ISOVUE 300- iopamidol injection, solution
ISOVUE 370- iopamidol injection, solution
ISOVUE 200- iopamidol injection, solution
ISOVUE 250- iopamidol injection, solution
BRACCO DIAGNOSTICS INC

HIGHLIGHTS OF PRESCRIBING INFORMATION
These highlights do not include all the information needed to use ISOVUE safely and effectively. See full prescribing information for ISOVUE.

ISOVUE® (iopamidol) injection, for intra-arterial, intravenous, or oral use
Initial U.S. Approval: 1985

WARNING: RISKS ASSOCIATED WITH INTRATHECAL ADMINISTRATION

Intrathecal administration, even if inadvertent, can cause death, convulsions, cerebral hemorrhage, coma, paralysis, arachnoiditis, acute renal failure, cardiac arrest, seizures, rhabdomyolysis, hyperthermia, and brain edema. ISOVUE is for intra-arterial, intravenous, or oral use only. (5.1)

RECENT MAJOR CHANGES

Indications and Usage, Oral Procedures (1.3)	10/2025
Dosage and Administration	10/2025

- Recommended Dosage for Oral Procedures in Pediatric Patients and Adults (2.5)
- Directions for Dilution of ISOVUE for Oral Administration (2.6)

INDICATIONS AND USAGE

ISOVUE is a radiographic contrast agent indicated for:

Intra-arterial Procedures † (1.1)

- Cerebral arteriography in adults
- Peripheral arteriography in adults
- Selective visceral arteriography and aortography in adults
- Coronary arteriography and cardiac ventriculography in adults
- Angiocardiography in pediatric patients

Intravenous Procedures† (1.2)

- Excretory urography in adults and pediatric patients
- Computed tomography (CT) of head and body in adults and pediatric patients
- Peripheral venography in adults

Oral Procedures† (1.3)

- CT of the abdomen and pelvis to delineate the gastrointestinal tract in adults and pediatric patients

†Specific concentrations are recommended for each type of imaging procedure. (2.2, 2.3, 2.4, 2.5)

DOSAGE AND ADMINISTRATION

- Individualize the volume and concentration according to the specific dosing tables accounting for factors such as age, body weight, size of the vessel, and the rate of blood flow within the vessel. (2.2, 2.3, 2.4, 2.5)
- See full prescribing information for important dosage and administration information and dilution instructions. (2.1, 2.6)

DOSAGE FORMS AND STRENGTHS

Injection: 200 mg Iodine/mL, 250 mg Iodine/mL, 300 mg Iodine/mL, and 370 mg Iodine/mL in single-dose vials or bottles(3)

CONTRAINDICATIONS

None (4)

WARNINGS AND PRECAUTIONS

- Hypersensitivity Reactions: Life-threatening or fatal reactions can occur. Always have emergency resuscitation equipment and trained personnel available. (5.2)

- Acute Kidney Injury: Acute injury including renal failure can occur. Use the lowest dose and maintain adequate hydration to minimize risk. (5.3)
- Cardiovascular Adverse Reactions: Hemodynamic disturbances including shock and cardiac arrest may occur during or after ISOVUE administration. (5.4)
- Thyroid Dysfunction in Pediatric Patients 0 Years to 3 Years of Age: Individualize thyroid function monitoring based on risk factors such as prematurity. (5.8)

ADVERSE REACTIONS

Most common adverse reactions (incidence >1%) are pain, hot flashes, burning sensation, nausea, and warmth (6.1)

To report SUSPECTED ADVERSE REACTIONS, contact Bracco Diagnostics Inc. at 1-800-257-5181 or FDA at 1-800-FDA-1088 or *www.fda.gov/medwatch.*

USE IN SPECIFIC POPULATIONS

Lactation: A lactating woman may pump and discard breast milk for 10 hours after ISOVUE administration. (8.2)

See 17 for PATIENT COUNSELING INFORMATION.

Revised: 10/2025

FULL PRESCRIBING INFORMATION: CONTENTS*

* Sections or subsections omitted from the full prescribing information are not listed.

