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Heptaminol Hydrochloride (BANM, rINNM) ⊗

Heptaminol, Chlorhydrate d'; Heptaminol, chlorhydrate de; Heptaminol hydrochlorid; Heptaminol-hidroklorid; Heptaminol-hydroklorid; Heptaminoli hydrochloridum; Heptaminolihydroklorid; Heptaminolio hidrochloridas; Hidrocloruro de heptaminol; RP-2831. 6-Amino-2-methylheptan-2-ol hydrochloride.

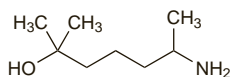
Гептаминола Гидрохлорид

$C_8H_{19}NO \cdot HCl = 181.7$.

CAS — 372-66-7 (heptaminol); 543-15-7 (heptaminol hydrochloride).

ATC — C01DX08.

ATC Vet — QC01DX08.



(heptaminol)

Pharmacopoeias. In *Eur.* (see p.vii).

Ph. Eur. 6.2 (Heptaminol Hydrochloride). A white or almost white crystalline powder. Freely soluble in water; soluble in alcohol; practically insoluble in dichloromethane.

Profile

Heptaminol hydrochloride is a cardiac stimulant and vasodilator and has been given in the treatment of cardiovascular disorders. Heptaminol and heptaminol adenosine phosphate have also been used.

Preparations

Proprietary Preparations (details are given in Part 3)

Fr.: Ampecycial; Hept-A-Myl; **Indon.:** Hept-a-myl; **Ital.:** Coreptil†.

Multi-ingredient: **Arg.:** Flebitol; **Cz.:** Ginkor Fort; **Fr.:** Debrumyl; Ginkor Fort; **Ger.:** Normotin-R†; Perivar†; Veno-Tebonin N†; **Hong Kong:** Ginkor Fort; **Hung.:** Ginkor Fort; **Malaysia:** Ginkor Fort; **Port.:** Debrumyl; Forticol; **Rus.:** Ginkor Fort (Гинкор Форст); **Spain:** Denubil; Largatex†; **Thai.:** Ginkor Fort.

Herniaria

Bruchkraut; Herba Herniariae; Herniary; Rupturewort; Rupturewort.

Profile

Herniaria consists of the dried leaves and flowering tops of various species of rupture-wort, chiefly *Herniaria glabra* and *H. hirsuta* (Caryophyllaceae). It has astringent and diuretic properties and has been given in urinary-tract disorders.

Homoeopathy. Herniaria has been used in homoeopathic medicines under the following names: Herniaria glabra; Hern. gla.

Preparations

Proprietary Preparations (details are given in Part 3)

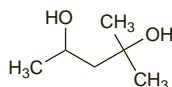
Multi-ingredient: **Austria:** Blasentee St Severin; Uropurat; **Cz.:** Urologicka; Cajova Smes.

Hexylene Glycol

Hexilenglicol. 2-Methyl-2,4-pentanediol.

$C_6H_{14}O_2 = 118.2$.

CAS — 107-41-5.



Pharmacopoeias. In *USNF*.

USNF 26 (Hexylene Glycol). A clear, colourless, viscous liquid. Absorbs moisture when exposed to moist air. Miscible with wa-

ter and with many organic solvents including alcohol, acetone, chloroform, ether, and hexanes. Store in airtight containers.

Profile

Hexylene glycol has properties similar to those of propylene glycol (p.2374). It is used as a pharmaceutical aid.

Preparations

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: **USA:** Bodi Kleen.

Hibiscus

Guinea Sorrel; Hibisci Flos (flowers); Hibisci Sabdariffae Flos (flowers); Hibiscusblüten (flowers); Jamaica Sorrel; Jamaikinių hibiskų žiedai (flowers); Karkadė; Květ ibišku sudánského (flowers); Oseille de Guinée; Red Sorrel; Rosella; Rosellenkukka (flowers); Rosellhibiskusblomma (flowers); Rozella (flowers).

Гибискус Сабдарифа; Кислица Ямайская

Pharmacopoeias. In *Eur.* (see p.vii).

Ph. Eur. 6.2 (Roselle; Hibisci Sabdariffae Flos). The whole or cut dried calyces and epicalyces of *Hibiscus sabdariffa* collected during fruiting.

Profile

Hibiscus is a large genus of flowering plants in the Malvaceae family. The flowers of roselle, *Hibiscus sabdariffa*, are included in herbal preparations for loss of appetite and a range of disorders of the upper respiratory and gastrointestinal tracts.

Culinary uses of *H. sabdariffa* include hibiscus tea, a refreshing caffeine-free beverage made from the flowers.

Homoeopathy. *Hibiscus sabdariffa* has been used in homoeopathic medicines under the following names: Sabdariffa.

Preparations

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: **Fr.:** Calmophytum; Hydracur.

Histamine

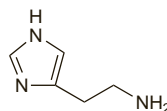
Histamiini; Histamin; Histamina; Histaminum. 2-(Imidazol-4-yl)ethylamine.

$C_5H_9N_3 = 111.1$.

CAS — 51-45-6.

ATC — V04CG03.

ATC Vet — QV04CG03.



Histamine Hydrochloride

Histamiindihydroklorid; Histamina, hidrocloruro de; Histaminidihydrochlorid; Histaminidihydroklorid; Histamine, dichlorhydrate d'; Histamine Dihydrochloride (USAN); Histamiini dihydrochloridum; Histaminio dihydrochloridas; Histaminy dichlorowodorek; Hisztaamin-dihidroklorid.

$C_5H_9N_3 \cdot 2HCl = 184.1$.

CAS — 56-92-8.

ATC — L03AX14; V04CG03.

