

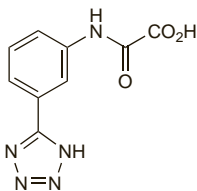
Acitazanolast (rINN)

Acitazanolastum; WP-871. 3'-(1H-tetrazol-5-yl)oxanilic acid.

Ацитазаноласт

C₉H₇N₅O₃ = 233.2.

CAS — 114607-46-4.

**Profile**

Acitazanolast is a leukotriene inhibitor used as the hydrate in a concentration of 0.1 or 0.3% in eye drops for the treatment of allergic conjunctivitis (p.564).

Preparations**Proprietary Preparations** (details are given in Part 3)

Jpn: Zepelin.

Aconite

Acetylbenzoylaconine (aconitine); Aconit; Aconit napel; Aconite Root; Aconiti Tuber; Acónito; Aconitum napellus; Monkshood Root; Radix Aconiti; Wolfsbane Root. 8-Acetoxy-3,11,18-trihydroxy-16-ethyl-1,6,19-trimethoxy-4-methoxymethylaconitan-10-yl benzoate (aconitine).

C₃₄H₄₇NO₁₁ = 645.7 (aconitine).

CAS — 8063-12-5 (aconite); 302-27-2 (aconitine).

NOTE: Wolfsbane is also used as a common name for arnica flower (p.2260).

Description. Aconite consists of the dried tuberous root of *Aconitum napellus* agg. (Ranunculaceae). It contains a number of alkaloids, the main pharmacologically active one being aconitine.

Pharmacopoeias. In *Chin*.**Adverse Effects and Treatment**

Aconite has variable effects on the heart leading to heart failure. It also affects the CNS.

Symptoms of aconite poisoning may appear within minutes or up to 2 hours after oral ingestion; in fatal poisoning death usually occurs within 12 hours, although with larger doses it may be instantaneous.

Initial symptoms (and an important diagnostic feature) are tingling sensations of the tongue, mouth, fingers, and toes followed by generalised paraesthesia. Other symptoms include nausea, vomiting, diarrhoea, muscle weakness, skeletal muscle paralysis, and difficult respiration; also sweats, chills and a feeling of intense cold may occur. Respiratory paralysis, hypotension, and cardiac arrhythmias may develop in severe cases.

Although the benefits of gastric decontamination are uncertain, gastric lavage may be tried in patients within one hour of life-threatening oral poisoning; activated charcoal may also be considered. Patients should be observed and monitored, and corrective and supportive treatment given as necessary. Arrhythmias are relatively resistant to treatment, although atropine has been tried for bradycardia.

Poisoning. Reports of poisoning with aconite.

- Kelly SP. Aconite poisoning. *Med J Aust* 1990; **153**: 499.
- Tai Y-T, et al. Cardiotoxicity after accidental herb-induced aconite poisoning. *Lancet* 1992; **340**: 1254-6.
- Kolev ST, et al. Toxicity following accidental ingestion of Aconitum containing Chinese remedy. *Hum Exp Toxicol* 1996; **15**: 839-42.
- Mak W, Lau CP. A woman with tetraparesis and missed beats. *Hosp Med* 2000; **61**: 438.
- Imazio M, et al. Malignant ventricular arrhythmias due to Aconitum napellus seeds. *Circulation* 2000; **102**: 2907-8.
- Chan TYK. Incidence of herb-induced aconitine poisoning in Hong Kong: impact of publicity measures to promote awareness among the herbalists and the public. *Drug Safety* 2002; **25**: 823-8.
- Lowe L, et al. Herbal aconite tea and refractory ventricular tachycardia. *N Engl J Med* 2005; **353**: 1532.

Uses and Administration

Aconite liniments have been used in the treatment of neuralgia, sciatica, and rheumatism. Sufficient aconitine may be absorbed through the skin to cause poisoning; liniments should never be applied to wounds or abraded surfaces. Aconite should not be used internally because of its low therapeutic index and variable potency; however it is reported to be a common ingredient in traditional Chinese remedies and is also an ingredient of some cough mixtures.