FULL PRESCRIBING INFORMATION

WARNING: RISKS ASSOCIATED WITH INTRATHECAL ADMINISTRATION

Intrathecal administration of ISOVUE, even if inadvertent, can cause death, convulsions, cerebral hemorrhage, coma, paralysis, arachnoiditis, acute renal failure, cardiac arrest, seizures, rhabdomyolysis, hyperthermia, and brain edema *[see Warnings and Precautions (5.1)].* ISOVUE is for intra-arterial, intravenous, or oral use only *[see Dosage and Administration (2.2, 2.3, 2.4, 2.5)]*.

1 INDICATIONS AND USAGE

1.1 Intra-arterial Procedures†

ISOVUE is indicated for:
- Cerebral arteriography in adults
- Peripheral arteriography in adults
- Selective visceral arteriography and aortography in adults
- Coronary arteriography and cardiac ventriculography in adults
- Angiocardiography in pediatric patients

1.2 Intravenous Procedures†

ISOVUE is indicated for:
- Excretory urography in adults and pediatric patients
- Computerized tomography (CT) of the head and body in adults and pediatric patients
- Peripheral venography in adults

†Specific concentrations of ISOVUE are recommended for each type of imaging procedure *[see Dosage and Administration (2.2, 2.3, 2.4)].*

1.3 Oral Procedures†

ISOVUE is indicated for:

- CT of the abdomen and pelvis to delineate the gastrointestinal tract in adults and pediatric patients

†Specific concentrations of ISOVUE are recommended for each type of imaging procedure *[see Dosage and Administration (2.2, 2.3, 2.4, 2.5)].*

2 DOSAGE AND ADMINISTRATION

2.1 Important Dosing and Administration Information

- ISOVUE is for intra-arterial or intravenous use only and must not be administered intrathecally *[see Warnings and Precautions (5.1)]*.
- Specific concentrations of ISOVUE are recommended for each type of imaging procedure *[see Dosage and Administration (2.2, 2.3, 2.4, 2.5)]*.
- Individualize the volume, concentration, and injection rate of ISOVUE according to the specific dosing tables *[see Dosage and Administration (2.2, 2.3, 2.4, 2.5)]*. Consider factors such as: age, body weight, blood vessel size and blood flow rate, anticipated pathology and degree and extent of opacification required, structures or area to be examined, concomitant medical conditions, imaging equipment, and technique to be employed.
- Hydrate patients before and after ISOVUE administration *[see Warnings and Precautions (5.3)]*.
- Use aseptic technique for all handling and administration of ISOVUE.
- ISOVUE may be administered at either body temperature (37°C, 98.6°F) or room temperature (20°C to 25°C, 68°F to 77°F).
- Visually inspect ISOVUE for particulate matter or discoloration before administration. Do not administer ISOVUE if particulate matter or discolorations are observed.
- Do not mix ISOVUE with other drugs or inject in intravenous lines containing other drugs or total nutritional admixtures.
- ISOVUE single-dose containers are intended for one procedure only. Discard any unused portion.

2.2 Recommended Dosage for Intra-arterial Procedures in Adults

The recommended doses for intra-arterial procedures in adults are shown in Table 1.

Table 1: Recommended Concentrations and Volumes of ISOVUE for Intra-arterial Procedures in Adults

Imaging Procedure	Concentration (mg Iodine/mL)	Volume to Administer per Single Injection for Selected Injection Sites	Maximum Cumulative Total Dose
Cerebral Arteriography	300	8 mL to 12 mL by carotid puncture or transfemoral catheterization	90 mL
Peripheral Arteriography	300	• 5 mL to 40 mL into the femoral artery or subclavian artery • 25 mL to 50 mL into the aorta for a	250 mL

		distal runoff	
Selective Visceral Arteriography and Aortography	370	• Up to 10 mL for the renal arteries • Up to 50 mL into the larger vessels such as the aorta or celiac artery	225 mL
Coronary Arteriography and Cardiac Ventriculography	370	• 2 mL to 10 mL for selective coronary artery injection • 25 mL to 50 mL for cardiac ventriculography or for nonselective opacification of multiple coronary arteries following injection at the aortic root	200 mL

2.3 Recommended Dosage for Intravenous Procedures in Adults

The recommended doses for intravenous procedures in adults are shown in Table 2.

