

Warped

by Scott McCullar



Waldo

by Kevin Thomas



A&M prof: Arsenic not as bad as deadly reputation implies

By Suna Purser  
Reporter

Many people may think of Agatha Christie mysteries or cloak and dagger crimes when they hear the word arsenic.

But Dr. Kurt Irgolic, a chemistry professor at Texas A&M, says arsenic doesn't always deserve its bad name; there is a historic reason for its deadly reputation.

"In medieval times, when there was no analytical chemistry, it was impossible to prove death by poisoning," Irgolic says. "If someone wanted to dispose of a wealthy uncle, he purchased a vial of arsenic and put it in the uncle's drink. He became violently ill and then he died. It was an accepted way of doing business."

Arsenic poisoning may have killed Napoleon Bonaparte, Irgolic says, citing the scholarly paper "Distribution of Arsenic in Napoleon's Hair," written by Drs. Hamilton Smith, Sten Forshufvud and Anders Wasen, in which the scientists present results of their preliminary work on this theory.

In the early 1900s, Paul Ehrlich, a German doctor, began experimenting with various arsenic compounds, Irgolic says. The 606th compound Ehrlich developed was Salvarsan, the first effective drug used to treat syphilis. Since then, thousands of arsenic compounds have been developed.

Arsenic, one of 105 elements in the environment, is found almost everywhere in low concentrations, depending on a region's geology, he says. It is usually associated with sulfide ore deposits, such as iron pyrite (fool's gold).

When these sulfide deposits erode, arsenic is released into the environment — in an inorganic form — where it remains at a constant

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level, depending on geological conditions, he says. Its toxicity depends on the compound it forms.

"It's (toxicity) a question of dose," Irgolic says. "Some forms of arsenic are more toxic than others and so only a small amount can have a deadly effect."

Irgolic's work concentrates on arsenic's environmental impact, particularly on marine life. A non-toxic arsenic compound, arsenobetaine, has been identified in a variety of marine life, including shrimp, tuna,

crab, lobster and algae, he says.

Specimens used for study come from unpolluted waters from areas throughout the world, such as Australia, Chile, Alaska and Japan, he says.

"Some (specimens) have more or less of this non-toxic substance, depending on the region," Irgolic says. "Average arsenic content is only a few milligrams per kilogram."

Arsenobetaine also can be made synthetically. Rats and mice have been fed varying doses with no adverse effects, and the same seems to be true of marine life, he says.

"We take it (arsenobetaine) up in the seafood we eat," Irgolic says. "But it is eliminated immediately by the bladder and poses absolutely no threat to people."

Finding the source of arsenobetaine is part of Irgolic's research. It may be a natural phenomenon — a substance some forms of marine life produce naturally, he says. It may also be produced at a low level, as in algae, or at a higher level, as in fish.

Irgolic stresses arsenobetaine's non-toxicity and says arsenic is an essential trace element, such as copper or zinc.

"My own opinion, and one perhaps not everyone will agree with, is that arsenic is an essential element, and may play a significant part in some diseases associated with the elderly," he says.



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7:00 p.m. Ambassador Jaime DePinies  
Under Secretary General of the United Nations  
"The U.N. As A Tool for Understanding"

**Thursday, February 12**  
9:00 a.m. Panel Discussion: "The Role of United States Involvement with the United Nations"  
Elliot Richardson  
Chairman, United Nations Association  
Moderator: **Betty Unterberger** Texas A&M University  
**Roger Brooks** Director of Policy Planning, U.S. Department of State  
1:30 p.m. **Mpazi Sinjela**  
United Nations Legal Officer  
"International Security and World Peace"

**Friday, February 13**  
9:00 a.m. Panel Discussion: "International Court of Justice: The effects of the U.S. vs. Nicaragua Decision"  
**Abrams Chayes** Harvard Law School  
**Ted Borek** U.S. Department of State  
Moderator: **Lt. Col. David Graham**  
The Judge Advocate General's School of the Army  
1:30 p.m. **John Fobes**  
President, Economic Development Foundation  
"Economic and Social Development"

**Saturday, February 14**  
10:00 a.m. **Lou Cioffi**  
ABC News Correspondent at the United Nations  
"Outlook for the Future of the United Nations"

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