

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

**Ph. Eur. 6.2** (Trapidil). A white or almost white crystalline powder. Freely soluble in water; soluble in dehydrated alcohol and in dichloromethane. Protect from light.

### Profile

Trapidil is a vasodilator and an inhibitor of platelet aggregation. It is also an antagonist of platelet-derived growth factor. It is used orally in the management of ischaemic heart disease in doses of 400 to 600 mg daily, in divided doses; doses of up to 600 mg daily may be used to prevent restenosis after angioplasty (but see below). Ischaemic heart disease is discussed under Atherosclerosis (p.1159) and the treatment of its clinical manifestations is described under Angina Pectoris (p.1157) and Myocardial Infarction (p.1175).

#### References to anti-platelet activity.

- Yasue H, *et al.* Effects of aspirin and trapidil on cardiovascular events after acute myocardial infarction: Japanese Antiplatelets Myocardial Infarction Study (JAMIS) Investigators. *Am J Cardiol* 1999; **83**: 1308–13.

#### References to pharmacokinetics.

- Harder S, *et al.* Pharmacokinetics of trapidil, an antagonist of platelet derived growth factor, in healthy subjects and in patients with liver cirrhosis. *Br J Clin Pharmacol* 1994; **42**: 443–9.

**Angioplasty and stenting.** Although angiographic studies<sup>1–3</sup> have found that trapidil reduces the rate of restenosis after balloon angioplasty (see Reperfusion and Revascularisation Procedures, p.1181), no effect on clinical outcomes<sup>3</sup> has been shown. Studies investigating the use of trapidil after coronary stenting<sup>3,4</sup> have shown no benefit in terms of restenosis or clinical events, and it was concluded that trapidil is not indicated for this purpose.

- Okamoto S, *et al.* Effects of trapidil (triazolopyrimidine), a platelet-derived growth factor antagonist, in preventing restenosis after percutaneous transluminal coronary angioplasty. *Am Heart J* 1992; **123**: 1439–44.
- Maresta A, *et al.* Trepidil (triazolopyrimidine), a platelet-derived growth factor antagonist, reduces restenosis after percutaneous transluminal coronary angioplasty: results of the randomized, double-blind STARC study. *Circulation* 1994; **90**: 2710–15.
- Maresta A, *et al.* Stare II, a multicenter randomized placebo-controlled double-blind clinical trial of trapidil for 1-year clinical events and angiographic restenosis reduction after coronary angioplasty and stenting. *Catheter Cardiovasc Interv* 2005; **64**: 375–82.
- Serruys PW, *et al.* The TRAPIST study: a multicentre randomized placebo controlled clinical trial of trapidil for prevention of restenosis after coronary stenting, measured by 3-D intravascular ultrasound. *Eur Heart J* 2001; **22**: 1938–47.

### Preparations

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

**Austria:** Rocomal†; **Braz.:** Travisco; **Cz.:** Rocomal†; **Ger.:** Rocomal; **Ital.:** Avantrin†; **Travisco;** **Jpn.:** Rocomal.

### Treprostinil (USAN, rINN)

LRX-15; Tréprostinil; Treprostinal; Treprostinalium; Treprostinoil; 15AU81; U-62840; UT-15. (((1R,2R,3aS,9aS)-2,3,3a,4,9,9a-Hexahydro-2-hydroxy-1-[(3S)-3-hydroxyoctyl]-1H-benz[*f*]inden-5-yl)oxy)acetic acid.

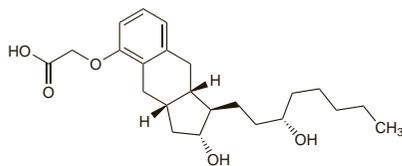
Трепростинил

$C_{23}H_{34}O_5 = 390.5$ .

CAS — 81846-19-7.

ATC — B01AC21.

ATC Vet — QB01AC21.



### Treprostinil Sodium (rINN)

Natrii Treprostinalium; Tréprostinil Sodique; Treprostinalo sódico.

Натрий Трепростинил

$C_{23}H_{33}NaO_5 = 412.5$ .

CAS — 289480-64-4.

ATC — B01AC21.

ATC Vet — QB01AC21.

