Summary of Product Characteristics

1 NAME OF THE MEDICINAL PRODUCT

Carbocisteine 375mg Hard Capsules

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each capsule contains 375 mg of carbocisteine.

For a full list of excipients, see section 6.1.

3 PHARMACEUTICAL FORM

Capsule, hard.

Yellow, size 0 capsule, hard, containing a white to off- white powder.

4 CLINICAL PARTICULARS

4.1 Therapeutic Indications

Carbocisteine 375mg capsulesis a mucolytic agent for the adjunctive therapy of respiratory tract disorders characterised by excessive, viscous mucus, including chronic obstructive airways disease.

4.2 Posology and method of administration

Posology
Adults including the elderly:
Dosage is based upon an initial daily dosage of 2250 mg Carbocisteine (6 capsules) in divided doses, reducing to 1500 (4 capsules) mg daily in divided doses when a satisfactory response is obtained. For example, two capsules three times a day reducing to one capsule four times a day.

Paediatric population:
This formulation is not recommended for children.

Method of administration:
Carbocisteine 375mg capsules are for oral use.

4.3 Contraindications

Hypersensitivity to the active substance or to any of the excipients listed in section 6.1.
Use in patients with active peptic ulceration.

4.4 Special warnings and precautions for use

Caution is recommended in the elderly, in those with a history of gastroduodenal ulcers, or those taking concomitant medication known to cause gastrointestinal bleeding. If bleeding occurs, patients should discontinue medication.

Because of the possible effect on the mucous glands of the stomach, this product should be used with caution in patients with a history of peptic ulceration.

4.5 Interaction with other medicinal products and other forms of interactions

No interaction studies have been performed.

4.6 Fertility, pregnancy and lactation

Pregnancy
Although tests in mammalian species have revealed no teratogenic effects, Carbocisteine 375mg capsules should not be used during pregnancy unless considered essential by the physician.

Breast-feeding
It is unknown whether carbocisteine and / or its metabolites are excreted in human milk. A risk to the newborn or infant cannot be excluded.
A decision must be made whether to discontinue breast-feeding or to discontinue/abstain from carbocisteine therapy taking into account the benefit of breast feeding for the child and the benefit of therapy for the woman.

Fertility
Effects not known.

4.7 Effects on ability to drive and use machines

Not relevant

4.8 Undesirable effects

Side effects include;

Immune System Disorders
There have been reports of anaphylactic reactions and fixed drug eruption.

Gastrointestinal disorders
Nausea, gastrointestinal upset, vomiting, gastrointestinal bleeding.

Nervous system disorders
Headache

Skin and subcutaneous tissue disorders
There have been reports of skin rashes and allergic skin eruptions. Isolated cases of bullous dermatitis such as Stevens–Johnson syndrome and erythema multiforme have also been reported.

Reporting of suspected adverse reactions
Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions to HPRA Pharmacovigilance, Earlsfort Terrace, IRL - Dublin 2; Tel: +353 1 6764971; Fax: +353 1 6762517; Website: www.hpra.ie; e-mail: medsafety@hpra.ie.

4.9 Overdose

Gastric lavage may be beneficial, followed by observation. Gastrointestinal disturbance is the most likely symptom of Carbocisteine 375mg capsules over dosage.

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

ATC Code: R05CB03
Carbocisteine (S-carboxymethyl L-cysteine) has been shown in normal and bronchitic animal models to affect the nature and amount of mucus glycoprotein which is secreted by the respiratory tract. An increase in the acid-neutral glycoprotein ratio of the mucus and a transformation of serous cells to mucus cells is known to be the initial response to irritation and will normally be followed by hypersecretion. The administration of Carbocisteine to animals exposed to irritants indicates that the glycoprotein that is secreted remains normal; administration after exposure indicates that return to the normal state is accelerated. Studies in humans have demonstrated that Carbocisteine reduces goblet cell hyperplasia. Carbocisteine can therefore be demonstrated to have a role in the management of disorders characterised by abnormal mucus.

5.2 Pharmacokinetic properties

Carbocisteine is rapidly absorbed from the GI tract. In an 'in-house' study, at steady state (7 days) Carbocisteine 375mg capsules given as 2 capsules t.d.s.to healthy volunteers gave the following pharmacokinetic parameters:

Plasma Determinations	Mean	Range
T Max (Hr)	2.0	1.0 - 3.0
T½ (Hr)	1.87	1.4 - 2.5
K_{EL} (Hr^{-1})	0.387	0.28 - 0.50
$AUC_{0-7.5}$ ($mcg.hr.ml^{-1}$)	39.26	26.0 - 62.4

Derived Pharmacokinetic Parameters	
*CL_S ($L.Hr^{-1}$)	20.2 -
CL_S ($ml.min^{-1}$)	331 -
V_D (L)	105.2 -
V_D ($L.Kg^{-1}$)	1/75 -

*calculated from dose for day 7 of study

5.3 Preclinical safety data

There are no preclinical data of relevance to the prescriber, which are additional to those already included in other sections of the SmPC.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Maize starch
Pregelatinised, Maize starch
Magnesium stearate
Titanium dioxide (E171)
Yellow iron oxide (E172).
Gelatin

6.2 Incompatibilities

Not applicable.

6.3 Shelf life

24 months

6.4 Special precautions for storage

Store below 30°C.

6.5 Nature and contents of container

Carbocisteine 375mg capsules are packed in blister strips formed from PVC/PVDC and aluminium lidding foil or PVC/PE.EVOH.PE/PCTFE and aluminium lidding foil.

Pack sizes: 6, 18, 30 or 120 capsules.

Not all pack sizes may be marketed.

6.6 Special precautions for disposal and other handling

No special requirements. Any unused product or waste material should be disposed of in accordance with local requirements.

7 MARKETING AUTHORISATION HOLDER

Chanelle Medical
Dublin Road
Loughrea
Co. Galway
Ireland

8 MARKETING AUTHORISATION NUMBER

PA0688/045/001

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

First Date of Authorisation: 9th December 2016
Date of Last Renewal: 24th of October 2021

10 DATE OF REVISION OF THE TEXT

January 2021