SUMMARY OF PRODUCT CHARACTERISTICS

1 NAME OF THE MEDICINAL PRODUCT

Gastromiro

2. **QUALITATIVE AND QUANTITATIVE COMPOSITION**

Active component	Quantity per ml
iopamidol	612.4 mg

Iopamidol 61.24 % w/v
Excipient(s) with known effect:– sodium cyclamate, disodium edetate dihydrate, sodium saccharinate, ethanol (in the orange and Red Curaçao flavours see section 4.4.
For the full list of excipients, see section 6.1

3 PHARMACEUTICAL FORM

Gastromiro is an aqueous colourless to pale yellow solution for oral or rectal administration (enema)

4 CLINICAL PARTICULARS

4.1 Therapeutic indications

This medicinal product is for diagnostic use only.

All forms of radiological investigations of gastrointestinal tract, in particular:-

1. Paediatric radiology of the gastro-intestinal tract (GIT) where there is the possibility of:

i) Spill into the respiratory tract, for example in:

a) swallowing disorders
b) oesophageal obstruction with a foreign body, atresia or stricture

c) tracheo-oesophageal fistula.

ii. Spill into the mediastinum, pleura, peritoneum or retroperitoneal tissues, for example due to perforation of the GIT.

iii. Inspissation of fluid, for example in:

a) Meconium ileus equivalent.
b) Intussusception.
c) Colonic obstruction.
d) Hirschsprung's disease.

2. Adult radiology of the gastro-intestinal tract, such as:

i. Suspected upper gastro-intestinal perforation for example in:

Oesophagogastrectomy, endoscopy, partial gastrectomy, pneumonectomy, ingestion of foreign body, duodenal ulceration, small bowel resection, Whipples procedure and blunt abdominal trauma.

ii. Computer Tomography (CT) of the abdominal and pelvic regions, for example:

a) Suspicion of expanding lesions of pancreas, liver and gall bladder.
b) Space occupying metastatic lesions originating from prostate or recto-sigmoidal region in post-surgical staging of cancer.

4.2 Posology and method of administration

The dosage of Gastromiro should be adjusted according to age, total weight, the segment of the digestive tract to be examined and the X-ray procedure.

It must not be used for parenteral administration.

Adults:
Radiology of gastro-intestinal tract
Oral: 40-100ml undiluted
Rectal: 200ml of a 50% dilution, up to 1000ml of a 2% dilution

Computer Tomography
Oral:
Abdominal CT: 100ml of a 17% dilution, up to 600ml of a 3% dilution.
Rectal - Pelvic CT: 500-700ml of a 3% dilution

Infants and Children:

Radiology of gastro-intestinal tract

Oral:	10-100ml undiluted or, for use in infants 20-200ml of up to a 50% dilution to provide isotonic contrast medium
Rectal:	200ml of 50-60% dilution

Elderly:
Dosage as for adults.

Dilution of Gastromiro should be carried out using sterile water. Any unused solution should be discarded after 6 hours.

4.3 Contraindications

Hypersensitivity to the active ingredient iopamidol or to any of the excipients.

4.4 Special warnings and precautions for use

Diagnostic procedures which involve the use of any radiopaque medium should be carried out under the direction of personnel with the prerequisite training and with a thorough knowledge of the particular procedure to be performed.

Appropriate facilities should be available for coping with any complication of the procedure, as well as for emergency treatment of severe reaction to the contrast medium itself.
Disturbances in water or electrolyte balance must first be corrected. This product is formulated for gastro-intestinal use only and should not be used parenterally.
Care should also be exercised in patients with severe functional impairment of the liver, kidney or myocardium, severe systemic disease and in myelomatosis. In such patients adequate hydration should be maintained and parameters of hepatic and renal function, especially urinary output should be monitored after the procedure.
Patients with hepato-renal insufficiency should not be examined unless benefits clearly outweigh risks and re-examination should be delayed for 5-7 days.
The risk of severe hypersensitivity reactions may be increased in patients with history of known clinical hypersensitivity to any of the ingredients, other contrast media or history of asthma or other allergic disorders.
In case of suspected perforation of the gastrointestinal tract, use only when the benefit of the information outweighs the risk.
Concomitant administration of β-blockers can exacerbate severe hypersensitivity reactions as emergency medication which may be used to treat any side effects caused by Gastromiro may not be effective. X-ray examination of women should be conducted as far as possible during the pre-ovulation phase of the menstrual cycle. This product may interfere with tests of thyroid function.
Aspiration of orally administered contrast medium into the tracheobronchial tree can result in pulmonary complications therefore avoid use of Iopamidol solution in patients with oesophagotracheal fistula and minimize risks for pulmonary aspiration in all patients. If the contrast medium is given by nasogastric tube, the position of the tube in the stomach must be verified before administration.

