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To Whom It May Concern:

The NovoAir products produced by NXC Technologies, Inc. (NovoAir-WF, NovoAir-WFS, NovoAir-CSR, NovoAir-CSR and NovoAir-CS) are composed of nontoxic materials, as per the Ohio Toxic Contaminants list and other federal lists. They consist of essential oil ingredients such as alcohols and aldehydes, esters, ethers, ketones, lactones and surfactants. These products are formulated with surfactants, as emulsions, for use with high-pressure water atomization for odor control.

The chemical components used in the formulas for these odor control products do not contain any chemicals listed on the Ozone Depleting Substances from Section 602 of the Clean Air Act. It also does not contain any chemicals which are listed on the List of Hazardous Air Pollutants from Section 112 of the Clean air Act Amendments of 1990.

Sincerely,  
*Nick Corvo*  
General Manager

## Odor Control FAQs

### 1) What makes NXC so different from other essential oil odor control products?

One of the critical things to understand about essential oil technology for odor control is that not all essential oils are created equal. Essential oils used in odor control are extracts of many different fruits, vegetables and other plant material. There are thousands of these oils available and many find their way into perfumes and fragrances as well as solvents, flavor enhancers, cooking oils and other uses. However, there are a very limited number of these oils effective for the process of odor elimination.

The oils used in odor control display certain critical chemical properties that allow the oil to have a physical or chemical effect on odorous compounds. The effectiveness of any odor control product is directly dependent on how well the oils are chosen and blended to effect the correct chemical or physical reaction on those odorous compounds. NXC has spent years in the pursuit of the best formulas for odor control using essential oil technology. We believe that NXC products are the best technology on the market today.

NXC Tech has developed a line of odor control products that are more effective, in terms of both odor elimination and cost effectiveness, than any of our competitors' products.

### 2) How does essential oil technology work to eliminate odor?

Three simple reactions occur allowing NXC products to effectively and safely eliminate odors.

- 1) chemical absorption of the malodor
- 2) chemical solubility of the odorous compounds
- 3) counteracting odor through antagonistic pairing

The chemistry involved utilizes the unique characteristics of each oil in the product to optimize the simple reactions. The result is complete odor elimination without harmful byproducts or the use of hazardous chemicals.

**3) I have been told that essential oils are perfumes and fragrances; are the NXC products masking type of products?**

Many essential oils are indeed fragrances and are used in perfume formulations; however, not all essential oils are fragrant or used as fragrances. NXC uses a blend of oils that, though having some fragrance, are not suitable to mask an odor. Masking agents add to the overall odor intensity by introducing an odor greater than the offending malodor often resulting in an even greater odorous condition. NXC products are true neutralizing chemistry that reduces and eliminates odor.

**4) What is the best way to determine if a product will work to eliminate my odor?**

The best instrument yet devised for odor monitoring is still the human nose. A simple lab test using a sample of the odor causing material and a dilution of an appropriate product, at the expected dosage for treatment, is all that's needed to get a good notion of whether the product will work. A simple testing procedure is available on request. Beyond that simple lab test, an actual trial on the offending area of the plant or site can also be arranged and easily accomplished with minimal expense. If the product is going to work either of the above methods will easily determine that.

**5) How many others offer vapor phase technology?**

A number of companies operate in the odor control market. Those companies are scattered throughout the U.S. and are generally regional in scope. We are aware of 15 to 20 small companies offering limited products, equipment and expertise. Often their offering is not a true neutralizing technology, but a combination of masking technology, perfume and some degree of neutralizing capability. There are also a tremendous number of janitorial service companies that dabble in odor control; the offerings are usually masking agents.

**6) What do you mean "not a true neutralizer"?**

Most companies offer a neutralizing product or line of products that are a blend of only a handful of essential oils. Often the primary component is pine oil or some other commodity essential oil. Though pine oil is effective in some cases, it falls far short of complete effectiveness. Because the products are not effective at odor neutralization, the products are blended to contain a fragrance to compensate for the shortfall. These products have limited applications and are not effective on most odors. In addition, the products require very high dosages to achieve even limited effectiveness, yet they often cost as much or more as NXC Techs products.

**7) Are NXC Tech products safe to use?**

All NXC Tech products are nontoxic, non-hazardous and absolutely safe to use.

### **8) How quickly will the products work?**

Lab data has shown that the reactions occur within seconds of contact with odorous gasses and go to completion within seconds more. However, a critical component of that reaction is the ability to have the product(s) encounter the odor, which is not always easy to accomplish. Many variables affect the efficiency of odor contact, among those are, wind direction shifts, temperature, odor concentration and many more all have a direct impact on odor neutralization.

If system design and placement is carefully planned and implemented and close attention is paid to the other variables we can minimize the impact and you can be sure that the product will neutralize odor before it leaves your site, thus reducing or eliminating odor. Further, unlike masking agents, which can separate from the odor, the neutralizing reactions are nonreversible and will not separate to cause odor problems downwind of the site.

### **9) Is the same product good for all applications?**

Most products are formulated to address a broad spectrum of odorous conditions because odors are seldom-simple one or two component gasses. The design of the product is such that it will effectively respond under changing odor intensity as well as changing odor characteristics. Because of this, it is unusual to find an application where the product will not work. That said, NXC has formulated a number of broad-spectrum products that are BEST for particular applications.

### **10) Will the products work under all conditions?**

As long as the conditions being treated do not change too dramatically from moment to moment, the neutralizer will work beautifully and without much attention to the dosage. However, if there are large swings in odor causing conditions the product may need dosage adjustment, as would any chemistry that works by neutralization.

### **11) Will the products work on all odors?**

In tests and applications, NXC products have worked on all odors. Some applications have required a different combination of ingredients because of a particular odorous compound. NXC can formulate to any application needing a unique product for odor control.

### **12) What about winter operations, does the product freeze?**

Most of the products, in their concentrated form, freeze at about 25 degrees F but there is no detrimental effect on the efficacy or stability of the products. In their diluted form, the solution will freeze at about 30 degrees F. Since the diluted form is a water solution, it must be freeze protected by heat tracing if freezing is a potential.

**13) What references do you have and what have you treated with your products?**

NXC has been in the odor control business for many years. We have treated everything from landfills to rendering plants to solid waste and sewage. We have extensive experience in odor control from every aspect - chemical, mechanical, equipment and application. We CAN engineer a solution to your odor control problem. References are available upon request.

**14) Can I add a neutralizer to my system water to affect odor control?**

Though the product can be added to wastewater it is not the most effective or economical method for its use. The chemistry of neutralization requires intimate contact of the oils and odorous compounds in the vapor phase. The volatility of the oils changes dramatically when added to a wastewater stream. More product would be required to affect the same results as a fraction of product use in the vapor phase. It's just not economical.

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**15) Can I add neutralizers to my sludge/compost/working face etc to affect odor control at the surface?**

Yes but not the same products as would be atomized to air. NXC has developed exceptional odor control agents that can be added to surfaces, sludges, and liquids that emit odorous compounds. You would get excellent odor control as long as there was product present on the surface in question.

**16) Can I spray the products on odorous equipment and containers?**

Yes. Surfaces treated with NXC surface-active products remain odorless as long as the product remains on the surface.

For more information on NXC Technologies solutions for odor control, visit our website  
**[www.nxctech.com](http://www.nxctech.com)**