1.4 PRODUCT INFORMATION

1.4.1 Prescribing information (Summary of products characteristics)

1. Name of the medicinal product

Buscomax (Hyoscine Butylbromide Tablets BP 10 mg)

2. Qualitative and quantitative composition

MASTER FORMULA							
S. No.	**Ingredients**	**Pharma copeia Grade**	**Label Claim**	**mg/tab**	**Ovg. (%)/Factor**	**Qty. for 1.0 Lac (Kg)**	**Function**
DRY MIXING							
1.	Maize Starch	BP	NA	80.000	NA	8.000	Diluent
2.	Microcrystalline Cellulose (PH-102)	BP	NA	50.000	NA	5.000	Diluent
3.	Lactose	BP	NA	20.000	NA	2.000	Diluent
4.	Colloidal Silicon Dioxide	BP	NA	0.900	NA	0.090	Glident
BINDER PREPARATION							
5.	Maize Starch (in paste)	BP	NA	3.400	NA	0.340	Binder
6.	PVPK-30	BP	NA	0.350	NA	0.035	Binder
7.	Methyl Paraben Sodium	BP	NA	0.100	NA	0.010	Preservative
8.	Propyl Paraben Sodium	BP	NA	0.020	NA	0.002	Preservative
9.	Purified Water #	BP	NA	27.000	NA	2.700	Solvent
LUBRICATION							
10.	Hyoscine Butylbromide*	BP	10 mg	10.000	NA	1.000	Active Pharmaceutical Ingredient
11.	Talcum	BP	NA	3.600	NA	0.360	Lubricant
12.	Magnesium Stearate	BP	NA	3.000	NA	0.300	Lubricant
13.	Colloidal Silicon Dioxide	BP	NA	0.900	NA	0.090	Glident
14.	Croscarmellose Sodium	BP	NA	2.730	NA	0.273	Disintegrant
15.	Maize Starch** (Dried)	BP	NA	8.340	NA	0.834	Diluent
Target Weight of Compressed Tablets				**175.000**	**----**	**17.500**	
FILM COATING MATERIAL							
16.	Titanium Dioxide	BP	NA	1.000	NA	0.100	Colourant
17.	PVPK-30	BP	NA	1.000	NA	0.100	Binder

18.	Talcum	BP	NA	0.900	NA	0.090	Lubricant
19.	Talcum (For dusting)	BP	NA	1.000	NA	0.100	Lubricant
20.	HPMC-15cps	BP	NA	3.500	NA	0.350	Film Former
21.	PEG-6000	BP	NA	0.900	NA	0.090	Lubricant
22.	Isopropyl Alcohol	BP	NA	45.000	NA	4.500	Solvent
23.	Methylene Dichloride	BP	NA	65.000	NA	6.500	Solvent
Target Weight of Coated Tablets				**178.500**		**17.850**	

*Standard Quantity of **Hyoscine Butylbromide** for 1.00 Lakh Tablets are based on 100% assay on as is basis.

Any decrease or increase in the quantity of **Hyoscine Butylbromide** should be adjusted with Maize Starch.

** Extra Quantity of Maize Starch 10% taken to compensate drying loss.

Purified water, Isopropyl Alcohol & Methylene Dichloride used as solvent.

Note : NA – Not Applicable

3. Pharmaceutical form

Film-coated tablet. White coloured, round shaped, biconvex coated tablets plain on both sides.

4. Clinical particulars

4.1 Therapeutic indications

Buscomax 10 mg Tablets are indicated for the relief of spasm of the genito-urinary tract or gastro-intestinal tract and for the symptomatic relief of Irritable Bowel Syndrome.

4.2 Posology and method of administration

Buscomax 10 mg Tablets are for oral administration only.

Buscomax 10 mg Tablets should be swallowed whole with adequate water.

Adults: 2 tablets four times daily. For the symptomatic relief of Irritable Bowel Syndrome, the recommended starting dose is 1 tablet three times daily, this can be increased up to 2 tablets four times daily if necessary.

Children 6 - 12 years: 1 tablet three times daily.

No specific information on the use of this product in the elderly is available. Clinical trials have included patients over 65 years and no adverse reactions specific to this age group have been reported.

Buscomax 10 mg Tablets should not be taken on a continuous daily basis or for extended periods without investigating the cause of abdominal pain.