### Adverse Effects and Precautions

Infusion site pain and reactions, including erythema, induration, and rash, are the most common adverse effects reported during subcutaneous infusion of treprostinil. Other effects include headache, nausea, diarrhoea, jaw pain, oedema, vasodilatation, dizziness, hypotension, and pruritus.

Abrupt cessation of the infusion should be avoided, because symptoms of pulmonary hypertension may worsen. Treprostinil should be used with caution in hepatic impairment.

The symbol † denotes a preparation no longer actively marketed

### Interactions

Since treprostinil is a vasodilator and inhibitor of platelet aggregation, care should be taken in patients receiving other vasodilators or anticoagulants.

### Pharmacokinetics

Treprostinil sodium is rapidly and completely absorbed after subcutaneous injection. It is metabolised by the liver and eliminated with a terminal half-life of about 4 hours. About 80% of a dose is excreted in the urine, mainly as metabolites.

#### References.

- Wade M, *et al.* Absolute bioavailability and pharmacokinetics of treprostinil sodium administered by acute subcutaneous infusion. *J Clin Pharmacol* 2004; **44**: 83–8.
- Wade M, *et al.* Pharmacokinetics of treprostinil sodium administered by 28-day chronic continuous subcutaneous infusion. *J Clin Pharmacol* 2004; **44**: 503–9.
- Laliberte K, *et al.* Pharmacokinetics and steady-state bioequivalence of treprostinil sodium (Remodulin) administered by the intravenous and subcutaneous route to normal volunteers. *J Cardiovasc Pharmacol* 2004; **44**: 209–14.
- McSwain CS, *et al.* Dose proportionality of treprostinil sodium administered by continuous subcutaneous and intravenous infusion. *J Clin Pharmacol* 2008; **48**: 19–25.

### Uses and Administration

Treprostinil, a vasodilator and platelet aggregation inhibitor, is an analogue of the prostaglandin eprostenol (prostacyclin; p.1279). Treprostinil sodium is given by continuous subcutaneous infusion in the treatment of pulmonary hypertension (p.1179); if this route cannot be tolerated, treprostinil sodium may be given by continuous infusion through a central venous catheter. Doses are calculated in terms of treprostinil: treprostinil sodium 1.32 nanograms is equivalent to about 1.25 nanograms of treprostinil. The infusion is started with a dose equivalent to treprostinil 1.25 nanograms/kg per minute; if this is not tolerated the dose should be halved. The infusion rate can be increased according to patient response, by increments of up to 1.25 nanograms/kg per minute each week for the first 4 weeks, followed by increases of up to 2.5 nanograms/kg per minute each week. There is limited experience with doses above 40 nanograms/kg per minute. The dose of treprostinil should be reduced in hepatic impairment, see below.

Inhaled treprostinil is under investigation in pulmonary hypertension, and intravenous use has been investigated for intermittent claudication.

#### References.

- Moller ER, *et al.* Trial of a novel prostacyclin analog, UT-15, in patients with severe intermittent claudication. *Vasc Med* 2000; **5**: 231–7.
- Simonneau G, *et al.* Continuous subcutaneous infusion of treprostinil, a prostacyclin analogue, in patients with pulmonary arterial hypertension: a double-blind, randomized placebo-controlled trial. *Am J Respir Crit Care Med* 2002; **165**: 800–804.
- Vachieri J-L, *et al.* Transitioning from IV eprostenol to subcutaneous treprostinil in pulmonary arterial hypertension. *Chest* 2002; **121**: 1561–5.
- Vachieri JL, Naeije R. Treprostinil for pulmonary hypertension. *Expert Rev Cardiovasc Ther* 2004; **2**: 183–91.
- Oudiz RJ, *et al.* Treprostinil, a prostacyclin analogue, in pulmonary arterial hypertension associated with connective tissue disease. *Chest* 2004; **126**: 420–7.
- Gomberg-Maitland M, *et al.* Efficacy and safety of sildenafil added to treprostinil in pulmonary hypertension. *Am J Cardiol* 2005; **96**: 1334–6.
- Fernandez B, Strootman D. The prostacyclin analog, treprostinil sodium, provides symptom relief in severe Burger's disease—a case report and review of literature. *Angiology* 2006; **57**: 99–102.
- Voswinkel R, *et al.* Inhaled treprostinil for treatment of chronic pulmonary arterial hypertension. *Ann Intern Med* 2006; **144**: 149–50.
- Channick RN, *et al.* Safety and efficacy of inhaled treprostinil as add-on therapy to bosentan in pulmonary arterial hypertension. *J Am Coll Cardiol* 2006; **48**: 1433–7.

