



UNITED SAFETY
& SURVIVABILITY CORPORATION™

IP 20001



Installation Procedure (IP) 20001

CAPS-COMMUTER SERVICE MANUAL

&

INSTALLATION INSTRUCTIONS



10/08/2020

REV 3



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CAUTION: THE UV CELL CONTAINED WITHIN THIS UNIT IS DESIGNED TO BE OPERATED WHILE THE COVER IS ON THE UNIT. ANYTIME UV-C LIGHT/RADIATION IS USED, EXPOSURE TO IT CAN CAUSE TEMPORARY EYE AND/OR SKIN IRRITATION IN VARYING DEGREES.

1 CAPS-Commuter Unit

The CAPS-Commuter is designed to help reduce sick commuter syndrome risks by reducing airborne microbes, contaminants, and odors, with a patent pending Photohydroionization® (PHI) process. The PHI cell is contained within the CAPS-Commuter unit. When the CAPS-Commuter system is in operation, the PHI Cell uses 'Active Air' with RGF PHI® Technology, an Advanced Oxidation Process to reduce airborne contaminants.

2 CAPS-Commuter Installation Procedure

2.1 Hardware & Tools Required

1. ¼" Hardware
2. Diagonal cutters
3. Wire strippers

2.2 Unit installation

1. The unit should be mounted using the mounting points depicted in the Figure 1 below using ¼" hardware (not provided). Dimensions of the bolt pattern can be found in Figure 2.



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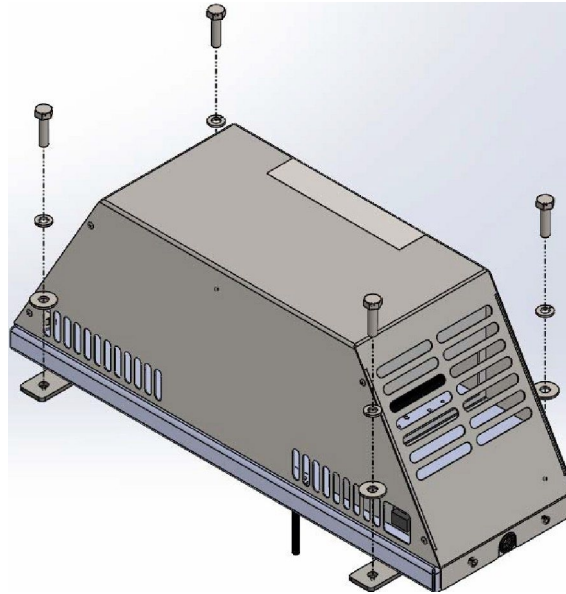
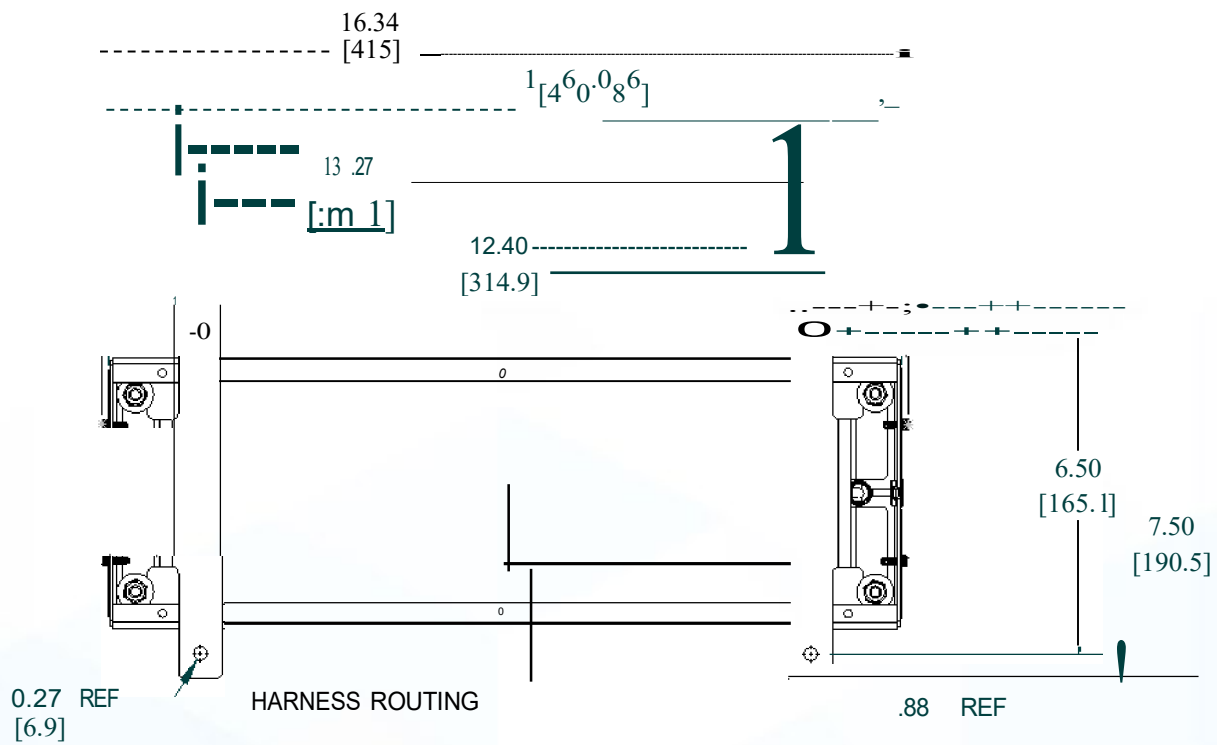


