www.smokewizard.co.uk for:

● Instructional Videos ● Additional Product Details

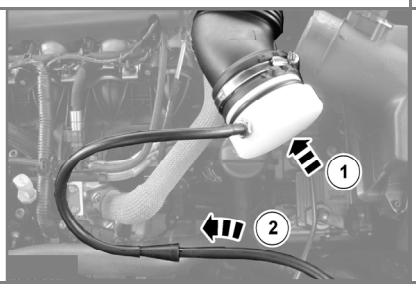
● Frequently Asked Questions ● Tech Tips ● Downloads

Congratulations! You have purchased the finest and most feature-rich portable leak detection smoke machine available today. The patented technology inside your Smoke Wizard was designed in collaboration with major automakers; was designed specifically to be safe for leak testing a vehicle's fuel evaporative (EVAP) system as well as many other vehicle systems; is the only technology in the world approved by any automaker; and is the only smoke technology that meets SAE INTERNATIONAL published papers recommendation to use a smoke machine designed to function with an inert gas (such as Nitrogen, Argon or CO2) when testing a vehicle's EVAP system [SAE: 2007-01-1235 & 2008-01-0554].

Global Leak Detection Corp. and our Authorized Distributors, **Smoke Wizard UK, thank you** for the purchase of your new **Smoke Wizard!**

Diagnostic Smoke® Vapor – Safe for Vehicle Systems.

Included with the Smoke Wizard®

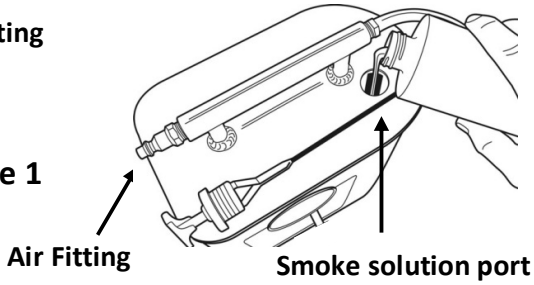
UltraTraceUV®; (GLD0712UV) this patented solution is the only Automaker-approved smoke-producing solution in the world. The solution's chemistry contains a special dye that deposits at the exact location of a leak. Will not harm automotive systems and will perform approximately 300 tests. (12 oz. / 355 ml). (Part number is for one 12 oz. bottle. Two bottles included with machine)	
Combination Light: (GLD043K) delivers a white light for easier smoke location, an ultraviolet (UV) light that highlights the fluorescent dye deposited at the exact location of a leak and red laser pointer light. Includes 3 AAA batteries and glasses.	
Halogen Spot Light: (GLD008) extra bright spot light, highlights the exiting smoke in hard to see areas.	
EVAP Service Port Adaptor – standard size: (GLD003)	
Dual-Size Schrader Valve Removal/Installation Tool: (GLD004) The Schrader valve has a *left-hand* thread. Turn *clockwise* to remove!	
Cap Plugs Kit: (GLD005) these cap plugs are useful when sealing an intake manifold system in order to contain the smoke in the system for proper leak testing, such as mass airflow sensor ducting, etc	
Smoke Diffuser: (GLD006) this adapter is designed to locate leaks around doors, windows, sunroofs and trunk compartment. The adapter allows the operator to lay down a thick bed of smoke (from outside the vehicle) along door and window seams in order to watch for disturbance caused by escaping airflow due to a leaking seal. Internal pressure is created by vehicle's HVAC set to fresh air (i.e. not recirculation) and blower fan on high speed.	
Adapter Cone: (GLD007) for introducing smoke into the exhaust system or into any orifice that accommodates the cone's size, such as the induction system	
Adapter: (9995545). *NOTE: This adapter, while part of the overall kit, is not included with the Smoke Wizard®, but instead arrives separately from SPX.* Use this adapter to introduce smoke into the engine intake system, as illustrated. 	
See website for additional available accessories http://www.smokewizard.co.uk	

Prior to Using Smoke Wizard® for the First Time

NOTE: Your Smoke Wizard arrives with: a commonly used male quick-disconnect Air Fitting and two bottles (12 oz/355 ml) of UltraTraceUV® Smoke Producing Solution.

1. Be sure the Smoke Wizard's Air Fitting is the correct fitting for your air hose connector or change it to match. (Figure 1)

Figure 1

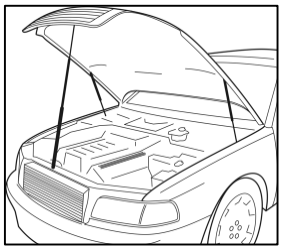


2. Remove the Smoke Wizard's dipstick; pour the entire contents of <u>one</u> bottle into the smoke chamber; verify correct level and secure dipstick. (Figure 1)
NOTE: Use the second bottle supplied to maintain solution level at or near FULL mark.

NOTE: Your Smoke Wizard is now ready for operation.



Caution: Factory vehicle bonnet supports are not designed to support more than the weight of the bonnet. A supplemental prop rod (or similar device) such as the one shown here <u>should always be used</u> when hanging the smoke machine from the bonnet, in order to avoid hazard and possible injury due to a hood falling unexpectedly.



NOTE: A common question asked is if one can use a basic generic mineral oil, such as 'Baby Oil', in the Tester to create the smoke.