**Administration in hepatic impairment.** Clearance of treprostinil is reduced in patients with hepatic impairment. The manufacturers recommend that the initial dose should be 0.625 nanograms/kg per minute, and should be increased cautiously, in mild to moderate impairment. Treprostinil has not been studied in severe hepatic impairment.

### Preparations

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

**Austral.:** Remodulin; **Chile:** Remodulin; **Cz.:** Remodulin; **Fr.:** Remodulin; **Gr.:** Remodulin; **Israel:** Remodulin; **Port.:** Remodulin; **Switz.:** Remodulin; **USA:** Remodulin.

### Triamterene (BAN, USAN, rINN) ⊗

NSC-77625; SKF-8542; Triamtereen; Triamterén; Triamteren; Triamterenas; Triamterène; Triamtereno; Triamterenum; Triamtereno. 6-Phenylpteridine-2,4,7-triamine; 2,4,7-Triamino-6-phenylpteridine.

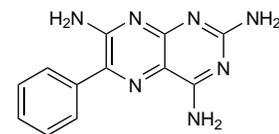
Триамтерен

$C_{12}H_{11}N_7 = 253.3$ .

CAS — 396-01-0.

ATC — C03DB02.

ATC Vet — QC03DB02.



NOTE. Compounded preparations of triamterene may be represented by the following names:

- Co-triamterezide (BAN)—triamterene 2 parts and hydrochlorothiazide 1 part (w/w)
- Co-triamterezide (PEN)—triamterene and hydrochlorothiazide.

**Pharmacopoeias.** In *Chin.*, *Eur.* (see p.vii), *Jpn.*, and *US*.

**Ph. Eur. 6.2** (Triamterene). A yellow, crystalline powder. Very slightly soluble in water and in alcohol. Protect from light.

**USP 31** (Triamterene). A yellow, odourless, crystalline powder. Practically insoluble in water, in chloroform, in ether, in benzene, and in dilute alkali hydroxides; very slightly soluble in alcohol, in acetic acid, and in dilute mineral acids; soluble 1 in 30 of formic acid and 1 in 85 of 2-methoxyethanol. Store in airtight containers. Protect from light.

### Adverse Effects

As for Amiloride Hydrochloride, p.1209. Triamterene has also been reported to cause photosensitivity reactions, increases in uric acid concentrations, and blood dyscrasias. Renal calculi may occur in susceptible patients, and megaloblastic anaemia has been reported in patients with depleted folic acid stores such as those with hepatic cirrhosis. Reversible renal failure, due either to acute interstitial nephritis or to an interaction with NSAIDs (see under Interactions, below) has occurred.

**Incidence of adverse effects.** In a postmarketing surveillance study of 70 898 patients<sup>1</sup> taking triamterene with hydrochlorothiazide the most common adverse effects were fatigue, dizziness, and nausea. Adverse effects necessitated withdrawal in 8.1% of patients. A subgroup analysis of 21 731 patients<sup>2</sup> indicated that hyperkalaemia was more common in elderly patients and in those with diabetes mellitus.

- Hollenberg NK, Mickiewicz CW. Postmarketing surveillance in 70,898 patients treated with a triamterene/hydrochlorothiazide combination (Maxzide). *Am J Cardiol* 1989; **63**: 37B–41B.
- Hollenberg NK, Mickiewicz CW. Hyperkalemia in diabetes mellitus: effect of a triamterene-hydrochlorothiazide combination. *Arch Intern Med* 1989; **149**: 1327–30.