Figure 1 - CAPS-COMMUTER INSTALLATION



ITEMS HIDDEN FOR CLARITY

[22.2]

Figure 2 - BOLT PATTERN & REFERENCE DIMENSIONS



2. The harness can also be found in Figure 3. The harness can be routed as need for a given application. Holes for wire tying the harness can be seen in Figure 3.

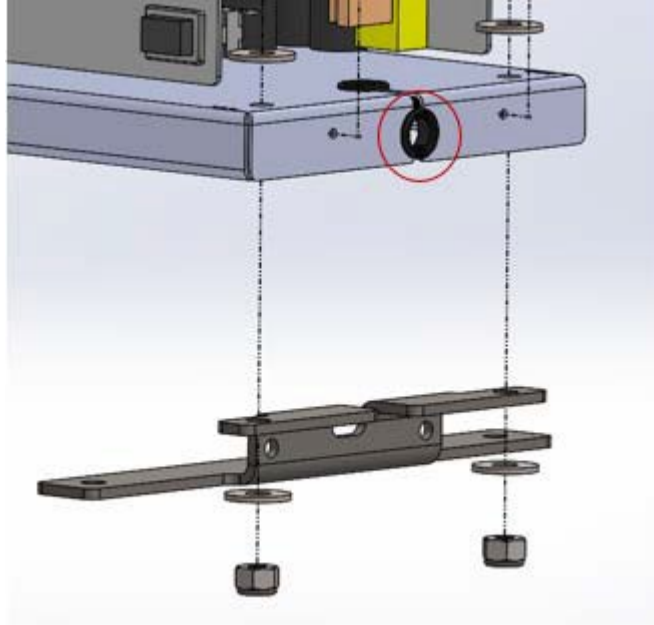


Figure 3 – WIRE TIE LOCATIONS

3. Depending on the unit that is being installed, it will be required to connect the CAPS-Commuter unit to either 120VAC or 12VDC power supply. The power source that the unit is connected to should be switched by the ignition or something similar. This will prevent the system from being left on accidentally, causing the vehicle battery to die. Use external wiring grommet circled in Figure 3 if the wiring is being routed externally, grommet not used if routed internally.
4. To power the unit on after power has been connected to it, use the push button switch that can be found on the side of the unit (Figure 4). With the button depressed the unit will be off. With the button pressed, the light with internal fan will be on.



