

**Tibezonium Iodide** (rINN)

Ioduro de tibeozonio; Rec-15/0691; Tibeozonii Iodidum; Tibeozonium, Iodure de. Diethylmethyl[2-[4-(4-phenylthiophenyl)-3H-1,5-benzodiazepin-2-ylthio]ethyl]ammonium iodide.

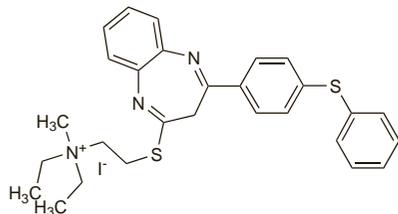
Тибезоний Йодид

$C_{28}H_{32}N_3S_2 = 601.6$ .

CAS — 54663-47-7.

ATC — A01AB15.

ATC Vet — QA01AB15.

**Profile**

Tibezonium iodide has been used in the treatment of infections of the mouth and throat.

**Preparations**

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

**Gr.:** Riposon; **Ital.:** Antoral; **Mex.:** Maxoral; **Port.:** Maxius.

**Tilactase** (rINN)

$\beta$ -Galactosidase;  $\beta$ -D-Galactosidase;  $\beta$ -D-Galactoside Galactohydrolase; Lactase; Tilactasa; Tilactasum.

Тилактаза

CAS — 9031-11-2.

ATC — A09AA04.

ATC Vet — QA09AA04.

**Pharmacopoeias.** In *Jpn* (from *Aspergillus oryzae* or *Penicillium multicolor*) and *US* (from *Aspergillus oryzae*).

**USP 31** (Lactase). A hydrolytic enzyme derived from *Aspergillus oryzae*. Each g contains not less than 30 000 USP units. Store in airtight containers at room temperature.

**Profile**

Tilactase hydrolyses lactose into glucose and galactose. It has been added to milk and milk products, or taken by mouth with a meal containing dairy products, in order to prevent the symptoms of lactose intolerance (p.1954) in persons deficient in the endogenous enzyme.

**Preparations**

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

**Arg.:** Lac-Tas; **Austral.:** Lact-Easy; Lactaid; **Canad.:** Dairyaid; Lactaid; Lactrase; ProLactase; **Irl.:** Colief; **Ital.:** Lactdigest; Silact; **Jpn:** Galantase; **Malaysia:** Lactaid; **Port.:** Lisolac; **Switz.:** Lactdigest; **UK:** Colief; **USA:** Dairy Ease; Lactaid; Lactrase; SureLac; **Venez.:** Lectozim; **UK:** Menopause Relief; Wellwoman.

**Multi-ingredient:** **Canad.:** Digesta.

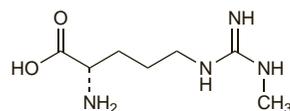
**Tilarginine** (rINN)

BV-546C88; 546C88; L-NMMA; Targinina; Targinine (BAN); Targininum; Tilarginina; Tilargininum. *N*-Methyl-L-arginine.

Таргинин

$C_7H_{16}N_4O_2 = 188.2$ .

CAS — 17035-90-4.

**Profile**

Tilarginine is a nitric oxide synthase inhibitor under investigation in the treatment of cardiogenic shock, although results have been disappointing. It has also been tried in septic shock but appears to have been associated with increased mortality. It has also been investigated in migraine.

## ◇ References.

- Lassen LH, *et al.* The effect of nitric oxide synthase inhibition on histamine induced headache and arterial dilatation in migraineurs. *Cephalalgia* 2003; **23**: 877–86.

- Bakker J, *et al.* Administration of the nitric oxide synthase inhibitor NG-methyl-L-arginine hydrochloride (546C88) by intravenous infusion for up to 72 hours can promote the resolution of shock in patients with severe sepsis: results of a randomized, double-blind, placebo-controlled multicenter study (study no. 144-002). *Crit Care Med* 2004; **32**: 1–12.
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- Lopez A, *et al.* Multiple-center, randomized, placebo-controlled, double-blind study of the nitric oxide synthase inhibitor 546C88: effect on survival in patients with septic shock. *Crit Care Med* 2004; **32**: 21–30.
- Alexander JH, *et al.* TRIUMPH Investigators. Effect of tilarginine acetate in patients with acute myocardial infarction and cardiogenic shock: the TRIUMPH randomized controlled trial. *JAMA* 2007; **297**: 1657–66.

