



**Jim Martin, Commissioner**

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## Fact Sheet - Ricin

### **What is ricin?**

Ricin is a byproduct of processing Castor beans (*Ricinus communis*) for oil. Castor oil, once used as an oral laxative, is now a common industrial lubricant and is used for preparing leather products. Castor beans are grown agriculturally worldwide. They can grow in the wild in arid parts of the United States. Naturally-occurring cases of ricin poisoning follow ingestion of castor beans, and are marked by severe gastrointestinal symptoms, circulatory failure and death.

### **How is ricin associated with bioterrorism?**

Ricin is toxic by several routes, including inhalation, ingestion and injection. Bioterrorists might poison water or foodstuffs, inoculate persons directly via ricin-laced projectiles, or aerosolize liquid ricin or lyophilized powder. Ricin has been used as biological weapon for assassinations, but has never been used to harm groups of people. A very large quantity of ricin would be needed for a large-scale attack. Ricin poisoning is not contagious. It cannot be spread from one person to another.

### **Ricin is not sarin!**

People sometimes confuse ricin with sarin because the names are somewhat similar. Sarin is a lethal chemical (cholinesterase inhibitor) that was developed as a pesticide. It can be a gas or a liquid, and can kill humans in very small doses after exposure through inhalation, ingestion, or skin contact. Symptoms can occur within seconds after vapor exposure, and in 30 minutes to 18 hours after exposure to liquid sarin. It can be treated with atropine and other measures.

### **What are the symptoms of ricin poisoning?**

Initial symptoms include fever, cough, difficulty breathing, nausea and chest tightness. These are followed by extreme sweating, skin turning blue, low blood pressure, and finally, respiratory failure and circulatory collapse. After inhaling a small particle of aerosolized ricin, symptoms would likely appear within eight hours. Time to death would probably be 36-72 hours, depending on the dose received.

### **How is ricin poisoning diagnosed?**

Diagnosis of ricin poisoning is based largely on symptoms. An intentional release should be suspected when many patients display similar symptoms. A blood antibody test exists but is not readily available.

### **Can ricin poisoning be treated?**

No specific treatment exists. Hospital care is necessary to support the victim and treat the effects of ricin poisoning.

### **Is a vaccine available?**

No specific vaccine or antitoxin exists.