Table 2: Recommended Concentrations and Volumes of ISOVUE for Intravenous Procedures in Adults

Imaging Procedure	Concentration (mg Iodine/mL)	Volume to Administer
Excretory Urography	250	50 mL to 100 mL by rapid injection
	300	50 mL by rapid injection
	370	40 mL by rapid injection
CT of the Head	250	130 mL to 240 mL
	300	100 mL to 200 mL
CT of the Body	250	130 mL to 240 mL by rapid infusion or bolus injection
	300	100 mL to 200 mL by rapid infusion or bolus injection
	370	80 mL to 160 mL by rapid infusion or bolus injection
Peripheral Venography	200	25 mL to 150 mL per lower extremity; the maximum total dose is 350 mL

2.4 Recommended Dosage for Intra-arterial and Intravenous Procedures in Pediatric Patients

The recommended doses for intra-arterial and intravenous procedures in pediatric patients are shown in Table 3.

Table 3: Recommended Concentrations and Volumes per Body Weight of ISOVUE for Intra- arterial and Intravenous Procedures in Pediatric Patients

Imaging Procedure	Concentration (mg Iodine/mL)	Volume per Body Weight to Administer	Maximum Dose
Intra-arterial Procedures			

Angiocardiography	370	0.5 mL/kg to 2 mL/kg per single injection	Maximum Cumulative Dose by Weight • Neonates: 5 mL/kg • Aged 4 weeks and older: 8 mL/kg • Do not exceed maximum cumulative doses by age below. Maximum Cumulative Dose by Age • <2 years 40 mL • 2 years to 4 years 50 mL • 5 years to 9 years 100 mL • 10 years to 18 years 125 mL
Intravenous Procedures			
Excretory Urography	250	1.2 mL/kg to 3.6 mL/kg	120 mL
	300	1 mL/kg to 3 mL/kg	100 mL
CT of the Head and Body	250	1.2 mL/kg to 3.6 mL/kg	120 mL
	300	1 mL/kg to 3 mL/kg	100 mL

2.5 Recommended Dosage for Oral Procedures in Pediatric Patients and Adults

- The recommended concentration of diluted ISOVUE is either 6 mg iodine/mL or 9 mg iodine/mL administered orally as shown in Table 4.
- See Table 5 for dilution instructions of ISOVUE *[see Dosage and Administration (2.6)]*

Table 4: Recommended Volumes of Diluted ISOVUE for Oral Administration for CT of the Abdomen and Pelvis in Pediatric Patients and Adults

Age	Volume of Diluted ISOVUE‡ to Administer	Administration Instructions
Pediatric patients less than 3 years of age	50 mL to 300 mL	Administer the oral dose approximately 60 minutes before beginning the CT procedure.
Pediatric patients 3 years to 5 years of age	300 mL to 360 mL	
Pediatric patients 6 years to 11 years of age	360 mL to 500 mL	
Pediatric patients 12 years of age and older	500 mL to 1,000 mL	
Adults		

‡ Prepare diluted ISOVUE solution to a concentration of either 6 mg iodine/mL or 9 mg iodine/mL according to Table 5 *[see Dosage and Administration (2.6)].*

2.6 Directions for Dilution of ISOVUE for Oral Administration

- Dilute ISOVUE to 6 mg iodine/mL or 9 mg iodine/mL in water or clear liquids such as apple juice according to Table 5.
- Use diluted ISOVUE immediately.
- Discard any unused portion after the procedure.

Table 5: Volumes of ISOVUE and Added Liquid to Dilute ISOVUE for Oral Administration for CT of the Abdomen and Pelvis

Final Concentration of Diluted ISOVUE (mg Iodine/mL)	ISOVUE		Volume of Added Liquid§ (mL)
	Concentration (mg Iodine/mL)	Volume (mL)	
6	200	30	970
	250	24	976
	300	20	980
	370	16	984
9	200	45	955
	250	36	964
	300	30	970
	370	24	976

§Use water or clear liquids such as apple juice.