Homeopathy. Aconite has been used in homeopathic medicines.

Preparations**Proprietary Preparations** (details are given in Part 3)

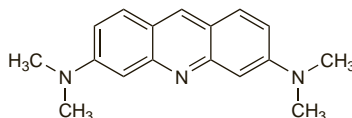
Multi-ingredient: Arg.: No-Tos Adultos; **Austria:** Rheuma; **Belg.:** Colimax; Eucalyptine Pholcodine Le Brun; Saintbois; **Braz.:** Agrimel; Expectomex; Gotas Nican; Limao Bravo; Melagrão; Pectal; Xarope de Caraguata; Xarope Peitoral de Armeixa Composto; Xarope Sao Joao; **Chile:** Gotas Nican; **Cz.:** Homeovox; Pleumolysin; **Ital.:** Lactocol; **Port.:** Anti-Gripe; Calmarum; **Spain:** Encialina.

Acridine Orange

Naranja de acridina. 3,6-Bis(dimethylamino)acridine.

C₁₇H₁₉N₃ = 265.4.

CAS — 494-38-2.

**Profile**

Acridine orange is a dye with antiseptic properties. It has been used as a diagnostic stain in microbiology.

For details of the antiseptic properties of acridine derivatives, see p.1624.

Diagnostic use. Acridine orange has been used for the diagnostic staining of malarial parasites.¹ For the quantitative buffy coat method, acridine orange is used to stain the parasites in a blood sample that is then centrifuged, and the area just below the buffy coat is examined under a fluorescence microscope. It has been described as easier and quicker to use than the standard examination of stained blood films. However, this method is not specific for diagnosis of malarial type, gives only a rough indication of infection intensity, and can give false-positive results. Acridine orange has also been tried for the staining of blood slides.²⁻⁵

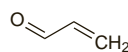
- Warhurst DC, Williams JE. ACP Broadsheet no 148, July 1996. Laboratory diagnosis of malaria. *J Clin Pathol* 1996; **49**: 533-8.
- Gay F, et al. Direct acridine orange fluorescence examination of blood slides compared to current techniques for malaria diagnosis. *Trans R Soc Trop Med Hyg* 1996; **90**: 516-18.
- Craig MH, Sharp BL. Comparative evaluation of four techniques for the diagnosis of Plasmodium falciparum infections. *Trans R Soc Trop Med Hyg* 1997; **91**: 279-82.
- Tarimo DS, et al. Appraisal of the acridine orange method for rapid malaria diagnosis at three Tanzanian district hospitals. *East Afr Med J* 1998; **75**: 504-7.
- Lema OE, et al. Comparison of five methods of malaria detection in the outpatient setting. *Am J Trop Med Hyg* 1999; **60**: 177-82.

Acrolein

Acraldehído; Acrialdehído; Acroleína; Acrylaldehyde; Acrylic Aldehyde. Prop-2-enal.

C₃H₄O = 56.06.

CAS — 107-02-8.

**Profile**

Acrolein is a volatile, highly flammable liquid at ordinary temperature and pressure. It has various industrial uses, but is also a toxic byproduct of combustion and may be present in exhaust gases, tobacco smoke, and smoke from fires. It is irritant to the skin and may cause skin burns. Ingestion of acrolein produces severe gastrointestinal distress. The vapour causes lachrymation and pulmonary irritation. Inhalation may cause pulmonary oedema and permanent lung damage.

Acrolein is a metabolite of cyclophosphamide (p.702) and may be responsible for the latter's bladder toxicity.

◇ References.

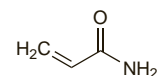
- WHO. Acrolein. *IPCS Health and Safety Guide* 67. Geneva: WHO, 1991. Available at: <http://www.inchem.org/documents/hsg/hsg/hsg067.htm> (accessed 23/07/08)
- WHO. Acrolein. *Environmental Health Criteria* 127. Geneva: WHO, 1992. Available at: <http://www.inchem.org/documents/ehc/ehc/ehc127.htm> (accessed 23/07/08)
- Kehrer JP, Biswal SS. The molecular effects of acrolein. *Toxicol Sci* 2000; **57**: 6-15.

