Caraway is an aromatic carminative, and is used in gastrointestinal disorders and as a flavour. The seeds have culinary uses. It is the source of caraway oil (below).

#### **Preparations**

USNF 26: Compound Cardamom Tincture.

Proprietary Preparations (details are given in Part 3)

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: Austria: Mag Kottas Krauterexpress Abfuhrtee; Midro
Tee; Montana: Nesthakhen: Species Carvi compt; Braz: Balsamo Branco;
Cz: Blahungstee Ntj; Iberogast; Ger.: Carminativum Hofmann; Carminativum-Hettendh; Carminativum-Pascoet; Cholosom-Tee; Floradix Multipretten N; Gastrol 5†; Gastrosecurț: Iberogast; Lomatolt; Majocarmin-Tee;
Montana N; Pascoventral; Presselin Blahungs K 4 Ntj; Presselin Dyspețtikurnț; Stovalid Ntj. Israel: Jungbom; Lido Tea; Midro-Tea; Ital:: Anice (Specie Composta)†; Cadifien; Cadimit: Camomilla (Specie Composta)†; Florika; Midro; Relaxcol; Tarassaco (Specie Composta)†; Pol.: Apinorm;
Laxantol; Melis-Tonic; Rhelax; Tabletki Przeciv Niestrawnosci; Tabulettae
Laxantes; Rus.: Herbion Drops for the Gallbladder (Гербион Капли
Жемчего-ные); Herbion Drops for the Stomach (Гербион Жемудол-ные
Капли); S.Afr.: Clairo; Spain: Natusor Aerofane†; Switz.: Kernosan Heidelberger Poudre; Phytomed Gastro†; Tisane favorisant l'allaitement.

## Caraway Oil

Alcaravea, aceite esencial de; Carvi aetheroleum; Carvi Etheroleum; Carvi, huile essentielle de; Kmínová silice; Kuminaöljy; Kümmelöl; Kumminolja; Olejek kminkowy; Oleum Cari; Oleum Carui; Oleum Carvi.

Pharmacopoeias. In Eur. (see p.vii). Also in USNF.

Ph. Eur. 6.2 (Caraway Oil). The oil obtained by steam distillation from the dry fruits of Carum carvi. A clear, colourless or yellow liquid. Relative density 0.904 to 0.920. Store in well-filled, airtight containers at a temperature not exceeding 25°. Protect

USNF 26 (Caraway Oil). The volatile oil distilled from caraway. It contains not more than 50% v/v of carvone ( $C_{10}H_{14}O$ ). Soluble 1 in 8 of alcohol (80%). Store in airtight containers. Protect from light.

#### Profile

Caraway oil is an aromatic carminative and is used in gastrointestinal disorders and as a flavour. It is also employed as caraway water for infant colic (see Gastrointestinal Spasm, p.1696).

#### **Preparations**

BP 2008: Aromatic Cardamom Tincture: Compound Cardamom Tinc-

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

Multi-ingredient: Austria: Nesthakchen; Parodontax; Sabatif, Sigman-Haustropien; Spasmo Claim; Cz.: Contraspan†; Naturident†; Ger.: Aspasmon N†; Enteroplant; Euflat ††; Floradix Multipretten N; Galloselect M†; Gastricard†; Gastrycard; Gastrycard; Gastrycard; Gastrycard; Canticord; Castrycard; Enteroplant; India: Bestozyme; Pascopankreat novo†; ratioGast†; Hung.: Enteroplant; India: Bestozyme; Catazyme-P; Neopeptine; Vitazyme; Ital: Relaxoci, Mex.: Enterokan; Singapore: Enterokan; Singapore; Enterokan; Singapore; Catazyme-P; Micture; UK: Atkinson & Barker's Gripe Mixture; UK: Atkinson & Barker's G Nurse Harvey's Gripe Mixture.

#### Carbon-13

Carbono 13.

CAS = 14762-74-4

#### **Profile**

Carbon-13 is a naturally occurring, non-radioactive, stable isotope of carbon. It has been used to label organic compounds, such as urea (p.1620), for use in diagnostic tests, including breath tests for the diagnosis of Helicobacter pylori infection.

# **Preparations**

USP 31: Urea C 13 for Oral Solution.

Proprietary Preparations (details are given in Part 3)

Cz.: Pylobacteli; Denm.: Diabact, Helicobacter Test; Fr.: Heli-Kit; Gr.: Heli-cobacter; Pylobactel; Ital.: Breathquality-UBT; Citredici UBT Kit; Expirobacter; Helicokit; Pylobactell†; Mex.: Alitest; Neth.: Helico State; Pylobactell†; Mex.: Alitest; Neth.: Helico State; Pyloractell-13C; UBTest; Port: Helico-teste; Helicobacter Test; Ubt; Spain: Pylori Chek†; Tau Kit; Ubtest; Swed.: Diabact UBT; Helicobacter Test; Switz.: Helicobacter Test; Pylori 13†; UK: Diabact UBT; Pylobactell; USA: Merertek UBT;

Multi-ingredient: USA: Ez-HBT.

