

RGF/ASHRAE Technical Sales Bulletin

It is tough being the Leader in the IAQ industry!!!!

Competition is a good thing, but it has been brought to our attention that a variety of unscrupulous companies and individuals out there have been perpetrating intentionally false and misleading statements and lies about RGF's products. For example, RGF's products being classified by ASHRAE as "dangerous ozone generators" and that RGF's products produce "hydro-peroxides that are dangerous according to ASHRAE." and the latest being "Titanium Dioxide is a carcinogenic".

These statements are patently false, and in each case, we have taken appropriate legal action. We also have a substantial lawsuit pending against one competitor (*who has been overly aggressive in their dissemination of lies, false statements and has actually rewritten sections of the ASHRAE report*) which now is being considered as part of a Class Action suit.

We ask anyone hearing about similar activities, *e.g. false statements in marketing materials, emails, or verbal statements*, to please advise us, so we can take appropriate action. Thank you for your assistance in this matter. The following are a few examples of how ridiculous and outrageous these statements have gotten.

Sincerely,

Sharon B. Rinehimer
Executive Vice President / General Counsel
RGF Environmental Group, Inc.

Believe it or not, we are getting reports of a few unethical salespeople spreading the following lies, again.

Let's take them one at a time.

Lie #1: RGF Guardian Air and REME HALO® are ozone generators.

The Truth and the Proof: RGF's air purifiers have been tested and evaluated by hundreds of clients over the past 32 years including numerous Fortune 500 companies, UL, TUV, the US government and many foreign governments and universities. Rather than go through hundreds of studies and tests, let's just look at one recent and very thorough study prepared for the California Resource Board and the California EPA entitled *In-duct air Cleaning Devices: Ozone Emission Rates and Test Methodology* (Morrison, Shaughnessy and Siegel 2014). <http://www.arb.ca.gov/research/apr/past/09-342.pdf> It is common knowledge that California is very ozone conscious, has banned many ozone products and has done so for many years.

The full report is 249 pages long. Accordingly, we will cut to the pertinent findings and conclusions, as much of the report details test methodology. Eight (8) products were tested. For some products multiple devices of the same model were tested. These units are listed in table 2.1 (see below; note that the RGF Guardian Air was tested 3 times). The report states, “Most of the devices generate ozone as a result of having an ultraviolet lamp, however, Air Cleaner 3 generates ozone as a result of a corona discharge.” (Morrison, Shaughnessy and Siegel 14)

Table 2.1. Air cleaning technologies tested in apparatus using the Standard Test Method

Air Cleaner	Product	Technology
1	Dust Free Bio Fighter Lightstick	Ultraviolet light
2a	Guardian Air by RGF #1	Photohydroionization
2b	Guardian Air by RGF #2	Photohydroionization
2c	Guardian Air by RGF #3	Photohydroionization
3	Honeywell F300 Electronic Air Cleaner	Electrostatic Precipitation
4	Lennox PureAir Air Purification System	Photocatalytic Oxidation
5a	activTek INDUCT 2000 #1	Ultraviolet light
5b	activTek INDUCT 2000 #2	Ultraviolet light
6a	Air-Zone Air Duct 2000 #1	Ozone generator
6b	Air-Zone Air Duct 2000 #2	Ozone generator
7	APCO Fresh-aire	UV / PCO / Carbon
8	HVAC UV 560	Ultraviolet light

TABLE 2.1 (Morrison, Shaughnessy and Siegel 15)

All of the above listed induct units produced some ozone. RGF has said this for 32 years. Many products produce ozone such as copy machines, electric motors, electric fans, HVAC units, etc. This is normal and to be expected as long as the emissions are below federal or state safety levels. Out of the seven (7) different air purifier models tested in the field, two of them surpassed the federal safety limits of 0.04 ppm (Table 3.15; Morrison, Shaughnessy and Siegel 87). *“The RGF Guardian Air had the lowest ozone emission rate, near the limit of quantification.”* (Morrison, Shaughnessy and Siegel 88). The report also states that:

“The RGF Guardian Air (Air cleaner 2) produced little ozone with results near the ability to quantify any increase in indoor ozone.” (Morrison, Shaughnessy and Siegel 87)

We rest our case on RGF’s Guardian and REME in-duct units being ozone generators.

Lie #2: RGF’s Air Systems have been banned in California as Ozone Generators

The Truth and the Proof: Not true! We have sold our PHI air products in California since 1987. We have sold over 2 million PHI cells worldwide. Hundreds of thousands have been sold in California alone without one incident.