ATC Vet — QL03AX14; QV04CG03.

Pharmacopoeias. In *Eur.* (see p.vii).

Ph. Eur. 6.2 (Histamine Dihydrochloride). Hygroscopic, colourless crystals or white or almost white crystalline powder. Very soluble in water; soluble in alcohol. A 5% solution in water has a pH of 2.85 to 3.60. Protect from light.

Histamine Phosphate

Histamiinifosfaatti; Histamin difosfát monohydrát; Histamina, fosfato de; Histamine Acid Phosphate; Histamine Diphosphate; Histamine, phosphate d'; Histaminfosfát; Histamiini Diphosphas Monohydricus; Histamiini phosphas; Histaminio fosfatas; Histaminy fosforan; Hisztaamin-foszfát.

$C_5H_9N_3 \cdot 2H_3PO_4 \cdot H_2O = 325.2$.

CAS — 51-74-1 (anhydrous histamine phosphate).

ATC — V04CG03.

ATC Vet — QV04CG03.

Pharmacopoeias. In *Eur.* (see p.vii). *Chin.* and *US* specify the anhydrous substance.

Ph. Eur. 6.2 (Histamine Phosphate). Colourless, long prismatic crystals. Freely soluble in water; slightly soluble in alcohol. A 5% solution in water has a pH of 3.75 to 3.95. Protect from light. **USP 31** (Histamine Phosphate). Anhydrous histamine phosphate occurs as colourless, odourless, long prismatic crystals. Is

stable in air but is affected by light. Soluble 1 in 4 of water. Its solutions are acid to litmus. Store in airtight containers. Protect from light.

Stability. A study concluded that solutions of histamine phosphate could be sterilised by heating in an autoclave with little degradation.¹ Autoclaved solutions could be stored for a minimum of 4 months.

- McDonald C, et al. Stability of solutions of histamine phosphate after sterilization by heating in an autoclave. *J Clin Pharm Ther* 1990; **15**: 41–4.

Adverse Effects and Treatment

Injection of histamine salts can produce adverse effects including headache, flushing of the skin, general vasodilatation with a fall in blood pressure, tachycardia, bronchial constriction and dyspnoea, visual disturbances, vomiting, diarrhoea, and other gastrointestinal effects. These reactions can be severe; excessive dosage can produce collapse and shock, and may be fatal. Reactions may occur at the injection site.

Some of these effects may be relieved by an antihistamine, but adrenaline may be required and should always be available.

Precautions

Histamine salts should be used with care in patients with asthma or other hypersensitivity disorders, in elderly patients, and in patients with cardiovascular disorders.

Pharmacokinetics

Histamine salts exert a rapid, though transient, effect when given parenterally. Histamine is rapidly metabolised by methylation and oxidation; the metabolites are excreted in the urine.

References

- Middleton M, et al. Pharmacokinetics of histamine dihydrochloride in healthy volunteers and cancer patients: implications for combined immunotherapy with interleukin-2. *J Clin Pharmacol* 2002; **42**: 774–81.

Uses and Administration

Histamine causes stimulation of smooth muscle, especially of the bronchioles, and lowers blood pressure by dilating the arterioles and capillaries. It also stimulates exocrine gland secretion, especially the gastric glands.

Intradermal injection of histamine produces the characteristic 'triple response' of erythema, flare, and wheal. This is utilised as a control response in skin testing for hypersensitivity. Also, since it is mediated in part by axon reflexes, it has been used to test the integrity of sensory nerves, for example in leprosy.

Inhalation of histamine causes bronchoconstriction and is used as a test of bronchial reactivity.

Histamine has also been given subcutaneously to identify the causes of achlorhydria and intravenously in the diagnosis of phaeochromocytoma, but safer tests are generally preferred.

Histamine is included in some combination topical preparations for musculoskeletal disorders.

Histamine hydrochloride is under investigation as an adjunct in the management of acute myeloid leukaemia and malignant melanoma. It has also been tried as an adjunct to interferons and other drugs in the management of hepatitis C.

Preparations

USP 31: Histamine Phosphate Injection.

Proprietary Preparations (details are given in Part 3)

Mex.: Destamin; **Port.:** Soluprick; **Venez.:** Histalgan Balsamo†.

Multi-ingredient: **Arg.:** Histaglobin; Infrarub†; **Austria:** Histaglobin; **Canada:** Midalgan†; **Cz.:** Histaglobin†; **Fr.:** Algipan; **Ger.:** Histadest†; **India:** Algipan; Histaglobulin; **Neth.:** Cremor capsici comp; Cremor Capsici compositus; Kruidvat Spierbalsem; **Pol.:** Histaglobulina; **Port.:** Midalgan†; **S.Afr.:** Histaglobin; Infrarub; **Switz.:** Midalgan; Radalgin.

Histoplasmin

Histoplasmina.

Pharmacopoeias. In *US*.

USP 31 (Histoplasmin). A clear, colourless, sterile solution containing standardised culture filtrates of *Histoplasma capsulatum* grown on liquid synthetic medium. It may contain a suitable antimicrobial. Store at 2° to 8°. The expiry date is not later than 2 years after release from the manufacturer's cold storage.

Profile

Histoplasmin, in an intradermal (intracutaneous) dose of 0.1 mL of a 1 in 100 dilution, may be used as an aid to the diagnosis of histoplasmosis. However, the diagnostic value of the test has been questioned and it may interfere with serological tests for histoplasmosis.

Histoplasmin has also been used, in conjunction with other antigens, to assess cell-mediated immunity.

Preparations

USP 31: Histoplasmin.

Proprietary Preparations (details are given in Part 3)

USA: Histodyn-CYL