**Effects on the blood.** There have been case reports of pancytopenia associated with triamterene therapy.<sup>1,2</sup> Some patients had hepatic cirrhosis and the antifolate activity of triamterene was considered responsible.<sup>2</sup>

- Castellano G, *et al.* Pancytopenia aguda y megaloblastosis medular durante el tratamiento con triamterene de la ascitis causada por cirrosis hepática: aportación de dos casos. *Gastroenterol Hepatol* 1983; **6**: 540–4.
- Remacha A, *et al.* Triamterene-induced megaloblastosis: report of two new cases, and review of the literature. *Biol Clin Hematol* 1983; **5**: 127–34.

**Effects on the kidneys.** There have been a number of reports<sup>1–4</sup> of renal calculi containing triamterene or its metabolites, generally in patients also taking hydrochlorothiazide. An abnormal urinary sediment was described which was thought to represent precipitated triamterene.<sup>5</sup> These observations were expanded in a crossover study:<sup>6</sup> abnormal urinary sediment was seen in 14 of 26 patients taking triamterene but in none taking amiloride. Triamterene and its metabolites were identified by others in 181 of 50 000 renal calculi.<sup>7</sup> Triamterene either formed the nucleus of the stone or was deposited with calcium oxalate or uric acid. One-third of the 181 stones were entirely or mainly composed of triamterene and its metabolites and it was suggested that supersaturation of the urine with these substances could provide suitable nuclei for the crystallisation of calcium oxalate.<sup>8</sup> However, other workers were unable to confirm this and suggested that triamterene and its metabolites could become incorporated into the protein matrix of existing stones.<sup>9</sup> In addition, an epidemiological study<sup>10</sup> found no evidence that triamterene use was associated with an increased incidence of renal stones. Some authors<sup>11</sup> have therefore considered that there was not enough evidence to contra-indicate the drug in patients with a history of recurrent renal calculi.

Deposition of triamterene in the urine may also play a part in the development of interstitial nephritis, which was diagnosed in 4 patients also taking hydrochlorothiazide, over a period of 4 years.<sup>6</sup>

Triamterene has also been associated with transient decline in renal function and the development of renal failure.<sup>12,13</sup> Several mechanisms may be responsible including interstitial nephritis,

The symbol ⊗ denotes a substance whose use may be restricted in certain sports (see p.vii)

intrarenal obstruction by crystalline deposits, and an interaction with NSAIDs (see under Interactions, below).<sup>13</sup> Elderly patients may be particularly at risk.<sup>12</sup>

1. Ettinger B, et al. Triamterene-induced nephrolithiasis. *Ann Intern Med* 1979; **91**: 745–6.
2. Socolow EL. Triamterene-induced nephrolithiasis. *Ann Intern Med* 1980; **92**: 437.
3. Gault MH, et al. Triamterene urolithiasis. *Can Med Assoc J* 1981; **124**: 1556–7.
4. Grunberg RW, Silberg SJ. Triamterene-induced nephrolithiasis. *JAMA* 1981; **245**: 2494–5.
5. Fairley KF, et al. Abnormal urinary sediment in patients on triamterene. *Lancet* 1983; **i**: 421–2.
6. Spence JD, et al. Effects of triamterene and amiloride on urinary sediment in hypertensive patients taking hydrochlorothiazide. *Lancet* 1985; **ii**: 73–5.
7. Ettinger B, et al. Triamterene nephrolithiasis. *JAMA* 1980; **244**: 2443–5.
8. White DJ, Nancollas GH. Triamterene and renal stone formation. *J Urol (Baltimore)* 1982; **127**: 593–7.
9. Werness PG, et al. Triamterene urolithiasis: solubility, pK, effect on crystal formation, and matrix binding of triamterene and its metabolites. *J Lab Clin Med* 1982; **99**: 254–62.
10. Jick H, et al. Triamterene and renal stones. *J Urol (Baltimore)* 1982; **127**: 224–5.
11. Woolfson RG, Mansell MA. Does triamterene cause renal calculi? *BMJ* 1991; **303**: 1217–18.
12. Lynn KL, et al. Renal failure with potassium-sparing diuretics. *N Z Med J* 1985; **98**: 629–33.
13. Sica DA, Gehr TWB. Triamterene and the kidney. *Nephron* 1989; **51**: 454–61.