Figure 4 - ON – OFF PUSH BUTTON SWITCH

3 CAPS-Commuter UV-PHI Cell Service/Maintenance Procedure

The CAPS-Commuter Cell should be replaced on an annual basis. Below is the procedure to replace the unit's cell. **NOTE:** Before continuing with this procedure, ensure power to the unit has been disconnected.

3.1 Components & Tools Required

1. Replacement Cell – United Safety P/N 83G53043-NN
2. Replacement Install Date Label – provided with replacement cell
3. 7/64 Size Allen Wrench

3.2 Procedure

1. Remove the stainless-steel cover from the unit by removing the four (4) socket cap screws using 7/64 Allen wrench. See Figure 5 below.

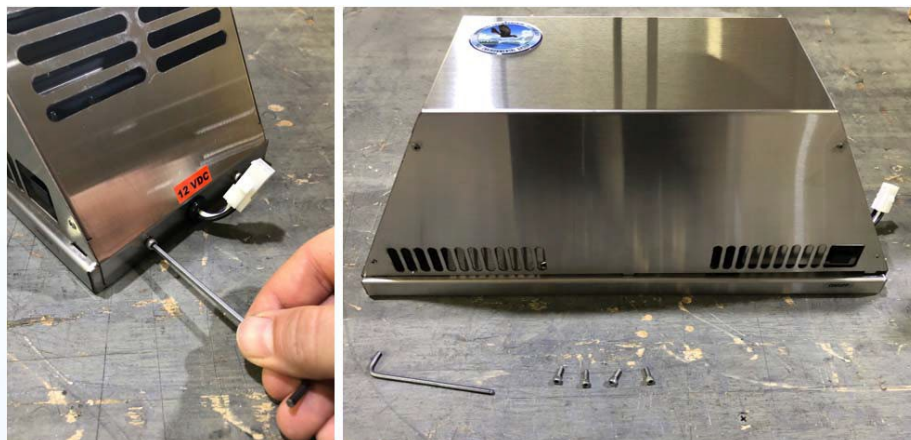


Figure 5 – COVER SOCKET CAP SCREW REMOVAL



2. The cover can then be lifted straight up to be removed. See Figure 6 below.

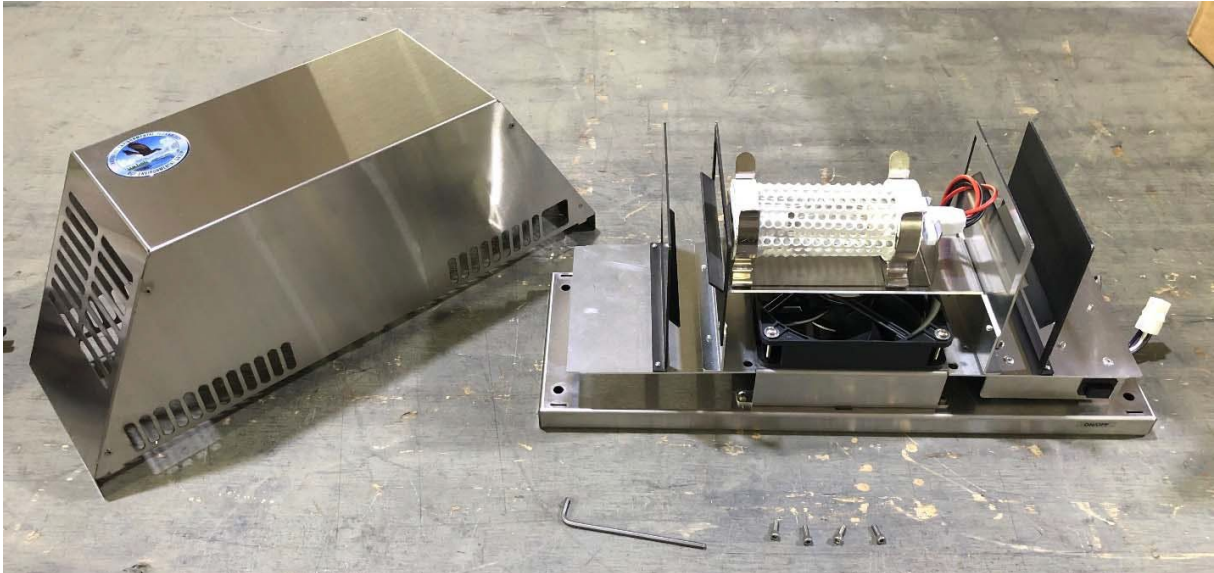


Figure 6 - UNIT COVER REMOVED

3. The UV-Phi cell is now exposed as can be seen in Figure 7. By spreading the clamps that are holding the cell, the cell can be removed. See Figure 7 below.