You can if you want to, but we don't recommend it. The patented UltraTraceUV® smoke solution supplied with this Tester; will perform hundreds of tests that only cost pennies per test; is the <u>only</u> solution in the world approved by the auto manufacturers; and will not void any vehicle factory warranties. Plus you have the added benefit of the trace dye that marks the exact location of a leak, increasing diagnostic accuracy unlike any other. This special solution is not a "*generic*" mineral oil. In fact, generic mineral oils are <u>not</u> intended for this type industrial use. The generic mineral oils break down, evidenced by its foul odor and could damage vehicle components.

Smoke Wizard® Overview

Air Fitting – connect to shop air or inert gas. **Note:** There is a pressure regulator inside the Tester so no external regulator is required as long as input pressure is between 50 and 175 PSI (3.4 to 12 bar).

12V DC Power-Supply Cables (Rear of Tester)

Control Panel – See next page



Suspension Hanger – allows the option of hanging your Smoke Wizard from a convenient test location on the vehicle or for storage when not in use. **Note:** Always use bonnet support device when hanging from the bonnet.

Smoke Supply hose – hose with scratch-resistant Delrin® nozzle delivers the smoke vapor into a system for leak testing.

Smoke Solution Dipstick – use to check and maintain proper smoke solution level.

Filter Drain Port – located under Tester; keeps Tester and vehicle clean by automatically draining water and contaminants from shop air compressor.

Technical Specifications

Height (less hanger)	13 in. (33 cm)	Supply pressure	13.0 in. H_2O (0.032 bar)
Length	5.5 in. (14 cm)	Supply volume	10 liters per minute
Width	9.5 in. (24 cm)	Smoke supply line	10 feet (3m)
Weight	10 lb. (4.5 kg)	Power supply line	10 feet (3m)
Shipping weight	14 lb. (6.3 kg)	Operating temp. range	45°F to 140°F (7.2°C to 60°C)
Power supply	12 volts DC	Solution Max. Volume	12 oz. (355 ml)
Power consumption	15 amps.		

Control Panel Overview

POWER Light (Green): Turns ON when you connect Tester to 12-Volt DC power.

→ *Blinks if the battery power source is insufficient.*

SMOKE Light (Red): Turns ON when you press the START button, indicating smoke production.

START Button:
Press for smoke production.
Note: Is on 5-minute timer.



Pressure Gauge:

(-30 to +30 IWC) used to verify leak(s) in a system, using either pressure-decay or vacuum-decay.

→ *The pressure / vacuum decay test cannot tell the **size** of the leak(s). Leak size can be determined using the indexed flow meter.*

Indexed on Flow Meter: indicates three critical EVAP leak thresholds of .010" .020" and .040" for diagnostic accuracy.
.040" (1 mm)
.020" (½ mm)
.010" (¼ mm)

Note: Flow Control Valve must be in full flow position for proper measurement.

Flow Control Valve: Easy to read ¼ turn valve allows total control of the volume of Diagnostic Smoke® vapor exiting the leak. First, fill system with smoke at full flow. Then reduce the smoke volume by adjusting the Flow Control Valve so that the leak is even easier to see.

→ *Sometimes less smoke exiting a small leak is easier to see.*

→ *Flow Control Valve does not affect delivery pressure; it only affects the volume of flow.*

Flow Meter: If the meter indicates flow, then you know there is flow going into (or through) the system being tested. If flow meter indicates flow after the system is filled, this indicates a leak. The higher the ball is in the flow meter, the larger the leak size.

No flow indicates no leak.

Observing the flow meter behavior allows Technicians to judge system blockage, restrictions, control effectiveness, and system operational integrity.

Basic Testing Procedure

1. Connect Tester to shop air. See Optional Gas Source below.

2. Connect Tester's Red power cable to vehicle's 12 Volt DC battery positive terminal.

> *Battery must be in good condition and fully charged!*

3. Connect Tester's Black cable to vehicle's chassis ground. Do NOT connect the black cable to battery ground because a spark in the vicinity of the battery can cause an explosion! **(Figure 2)**

4. Observe that the Green Power indicator lamp on the Tester is 'ON' confirming that you are properly connected.

> *A blinking green power lamp indicates insufficient battery power to the Tester.*

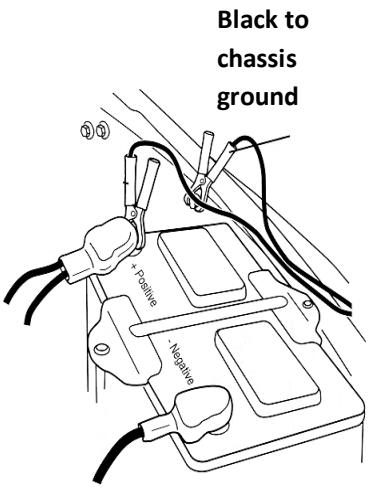


Figure 2

5. Connect smoke supply hose to system being tested.

6. Flow Control Valve must be in Full Open position. **(Figure 3)**

7. Press START button and fill system with smoke.

> *Whenever possible it is best to 'purge' the 'non-smoke' air out of the system being tested in order to quickly fill the system with smoke.*

> *Smoke production is on 5-minute timer.*

8. Use white light supplied and look for exiting smoke or use ultraviolet light supplied to look for fluorescent dye deposit at exact location of a leak.

