



# OXIDATION

HOW EXPOSURE TO AIR,  
HEAT AND LIGHT CAN RUIN  
YOUR DOG'S SUPPLEMENTS.

## NATURAL SUPPLEMENTS



*Since beginning her holistically oriented veterinary practice, she has incorporated homeopathy, acupuncture, Chinese medicine, and techniques such as Allergy Elimination and JMT into her approach. She uses a variety of techniques and traditional veterinary medicine to benefit her patient. She is available for worldwide consultations.*

**M**ost of us spend a great deal of time researching the supplements we give our dogs and cats. As a veterinarian, I'm no exception. We find ourselves reading labels and carefully comparing ingredients so we can give our best friends good quality products but still live within our budgets.

That's exactly why reading this article today will be so important to you as it's going to take you on a new and different journey. The first step in this journey is learning about oxidation.

Most of us think of oxygen as always being the good guy. Breathe "in with the good and out with the bad" kind of thing. And that's true for us. Yet, for vitamins and supplements, oxygen means death.

Oxygen is the enemy of many natural plant compounds. They lose efficacy and potency rapidly when exposed to air.

## HOW FRUIT SPOILS

Peel a banana or cut an apple or avocado in half and watch what happens. It doesn't take long to see them start to turn brown. That's called surface oxidation.

Oxidation is a natural chemical process that occurs in fruit and vegetables. When their skin is broken, their cell walls and membranes rupture. This allows oxygen in. The nutrients react with the oxygen, incorporating that oxygen molecule into its molecular structure. It's how fruit spoils.

What's important for you to know is that when oxidation occurs, the fruit or vegetable loses most – or more likely all – of its nutritional value. It's oxidation that turns the apple brown after you break the skin or cut it open. It spoils. The same thing happens to the supplements you purchase. They're already in a very vulnerable form with their small surface area, which easily exposes the particles to air.

## SUPPLEMENTS SPOIL TOO

Many of us take B vitamins and may have experienced oxidation of supplements first hand. The pills or tablets turn a brownish color and adopt a rancid smell, increasing over time. That's because they're oxidizing



My practice over 30 years ago, Deva Khalsa VMD has been  
herbs, nutritional advice, and allergy elimination techniques  
approach. Today her work is a blend of sophisticated holistic  
designed to best enhance the natural strengths and attributes  
achieved by contacting her online at [doctordeva.com](http://doctordeva.com)

and losing their potency The brown smelly  
capsules will have significantly fewer  
potent B vitamins as they've simply been  
destroyed by exposure to oxygen.

Stability is an industry term that means  
potency over time. Some vitamins lose  
their stability quickly and some lose  
potency more slowly. I've joked that Omega  
3s lose all their potency if you simply look  
at them the wrong way. They are so sensi-  
tive to light, air and heat that most Omega  
supplements are not worth purchasing.

Nutritional value has enemies other than  
oxygen: these are light and heat. All three  
contribute to the destruction of the prod-  
ucts we purchase so carefully.

Picture- Oxygen entering the scene as  
if it is an enemy. Also light as an enemy.  
Also heat as an enemy. Caption. All three –  
oxygen, light and air – cause oxidation and  
degeneration of supplements.

## OXIDATION IN OMEGA 3s

Omega 3s are notorious for their lack  
of stability. Because the Omega-3s are  
fragile and break down so very quickly in  
the presence of heat, air or light, they're  
lacking in both the commercial and fresh  
foods we feed our dogs.

While pet food labels may state that  
Omega-3 and Omega-6 essential fatty

acids have been added, the reality is that  
the food is deficient due to unavoidable  
exposure to air, heat and light.

Here's the problem. The minute the  
Omega 3s are exposed to air and light in  
the manufacturing and packaging process,  
they oxidize and degrade. Omega 3s on  
the processing floor can lose 50 percent of  
their viability due to exposure during pro-  
cessing. Companies measure their ingre-  
dient level with a Certificate of Analysis  
before the processing begins. The suppl-  
ment goes into gel caps, most of which are  
permeable to air, placed in plastic con-  
tainers with air filling in the open space;  
or into pump bottles, which add air back  
into the bottle with every pump. Then the

product sits on the shelf in the store or your cupboard and, at the end of the day, you wind up with negligible amounts of the product you so carefully purchased.

We purchase Omega 3s precisely because they're so fragile and get destroyed in a wink in our foodstuffs, but the product we get degrades just as quickly if not more so. We haven't even added into the equation that both heat and light also contribute to their rapid degradation. The bottom line is that what is stated on the label surely does not reflect the reduced value of the product.

## FISHING FOR ANSWERS

I no longer recommend fish oil as a source of Omegas. Fish oils turn rancid very easily, which can cause them to become toxic. The pungent odor or off flavor, along with gel-capsule discoloration, tells the story. Fish oils often contain flavors to mask the odor of oxidation and make them more palatable.

The only fish oils I ever recommend are made from deep, wild caught anchovies, sardines and mackerel from the deep clear

waters of the Pacific in South America followed by triple distillation in Norway. This is to avoid contamination with mercury, PCBs, dioxins, dieldrin and toxaphene – all poisons in one way or another. When you add to this equation the rapid oxidation of the Omegas in the fish oil, why get them in the first place? I'll just add to this how hard it can be to find out whether the product is produced this way and is free of all the above-mentioned toxins – whether you read the label or call the company directly.