**Effects on the skin.** Photodermatitis has been reported in a patient taking triamterene.<sup>1</sup> Pseudoporphyria, possibly associated with exposure to sunlight, occurred in a patient with vitiligo during treatment with triamterene and hydrochlorothiazide.<sup>2</sup>

1. Fernández de Corres L, et al. Photodermatitis from triamterene. *Contact Dermatitis* 1987; **17**: 114–15.
2. Motley RJ. Pseudoporphyria due to Dyazide in a patient with vitiligo. *BMJ* 1990; **300**: 1468.

## Precautions

As for Amiloride Hydrochloride, p.1209. Triamterene should also be given with caution to patients with hyperuricaemia or gout, or a history of renal calculi. Patients with depleted folic acid stores such as those with hepatic cirrhosis may be at increased risk of megaloblastic anaemia.

Triamterene may interfere with the fluorescent measurement of quinidine. It may slightly colour the urine blue.

## Interactions

As for Amiloride Hydrochloride, p.1209.

**Digoxin.** For a report of the effect of triamterene on digoxin, see p.1262.

**Dopaminergics.** For a report of increased *amantadine* toxicity associated with hydrochlorothiazide and triamterene, see p.793.

**NSAIDs.** There have been several reports of renal failure in patients taking triamterene and NSAIDs.<sup>1,2</sup> Both types of drug are nephrotoxic and in combination the effect appears to be additive.<sup>3,5</sup> It has been suggested that the suppression of urinary prostaglandins by NSAIDs could potentiate the nephrotoxic effects of triamterene.<sup>1</sup>

NSAIDs may also antagonise the diuretic action of triamterene.<sup>6</sup>

1. Favre L, et al. Reversible acute renal failure from combined triamterene and indomethacin: a study in healthy subjects. *Ann Intern Med* 1982; **96**: 317–20.
2. Härkönen M, Eklom-Kullberg S. Reversible deterioration of renal function after diclofenac in patient receiving triamterene. *BMJ* 1986; **293**: 698–9.
3. Bailey RR. Adverse renal reactions to non-steroidal anti-inflammatory drugs and potassium-sparing diuretics. *Adverse Drug Reaction Bull* 1988; (Aug.): 492–5.
4. Lynn KL, et al. Renal failure with potassium-sparing diuretics. *N Z Med J* 1985; **98**: 629–33.
5. Sica DA, Gehr TWB. Triamterene and the kidney. *Nephron* 1989; **51**: 454–61.
6. Webster J. Interactions of NSAIDs with diuretics and  $\beta$ -blockers: mechanisms and clinical implications. *Drugs* 1985; **30**: 32–41.

## Pharmacokinetics

Triamterene is variably but fairly rapidly absorbed from the gastrointestinal tract. The bioavailability has been reported to be about 50%. The plasma half-life has been reported to be about 2 hours. It is estimated to be about 60% bound to plasma proteins. It is extensively metabolised and is mainly excreted in the urine in the form of metabolites with some unchanged triamterene. Triamterene crosses the placenta and may be distributed into breast milk.

## References

1. Pruitt AW, et al. Variations in the fate of triamterene. *Clin Pharmacol Ther* 1977; **21**: 610–19.
2. Gundert-Remy U, et al. Plasma and urinary levels of triamterene and certain metabolites after oral administration to man. *Eur J Clin Pharmacol* 1979; **16**: 39–44.
3. Gilfrich HJ, et al. Pharmacokinetics of triamterene after iv administration to man: determination of bioavailability. *Eur J Clin Pharmacol* 1983; **25**: 237–41.
4. Sörgel F, et al. Oral triamterene disposition. *Clin Pharmacol Ther* 1985; **38**: 306–12.

**Hepatic impairment.** Triamterene clearance was markedly decreased in 7 patients with alcoholic cirrhosis and ascites.<sup>1</sup> The diuretic effect lasted for up to 48 hours in cirrhotic patients compared with 8 hours in healthy controls.