4.3 Contraindications

Buscomax 10 mg Tablets are contraindicated in:

- Patients who have demonstrated prior hypersensitivity to hyoscine butylbromide or any other component of the product
- Myasthenia gravis
- Mechanical stenosis in the gastrointestinal tract
- Paralytical or obstructive ileus
- Megacolon
- Narrow angle glaucoma

4.4 Special warnings and precautions for use

In case severe, unexplained abdominal pain persists or worsens, or occurs together with symptoms like fever, nausea, vomiting, changes in bowel movements, abdominal tenderness, decreased blood pressure, fainting, or blood in stool, medical advice should immediately be sought.

Buscomax 10 mg Tablets should be used with caution in conditions characterised by tachycardia such as thyrotoxicosis, cardiac insufficiency or failure and in cardiac surgery where it may further accelerate the heart rate. Due to the risk of anticholinergic complications, caution should be used in patients susceptible to intestinal or urinary outlet obstructions.

Because of the possibility that anticholinergics may reduce sweating, Buscomax should be administered with caution to patients with pyrexia.

Elevation of intraocular pressure may be produced by the administration of anticholinergic agents such as Buscomax in patients with undiagnosed and therefore untreated narrow angle glaucoma. Therefore, patients should seek urgent ophthalmological advice in case they should develop a painful, red eye with loss of vision whilst or after taking Buscomax.

As the tablet coat contains sucrose (41.2 mg), patients with rare hereditary problems of fructose intolerance, glucose-galactose malabsorption or sucrase-isomaltase insufficiency should not take Buscomax Tablets.

4.5 Interaction with other medicinal products and other forms of interaction

The anticholinergic effect of drugs such as tri- and tetracyclic antidepressants, antihistamines, quinidine, amantadine, antipsychotics (e.g. butyrophenones, phenothiazines), disopyramide and other anticholinergics (e.g. tiotropium, ipratropium, atropine-like compounds) may be intensified by Buscomax.

Concomitant treatment with dopamine antagonists such as metoclopramide may result in diminution of the effects of both drugs on the gastrointestinal tract.

The tachycardic effects of beta-adrenergic agents may be enhanced by Buscomax.

4.6 Fertility, pregnancy and lactation

Pregnancy

There are limited data from the use of hyoscine butylbromide in pregnant women. Animal studies are insufficient with respect to reproductive toxicity. As a precautionary measure Buscomax is not recommended during pregnancy.

Lactation

There is insufficient information on the excretion of hyoscine butylbromide and its metabolites in human milk. A risk to the breastfeeding child cannot be excluded. Use of Buscomax during breastfeeding is not recommended.

Fertility

No studies on the effects on human fertility have been conducted.

4.7 Effects on ability to drive and use machines

No studies on the effects on the ability to drive and use machines have been performed. Because of possible visual accommodation disturbances patients should not drive or operate machinery if affected.

4.8 Undesirable effects

Many of the listed undesirable effects can be assigned to the anticholinergic properties of Buscomax.

Adverse events have been ranked under headings of frequency using the following convention: Very common (≥ 1/10); common (≥ 1/100 to < 1/10); uncommon (≥ 1/1000 to <1/100); rare (≥ 1/10000 to <1/1000); very rare (<1/10000); not known (cannot be estimated from the available data).

Immune system disorders

Not known : anaphylactic shock, anaphylactic reactions, dyspnoea, other hypersensitivity

Cardiac disorders

Uncommon: tachycardia

Gastrointestinal disorders:

Uncommon: dry mouth

Skin and subcutaneous tissue disorders

Uncommon: skin reactions (e.g. urticaria, pruritus), abnormal sweating

Not known : rash, erythema

Renal and urinary disorders

Rare: urinary retention

This adverse reaction has been observed in post-marketing experience. With 95% certainty, the frequency category is not greater than uncommon (3/1,368), but might be lower. A precise frequency estimation is not possible as the adverse drug reaction did not occur in a clinical trial database of 1,368 patients.

Reporting of suspected adverse reactions

Reporting suspected adverse reaction 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 via the Yellow Card Scheme at: www.mhra.gov.uk/yellowcard or search for MHRA Yellow Card in the Google Play or Apple App Store.

4.9 Overdose

Symptoms:

Serious signs of poisoning following acute overdosage have not been observed in man. In the case of overdosage, anticholinergic effects such as urinary retention, dry mouth, reddening of the skin, tachycardia, inhibition of gastrointestinal motility and transient visual disturbances may occur, and Cheynes-Stokes respiration has been reported.

Therapy:

In the case of oral poisoning, gastric lavage with medicinal charcoal should be followed by magnesium sulfate (15%). Symptoms of Buscomax overdosage respond to parasympathomimetics. For patients with glaucoma, pilocarpine should be given locally. Cardiovascular complications should be treated according to usual therapeutic principles. In case of respiratory paralysis, intubation and artificial respiration should be considered. Catheterisation may be required for urinary retention.