I'VE JOKED THAT OMEGA 3'S LOSE ALL THEIR POTENCY IF YOU SIMPLY LOOK AT THEM THE WRONG WAY. THEY ARE SO SENSITIVE TO LIGHT, AIR AND HEAT THAT MOST OMEGA SUPPLEMENTS ARE NOT WORTH PURCHASING.

## VITAMINS

We've focused on fresh or dried powdered fruit and vegetables, along with Omega 3s and B vitamins, but there are other vitamins that degrade and oxidize when exposed to heat, light and oxygen.

Just as fruit changes color, vitamin C will change from a white to a darker color. Thus, a vitamin C tablet that is light tan at the time you purchase it will darken after you open the bottle repeatedly.

The fat-soluble vitamins A and E are particularly prone to oxidation, and are lost over a relatively short period of time. Both vitamin A and carotenoids degrade. For example, the pink color in salmon that is due to carotenoids will disappear due to oxidation.

Nature has made perfectly ripe fruit, which is at its height of nutrition, the most attractive to humans and animals. Once it becomes putrid we're instead repulsed by the same food. Interestingly, there are no health benefits associated with the rotting vegetation. The food starts to smell bad when it decays and so do our supplements – except for the fact that they either have flavor added to mask the oxidation, or the encapsulation is hiding the odor. Have you ever thought? "Hey, I paid for this so I'm going to finish the bottle."

## PRESERVING INGREDIENTS

Some companies, in an effort to avoid degradation of their products, have gone to great lengths to protect their precious ingredients.

Resveratrol is enjoying a boost in popularity these days. It's extracted from 70 different plants including pomegranates, blueberries and many types of nuts. Yet, resveratrol, once exposed to air, light and heat, will degrade rapidly. This will decrease its health benefits, because only trans-resveratrol activates the SIRT1 gene that repairs DNA. Most supplements sold today contain high amounts of degraded resveratrol, making them mostly ineffective.

At one point I began researching resveratrol for its potential ability to control canine lymphoma. People were giving huge doses of a resveratrol product from China with few results, but much smaller doses from one particular company had some very promising outcomes. Why would this be? The answer to this question will again emphasize to you the importance of getting quality products that are not oxidized on the assembly line (or by sitting around on the stockroom floor, for that matter). When I called the company Resvantage, once again on my mission, the representative told me in passing that they used Pfizer to encapsulate the product. I asked him why they would use a pharmaceutical company for this? He explained that Pfizer inherited an unusual piece of equipment when they purchased another company. The equipment pumped all the air and oxygen out of the encapsulation chamber and filled it with nitrogen. The product was pumped in without exposure to air, light and heat. Each capsule was impermeable to air and light and each



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was individually blister packed. With this method, the customer was getting exactly what was stated on the label of the product, unlike other resveratrol products.

## MICROENCAPSULATION

Some companies use microencapsulation to stabilize their products. Microencapsulation is a process in which tiny, tiny particles are surrounded by a coating to prevent their degradation and increase their stability by isolating vitamins and foods from the deteriorating effects of oxygen. Some companies microencapsulate all of the ingredients in their supplements, to preserve the stability of all of the ingredients.

The marketplace is filled with exciting new products that have great promise. Yet, to fulfill that promise, the bottle actually has to contain what's stated on the label. That's where it can really get confusing for the consumer.

I recommend that, unless your pet supplements are protected from degradation, you buy supplements in glass bottles (which, unlike plastic, are impervious to air), store them in the refrigerator, tightly capped, and

try to minimize their exposure to air. Even the air remaining in the bottle when it's filled during the processing is degrading the product as it sits, unopened, on the shelf.

Shop carefully for your pet supplements and treat your purchases with care. 🌿

I NO LONGER RECOMMEND FISH OIL AS A SOURCE OF OMEGAS. FISH OILS TURN RANCID VERY EASILY, WHICH CAN CAUSE THEM TO BECOME TOXIC. THE PUNGENT ODOR OR OFF FLAVOR, ALONG WITH GEL-CAPSULE DISCOLORATION, TELLS THE STORY.



# ANTI-VACCINOSIS

ASSISTS IN THE REMOVAL OF ASSOCIATED VACCINE SIDE EFFECTS WITHOUT REMOVING ANY VACCINE BENEFITS.

When a body is forced to respond to a vaccine to which it already has established antibodies, it can wreak havoc on the immune system and may create delayed reactions and could lead to chronic diseases and conditions.

Read more at [www.adoredbeast.com](http://www.adoredbeast.com)

*Antivaccinosis is a combination of homeopathic remedies that are widely recognized and used to help the body detox from the heavy metals, preservatives and toxic substances that can be found in vaccines.*

ANTI-VACCINOSIS WAS CREATED TO SUPPORT IN NEUTRALIZING THE DISTURBANCE OF THE VITAL FORCE BY VACCINATION WHICH HOMEOPATHIC VETERINARIANS BELIEVE CAN HAVE A NEGATIVE IMPACT ON YOUR ANIMAL'S LIFE.

Research shows that many animals maintain adequate protection for 8 years and possibly lifetime after they have been immunized as puppies or kittens (similar to our human childhood vaccines). Vaccinating a body that has adequate protection is not only unnecessary, but can be contraindicated. Consider annual Titer testing as an alternative to routine vaccinating which can compromise their health.

*Founder Julie Anne Lee DCH, pioneered the first holistic Veterinary clinic in Canada. She now empowers you to be a true steward of your beloved animal using the power of nature and common sense as a wellspring of health.*



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