## Cardamom

Cardamomi; Cardamomo, fruto del.

**Pharmacopoeias.** In Br. and Jpn. Also in USNF.

BP 2008 (Cardamom Fruit). The dried, nearly ripe fruit of Elettaria cardamomum var. minuscula. Only the seeds are used in making preparations of cardamom and they are used immediately after removal from the fruit. The seeds should not be stored after removal from the fruit. They have a strongly aromatic odour and taste and contain not less than 4% v/w of volatile oil.

USNF 26 (Cardamom Seed). The dried ripe seed of Elettaria cardamomum (Zingiberaceae), recently removed from the capsule. Preserve against attack by insects.

## Profile

Preparations of cardamom are used as carminatives and as flayours. The seeds have culinary uses. Cardamom seeds are the source of cardamom oil (below).

### **Preparations**

USNF 26: Compound Cardamom Tincture.

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: Austral.: Peritone; Travelaide†; Austria: Mariazeller; Tutti-Ingredient: Austral.: 'Pertone, Travelaide'; Austral: Manazelier; Cz.: Dr Theiss Rheuma Creme†; Dr Theiss Schwedenbitter; Klosterfrau Melisana; Ger.: Gallexier; Montana N; Presselin Dyspeptikum†; Schwedentrunk Elixier; India: Carmicide; Pol.: Melisana Klosterfrau; Rus.: Suprima-Froncho (Суприма-Бронхо); S.Afr.: Alma; Enterodyne; Helmontskruie; Spain: Digestovital†; Switz.: Stomacine; Thai.: Carmicide†; UK: Indian Brandee; Pegina.

#### Cardamom Oil

Cardamomo, aceite esencial de; Ol. Cardamom.

Pharmacopoeias. In Br. Also in USNF.

BP 2008 (Cardamom Oil). A clear, colourless or pale yellow liquid, visibly free from water, with an odour of cardamom fruit. It is distilled from crushed cardamom fruit. At 20° it is soluble 1 in 6 of alcohol (70%). Store at a temperature not exceeding 25° in well-filled containers. Protect from light.

USNF 26 (Cardamom Oil). The volatile oil obtained from cardamom seed. Soluble 1 in 5 of alcohol (70%). Store in airtight containers. Protect from light.

#### Profile

Preparations of cardamom oil are used as carminatives and as flavours.

#### **Preparations**

**BP 2008:** Aromatic Cardamom Tincture; Compound Cardamom Tincture; Compound Rhubarb Tincture.

Proprietary Preparations (details are given in Part 3)

Multi-ingredient: India: Catazyme-P; Digeplex; Vitazyme; Thai.: Gas-

## Carglumic Acid (rINN)

Acide Carglumique; Ácido carglúmico; Acidum Carglumicum; Carglutamic Acid; Karglumik Asit. N-Carbamoyl-L-glutamic acid.

Карглумовая Кислота  $C_6H_{10}N_2O_5 = 190.2.$ CAS — 1188-38-1. ATC — A16AA05. ATC Vet - QAI6AA05.

#### Profile

Carglumic acid is used for the treatment of hyperammonaemia in patients with N-acetylglutamate synthase deficiency. The initial daily dose ranges from 100 to 250 mg/kg, adjusted thereafter to maintain normal plasma levels of ammonia. Individual responsiveness to carglumic acid should be tested before starting longterm therapy; daily maintenance doses range from 10 to 100 mg/kg. The total daily dose should preferably be taken as 2 to 4 divided doses before food.

A References to the use of carglumic acid in the management of hyperammonaemia due to N-acetylglutamate synthase deficien-

- 1. Bélanger-Quintana A, et al. Hyperammonaemia as a cause of
- psychosis in an adolescent. Eur J Pediatr 2003; 162: 773-5.

  2. Caldovic L, et al. Restoration of ureagenesis in N-acetylglutamate synthase deficiency by N-carbamylglutamate. J Pediatr 2004; 145: 552-4.
- 3. Gebhardt B, et al. N-carbamylglutamate protects patients with decompensated propionic aciduria from hyperammonaemia. *J Inherit Metab Dis* 2005; **28:** 241–4.
- Guffon N, et al. Neonatal hyperammonemia: the N-carbamoyl-L-glutamic acid test. J Pediatr 2005; 147: 260–2.
- 5. Jones S, et al. N-Carbamylglutamate for neonatal hyperammonaemia in propionic acidaemia. J Inherit Metab Dis 2008. Available at: doi: 10.1007/s10545-008-0777-1

### **Preparations**

Proprietary Preparations (details are given in Part 3)
Belg.: Carbaglu; Cz.: Carbaglu; Denm.: Carbaglu; Fr.: Carbaglu; Ger.: Carbaglu; Raft.: Carbaglu; Neth.: Carbaglu; Port.: Spain: Carbaglu; UK: Carbaglu.