> *The longer smoke is allowed to exit a leak, the more fluorescent dye will be deposited at leak locations.*

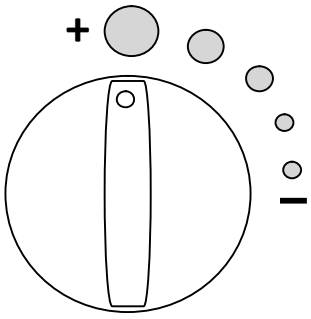


Figure 3



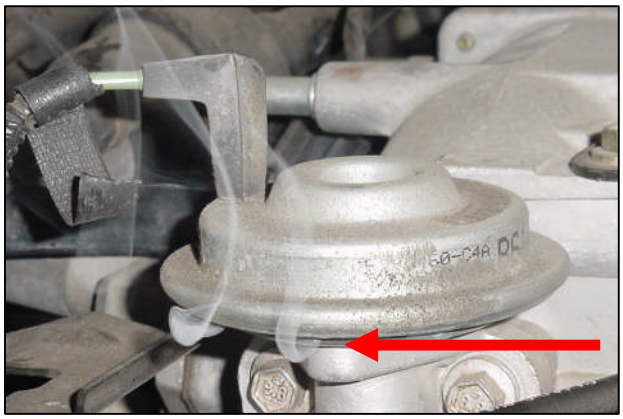
Do **NOT** run the vehicle engine with the Smoke Wizard® supply hose connected to the vehicle. Normal engine vacuum will damage the pressure/vacuum gauge!

Sample Leak Detection Applications:

This leak Tester can be used in virtually any vehicle low pressure system suspected of having a leak, such as; intake / induction system, intercooler and turbocharger system, vacuum system, exhaust system, wind/water leaks and can also be used to verify air solenoid functions and test components prior to assembly.

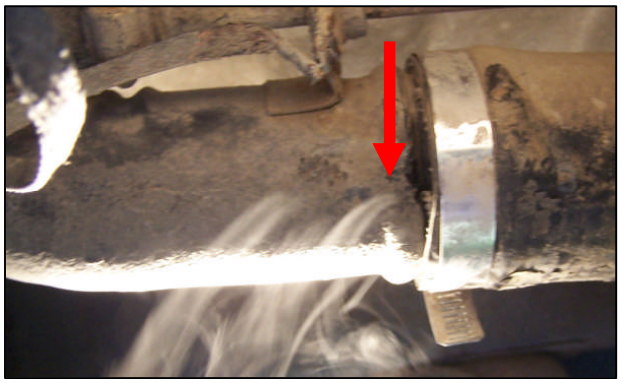
1. Introduce smoke into system.

2. Look for smoke (or dye) exiting leak(s).



Intake / Induction Leaks





Exhaust Leaks





Wind and Water Leaks

1. Set vehicle's climate control to 'Fresh Air' and set blower on full speed.

   > *This creates positive cabin pressure*.

2. Connect Tester's supply hose nozzle to Smoke Diffuser.

3. Lay smoke path along seals.

4. Look for smoke disturbance indicating a leak.

No air distrurbance means 'No Leak' >





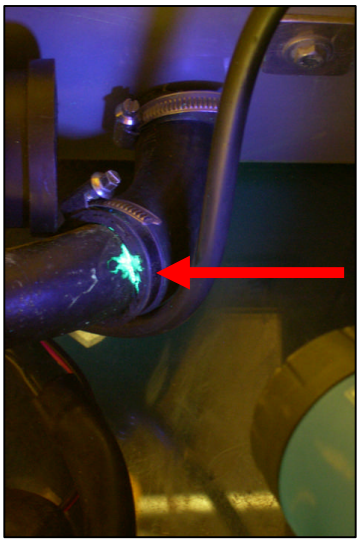
< **Smoke distrubance pinpoints the leak**

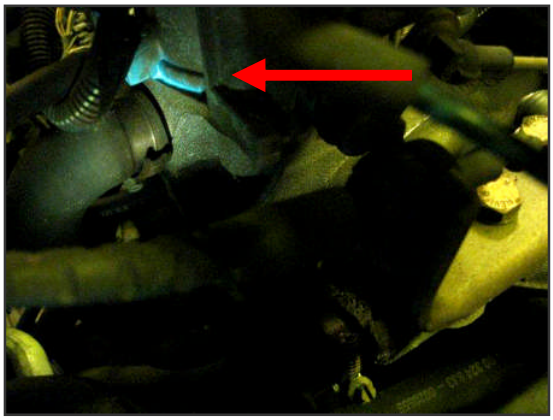
Sample Fluorescent Dye Deposits

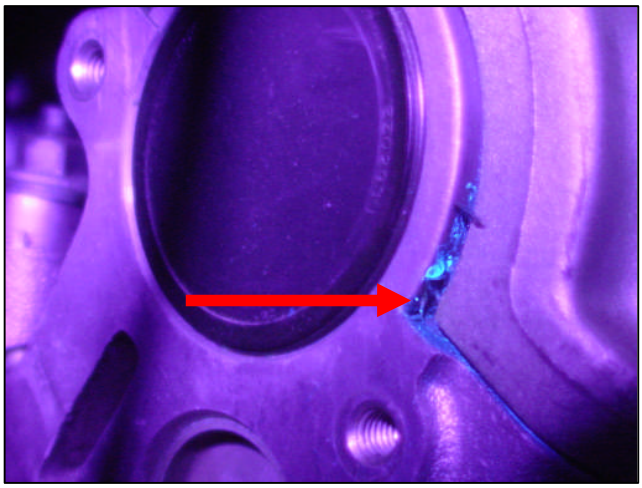
The patented smoke vapor contains a special ultraviolet-activated fluorescent dye that gets deposited at the exact location of a leak. Use the UV light provided to highlight the dye.