1. Villeneuve JP, et al. Triamterene kinetics and dynamics in cirrhosis. *Clin Pharmacol Ther* 1984; **35**: 831–7.

**Renal impairment.** Urinary excretion of triamterene and its metabolite, hydroxytriamterene sulfate, was significantly reduced in patients with renal impairment<sup>1</sup> and in the elderly whose renal function was reduced.<sup>2</sup> Accumulation of the active metabolite was possible in patients with renal impairment.<sup>1</sup>

1. Knauf H, et al. Delayed elimination of triamterene and its active metabolite in chronic renal failure. *Eur J Clin Pharmacol* 1983; **24**: 453–6.
2. Williams RL, et al. Absorption and disposition of two combination formulations of hydrochlorothiazide and triamterene: influence of age and renal function. *Clin Pharmacol Ther* 1986; **40**: 226–32.

## Uses and Administration

Triamterene is a weak diuretic with potassium-sparing properties which has actions and uses similar to those of amiloride (p.1210). It produces a diuresis in about 2 to 4 hours, with a duration of 7 to 9 hours. The full therapeutic effect may be delayed until after several days of treatment.

Triamterene adds to the natriuretic but diminishes the kaliuretic effects of other diuretics. It is mainly used, as an adjunct to thiazide diuretics such as hydrochlorothiazide and loop diuretics such as furosemide, to conserve potassium in those at risk from hypokalaemia during the treatment of refractory oedema associated with hepatic cirrhosis, heart failure (p.1165), and the nephrotic syndrome. It is also used with other diuretics in the treatment of hypertension (p.1171).

When triamterene is given alone in the treatment of oedema, the oral dosage range is 150 to 250 mg daily, given in 2 divided doses, after breakfast and lunch. Doses may be given on alternate days for maintenance therapy. More than 300 mg daily should not be given.

Smaller doses are used initially when other diuretics are also given. When used with hydrochlorothiazide, for example, in the treatment of hypertension, an initial dose of 50 mg of triamterene daily may be used.

Potassium supplements should not be given.

## Preparations

**BP 2008:** Co-triamterezide Tablets; Triamterene Capsules; **USP 31:** Triamterene and Hydrochlorothiazide Capsules; Triamterene and Hydrochlorothiazide Tablets; Triamterene Capsules.

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

**Belg.:** Dytac; **Canad.:** Dyrenium<sup>†</sup>; **Neth.:** Dytac<sup>†</sup>; **UK:** Dytac; **USA:** Dyrenium.

**Multi-ingredient:** **Austral.:** Hydrene; **Austria:** Confit; Dytide H; Hydrotrix; Salodiur; Triamteren comp; Triastad HCT; Trioral/HCT; **Belg.:** Diucomb<sup>†</sup>; Dyta-Urese; Dytenzide; **Braz.:** Diurana; Iguassina; **Canad.:** Apo-Triazide; Novo-Triamzide; Nu-Triazide; **Chile:** Drinamili; Hidrononol T; Uren; **Fin.:** Furesis comp; Uretren Comp; **Fr.:** Isobar; Prestole; **Ger.:** Beta-Turfa; dehydro sanol tri; Diu Venostas; Diucomb; Diuretikum Verla; Diutensat comp<sup>†</sup>; Diutensat<sup>†</sup>; Dociteren; duradiuret<sup>†</sup>; Dytide H; Haemionum compositum<sup>†</sup>; Hydrotrix; Jenateren comp<sup>†</sup>; Neotri; Nephral; Propra comp; Sallipuren<sup>†</sup>; Thiazid-comp; Tri-Thiazid; Tri-Thiazid Reserpin<sup>†</sup>; Triampur Compositum; Triamteren comp; Triamteren HCT; Triamteren tri-comp; Triamteren-H<sup>†</sup>; Triarese; triazid<sup>†</sup>; Turfa; Veratide; **Hong Kong:** Apo-Triazide; Dyazide; Triam-Co<sup>†</sup>; **India:** Dittide; **Irl.:** Dyazide; **Ital.:** Fluss 40; **Malaysia:** Apo-Triazide<sup>†</sup>; **Mex.:** Dyazide; **Neth.:** Dyta-Urese; Dytenzide; **NZ:** Triamzide; **Port.:** Dyazide; Triam Triazida R; **Rus.:** Apo-Triazide (Апо-триазид); Triam-Со (Триам-ко); Triampur Compositum (Триампур Композитум); **S.Afr.:** Dyazide; Renezide; **Singapore:** Apo-Triazide; **Spain:** Salidur; **Switz.:** Dyazide; Dyrenium compositum; t/h-basan; **Thai.:** Dazid<sup>†</sup>; Dinazide; Dyazide; Dyterene<sup>†</sup>; **Turk.:** Triamteri; **UK:** Dyazide; Dytide; Frusene; Kalspare; Triamaco<sup>†</sup>; Triamco; **USA:** Dyazide; Maxzide.