#### Carnauba Wax

Brazil Wax; Caranda Wax; Carnauba, cire de; Cera carnauba; Cera Coperniciae: Cera de carnauba: E903: Karnauba pálmaviasz; Karnaubavaha; Karnaubavax; Karnaubo vaškas; Vosk karnaubský.

CAS — 8015-86-9.

**Pharmacopoeias.** In Eur. (see p.vii), Int., and Jpn. Also in US-

Ph. Eur. 6.2 (Carnauba Wax). It is obtained from the leaves of

Copernicia cerifera. Pale yellow or yellow powder, flakes, or hard masses. It has a relative density of about 0.97. M.p. 80° to 88°. Practically insoluble in water and in alcohol; soluble on heating in ethyl acetate and in xylene. Protect from light.

USNF 26 (Carnauba Wax). It is obtained from the leaves of Copernicia cerifera (Palmae). A light brown to pale yellow, moderately coarse powder or flakes, possessing a characteristic bland odour, and free from rancidity. Sp. gr. about 0.99. M.p. 80° to 86°. Insoluble in water; slightly soluble in boiling alcohol; soluble in warm chloroform and in warm toluene; freely soluble in warm benzene.

#### **Profile**

Carnauba wax is used in pharmacy as a coating agent. Its use is also permitted in certain foods. Various types and grades are used industrially in the manufacture of polishes.

#### Caroverine (pINN)

Caroverina; Carovérine; Caroverinum. I-[2-(Diethylamino)ethyl]-3-(p-methoxybenzyl)-2(1H)-quinoxalinone. Кароверин

 $C_{22}H_{27}N_3O_2 = 365.5.$  CAS = 23465-76-1. ATC = A03AX11.ATC Vet - QA03AX11.

#### **Profile**

Caroverine is a smooth muscle relaxant with calcium-channel blocking and glutamate-antagonist properties. It is used as the base or the hydrochloride in conditions associated with painful smooth muscle spasm. Typical doses (expressed as the base) are 20 to 40 mg by mouth three or four times daily. It may also be given by slow intravenous or intramuscular injection in doses of 40 to 80 mg. Caroverine has also been given rectally. It is also used in cerebral circulatory disorders and in tinnitus.

## ◊ References.

- Denk DM, et al. Caroverine in tinnitus treatment: a placebo-controlled blind study. Acta Otolaryngol 1997; 117: 825–30.
- 2. Ehrenberger K. Clinical experience with caroverine in inner ear diseases. Adv Otorhinolaryngol 2002; 59: 156-62.
- Quint C, et al. The quinoxaline derivative caroverine in the treat-ment of sensorineural smell disorders: a proof-of-concept study. Acta Otolaryngol 2002; 122: 877-81.

#### **Preparations**

**Proprietary Preparations** (details are given in Part 3) *Austria:* Delirex; Spasmium; Tinnitin; *Switz.:* Calmaverine†. Multi-ingredient: Austria: Spagall; Spasmium comp.

# **Cartilage and Cartilage Extracts**

#### **Profile**

Preparations containing cartilage or cartilage extracts from various sources have been used in musculoskeletal and joint disorders and as nutritional supplements. A product derived from shark cartilage (AE-941, p.677) is under investigation as an antineoplastic.

## **Preparations**

Proprietary Preparations (details are given in Part 3)

Arg.: Carti-b-uron; Cartilade†; Cartilago Vítal; Cartimax; Austral.: Cartilago Indon.: Fellafit; Sharko Inside.

Multi-ingredient: Arg.: Arrumalon†; Car-ti buron flex; Cartiflex; Collagen T2-Gag†; CT1000; Rep-Cartil; Braz.: Rumalon†; Chile: Cartilago Compuesto†; Cartilago T-500; Rumalon; Fr.: Oligo-Yang†; Hong Kong: Cervusen; **Hung.:** Rumalon†.

## Carzenide (HNN)

Carcenida; Carzenida; Carzénide; Carzenidum. p-Sulphamoylbenzoic acid.

Карзенид  $C_7H_7NO_4S = 201.2.$ CAS — 138-41-0.

$$H_2N-S$$
 OF

The symbol † denotes a preparation no longer actively marketed