Acrylamide

Acrilamida; Akryloamid; Amida acrílica. Propenamida.

C₃H₅NO = 71.08.

CAS — 79-06-1.

**Profile**

Acrylamide is highly toxic and irritant; it can be absorbed through unbroken skin. Symptoms of poisoning include burning and ulceration of the mouth and throat following ingestion. Excessive sweating is common and other symptoms may include numbness of limbs, paraesthesia, and muscle weakness. CNS effects such as somnolence, confusion, hallucinations, ataxia, tremors, dysarthria, and nystagmus may occur depending on the severity of exposure. Peripheral neuropathies may appear several weeks after severe acute exposure or as a result of chronic exposure. Gastric lavage may be tried in patients within one hour of ingestion; activated charcoal may also be considered. Contamination of eyes and skin should be irrigated and treated as for burns. Patients should be observed and monitored, and corrective and supportive treatment given as necessary.

Acrylamide has various industrial applications, including use as a plasticiser and a waterproof 'chemical grout'.

◇ References.

- Kesson CM, et al. Acrylamide poisoning. *Postgrad Med J* 1977; **53**: 16-17.
- WHO. *Acrylamide IPCS Health and Safety Guide* 45. Geneva: WHO, 1991. Available at: <http://www.inchem.org/documents/hsg/hsg/hsg045.htm> (accessed 31/03/06)

Food toxicity. Concerns have been expressed by the Swedish National Food Administration about the level of acrylamide they found in certain cooked foods, particularly those exposed to very high temperatures such as fried foods, and the potential carcinogenic risk. However, it has been acknowledged that, although the results have been replicated in other international laboratories, the total sample size is small and none of the methods being used have so far been validated.¹ One subsequent population-based study failed to find any excess risk or convincing trend of cancer of the bowel, bladder, or kidney in high consumers of foods with a high or moderate acrylamide content.² The joint FAO/WHO Expert Committee on Food Additives (JECFA)³ reviewed data provided by 24 countries on acrylamide in food analysed between 2002 and 2004. Their recommendations were for re-evaluation of the effects of acrylamide on completion of studies of carcinogenicity and neurotoxicity, and that efforts to reduce the concentrations of acrylamide in food should continue.

- Kapp C. WHO urges more research into acrylamide in food. *Lancet* 2002; **360**: 64.
- Mucci LA, et al. Dietary acrylamide and cancer of the large bowel, kidney, and bladder: absence of an association in a population-based study in Sweden. *Br J Cancer* 2003; **88**: 84-9.
- FAO/WHO. Evaluation of certain food contaminants: sixty-fourth report of the joint FAO/WHO expert committee on food additives. *WHO Tech Rep Ser* 930 2006. Available at: http://whqlibdoc.who.int/trs/WHO_TRS_930_eng.pdf (accessed 18/07/08)

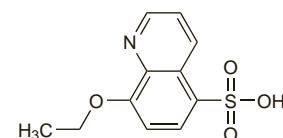
Actinoquinol Sodium (USAN, rINN)

Actinoquinol sódico; Actinoquinol Sodique; Natrij Actinoquinolum; Sodium Etoquinol; Sodium Tequinol. Sodium 8-ethoxy-5-quinolinesulfonate.

Натрий Актинохинол

C₁₁H₁₀NNaO₄S = 275.3.

CAS — 15301-40-3 (actinoquinol); 7246-07-3 (actinoquinol sodium).



(actinoquinol)

Profile

Actinoquinol and actinoquinol sodium are ingredients of eye drop preparations intended to protect the eyes from the effects of light.

Preparations**Proprietary Preparations** (details are given in Part 3)**Austria:** Ultra Augenschutz.**Multi-ingredient:** Fr.: Uvicol; Ger.: duraultra; Ital.: Fotofil.