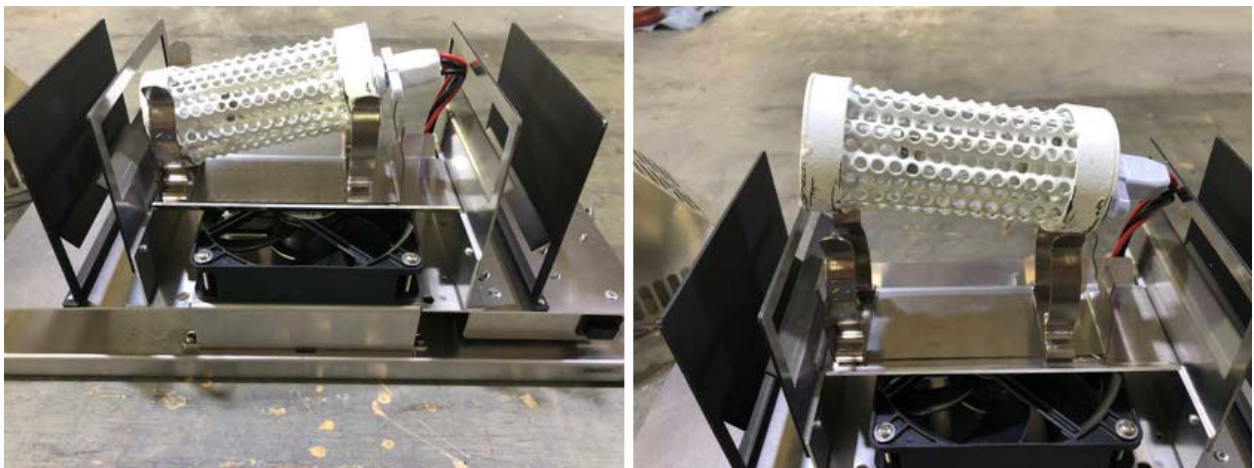


Figure 7 - BULB REMOVAL

4. With the cell removed from the clamps, the plug can be pulled from the cell. See Figure 8 below.



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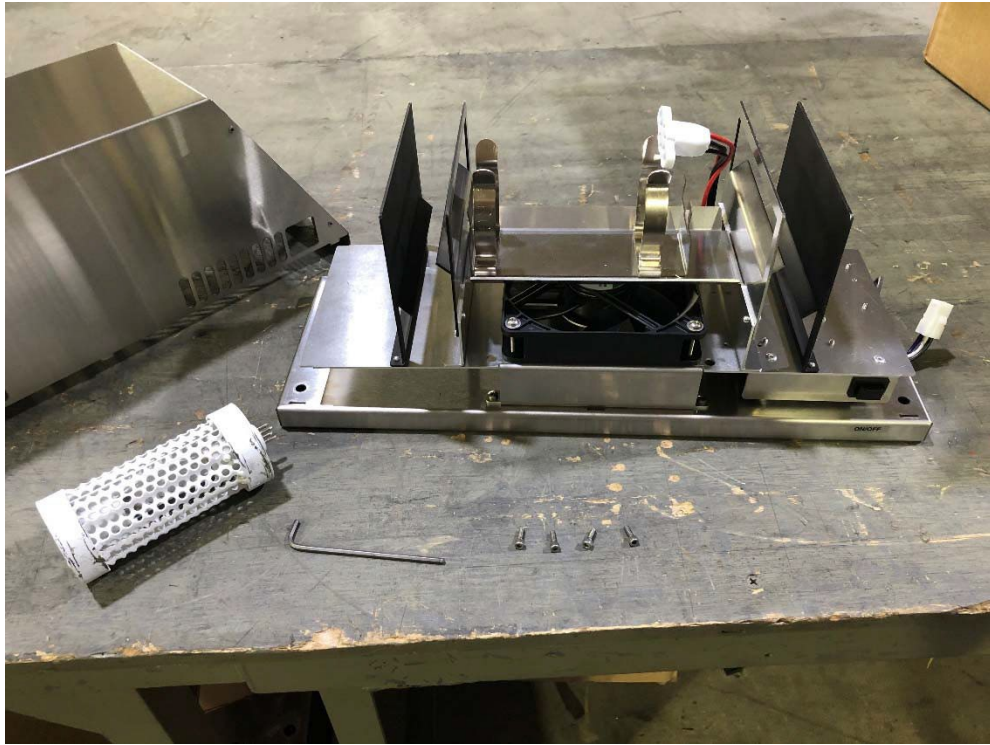


Figure 8 - BULB DISCONNECTED FROM PLUG

5. Using replacement cell, installation and reassembly should happen in the reverse order. NOTE: Ensure that