

## What are the symptoms of RICIN

Severity of symptoms will depend on the method and amount of ricin exposure.

Inhalation of a significant amount of ricin can cause **coughing, tightness in the chest, difficulty breathing, nausea, and aching muscles** beginning within a few hours of exposure. Over the next several hours, the **lungs become severely inflamed, excess fluid builds up and breathing becomes difficult.**

Ingestion of ricin can cause internal bleeding that would lead to **vomiting and bloody diarrhea.** Eventually, the person's liver, spleen, and kidneys could fail. Symptoms can begin within a few hours of ingestion.

Injection of ricin would initially cause the muscles and lymph nodes near the injection site to die. Eventually, the liver, kidneys, and spleen would stop working, and the person would have **massive bleeding from the stomach and intestines.** The person would die from multiple organ failure.

Whether by inhalation, ingestion, or injection, death from ricin poisoning can take place within 36 to 48 hours of exposure.

For more information, call

Aloha United Way



[health.hawaii.gov](http://health.hawaii.gov)

or

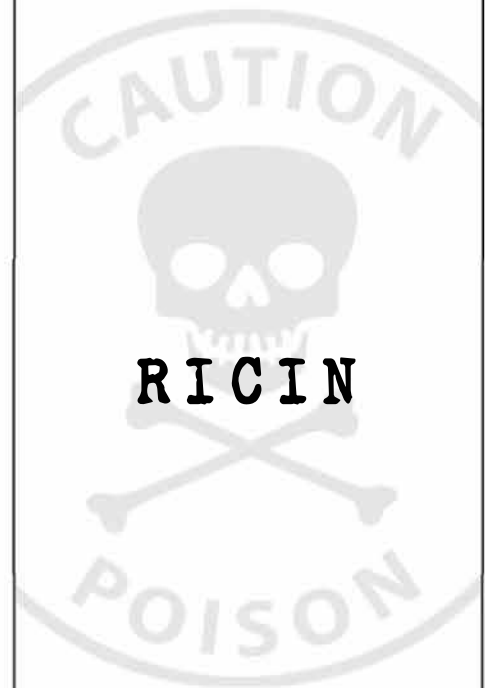
[www.cdc.gov](http://www.cdc.gov)



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Contents updated 11/2003



RICIN



Hawaii State Department of Health  
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Call 2-1-1

### **What is ricin?**



Ricin is a deadly poison made from the waste "mash", leftover after processing castor beans to make castor oil. It can be in the form of a powder, a pellet or it can be

dissolved in water or weak acid to form a liquid. Ricin works by getting inside the cells of a person's body and preventing the cells from making the proteins they need. Without the proteins, cells die, and eventually the whole body can shut down and die.

### **How can people be exposed to ricin?**

Accidental exposure to ricin is highly unlikely. It would take a deliberate act to make ricin and use it to poison people.

- Ricin mist or powder could be inhaled.
- People could consume ricin contaminated food or water.
- Ricin could be injected.

Ricin poisoning is not contagious. It cannot be spread from person to person through casual contact.

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

Severity of symptoms will depend on the method and amount of ricin exposure.



- Inhalation of a significant amount of ricin can cause coughing, tightness in the chest, difficulty breathing,

nausea, and aching muscles beginning within a few hours of exposure. Over the next several hours, the lungs become severely inflamed, excess fluid builds up and breathing becomes difficult.

- Ingestion of ricin can cause internal bleeding that would lead to vomiting and bloody diarrhea. Eventually, the person's liver, spleen, and kidneys could fail. Symptoms can begin within a few hours of ingestion.
- Injection of ricin would initially cause the muscles and lymph nodes near the injection site to die. Eventually, the liver, kidneys, and spleen would stop working, and the person would have massive bleeding from the stomach and intestines. The person would die from multiple organ failure.

Whether by inhalation, ingestion, or injection, death from ricin poisoning can take place within 36 to 48 hours of exposure.

### **How is ricin poisoning treated?**

Ricin poisoning is treated by giving the victim supportive medical care in a hospital to minimize the effects of the poisoning. There is no antidote.



### **How do you know if you were exposed?**

No widely available, reliable test exists to confirm that a person has been exposed to ricin. Diagnosis would be based on symptoms, the

presence of ricin in the area of exposure, and knowledge that others in the area have been poisoned with ricin.

### **What should you do if you were exposed to ricin?**

Seek prompt medical attention. Tell care providers that you suspect you've been exposed to ricin.



### **Where is ricin found and how is it used?**

Ricin is found throughout the world wherever castor beans are processed. It has

been shown to have some potential medical uses, such as bone marrow transplants and cancer treatment (to kill cancer cells).

### **Why is there concern about ricin being used in a terrorist attack?**

Ricin is a deadly relatively fast acting poison. It is a naturally occurring part of the waste "mash" produced when castor oil is made. Since castor beans are processed throughout the world, the raw materials to make this poison are readily available to would-be terrorists.

### **Can pets and other animals be susceptible to ricin?**

Yes. Pets and other animals are susceptible to ricin poisoning. If you think your pet has been exposed seek prompt veterinary attention for the animal.



Castor bean pod, castor bean and supportive care photos courtesy Agriculture Research Service, U.S. Department of Agriculture