## Trichlormethiazide (rINN) ⓧ

Trichlorméthiazide; Trichlormethiazidum; Triclorometiazida; Triklorimetiazidi; Triklormetiazid. 6-Chloro-3-dichloromethyl-3,4-dihydro-2H-1,2,4-benzothiazidiazine-7-sulphonamide 1,1-dioxide.

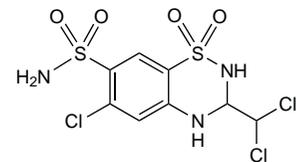
Трихлорметиазид

$C_8H_8Cl_3N_3O_4S_2 = 380.7$ .

CAS — 133-67-5.

ATC — C03AA06.

ATC Vet — QC03AA06.



**Pharmacopoeias.** In *Jpn* and *US*.

**USP 31** (Trichlormethiazide). A white or practically white, crystalline powder, odourless or with a slight characteristic odour. Soluble 1 in 1100 of water, 1 in 48 of alcohol, 1 in 5000 of chloroform, 1 in about 4 of dimethylformamide, 1 in about 9 of dioxan, and 1 in 1400 of ether; freely soluble in acetone; soluble in methyl alcohol.

## Profile

Trichlormethiazide is a thiazide diuretic with properties similar to those of hydrochlorothiazide (p.1307). It is given orally for oedema, including that associated with heart failure (p.1165), and for hypertension (p.1171).

Diuresis begins about 2 hours after an oral dose, and lasts about 24 hours.

In the treatment of oedema the usual dose is 1 to 4 mg daily or intermittently. In the treatment of hypertension the usual dose is 2 to 4 mg daily, either alone, or with other antihypertensives. In some patients 1 mg daily may be adequate. In children over 6 months of age a dose of 70 micrograms/kg daily in one or two doses has been used.

## Preparations

**USP 31:** Trichlormethiazide Tablets.

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

**USA:** Diurese<sup>†</sup>; Metahydrint<sup>†</sup>; Naqua<sup>†</sup>.

**Multi-ingredient:** **Fin.:** Uretren Comp; **Ger.:** Esmalorid<sup>†</sup>; **Spain:** Rulun; **USA:** Metatensin<sup>†</sup>.

## Triflusal (BAN, rINN)

Triflusaali; Triflusalis; Triflusalum; Trifluzál; UR-1501. 2-Acetoxy-4-trifluoromethylbenzoic acid; *O*-Acetyl-4-(trifluoromethyl)salicylic acid.

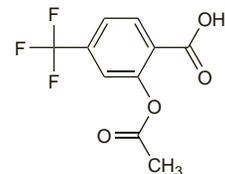
Трифлусал

$C_{10}H_7F_3O_4 = 248.2$ .

CAS — 322-79-2.

ATC — B01AC18.

ATC Vet — QB01AC18.



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

**Ph. Eur. 6.2** (Triflusal). A white or almost white crystalline powder. Practically insoluble in water; very soluble in dehydrated alcohol; freely soluble in dichloromethane. Store in airtight containers at a temperature not exceeding 25°.

## Profile

Triflusal is an inhibitor of platelet aggregation used in the management of thromboembolic disorders (p.1187) in usual oral doses of 300 to 900 mg daily.

## References

1. Murdoch D, Plosker GL. Triflusal: a review of its use in cerebral infarction and myocardial infarction, and as thromboprophylaxis in atrial fibrillation. *Drugs* 2006; **66**: 671–92.

## Preparations

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

**Arg.:** Disgren; **Braz.:** Disgren; **Chile:** Logrosal<sup>†</sup>; **Gr.:** Aflen; Reoflen; **Hung.:** Disgren; **Ital.:** Triflux; **Mex.:** Disgren; **Port.:** Tecnosal; **Spain:** Anpeval; Disgren; **Venez.:** Disgren.