Alcohol: Iopamidol solution contains 2.4 mg of ethanol per mL which may be harmful for those suffering from alcoholism, and to be taken into account in pregnant or breast-feeding women, children and high-risk groups such as patients with liver disease or epilepsy.

Sodium: the sodium content of Gastromiro is 4.5mg in 20ml, 11,3 mg in 50ml and 22,5 mg in 100ml corresponding respectively to 0,22%, 0, 55% and 1,12% of the recommended WHO maximum daily intake of 2 g of sodium for an adult.

Special populations
Women of child bearing potential
Appropriate investigations and measures should be taken when exposing women of child-bearing potential to any X-ray examination, whether with or without contrast medium.

Paediatric population
Newborns and infants
Infants (age<1year), and especially newborns are particularly susceptible to electrolyte imbalances and haemodynamic alterations. It is recommended that they are adequately hydrated prior to administration of Iopamidol solution.
Transient hypothyroidism may occur in neonates when the mother or the neonate has received an iodinated contrast agent. Thyroid function tests (usually TSH and T4) are recommended in neonates 7-10 days and 1 month after exposure to Gastromiro, especially in preterm neonates.

4.5 Interaction with other medicinal products and other forms of interaction

Concomitant administration of β-blockers can exacerbate severe hypersensitivity reactions.

4.6 Fertility, pregnancy and lactation

Pregnancy
There are no or a limited amount of data from the use of Iopamidol in pregnant women.
Animal studies do not indicate direct or indirect harmful effects with respect to reproductive toxicity.
As a precautionary measure, it is preferable to avoid the use of Iopamidol solution during pregnancy.

Breastfeeding
It is unknown whether Iopamidol is excreted in human milk. A risk to newborns/infants cannot be excluded.
However, due to the low level of absorption of Iopamidol from the gastrointestinal tract, it is unlikely that a foetus could be exposed to significant levels. Stopping breastfeeding is unnecessary.

Fertility
No effects on fertility are anticipated due to the low absorption of Iopamidol from the gastrointestinal tract following oral or rectal administration. Reproduction studies performed in animals with Iopamidol administered parenterally revealed no evidence of impaired fertility. No studies have been performed in women.

4.7 Effects on ability to drive and use machines

Gastromiro has no or negligible influence on the ability to drive and use machines.

4.8 Undesirable effects

The undesirable effects reported with Gastromiro were, in general, non-serious, mild to moderate, transient and resolved spontaneously without residual effects.

Solutions of iodinated contrast media administered oral route or by enema can cause diarrhoea due to high osmolality of these solutions. Anaphylactoid reactions/hypersensitivity may manifest with: mild localized or more diffuse angioneurotic oedema, tongue oedema, laryngospasm or laryngeal oedema, pulmonary oedema, circulatory arrest, respiratory arrest, dysphagia, pharyngitis and throat tightness, pharyngolaryngeal pain, cough, conjunctivitis, rhinitis, sneezing, feeling hot, sweating increased, asthenia, dizziness, pallor, dyspnoea, wheezing, bronchospasm, and moderate hypotension. Skin reactions may occur in the form of various types of rash, diffuse erythema, diffuse blisters, urticaria, and pruritus. These reactions, which occur irrespective of the dose administered and the route of administration, may represent the first signs of incipient state of shock. Administration of the contrast medium must be discontinued immediately and – if necessary – specific treatment initiated via a venous access.

More severe reactions involving the cardiovascular system such as vasodilatation with pronounced hypotension, tachycardia, dyspnoea, agitation, cyanosis and loss of consciousness (syncope) may require emergency treatment.

In clinical trials, the most commonly reported adverse reactions are vomiting in adult patients (1.8%) and diarrhoea in paediatric patients (5.7%). These reactions have been reported mostly after oral administration of the contrast agent.

The adverse reactions are classified by System Organ Class and frequency, using the following convention: Very common (≥ 1/10), Common (≥ 1/100 to < 1/10), Uncommon (≥ 1/1,000 to < 1/100), Rare (≥ 1/10,000 to < 1/1,000), Very rare (< 1/10,000), Not known (cannot be estimated from the available data).