> *This technology is designed so that the dye will only deposit if there is pressure-differential. So for instance, the dye will deposit when exiting a leak but will not deposit during the wind and water test.*

> *The longer the smoke is allowed to exit a leak, the more dye will be deposited*.







Troubleshooting Guide

Your Smoke Wizard has two indicator lights on the control panel that double as diagnostic lights, indicating if the Tester is working correctly. The following table describes the indicator light function codes.

Green	Red	Interval	Cause
✓		Constant ON	Sufficient battery power
✓		Blinks: 1 per second	Insufficient battery power
✓	✓	Blink simultaneously: 1 per second	Bad ground or power connection at smoke canister or short in circuit
✓	✓	Blink simultaneously: 4 times per second	Bad ground at smoke canister or open heating circuit
✓	✓	Blink alternately: 1 per second (System will shut down; Power must be disconnected then reconnected)	Bad ground. Can also mean circuit board failure *

* If circuit board failure occurs, first try disconnecting power to your Smoke Wizard for 10 seconds and reconnect. If this failure code occurs a second time, disconnect Smoke Wizard and contact Smoke Wizard UK at: SmokeWizardSupport@virginmedia.com.

Symptom	Likely Cause	Solution
The green power indicator lamp on the Tester does not turn ON.	1. The power cables are reversed. 2. Poor power-supply cable connection. 3. Battery providing power is too weak.	*1. Correctly position the power cables.* *2. Secure the connection at the positive terminal and chassis ground.* *3. Verify the battery is in good condition and fully charged.*
I turn the Tester ON but there is no air or smoke coming out of the supply hose.	1. Flow Control valve is closed. 2. Poor power-supply cable connection. 3. Battery providing power is too weak. 4. Air supply to tester is insufficient. 5. Smoke-vapor could be condensing inside the smoke supply hose, restricting smoke flow.	*1. Open flow control.* *2. Secure the connection at the positive terminal and chassis ground.* *3. Verify the battery is in good condition and fully charged.* *4. Be sure air supply is sufficient.* *5.* Be sure the smoke hose is fully extended when in use. Drain the condensation from the hose prior to its next use, either by placing the machine higher than the hose, or by removing the hose and blowing through it with compressed air. Do NOT blow compressed air into the machine with the smoke hose connected to the machine.

Warranty

Warranty Issues or Questions? Contact Smoke Wizard UK
SmokeWizardSupport@virginmedia.com

www.SmokeWizard.co.uk

LIMITED ONE (1) YEAR WARRANTY

Global Leak Detection warrants the Smoke Wizard to the Original Purchaser that under normal use, care and service, the Equipment (except as otherwise provided herein) shall be free from defects in material and workmanship for ONE YEAR from the date of original invoice.

Seller's obligations under this warranty are limited solely to the repair or, at Seller's option, replacement of or refund of the original purchase price for, Equipment or parts which to Seller's satisfaction are determined to be defective and which are necessary, in Seller's judgment, to return the equipment to good operating condition.

Repairs or replacements qualifying under this Warranty will be performed or made on regular business days during Seller's normal working hours within a reasonable time following Buyer's request. All requests for warranty service must be made during the stated warranty period.

Activate Your Warranty

To activate your Smoke Wizard® warranty; send the information below to the email address provided within 30 days of your purchase.

Send information to: smokewizardsupport@virginmedia.com

Purchaser's Name:

Company Name:

Address:

Country:

Telephone number:

Email address:

Web address:

Enter Smoke Machine Model as: GLD-40 (J/LR)

Serial Number:

Date Purchased (keep your invoice for verification, if needed):

© Global Leak Detection Corp/ Smoke Wizard UK

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **UltraTraceUV®** (Fluorescent Diagnostic Smoke® Solution)
PRODUCT PART NUMBERS: GLD0712UV | GLD0708UV **DATE: June 25, 2011**

TRADE NAME: UltraTraceUV®
GENERAL USE: Leak Detection Smoke Machines
CHEMICAL FAMILY:

Proprietary Pharmaceutical USP Petroleum Blend with APD Dye
PRODUCT DESCRIPTION:
Colorless to Very Pale Amber. Mineral Oil Type Odor.

GLOBAL leak detection

MANUFACTURER
Global Leak Detection Corp.

DATE PREPARED: **June 25, 2011**
SUPERSEDES: **February 4, 2009**

ADDRESS (NUMBER, STREET, P.O. BOX)
17852 Gothard Street

TELEPHONE NUMBER FOR INFORMATION / Customer Service
1-714-433-2841

(CITY, STATE AND ZIP CODE) COUNTRY
Huntington Beach, CA 92647 U.S.A.