the pins on the cell line up with the connector properly before pushing together. See Figure 9.

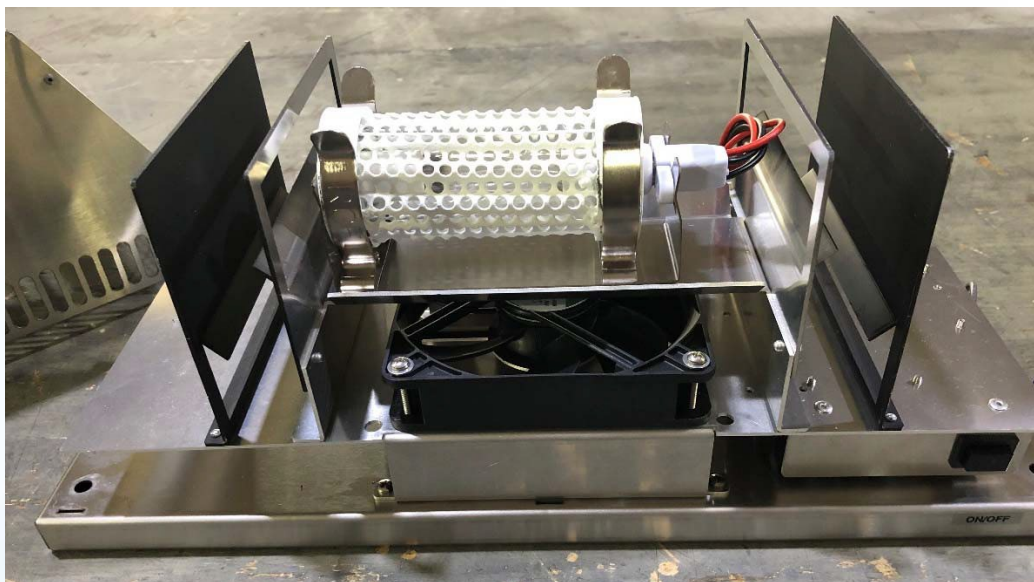


Figure 9 - NEW BULB INSTALLED



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1. After reassembly of the unit, apply install date label (Figure 10) onto the unit over the previously installed label. Be sure to add the installation date of the new cell on the label.