Adult population

Adverse reactions derived from clinical trials in 269 adult patients who received Iopamidol by either oral or rectal route of administration and from post-marketing spontaneous reporting are tabulated below

System Organ Class	**Adverse Reactions**		
	Clinical Trials		**Post-marketing Surveillance**
	Common ≥1/100 to <1/10	**Uncommon ≥ 1/1,000 to < 1/100**	**Frequency not known**
Immune system disorders			Anaphylactoid reaction
Vascular disorders		Hypotension	
Respiratory, thoracic and mediastinal disorders			Dyspnoea
Gastrointestinal disorders	Vomiting	Diarrhoea, Abdominal discomfort	
Skin and subcutaneous tissue disorders			Rash

Paediatric population

The table below lists the adverse reactions derived from clinical trials conducted in 335 paediatric patients, who received Iopamidol by either oral or rectal route of administration.

System Organ Class	**Adverse Reactions**	
	Clinical Trials	
	Common ≥1/100 to <1/10	**Uncommon ≥1/1000 to <1/100**
Gastrointestinal disorders	Diarrhoea	Nausea, Vomiting

No cases were received as post-marketing spontaneous reporting.

No anaphylactoid reaction has been reported in children after oral or rectal administration of iopamidol however they have been reports of such reactions after parenteral administration of iopamidol.

Following oral administration of Gastromiro, aspiration, manifested with coughing and possible pulmonary complications, has been reported (see section 4.4 Special warnings and precautions for use).
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 via the Yellow Card Scheme.
Website: www.mhra.gov.uk/yellowcard or search for MHRA Yellow Card in the Google Play or Apple App Store

4.9 Overdose

The contrast agent is very poorly absorbed by the gastrointestinal tract; therefore, any accumulation of the contrast medium in humans due to overdosage is negligible.
In the event of overdose, treatment is directed toward the support of all vital functions and prompt institution of symptomatic therapy.

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Iopamidol is a contrast medium belonging to the new generation of non-ionic compounds whose solubility is due to the presence of hydrophilic substituents in the molecule. This results in a solution of low osmolality when compared with ionic media.

Iopamidol has been shown to be effective as an X-ray contrast medium in neuroradiology, angiography, venography, arthrography, urography, cerebral angiography, and left ventriculography, coronary arteriography, and investigations of the gastrointestinal tract. Its toxicity, particularly cardiac and CNS toxicity, is less than those of ionic contrast media.

5.2 Pharmacokinetic properties

Serum iopamidol concentration curves conform to an open two compartment pharmacokinetic model with first order elimination. Iopamidol is very poorly absorbed (about 1-2%) after oral or rectal administration.

Distribution volume is equivalent to extracellular fluid.

Following parenteral administration elimination is almost completely through the kidneys. Less than 1% of the administered dose has been recovered in the faeces up to seventy two hours after dosing. Renal elimination is rapid and up to half the administered dose may be recovered in the urine within the first two hours of dosing.
There is no evidence of biotransformation.
Serum protein binding is negligible.

5.3 Preclinical safety data

In animals, Gastromiro was well tolerated after repeated oral administration. After 4 weeks administration of Gastromiro equivalent to 9 gI/kg day, i.e. about 20 times higher than the recommended clinical dose, no severe symptoms of sub-acute intoxication were observed in rats. Following intraperitoneal injection of Gastromiro in rats, iopamidol was rapidly cleared and almost totally eliminated by the renal route within the first 24 hours. The intraperitoneal acute toxicity was relatively low. Necroscopic examination revealed no irritant effects on the peritoneal membrane. Gastromiro also showed good local tolerability after both local intratracheal installation and systemic administration. It therefore offers a good margin of safety for examination in which there is the risk of an accidental inspiration of the diagnostic medium.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Excipients
Orange flavour
Sodium cyclamate
Red Curaçao flavour
Disodium edetate dihydrate
Sodium saccharinate
Citric acid
Purified Water

6.2 Incompatibilities

In the absence of compatibility studies, this medicinal product must not be mixed with other medicinal products

6.3 Shelf life

Three years.

6.4 Special precautions for storage

Protect from light.

6.5 Nature and contents of container

The containers are amber glass bottles (Type III) with aluminium screw caps, guarantee seals, and elastomer inserts.
Boxes of 1 bottle 20ml
Boxes of 1 bottle 50ml
Boxes of 1 bottle 100ml

6.6 Special precautions for disposal

Gastromiro is formulated for gastro-intestinal use only and should not be administered parenterally.

The bottle once opened has to be used immediately. Solutions not used in one examination session must be discarded.

Discard in case of discolouration or presence of undissolved particles.

7. MARKETING AUTHORISATION HOLDER

Bracco UK, Ltd
Magdalen Centre, The Oxford Science Park,
Oxford, OX4 4GA,
United Kingdom

8 MARKETING AUTHORISATION NUMBER(S)

PL 18920/0036

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

09/01/1991 / 05/12/2003

10 DATE OF REVISION OF THE TEXT

25/01/2022