CHEMTEL 24-HOUR EMERGENCY TELEPHONE NUMBER
ChemTel INC. **1-800-255-3924** North America Toll Free **01-813-248-0585** International

SECTION 2 - HAZARDOUS INGREDIENTS

Hazardous Components	% (by Weight)	CAS #	EINECS #	Hazard Symbol	RISK PHRASES (Full Text Section 15)
Non-Hazardous		Proprietary			

Notes: The balance of the ingredients are proprietrary and **non-hazardous** as defined in US 29CFR 1210 and European regulation directive 67/548 EEC.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
This is basically a safe product. However, human health risks vary from person to person. As with any petroleum base product, reasonable caution should be taken to avoid prolonged and repeated exposure to the base product.

POTENTIAL HEALTH EFFECTS

INHALATION:
Not a common route of exposure at room temperature, exposure to heated vapors from this product may cause irritation and coughing.

SKIN:
Overexposure to skin may cause mild irritation.

EYES:
Overexposure to eyes may cause mild irritiation.

INGESTION:
THIS PRODUCT HAS A LOW ORDER OF ACUTE ORAL TOXICITY. If base product is swallowed it presents a low risk of aspiration into the lungs. In the event that swallowing the base product in small quantities does take place, it is expected to pass through the system without symptoms. As with any petroleum base product : If large quantities are swallowed and subsequently aspirated into the lungs, mild to severe pulmonary injury may occur.

CARCINOGENICITY:
NTP? NO IARC MONOGRAPHS? NO OSHA REGULATED? NO
CALIFORNIA, Prop.65? NO ESIS (EU)? NO

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: **UltraTraceUV®** (Fluorescent Diagnostic Smoke® Solution)
PRODUCT PART NUMBERS: GLD0712UV | GLD0708UV **DATE: June 25, 2011**

SECTION 4 - FIRST AID MEASURES

INHALATION:
Inhalation at ambient temperatures is not commonly a problem. If overcome by excessive exposure to vapors, you should remove from exposure to well ventilated area. Some people may experience dizziness, drowsiness or nausea. If symptoms persist, consult a physician. It is always a good measure of precaution to avoid excessive inhalation of byproduct.

EYES:
Flush eyes with clean water for 15 minutes or until irritation subsides. If irritation persists, consult a physician.

SKIN:
Remove any contaminated clothing and wash affected skin area with soap and warm water.

INGESTION:
Do not induce vomiting as a risk of aspiration exists with this petroleum based product. If ingested, the precaution is to call a physician and our emergency number immediately.

SECTION 5 - FIRE FIGHTING MEASURES

GENERAL HAZARDS:
Combustible liquid Flash Point: 335-510°F (168-265°C). Distillation Range: 550-900° F (288-482° C). LEL:0.9% UEL: 7.0%

EXTINGUISHING MEDIA:
Water Spray (Fog), Foam, Dry Chemical and Carbon Dioxide.

FIRE FIGHTING PROCEDURES:
Cool exposed container with water. Use air-supplied (SCBA) breathing equipment for enclosed or confined spaces.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
Do not store or mix base chemical with strong oxidants. Do not cut, drill, grind, or weld container, as this may cause explosion.

HAZARDOUS COMBUSTION PRODUCTS:
Carbon Monoxide, Soot, Smoke, Carbon Dioxide.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Recover liquid, wash remainder with suitable petroleum solvent or add absorbent. As with all petroleum products, keep out of sewers and water courses. Advise authorities if ever any petroleum product has entered or may enter sewers or water courses

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Do not handle or store near heat, flames or strong oxidants.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

	NIOSH				ACGIH		OSHA	
HAZARDOUS COMPONENTS	TWA ppm	TWA mg/m3	STEL ppm	STEL mg/m3	TLV/TWA ppm	TWA mg/m3	STEL ppm	STEL mg/m3
Non-Hazardous	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**

PERSONAL PROTECTION

RESPIRATORY PROTECTION:
Use this product in a well ventilated area.

PROTECTIVE GLOVES:
Not required.

EYE PROTECTION:
Safety Glasses required.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:
Eyewash station recommended.

WORK / HYGIENIC PRACTICES:
Wash with soap and water after using this product and before eating drinking or smoking.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: **UltraTraceUV®** (Fluorescent Diagnostic Smoke® Solution)
PRODUCT PART NUMBERS: GLD0712UV | GLD0708UV **DATE: June 25, 2011**

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR Colorless to Very Pale Amber. Mineral Oil Type Odor.	VAPOR PRESSURE <1.0 mm Hg @68°F
pH NA	SPECIFIC GRAVITY (WATER = 1) 0.87-0.89
BOILING RANGE/ DISTILLATION RANGE 550-900° F (288-482°C)	SOLUBILITY IN WATER Negligible
FLASH POINT 335-510°F (168-265°C)	VISCOSITY NE
FLAMMABLE LIMITS LEL: 0.90% UEL: 7.00%	VAPOR DENSITY (AIR = 1) >5
AUTOIGNITION TEMPERATURE NR	EVAPORATION RATE (WATER = 1) <0.01

SECTION 10 - STABILITY AND REACTIVITY

STABILITY STABLE **X**	CONDITIONS TO AVOID: Excessive heat , sparks open flame, contact with oxidizers.
INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizers	
HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Carbon Monoxide, Soot, Smoke, Carbon Dioxide.	
HAZARDOUS POLYMERIZATION: Will not occur	CONDITIONS TO AVOID: None related to polymerization.