CAUTION
UV LIGHT IN USE
DISCONNECT POWER
BEF RE SERVICING



Figure 10 - INSTALL DATE LABEL



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4 WARRANTY

Active Air with RGF PHI® Technology - Limited Warranty Version 1.0 – 2020

LIMITED WARRANTY:

UNITED SAFETY warrants to the original buyer ("Buyer") that the following components of the Active Air with RGF PHI® technology purchased from UNITED SAFETY will be free from material defects in material and workmanship for the following time periods:

Five (5) years: Ballast, metal housing

Two (2) years: CAPS Mini unit

One (1) year: PHI cell

The warranty period for a unit of UNITED SAFETY's Active Air with RGF PHI® technology (each such unit being a "Warranted Active Air system") starts to run at the time Buyer begins to install such Warranted unit or thirty (30) days after shipment of such Warranted unit to Buyer, whichever occurs first. Each unit will be numbered (serialized) for identification. This number must be presented with any warranty claim. If returning parts, a copy of Buyer's purchase order against which they were purchased must be included at the time of return to UNITED SAFETY.

EXCLUSIONS:

This warranty specifically excludes any unit that is damaged or operates outside of specifications as result of accident, derailment, improper installation, structural defects in the vehicle into which the unit is installed, intentional damage, abuse, vandalism, negligence, misuse, improper operating conditions, extreme natural phenomena or improper maintenance or repair. Warranted units exposed to cleaning solutions that are not listed in the UNITED SAFETY maintenance manual or components subjected to the incorrect cleaning solution are excluded from this warranty. This warranty also excludes any defect caused, in whole or in part, by the application of paints or metal finish to any part of the Warranted unit. This warranty is provided directly to Buyer only and does not extend to any subsequent purchaser from or transferee of Buyer.

LIMITED REMEDY:

In the event that a defect covered by this Limited Warranty occurs within the warranty period for a Warranted unit, UNITED SAFETY will, at its option and as Buyer's sole and exclusive remedy, either repair or replace the Warranted unit (or the defective part) without charge; provided that Buyer is solely responsible for the costs and expenses of de-installing the defective Warranted unit (or the defective part), if requested by UNITED SAFETY, shipping the defective Warranted unit (or defective part) to UNITED SAFETY and re-installing the repaired or replacement unit (or replacement part therefor). The repaired or replacement unit (or replacement part therefor) is only covered by this Limited Warranty for the remainder of warranty period applicable to the original Warranted Unit. The original unit (or part thereof) replaced by UNITED SAFETY shall become the property of UNITED SAFETY upon UNITED SAFETY shipping the replacement unit (or replacement part) to Buyer.

DISCLAIMER OF WARRANTIES; LIMITATIONS OF LIABILITY:

Buyer and UNITED SAFETY acknowledge that the following provisions have been negotiated by them, reflect a fair allocation of risk and such allocation is reflected in the fees payable to UNITED SAFETY for the Warranted Units:

(A) THIS LIMITED WARRANTY IS IN LIEU OF ANY OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT.



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(B) IN NO EVENT SHALL UNITED SAFETY'S LIABILITY, IN THE AGGREGATE, FOR DAMAGES ARISING OUT OF A BREACH OF THIS LIMITED WARRANTY, WHETHER IN TORT, CONTRACT OR OTHERWISE, TO BUYER OR ANY OTHER PERSON OR ENTITY EXCEED THE PRICE ACTUALLY PAID BY BUYER FOR THE WARRANTED UNIT.

(C) IN NO EVENT SHALL UNITED SAFETY BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL, INDIRECT, PUNITIVE, SPECIAL, OR SIMILAR DAMAGES, INCLUDING, WITHOUT LIMITATION, DAMAGES FOR LOSS OF PROFITS, LOSS OF GOOD WILL, WORK STOPPAGE, OR ANY AND ALL OTHER COMMERCIAL DAMAGES OR LOSSES, WHETHER DIRECTLY OR INDIRECTLY CAUSED, WHETHER IN TORT, CONTRACT, OR OTHERWISE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

(D) THE LIMITATIONS OF LIABILITY IN CLAUSES (B) AND (C) ABOVE SHALL APPLY EVEN IF AN EXCLUSIVE REMEDY UNDER THIS LIMITED WARRANTY FAILS OF ITS ESSENTIAL PURPOSE.

