

## Re: Best dielectric material?

**Source:** <http://sci.tech-archive.net/Archive/sci.electronics/2004-06/0070.html>

---

**From:** Joseph Hansen (*sumgie\_at\_comcast.net*)

**Date:** 06/07/04

Date: Mon, 07 Jun 2004 13:55:31 GMT

"WDino" <nogood@bigpond.com> wrote in message  
news:VgSwc.9941\$rz4.6@news-server.bigpond.net.au...

- > *And so another myth gets perpetuated.*
- > *Ozone, that most powerful (and natural) oxidizing agent, will oxidize*
- > *(burn) almost anything that it comes into contact with (including*
- > *metals, if in high enough concentration).*
- >
- >
- > *However, it breaks down very quickly under normal circumstances. It is*
- > *an unstable molecule and so either becomes ordinary oxygen as it splits*
- > *up, or reacts with the first molecule it comes across. Again oxygen is a*
- > *by product.*
- >
- > *In heavy concentrations (at levels when you can smell its characteristic*
- > *odour), it is not advisable to breath it. BUT, for devices that produce*
- > *low concentrations (most cleaners that have an ozone source), it is less*
- > *dangerous than, say, tobacco smoke.*
- > *You see, either the skin or the mucous in membranes like your throat and*
- > *lungs provides protection for low concentrations.*
- >
- > *Overall, if you can smell it then move away from the source. But if*
- > *there is nor smell then it will be no worry to the vast majority of*
- > *people.*
- >
- > *In small concentrations it is present in ordinary fresh air, especially*
- > *during stormy weather.*
- > *Any High Voltage source (any) produces some ozone. It is around any*
- > *office that uses photocopiers or laser printers.*
- >
- >
- >

It's not a myth. It's fact. You aren't even really claiming it's a myth, rather that I overstated the danger. But I don't think I did.

Your statement that it is not generally harmful if it is in low enough concentration that you can't smell it is true enough. But a homemade ozone generator in an enclosed place like a pickup truck cab is likely to produce

sci.electronics: Re: Best dielectric material?

it in enough quantity that you could smell it. And anyone who built such a thing and used it is likely to consider the ozone smell to be nothing more than evidence of cleanness. So I felt that a warning of potential health hazards was in order.

As for it being unstable, that is not really true. It is reactive. If it were unstable then pure ozone in a jar would spontaneously break down into some other form of oxygen quickly, like O<sub>2</sub>... but it doesn't. Ozone can be stored in containers that don't react with it, and it will remain ozone until it is released and has a chance to react. It has to react with some other element to break down. And any time it reacts with something else, it damages that something else. So with time, the ozone will, not might, break down whatever it is reacting with. And that is probably going to be the person's truck interior and lungs. It may take some time, but eventually he will notice cracking of the leather or plastic, and irritation of the eyes and throat, if he is in the habit of using this thing. And yes, the leather will crack eventually anyway, I know. Ozone will make it happen faster.