SECTION 11 - TOXICOLOGICAL INFORMATION

Hazardous Components	CAS # EINECS #	LD50 of Ingredient (Specify Species and Route)	LC50 of Ingredient (Specify Species)
Not Hazardous/No Tox data available.			

SECTION 12 - ECOLOGICAL INFORMATION

No ecological information is available for this blended product, however discharge to watercourses as with all petroleum based products should be avoided.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:
Avoid discharge to watercourses, dispose preferably by incineration at a properly permitted facility in accordance with all Local, Regional, State and Federal regulations.

SECTION 14 - TRANSPORT INFORMATION

PROPER SHIPPING NAME: Not regulated

DOT HAZARD CLASS / Pack Group: NA	IATA HAZARD CLASS / Pack Group: Not regulated
REFERENCE: 49CFR	IMDG HAZARD CLASS: Not regulated
UN / NA IDENTIFICATION NUMBER: NA	RID/ADR Dangerous Goods Code: NA
LABEL: NA	UN TDG Class / Pack Group: NA
HAZARD SYMBOLS: NA	Hazard Identification Number (HIN): NA

Note: Transportation information provided is for reference only. Client is urged to consult CFR 49 parts 100 - 177, IMDG, IATA, EU, United Nations TDG, and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: **UltraTraceUV®** (Fluorescent Diagnostic Smoke® Solution)
PRODUCT PART NUMBERS: GLD0712UV | GLD0708UV **DATE: June 25, 2011**

SECTION 15 - REGULATORY INFORMATION

TSCA (USA - Toxic Substance Control Act): Listed

SARA TITLE III (USA - Superfund Amendments and Reauthorization Act):

Acute Health:	NO	Chronic Health:	NO
Fire:	NO	Sudden Release of Pressure:	NO
Reactive:	NO		

313 REPORTABLE INGREDIENTS: None reportable.

CERCLA (USA - Comprehensive Response Compensation and Liability Act): No RQ's listed.

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986: None listed

CPR (Canadian Controlled Products Regulations): None listed

IDL (Canadian Ingredient Disclosure List): None listed

DSL / NDSL (Canadian Domestic Substances List / Non-Domestic Substances List): Ingredients listed on CDSL

EINECS (European Inventory of Existing Commercial Chemical Substances): Ingredients Referenced

WGK Water Quality Index: 2

RISK PHRASES:	SYMBOL(S) REQUIRED FOR EU LABEL	SAFETY PHRASES:
None Listed	**None required**	**None listed**

SECTION 16 - OTHER INFORMATION

Legend:

NA = Not Applicable NE = Not Established NR = Not Reported (proprietary).

HMIS HAZARD RATINGS			
	HEALTH:	0	0 = INSIGNIFICANT
	FLAMMABILITY:	1	1 = SLIGHT
	PHYSICAL HAZARD:	0	2 = MODERATE
	PERSONAL PROTECTIVE EQUIPMENT:	None required.	3 = HIGH
			4 = EXTREME

REVISION SUMMARY:

Revised to GHS/EU protocols 02/04/2009 supersedes Rev 12/2008 issue. ---JTV---

MSDS Prepared by:
ChemTel Inc.
1305 North Florida Avenue
Tampa, Florida USA 33602-2902
Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573
Website: www.chemtelinc.com

The information contained herein is believed to be accurate but is not warranted to be so. ChemTel Inc. assumes no responsibility for document alterations or additions after authorship and initial review excepting changes performed by ChemTel personnel. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. All questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

25791 Commercentre Drive
Lake Forest, CA 92630

Telephone: 949-448-4100
Facsimile: 949-448-4111

EMC VERIFICATION No. 3179331LAX-001g

EQUIPMENT

Type of equipment	Evaporate Emissions System Tester
Model	GLD-40
Company	Global Leak Detection Corp.
Test Report No.	3059793.011 (Intertek – Minnesota)

Test Standard

Emissions
EN 61326:1997, Class B

Immunity
EN 61326:1997, Minimum Immunity Requirements

Summary

The original EMC Verification No. 3059793.011 - 172 was issued from Intertek – Minnesota office. This verification 3179331LAX-001g reflects the changes of the company name and product model name. Refer to 3059793.011 for EMC test results details. We confirm that our review of the above number report without reasonable doubt will fulfill the requirements concerning electromagnetic compatibility according to the above-mentioned standard.

Prepared by:	Martin Liu	Reviewed by:	Chandresh Thakur
Title:	Project Engineer	Title:	Engineering Manager
Signature:		Signature	
Date	April 30, 2009	Date:	April 30, 2009

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only the sample tested. This report by itself does not imply that the material, product or service is or has ever been under an Intertek certification program.

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **UltraTraceUV®** (Fluorescent Diagnostic Smoke® Solution)
PRODUCT PART NUMBERS: GLD0712UV | GLD0708UV **DATE: June 25, 2011**

TRADE NAME: UltraTraceUV®
GENERAL USE: Leak Detection Smoke Machines
CHEMICAL FAMILY:
Proprietary Pharmaceutical USP Petroleum Blend with APD Dye
PRODUCT DESCRIPTION:
Colorless to Very Pale Amber. Mineral Oil Type Odor.

GLOBAL leak detection

MANUFACTURER
Global Leak Detection Corp.