**Tilia**

Hársfávirág; Kwiatostan lipy; Lehmuksenkukka; Liepų žiedai; Lime Flower; Lindblomma; Linden; Lipový květ; Tiliae flos; Tilleul; Til-leul, fleur de; Tilo.

**Pharmacopoeias.** *Eur.* (see p.vii) includes the flowers.

*Fr.* also includes the bark.

**Ph. Eur. 6.2** (Lime Flower). The whole dried inflorescences of *Tilia cordata*, *Tilia platyphyllos*, *Tilia × vulgaris* (= [*Tilia × europaea*]), or a mixture of these species. It has a faint aromatic odour. Protect from light.

**Profile**

Tilia is mildly astringent and is reputed to have antispasmodic and diaphoretic properties. Lime-flower 'tea' is a traditional domestic remedy.

Various species of tilia are used in herbal preparations for a variety of disorders.

**Homoeopathy.** Tilia has been used in homoeopathic medicines under the following names: Tilia europaea; Til. euro.

**Preparations**

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

**Belg.:** Vibtil; **Cz.:** Kvet Lipy; Lipovy; **Pol.:** Lipomal.

**Multi-ingredient:** **Arg.:** Armonil; Dr Calm; Herbaccion Sedante; Inca-ico Serenidad; Insomnal; Nervocalm; No-Nerviol; Sedanat; Sedante Arcel; Sedante Dia; Serenil; Top Life Relax; **Austral.:** Diaco; **Austria:** Grippetea St Severin; St Bonifatius-Tea; **Belg.:** Natudor; **Canad.:** Herbal Sleep Well; **Chile:** Calmatol; Nature Complex Reduct-Te; Recalm; Reduct-Te; **Cz.:** Cajova Smes pri Nachlazen; Nontusy; Pruduškova; **Fr.:** Alkagin; Apaisance; Calmophytum; Lencalm; Mediflor Tisane Antirhumatismale No 2; Mediflor Tisane Calmante Troubles du Sommeil No 14; Vigilia; **Ger.:** Nervosana; **Israel:** Jungborn; **Ital.:** Alkagin; Lencalm; Sambuco (Specie Composta); Sebacnol; Sedofit; Tiglio (Specie Composta); Tussol; Videorelax; **Pol.:** Fitoven; Melisal; Melised; Pectobonisol; Pyrosal; Termasil; Tiliros; **Port.:** **Spain:** Agua del Carmen; Jaquesor; Mesatil; Natusor Griplotil; Natusor Jaquesan; Natusor Sinulan; Natusor Somnisedan; **Switz.:** Tisane contre les refroidissements; Tisane pour nourissons et enfants; **UK:** Menopause Relief; Wellwoman.

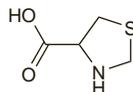
**Timonacic** (rINN)

ATC; NSC-25855; Thioproline; Timonácico; Timonacicum. Thiazolidine-4-carboxylic acid.

Тимонацик

$C_4H_7NO_2S = 133.2$ .

CAS — 444-27-9.



**NOTE.** The name ATC has also been used for a combination of paracetamol and trichloroethanol (4-acetamidophenyl 2,2,2-trichloroethyl carbonate).

**Profile**

Timonacic is used as an adjuvant in the treatment of acute and chronic hepatic disorders.

Timonacic methyl hydrochloride (carbolidine hydrochloride) has been used as a mucolytic.

**Preparations**

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

**Ital.:** Muvial; **Pol.:** Hepacom; Heparegen; **Switz.:** Heparegen; **UK:** Menopause Relief; Wellwoman.

**Tin**

Cyna; Estaño; Étain; Stannum; Zinn.

Sn = 118.71.

CAS — 7440-31-5.