NOTIFICATION:

All reports, claims, or notices required by the warranty to be provided to UNITED SAFETY must be in writing and delivered to: Attention – UNITED SAFETY Warranty Claim Department, 101 Gordon Drive, Exton, PA 19341 or emailed to customerservice@usscgroup.com or to such other physical or email address as UNITED SAFETY requires from time to time. Repairs being claimed for warranty must be sent to UNITED SAFETY for prior approval and warranty acceptance before any warranty claims can be made. Parts being claimed for warranty must be sent to UNITED SAFETY for prior approval and warranty acceptance before any warranty claims can be made.

INSPECTION AND VERIFICATION:

The owner must provide access to each alleged defective Warranted Unit so that UNITED SAFETY's authorized representative can perform an on-site inspection. Alternatively, UNITED SAFETY may ask the owner to ship the alleged defective Warranted Unit to UNITED SAFETY for inspection. Within 90 days of the inspection, either on-site or in the laboratory, UNITED SAFETY will render an opinion as to whether or not the claimed failure is covered by the warranty.

MAINTENANCE:

UNITED SAFETY provides the proper maintenance instructions as well as required service intervals with each Warranted Unit. Warranty is contingent upon documented performance of recommended maintenance and service. All replacement parts must be purchased from UNITED SAFETY or an authorized dealer of UNITED SAFETY, and the failure to purchase such parts from UNITED SAFETY or an authorized dealer of UNITED SAFETY will render this warranty null and void.

DESIGN:

UNITED SAFETY reserves the right to modify parts and design specifications without notice as long as the Warranted Unit meets general specifications, unless otherwise committed per contract. If changes outside the specifications in effect at the time of manufacturing the Warranted Unit have to be incorporated, UNITED SAFETY will submit such changes to Buyer for prior approval.

OTHER:

This Limited Warranty is contingent upon Buyer paying the purchase price for the Warranted Unit. This Limited Warranty supersedes any other terms including but not limited to Buyer's terms printed on the back of Purchase Orders, listed on websites or other sources from buyers.

Warranty – Active Air

5 MATERIAL SAFETY DATA SHEET

Germicidal lamps are exempted from the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200) because they are “articles.” The following information is provided as a courtesy to our customers.

PRODUCT NAME: GERMICIDAL/UV LAMPS

Section I MANUFACTURER'S INFORMATION

Manufacturer's Name & Address:

RGF O³ Systems, Inc.
3875 Fiscal Court
West Palm Beach, Florida 33404

Telephone Number for Information: 561-848-1826
Date Prepared: July 11, 2001 updated June 7, 2003

Section II HAZARDOUS INGREDIENTS

THERE ARE NO KNOWN HEALTH HAZARDS FROM EXPOSURE TO LAMPS THAT ARE INTACT.
If the lamp is broken, the following materials may be released:

Chemical Name	CAS Number	% by weight	Exposure Limits in Air (mg/cubic meter)	
			ACGIH (TLV)	OSHA (PEL)
Quartz (Fused Silica)	60676-86-0	75-90	0.1***	0.1***
Mercury*	7439-97-6	<0.1	0.025	0.1 (ceiling)
Tin	7440-31-5	0-<1	2.0	2.0
Lead	7439-92-1	0-<1	0.5	0.05
Argon	7440-37-1	0-<1	**	None
Neon	7440-01-9	0-<1	**	None
Xenon	7440-63-3	0-<1	**	None

* This chemical is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

** The TLV for a simple asphyxiant is a minimal atmospheric oxygen content of 18% by volume, at 1 atmospheric pressure.

*** When quartz tubing is heated to working temperatures, the silica vapors given off condense as amorphous silica. Amorphous silica has a TLV of 10 mg/cu.m. and a PEL of 6 mg/cu.m.