DATE PREPARED: **June 25, 2011**
SUPERSEDES: **February 4, 2009**

ADDRESS (NUMBER, STREET, P.O. BOX)
17852 Gothard Street

TELEPHONE NUMBER FOR INFORMATION / Customer Service
1-714-433-2841

(CITY, STATE AND ZIP CODE) COUNTRY
Huntington Beach, CA 92647 U.S.A.

CHEMTEL 24-HOUR EMERGENCY TELEPHONE NUMBER
ChemTel INC. **1-800-255-3924** North America Toll Free **01-813-248-0585** International

SECTION 2 - HAZARDOUS INGREDIENTS

Hazardous Components	% (by Weight)	CAS #	EINECS #	Hazard Symbol	RISK PHRASES (Full Text Section 15)
Non-Hazardous		Proprietary			

Notes: The balance of the ingredients are proprietrary and **non-hazardous** as defined in US 29CFR 1210 and European regulation directive 67/548 EEC.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
This is basically a safe product. However, human health risks vary from person to person. As with any petroleum base product, reasonable caution should be taken to avoid prolonged and repeated exposure to the base product.

POTENTIAL HEALTH EFFECTS

INHALATION:
Not a common route of exposure at room temperature, exposure to heated vapors from this product may cause irritation and coughing.

SKIN:
Overexposure to skin may cause mild irritation.

EYES:
Overexposure to eyes may cause mild irritiation.

INGESTION:
THIS PRODUCT HAS A LOW ORDER OF ACUTE ORAL TOXICITY. If base product is swallowed it presents a low risk of aspiration into the lungs. In the event that swallowing the base product in small quantities does take place, it is expected to pass through the system without symptoms. As with any petroleum base product : If large quantities are swallowed and subsequently aspirated into the lungs, mild to severe pulmonary injury may occur.

CARCINOGENICITY:
NTP? NO IARC MONOGRAPHS? NO OSHA REGULATED? NO
CALIFORNIA, Prop.65? NO ESIS (EU)? NO

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: **UltraTraceUV®** (Fluorescent Diagnostic Smoke® Solution)
PRODUCT PART NUMBERS: GLD0712UV | GLD0708UV **DATE: June 25, 2011**

SECTION 4 - FIRST AID MEASURES

INHALATION:
Inhalation at ambient temperatures is not commonly a problem. If overcome by excessive exposure to vapors, you should remove from exposure to well ventilated area. Some people may experience dizziness, drowsiness or nausea. If symptoms persist, consult a physician. It is always a good measure of precaution to avoid excessive inhalation of byproduct.

EYES:
Flush eyes with clean water for 15 minutes or until irritation subsides. If irritation persists, consult a physician.

SKIN:
Remove any contaminated clothing and wash affected skin area with soap and warm water.

INGESTION:
Do not induce vomiting as a risk of aspiration exists with this petroleum based product. If ingested, the precaution is to call a physician and our emergency number immediately.

SECTION 5 - FIRE FIGHTING MEASURES

GENERAL HAZARDS:
Combustible liquid Flash Point: 335-510°F (168-265°C). Distillation Range: 550-900° F (288-482° C). LEL:0.9% UEL: 7.0%

EXTINGUISHING MEDIA:
Water Spray (Fog), Foam, Dry Chemical and Carbon Dioxide.

FIRE FIGHTING PROCEDURES:
Cool exposed container with water. Use air-supplied (SCBA) breathing equipment for enclosed or confined spaces.

UNUSUAL FIRE AND EXPLOSION HAZARDS:
Do not store or mix base chemical with strong oxidants. Do not cut, drill, grind, or weld container, as this may cause explosion.

HAZARDOUS COMBUSTION PRODUCTS:
Carbon Monoxide, Soot, Smoke, Carbon Dioxide.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Recover liquid, wash remainder with suitable petroleum solvent or add absorbent. As with all petroleum products, keep out of sewers and water courses. Advise authorities if ever any petroleum product has entered or may enter sewers or water courses

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

Do not handle or store near heat, flames or strong oxidants.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

	NIOSH				ACGIH		OSHA	
HAZARDOUS COMPONENTS	TWA ppm	TWA mg/m3	STEL ppm	STEL mg/m3	TLV/TWA ppm	TWA mg/m3	STEL ppm	STEL mg/m3
Non-Hazardous	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**

PERSONAL PROTECTION

RESPIRATORY PROTECTION:
Use this product in a well ventilated area.

PROTECTIVE GLOVES:
Not required.

EYE PROTECTION:
Safety Glasses required.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT:
Eyewash station recommended.

WORK / HYGIENIC PRACTICES:
Wash with soap and water after using this product and before eating drinking or smoking.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: **UltraTraceUV®** (Fluorescent Diagnostic Smoke® Solution)
PRODUCT PART NUMBERS: GLD0712UV | GLD0708UV **DATE: June 25, 2011**

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR Colorless to Very Pale Amber. Mineral Oil Type Odor.	VAPOR PRESSURE <1.0 mm Hg @68°F
pH NA	SPECIFIC GRAVITY (WATER = 1) 0.87-0.89
BOILING RANGE/ DISTILLATION RANGE 550-900° F (288-482°C)	SOLUBILITY IN WATER Negligible
FLASH POINT 335-510°F (168-265°C)	VISCOSITY NE
FLAMMABLE LIMITS LEL: 0.90% UEL: 7.00%	VAPOR DENSITY (AIR = 1) >5
AUTOIGNITION TEMPERATURE NR	EVAPORATION RATE (WATER = 1) <0.01

SECTION 10 - STABILITY AND REACTIVITY

STABILITY STABLE **X**	CONDITIONS TO AVOID: Excessive heat , sparks open flame, contact with oxidizers.