**Profile**

Tin is a silver-white, lustrous, malleable, ductile metal. Owing to their low solubility, tin and tin oxide are very poorly absorbed from the gastrointestinal tract and have low toxicity. Chronic inhalation causes a benign form of pneumoconiosis.

Organic compounds of tin are highly toxic and may cause liver and kidney damage as well as severe neurological damage associated with oedema of the white matter of the brain. Treatment has been symptomatic. Contamination of the skin with organic tin compounds can cause severe burning; suitable precautions should be taken to prevent absorption of organic tin compounds through the skin.

Tin and tin oxide have been given in the treatment of boils, but there is little evidence of effectiveness; they were also formerly used in some countries for the treatment of tapeworm. Organic tin compounds, especially tributyltin oxide (TBTO), are used as molluscicides.

**Tin in food.** Excess amounts of inorganic tin in food tend to arise from tin-coated cans, especially unlacquered ones, and may produce gastric irritation. Concentrations as low as 150 mg/kg in canned beverages and 250 mg/kg in other canned foods have produced adverse effects in certain individuals, but some foods containing up to 700 mg/kg have not produced any detectable effects. Consumers should be advised not to store foods in opened tinned cans.<sup>1</sup>

A recommended acceptable daily intake for chronic exposure to tin has been suggested as a provisional tolerable weekly intake of 14 mg/kg, although it was subsequently noted that this value may have been derived from intakes associated with acute effects, and it was concluded that the toxicokinetics and effects of inorganic tin after long-term exposure to dietary doses at concentrations that did not elicit acute effects should be re-assessed.<sup>1</sup> It was also concluded that it was inappropriate to establish an acute reference dose for inorganic tin, since development of gastric irritation depends on the concentration and nature of tin in the food product rather than on the dose ingested on a body-weight basis.<sup>1</sup> In the EU regulations limit the maximum amount of tin in foods sold in member states to wet weights of 200 mg/kg in canned foods other than beverages, 100 mg/kg in canned beverages including fruit and vegetable juices, and 50 mg/kg in various canned foods for infants.<sup>2</sup>

- 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](http://whqlibdoc.who.int/trs/WHO_TRS_930_eng.pdf) (accessed 22/07/08)
- The Commission of the European Communities. Commission Regulation (EC) No 1881/2006 of 19 December 2006 setting maximum levels for certain contaminants in foodstuffs. *Off J EU* 2006; **49**: L364/5–24. Also available at: [http://eur-lex.europa.eu/LexUriServ/site/en/oj/2006/l\\_364/l\\_36420061220en00050024.pdf](http://eur-lex.europa.eu/LexUriServ/site/en/oj/2006/l_364/l_36420061220en00050024.pdf) (accessed 22/07/08)

**Preparations**

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

**S.Afr.:** Metinox.

**Tin-protoporphyrin**

Protoporfirina-Estaño; (Sn)-protoporphyrin.

**Profile**

Tin-protoporphyrin and the related compound tin-mesoporphyrin are metalloporphyrins which inhibit haem oxygenase, an enzyme involved in the breakdown of haem to bile pigments. They have been investigated as inhibitors of bilirubin production in hyperbilirubinaemia of various causes, and have been tried in porphyria (p.1448).

## ◇ References.

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- Martinez JC, *et al.* Control of severe hyperbilirubinemia in full-term newborns with the inhibitor of bilirubin production Sn-mesoporphyrin. *Pediatrics* 1999; **103**: 1–5.
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- Kappas A, *et al.* Sn-mesoporphyrin interdiction of severe hyperbilirubinemia in Jehovah's Witness newborns as an alternative to exchange transfusion. *Pediatrics* 2001; **108**: 1374–7.
- Kappas A. A method for interdicting the development of severe jaundice in newborns by inhibiting the production of bilirubin. *Pediatrics* 2004; **113**: 119–23.
- Drummond GS, Kappas A. Chemoprevention of severe neonatal hyperbilirubinemia. *Semin Perinatol* 2004; **28**: 365–8.
- Denney PA. Metalloporphyrins for the treatment of neonatal jaundice. *Curr Opin Pediatr* 2005; **17**: 167–9.