



Understanding Quats

More than 72,000 synthetic chemicals have been produced since WWII. Less than 2% of synthetic chemicals have been tested for toxicity, carcinogenic effects, or birth defects. In fact, the vast majority of chemicals have never been tested for long-term effects.

Do you know which products are safe and which may be harmful? Many products contain ingredients that are known **irritants, carcinogens and/or neurotoxins**, which can cause **allergic reactions, breathing difficulties, dizziness, cancer, birth defects** and other problems. Carcinogens are chemicals that cause cancer. Neurotoxins are chemicals that adversely affect the nervous system, reducing emotional well-being, mental alertness, coordination and other functions associated with intelligence.

Understanding QUATS (QACs)

ALKYL DIMETHYL BENZYL AMMONIUM CHLORIDES (ADBAC)

There are **21 different alkyl dimethyl benzyl ammonium chlorides (ADBAC)** used in different formulations as part of sanitizing and disinfectant products for hard, non-porous surfaces.

DIALKYL DIMETHYL AMMONIUM CHLORIDE (DDAC)

There are five DDAC compounds, with two alkyl groups and two methyl groups. DDAC-based products are used as hard surface disinfectants in healthcare facilities and other locations

Quaternary ammonium compounds (Quats) are potent chemicals commonly found in disinfectant wipes, sprays and other cleaners that are designed to kill germs. It is often the stuff that allows a product to claim to be antibacterial, as they are certified by the EPA as pesticides.

So What's the Problem?

Among workers like janitors, nurses and numerous employees who now routinely handle or come in contact with disinfectant solutions every day, **the occupational health risks associated with using Quats are well established**, including **dermal irritation, skin sensitization and occupational asthma**.

In most cases, **Quats are total overkill** for everyday cleaning needs. Unless you plan on doing some open-heart surgery on a conference room table, there is no need to use Quats to sterilize surfaces. Lab testing shows that Quats do kill many kinds of microbes like E. Coli and Staph, **but there are serious potential side effects that come with that power**. It's like killing a housefly with a sledgehammer. There is no question the sledgehammer will be very effective with a direct hit, but the side effects, the gaping holes in the walls are very unpleasant, not to mention unnecessary.

There is No Advantage to Quats and There Are Several Downsides

Quats are lung irritants and can contribute to **asthma** and other **breathing problems**. They also **irritate skin and can lead to rashes**. This is one reason why some products and packages of wipes strongly recommend washing your hands after use - **A factor that takes the convenience out of using wipes in the first place**.

Emerging science that is showing **exposure to Quats is harming sperm quality, reducing fertility and resulting in birth defects in mice.** We simply do not know yet whether these impacts could occur in humans as well, **but why take the chance.** Lastly, **the widespread overuse of Quats is creating superbugs that are resistant both to Quats and other antibiotics, which is problematic on so many levels.**

Another thing is that Quats will linger on a surface long after you have cleaned with them (residue). This means that your exposure, as well as your employees, customers, kids and pets, continues every time they touch that: countertop, table, desktop, door handle, copy machine, telephone, keyboard or other surface. **In the mice experiments it took months of re-sanitizing the animal cages that had originally been cleaned with Quats, until the mice were reproducing normally again. Yikes!**

Again, there is a reason that **disinfectant wipes with Quats also recommend against using them on any food-contact surfaces** (like cutting boards, eating tables, plates or cutlery, high chair trays, etc.), because these potent chemicals can **contaminate the food they come into contact with, even well after cleaning is done.**

Health Effects of Chemical Exposure

Chemicals enter a person's body through inhalation, ingestion and absorption. Chemicals find their way into our bodies and they present a real danger to our health and well-being. Toxic chemicals found in many cleaners, disinfectants, and personal hygiene products are the cause of many health issues.

- Cancer rates have tripled since 1960 / Cancer is the Number ONE cause of death for children
- There has been a 26% increase in breast cancer since 1982 / The #1 killer of women between 35 & 54
- Since 1980, asthma has increased by 600% / ADD and ADHD are epidemic in schools today
- Behavioral problems have long been linked to exposure to toxic chemicals and molds
- Chemicals are attracted to, and stored in fatty tissue. The brain is a prime target for these destructive organics, because of its high fat content and very rich blood supply
- Chemical and environmental sensitivities are known to cause all types of headaches
- Fibromyalgia, chronic fatigue syndrome, arthritis, lupus, multiple sclerosis, circulatory disorders, Alzheimer's, Parkinson's disease, irritable bowel syndrome, depression, and hormonal problems are diseases commonly related to chemical exposure.

Avoiding Quats

You can easily avoid Quats in the products you use. Look for cleaning products that do NOT advertise as "antibacterial". Check the label, which is required to list the "active ingredients" and at a minimum avoid products which contain ingredients that look like this:

- **Benzalkonium chloride / Benzethonium chloride**
- **Alkyl dimethyl benzyl ammonium chlorides (C12-16)**
- **Alkyl dimethyl benzyl ammonium chloride (C14 60%, C16 30%, C12 5%, C18 5%)**
- **Alkyl dimethyl ethylbenzyl ammonium chloride (C12-14)**
- **Alkyl dimethyl ethylbenzyl ammonium chlorides (C12-18)**
- **Didecyl dimethyl ammonium chloride / Dioctyl dimethyl ammonium chloride**