INCOMPATIBILITY (MATERIALS TO AVOID):
Strong oxidizers

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:
Carbon Monoxide, Soot, Smoke, Carbon Dioxide.

HAZARDOUS POLYMERIZATION: Will not occur	CONDITIONS TO AVOID: None related to polymerization.

SECTION 11 - TOXICOLOGICAL INFORMATION

Hazardous Components	CAS # EINECS #	LD50 of Ingredient (Specify Species and Route)	LC50 of Ingredient (Specify Species)
Not Hazardous/No Tox data available.			

SECTION 12 - ECOLOGICAL INFORMATION

No ecological information is available for this blended product, however discharge to watercourses as with all petroleum based products should be avoided.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:
Avoid discharge to watercourses, dispose preferably by incineration at a properly permitted facility in accordance with all Local, Regional, State and Federal regulations.

SECTION 14 - TRANSPORT INFORMATION

PROPER SHIPPING NAME: Not regulated

DOT HAZARD CLASS / Pack Group: NA	IATA HAZARD CLASS / Pack Group: Not regulated
REFERENCE: 49CFR	IMDG HAZARD CLASS: Not regulated
UN / NA IDENTIFICATION NUMBER: NA	RID/ADR Dangerous Goods Code: NA
LABEL: NA	UN TDG Class / Pack Group: NA
HAZARD SYMBOLS: NA	Hazard Identification Number (HIN): NA

Note: Transportation information provided is for reference only. Client is urged to consult CFR 49 parts 100 - 177, IMDG, IATA, EU, United Nations TDG, and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: **UltraTraceUV®** (Fluorescent Diagnostic Smoke® Solution)
PRODUCT PART NUMBERS: GLD0712UV | GLD0708UV **DATE: June 25, 2011**

SECTION 15 - REGULATORY INFORMATION

TSCA (USA - Toxic Substance Control Act): Listed

SARA TITLE III (USA - Superfund Amendments and Reauthorization Act):

Acute Health:	NO	Chronic Health:	NO
Fire:	NO	Sudden Release of Pressure:	NO
Reactive:	NO		

313 REPORTABLE INGREDIENTS: None reportable.

CERCLA (USA - Comprehensive Response Compensation and Liability Act): No RQ's listed.

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986: None listed

CPR (Canadian Controlled Products Regulations): None listed

IDL (Canadian Ingredient Disclosure List): None listed

DSL / NDSL (Canadian Domestic Substances List / Non-Domestic Substances List): Ingredients listed on CDSL

EINECS (European Inventory of Existing Commercial Chemical Substances): Ingredients Referenced

WGK Water Quality Index: 2

RISK PHRASES:	SYMBOL(S) REQUIRED FOR EU LABEL	SAFETY PHRASES:
None Listed	**None required**	**None listed**

SECTION 16 - OTHER INFORMATION

Legend:

NA = Not Applicable NE = Not Established NR = Not Reported (proprietary).

HMIS HAZARD RATINGS			
	HEALTH:	0	0 = INSIGNIFICANT
	FLAMMABILITY:	1	1 = SLIGHT
	PHYSICAL HAZARD:	0	2 = MODERATE
	PERSONAL PROTECTIVE EQUIPMENT:	None required.	3 = HIGH
			4 = EXTREME

REVISION SUMMARY:

Revised to GHS/EU protocols 02/04/2009 supersedes Rev 12/2008 issue. ---JTV---

MSDS Prepared by:
ChemTel Inc.
1305 North Florida Avenue
Tampa, Florida USA 33602-2902
Toll Free North America 1-888-255-3924 Intl. +01 813-248-0573
Website: www.chemtelinc.com

The information contained herein is believed to be accurate but is not warranted to be so. ChemTel Inc. assumes no responsibility for document alterations or additions after authorship and initial review excepting changes performed by ChemTel personnel. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. All questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

25791 Commercentre Drive
Lake Forest, CA 92630

Telephone: 949-448-4100
Facsimile: 949-448-4111

EMC VERIFICATION No. 3179331LAX-001g

EQUIPMENT

Type of equipment	Evaporate Emissions System Tester
Model	GLD-40
Company	Global Leak Detection Corp.
Test Report No.	3059793.011 (Intertek – Minnesota)

Test Standard

Emissions
EN 61326:1997, Class B

Immunity
EN 61326:1997, Minimum Immunity Requirements

Summary

The original EMC Verification No. 3059793.011 - 172 was issued from Intertek – Minnesota office. This verification 3179331LAX-001g reflects the changes of the company name and product model name. Refer to 3059793.011 for EMC test results details. We confirm that our review of the above number report without reasonable doubt will fulfill the requirements concerning electromagnetic compatibility according to the above-mentioned standard.

Prepared by:	Martin Liu	Reviewed by:	Chandresh Thakur
Title:	Project Engineer	Title:	Engineering Manager
Signature:		Signature	
Date	April 30, 2009	Date:	April 30, 2009

This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only the sample tested. This report by itself does not imply that the material, product or service is or has ever been under an Intertek certification program.