Section III PHYSICAL/CHEMICAL CHARACTERISTICS

Not applicable to intact lamp.



Section IV

FIRE AND EXPLOSION HAZARD DATA

<u>Flammability:</u>	Non-combustible
<u>Fire Extinguishing Materials:</u>	Use extinguishing media suitable for surrounding fire.
<u>Special Firefighting Procedures:</u>	Use a self-contained breathing apparatus to prevent inhalation of dust and/or fumes that may be generated from broken lamps during firefighting activities.
<u>Unusual Fire and Explosion Hazards:</u>	When exposed to high temperature, toxic fumes may be released from broken lamps.

Section V

REACTIVITY DATA

<u>Stability:</u>	Unstable
<u>Conditions to Avoid:</u>	None for intact lamps
<u>Incompatibility (materials to avoid):</u>	None for intact lamps
<u>Hazardous Decomposition Products:</u>	None for intact lamps
<u>Hazardous Polymerization Products:</u>	Will not occur

Section VI

HEALTH HAZARDS

THERE ARE NO KNOWN HEALTH HAZARDS FROM LAMPS THAT ARE INTACT. No adverse effects are expected from occasional exposure to broken lamps. As a matter of good practice, avoid prolonged or frequent exposure to broken lamps unless there is adequate ventilation. The major hazard from broken lamps is the possibility of sustaining glass cuts. EFFECTS OF OVEREXPOSURE TO BROKEN LAMPS BY INHALATION, INGESTION OR CONTACT WITH SKIN OR EYE.

Mercury: Exposure to high concentrations of vapors for brief periods can cause acute symptoms such as pneumonitis, chest pains, shortness of breath, coughing, gingivitis, salivation, and possibly stomatitis. Chronic exposure may cause tremors and neuropsychiatric problems. May cause redness and irritation as a result of contact with skin and/or eyes.

Quartz (fused silica): Exposure to crystalline silica dust may cause scarring of the lungs (Silicosis), resulting in shortness of breath and coughing.

Inert Gases: Inert gases such as Argon, Neon and Xenon can cause asphyxia by displacing the ambient oxygen. Some symptoms of asphyxia are headaches and dizziness.

Tin/Lead Solder: Ingestion or inhalation of dust or fumes must be avoided. Lead is toxic and cumulative, affecting the kidneys, reproductive system, and nervous system. Symptoms of chronic overexposure include anemia, insomnia, weakness, irritability, constipation and stomach pains. Tin is not regarded as toxic, but excessive exposure can cause fever, nausea, stomach cramps or diarrhea.



Section VII

PROCEDURES FOR DISPOSAL OF LAMPS

If lamps are broken, ventilate area where breakage occurred. Clean up with mercury vacuum cleaner or other suitable means that avoid dust and mercury vapor generation. Take usual precautions for collection of broken glass. Clean up requires special care due to mercury droplet proliferation. Place materials in closed containers to avoid generating dust. It is the responsibility of the generator to ensure proper classification of waste products. To that end, TCLP tests should be conducted on all waste products to determine the ultimate disposition in accordance with all applicable federal, state and local regulations.

Section VIII

SPECIAL HANDLING INFORMATION FOR BROKEN LAMPS

Ventilation: Use adequate general and local exhaust ventilation to maintain exposure levels below the PEL or TLV limits. If such ventilation is unavailable, use respirators as specified below.

Respiratory Protection: Use appropriate NIOSH approved respirator if airborne dust concentrations exceed the PEL or TLV

limits. All appropriate requirements set forth in 29 CFR 1910.134 should be met.

Eye Protection: OSHA specified safety glasses, goggles or face shield are recommended if lamps are being broken. Hygienic Practices: After handling broken lamps, wash thoroughly before eating, smoking or using toilet facilities.

The information herein has been compiled from sources believed to be reliable and is accurate to the best of our knowledge. However, RGF cannot give any guarantees regarding information from other sources, and expressly does not make any warranties, nor assumes any liability, for its use.