In addition, RGF has never been listed on the California EPA not recommended list. The California EPA website lists 66 air purification companies and 276 different products. To view the current list online visit the EPA California: Air Resource Board website, “Potentially Hazardous Ozone Generators Sold as Air Purifiers” at <https://www.arb.ca.gov/research/indoor/o3g-list.htm>

We rest our case on the claim that RGF is banned in California.

Lie #3: Referencing the ASHRAE Position Document on Filtration and Air Cleaning, a competitor states, "Our products receive high marks in this document" and that it is very negative for RGF and others.

The Truth and the Proof: The ASHRAE report does not evaluate, grade or give high marks to any product. Nor did they test any products or technologies. The document simply states the pros and cons of various technologies. Note RGF manufactures PCO, PHI, bi-polar ionizers, UV lights, mechanical filters and ultrasonic air cleaners to name a few. According to the abstract on page 1 they simply collected data from referred archival literature to form summary statements. Nowhere in the report does it mention RGF products or its proprietary PHI Technology. Basically, they rewrote the ASHRAE report to benefit themselves and trash the competition. To read the official untampered report click here: <https://www.ashrae.org/File%20Library/docLib/About%20Us/PositionDocuments/ASHRAE-Position-Document-on-Filtration-and-Air-Cleaning.pdf>

Lie #4: RGF's use of hydro-peroxide is really ozone and the ASHRAE position document proves it.

The Truth and the Proof: Nowhere in the ASHRAE Position Document does it mention RGF or Photohydroionization (PHI) and nowhere in the ASHRAE Position Document does it state hydro-peroxide is really ozone. Both are oxidizers as is oxygen. The chemical symbol for ozone is O₃ and has an oxidizing potential of 2.07. The symbol for hydrogen peroxide is H₂O₂ and has an oxidizing potential of 1.78.

Not only is hydrogen peroxide abundant in our outdoor air (at the same levels as RGF's induct units) but the human body itself produces it to fight off infections. Hydrogen Peroxide has been used in medical facilities for over 100 years to disinfect wounds and to kill surface bacteria and viruses. It is also commonly used in mouthwash, deodorant, toothpaste, air treatment and many other familiar household products that we all use on a daily basis. <http://www.rgf.com/article/hydro-peroxide-for-iaq/> We find it absolutely ridiculous to have to defend the safety of low level hydrogen peroxide and how it differs from ozone.

Table 1

Oxidizing AgentsRedox	Potential (v) ⁽¹⁾	Government Safety Limits ^{(1) (2) (3)}
1.Fluorine (F)	2.87	Not recommended
*2.Hydroxyradical (OH)	2.86	Too fast to measure
*3.Ozone (O3)	2.07	.04 ppm
*4.Hydrogen Peroxide (H2O2)	1.78	1.0 ppm
5.Chlorine (CL)	1.36	.5 ppm
*6.Oxygen (O2)	1.23	19.5-23.5%
*Friendly Oxygen-Based Oxidizers		

Lie #5: RGF sells to the Home Depot, which sells RGF HVAC units in their stores nationwide.

The Truth and the Proof: RGF entered into a strategic alliance with The Home Depot in 2013 after they did substantial due diligence on our technology and validation. The best part of this alliance is that The Home Depot does not sell our products direct, but rather promotes the REME HALO® through their network of 2,300 locations and over 300,000 employees. Interested customers are referred to local HVAC contractors, which purchase a REME HALO® through their local RGF wholesaler. Then the contractor installs the REME HALO®. This alliance is a win-win for everyone involved. In addition, all 2,300 stores will have an RGF endcap at the check-out promoting the REME HALO®. This is some very expensive promotional real estate. To read the press release, click here: <http://www.rgf.com/home-depot-pr/>

A chain of events this week with The Home Depot has changed our relationship for the better! After a four (4) year trial period of testing, validating and thousands of happy customers, The Home Depot, has of this writing decided to private label a product (orange of course) as “Oxigen™ Air Purifier – featuring REME® technology by RGF”. Built by RGF, sold thru The Home Depot’s network of HVAC contractors, promoted but not sold in The Home Depot stores.

Lie #6: The Titanium Dioxide used as a catalyst in PCO air cleaners is carcinogenic.

The Truth and the Proof: Titanium Dioxide is used in paint, paper, plastic, food, makeup, sunscreen, toothpaste, inks and medicines, to name a few! It has a GRAS approval by the FDA (GRAS stands for Generally Recognized As Safe). The carcinogenic reach comes from an unclear study on mice that high levels of nanoparticles could be a health problem. The room you are in, assuming it is painted, contains many pounds of titanium dioxide in the paint. The powder is bonded in the paint, as is the titanium dioxide used in a PCO catalyst. This claim is junk science at best. (See https://en.wikipedia.org/wiki/Titanium_dioxide)