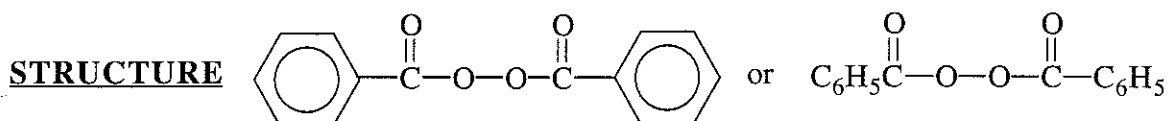


**JOURNAL WRITE #1**

**SUBSTANCE** Common Name: Benzoyl Peroxide  
Chemical Name: Benzoyl Peroxide



**SOURCE** I noticed this substance while watching a T.V. commercial for Buf Oxal, a face medicine in which benzoyl peroxide is the active ingredient.

**JOURNAL WRITE #1**

This compound was reported to be used as a catalyst for hardening certain fiberglass resins. Rats can consume 950 mg/kg body weight (poor rats) without fatalities, though death was reported with doses of 250 mg/kg if given to rats intraperitoneally (just inside the membrane which lines the cavity of the abdomen). This is a moderately toxic compound and I don't feel that I would want to use this substance over a long period of time, though short term use appears safe enough.

**REFERENCES**

- 1) Clinical Toxicology of Commercial Products, Section II, p. 22.
- 2) The structure was given in the Handbook of Chemistry and Physics, Section C, p. 196.

## Biochemical Journal (Example)

Michael L. Keith

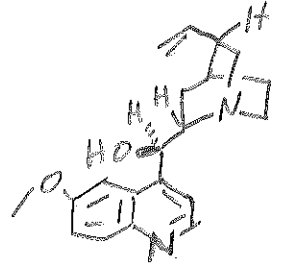
**Common Name:** Quinine

**Formal Name:** Quinine (or Quinine Sulfate)

**Molecular formula:**  $C_{20}H_{24}N_2O_2$

**Source of substance:** QVel or Legatrim or Tonic water

**Structural formula:**



**Interest:** I first saw QVel advertised as a remedy for night leg cramps. I tried QVel and it worked great for me. The active ingredient is quinine sulfate.

### Functions, etc.:

From early childhood, I have suffered from leg cramps. Nutritional remedies such as megadoses of calcium and potassium are ineffective. So, when I tried QVel, I was very happy that it worked. Unfortunately, the FDA soon after would not allow drugs meant for one purpose (in this case malaria) to be used as an over the counter remedy for something else unless clinical studies were done on the drug first. So QVel and Legatrim changed their formulation (omitting quinine) and these new formulations are ineffective for my leg cramps. I now get quinine via prescription.

Quinine, originally found in cinchona bark, was the first effective drug for malarial infection. A side effect is that it is a mild muscle relaxant (reduces contractions of skeletal muscles) which makes it effective in alleviating night leg cramps.

The most common side effect of quinine is nausea. It is suggested that quinine be taken with a meal or a glass of milk which will reduce the chances of nausea. Other side effects involve blurred vision or loss of color vision. These problems disappear when quinine use is discontinued. Another interesting effect is ringing or buzzing in the ears (tinnitus) or partial loss of hearing. This effect usually subsides as one adjusts to the medication. (Once I was in a hurry to get to class on time and took two quinine tablets instead of two allergy tablets. By the time I got to my lecture, I had lost significant hearing and had to have the students shout questions at me!)

Other rare complications headache (severe), diarrhea, rashes, itchy skin, increased sensitivity to sunlight, and difficulty in breathing. Tests in animals have shown that high levels of quinine can cause birth defects. However, there is no hesitation to give quinine to pregnant malarial patients due to the high incidence of spontaneous abortions and stillbirths caused by the malaria parasite. Patients allergic to quinine and quinidine (a stereoisomer of quinine) should not take quinine, nor should patients take quinine if they already take quinidines (quinine increases quinidine toxicity).

**References:** Consumer Reports: Complete Drug Reference, 1999 Ed.  
Complete Guide to Prescription and Non-Prescription Drugs, 1991 Edition.