Coumatetralyl

<table>
<thead>
<tr>
<th>CAS-Number</th>
<th>5836-29-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral mg/kg body weight</td>
<td>15</td>
</tr>
<tr>
<td>LD 50 dermal mg/kg body weight</td>
<td>100 - 500</td>
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<tr>
<td>LC50 inhalation mg/l</td>
<td>0.05 (resp. dust)</td>
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Coumatetralyl is an older anticoagulant, not as effective nor long-lasting as the second generation of "super-warfarins", and usually requiring repeated ingestion or very high doses for poisoning.

**Signs and Symptoms of Poisoning:**

It would be expected, that repeated intake of coumatetralyl would be required to cause an actual poisoning, yet it is prudent to control coagulation parameters for several days after all ingestions. As the concentration in final products is very low, large amounts of the product would have to be ingested.

Coumatetralyl inhibits vitamin K1-dependant coagulation. Symptoms after ingestion (though also toxic via the dermal route) may range from increased bleeding tendency (e.g. gingiva bleeding or nose bleeding) to massive hemorrhage in severe cases. Haematuria, bruisability, vomiting blood, retroperitoneal and cerebrovascular bleeding are possible.

If anaemia or liver disease is present then the above features may be more severe and persistent and the poisoning may be more difficult to control.

The onset of the signs of poisoning may not be evident until a few days after ingestion.

**First Aid:**

- Remove patient from exposure/terminate exposure
- Thorough skin decontamination with copious amounts water and soap.
- Flushing of the eyes with lukewarm water for 15 minutes
- Induction of vomiting should be considered if a significant amount has been swallowed, if the ingestion was less than one hour ago, and if the patient is fully conscious. Induced vomiting can remove maximum 50% of the ingested substance.
  **Note:** Induction of vomiting is forbidden, if a formulation containing organic solvents has been ingested!

**Treatment:**

- Gastric lavage should be done in cases of ingestion of high doses.
The application of activated charcoal and sodium sulphate (or other carthartic) is advisable in significant ingestions.

The antidote for coumatetralyl is vitamin K1, efficacy of treatment has to be assessed by prothrombin time ("Quick") and INR, also PTZ and thrombin time. The red blood count has to be controlled.

If there is no active bleeding the INR (prothrombin time) should be measured on presentation and 48-72 hours after exposure.

If the INR is greater than 4, vitamin K1 (phytomenadione) 5-10 mg should be administered by slow intravenous injection. For children the dose is 100 µg/kg body weight). Intravenous or oral treatment with vitamin K1 may be required for several weeks.

Severe poisoning cases may require the initial application of blood products:
  - whole blood
  - fresh frozen plasma and fresh blood should be used in cases of severe bleeding to rapidly restore blood clotting factors