In addition, appropriate supportive measures should be administered as required.

5. Pharmacological properties

5.1 Pharmacodynamic properties

ATC code: A03BB01

Buscomax exerts a spasmolytic action on the smooth muscle of the gastrointestinal, biliary and genito-urinary tracts. As a quaternary ammonium derivative, hyoscine butylbromide does not enter the central nervous system. Therefore, anticholinergic side effects at the central nervous system do not occur. Peripheral anticholinergic action results from a ganglion-blocking action within the visceral wall as well as from an anti-muscarinic activity.

5.2 Pharmacokinetic properties

Absorption

As a quaternary ammonium compound, hyoscine butylbromide is highly polar and hence only partially absorbed following oral (8%) or rectal (3%) administration. After oral administration of single doses of hyoscine butylbromide in the range of 20 to 400 mg, mean peak plasma concentrations between 0.11 ng/mL and 2.04 ng/mL were found at approximately 2 hours. In the same dose range, the observed mean $AUC_{0\text{-}tz}$-values varied from 0.37 to 10.7 ng h/mL. The median absolute bioavailabilities of different dosage forms, i.e. coated tablets, suppositories and oral solution, containing 100 mg of hyoscine butylbromide each were found to be less than 1%.

Distribution

Because of its high affinity for muscarinic receptors and nicotinic receptors, hyoscine butylbromide is mainly distributed on muscle cells of the abdominal and pelvic area as well as in the intramural ganglia of the abdominal organs. Plasma protein binding (albumin) of hyoscine butylbromide is approximately 4.4%. Animal studies demonstrate that hyoscine butylbromide does not pass the blood-brain barrier, but no clinical data to this effect is available. Hyoscine butylbromide (1 mM) has been observed to interact with the choline transport (1.4 nM) in epithelial cells of human placenta *in vitro*.

Metabolism and elimination

Following oral administration of single doses in the range of 100 to 400 mg, the terminal elimination half-lives ranged from 6.2 to 10.6 hours. The main metabolic pathway is the hydrolytic cleavage of the ester bond. Orally administered hyoscine butylbromide is excreted in the faeces and in the urine. Studies in man show that 2 to 5% of radioactive doses is eliminated renally after oral, and 0.7 to 1.6% after rectal administration. Approximately 90% of recovered radioactivity can be found in the faeces after oral administration. The urinary excretion of hyoscine butylbromide is less than 0.1% of the dose. The mean apparent oral clearances after oral doses of 100 to 400 mg range from 881 to 1420 L/min, whereas the corresponding volumes of distribution for the same range vary from 6.13 to 11.3 x 10^5 L, probably due to very low systemic availability. The metabolites excreted via the renal route bind poorly to the muscarinic receptors and are therefore not considered to contribute to the effect of the hyoscine butylbromide.

5.3 Preclinical safety data

In limited reproductive toxicity studies hyoscine butylbromide showed no evidence of teratogenicity in rats at 200 mg/kg in the diet or in rabbits at 200 mg/kg by oral gavage or 50 mg/kg by subcutaneous injection. Fertility in the rat was not impaired at doses of up to 200 mg/kg in the diet.

6. Pharmaceutical particulars

6.1 List of excipients

Maize Starch

Microcrystalline Cellulose

Lactose

Colloidal Silicon Dioxide

PVPK-30

Methyl Paraben Sodium

Propyl Paraben Sodium

Purified Water

Talcum

Magnesium Stearate

Croscarmellose Sodium

Titanium Dioxide

HPMC-15cps

PEG-6000

Isopropyl Alcohol

Methylene Dichloride

6.2 Incompatibilities

None stated.

6.3 Shelf life

36 months.

6.4 Special precautions for storage

Store below 30°C, protected from light and moisture. Keep the medicine out of reach of children.

6.5 Nature and contents of container

10 Tablets are packed in alu/alu blister. Such 10 blister packed in a printed carton with pack insert.

6.6 Special precautions for disposal and other handling

None stated.

7. REGISTRANT

Name of Registrant:

Maxtar Bio-Genics

Address of Office:

310, Pearls Corporate (W Mall),

Manglam Place ,Sector- 3,Rohini,

Delhi-85 India.

8. MANUFACTURER

Name of Manufacturer:

Maxtar Bio-Genics

Address of Manufacturer:

K. No. 705, Nalagarh road, Malku Majra,
(Baddi), Tehsil Nalagarh, Distt. Solan,
Himachal Pradesh - 173205
INDIA.