3 DOSAGE FORMS AND STRENGTHS

Injection: Clear, colorless to pale yellow solution available in the following concentrations of iodine:

Concentration (mg Iodine/mL)	Package Size	Package Type
200	200 mL	Single-Dose Bottle
250	100 mL	Single-Dose Bottle
300	30 mL and 50 mL	Single-Dose Vial
	100 mL and 150 mL	Single-Dose Bottle
370	50 mL	Single-Dose Vial
	75 mL, 100 mL, 125 mL, and 150 mL	Single-Dose Bottle

4 CONTRAINDICATIONS

None.

5 WARNINGS AND PRECAUTIONS

5.1 Risks Associated with Intrathecal Administration

Intrathecal administration, even if inadvertent, can cause death, convulsions, cerebral hemorrhage, coma, paralysis, arachnoiditis, acute renal failure, cardiac arrest, seizures, rhabdomyolysis, hyperthermia, and brain edema. ISOVUE is for intra-arterial or intravenous use only and must not be administered intrathecally *[see Dosage and Administration (2.1)]*.

5.2 Hypersensitivity Reactions

ISOVUE can cause life-threatening or fatal hypersensitivity reactions including anaphylaxis. Manifestations include respiratory arrest, laryngospasm, bronchospasm, angioedema, and shock *[see Adverse Reactions (6.2)]*. Most severe reactions develop shortly after the start of injection (e.g., within 1 to 3 minutes), but delayed reactions can also occur. There is increased risk of hypersensitivity reactions in patients with a history of previous reactions to contrast agents, and allergic disorders (i.e., bronchial asthma, allergic rhinitis, and food allergies) or other hypersensitivities.

Premedication with antihistamines or corticosteroids to avoid or minimize possible allergic reactions does not prevent serious life-threatening reactions but may reduce both their incidence and severity. Obtain a history of allergy, hypersensitivity, or hypersensitivity reactions to iodinated contrast agents and always have emergency resuscitation equipment and trained personnel available prior to ISOVUE administration. Monitor all patients for hypersensitivity reactions.

5.3 Acute Kidney Injury

Acute kidney injury, including renal failure, may occur after ISOVUE administration. Risk factors include: pre-existing renal insufficiency, dehydration, diabetes mellitus, congestive heart failure, advanced vascular disease, elderly age, concomitant use of nephrotoxic or diuretic medications, multiple myeloma or other paraproteinemias, and repetitive or large doses of ISOVUE.

Use the lowest necessary dose of ISOVUE in patients with renal impairment. Adequately hydrate patients prior to and following ISOVUE administration. Do not use laxatives, diuretics, or preparatory dehydration prior to ISOVUE administration.

5.4 Cardiovascular Adverse Reactions

ISOVUE increases the circulatory osmotic load and may induce acute or delayed hemodynamic disturbances in patients with congestive heart failure, severely impaired renal function, combined renal and hepatic disease, and combined renal and cardiac disease, particularly when repetitive or large doses are administered. Fatal cardiovascular reactions have occurred mostly within 10 minutes of ISOVUE injection; the main feature was cardiac arrest with cardiovascular disease as the main underlying factor. Hypotensive collapse and shock have occurred. Cardiac decompensation, serious arrhythmias, and myocardial ischemia or infarction can occur during coronary arteriography and ventriculography.

The administration of ISOVUE may cause pulmonary edema in patients with heart failure. Based upon published reports, deaths associated with the administration of iodinated contrast agents range from 6.6 per 1 million (0.00066 percent) to 1 in 10,000 patients (0.01 percent). Use the lowest necessary dose of ISOVUE in patients with congestive

heart failure and always have emergency resuscitation equipment and trained personnel available. Monitor all patients for severe cardiovascular reactions.

5.5 Thromboembolic Events

Serious, in some cases fatal, thromboembolic events, including myocardial infarction and stroke, can occur during angiographic procedures. During these procedures, increased thrombosis and activation of the complement system occurs. Risk factors for developing thromboembolic events include: length of procedure, catheter and syringe material, underlying disease state, and concomitant medications.

To minimize thromboembolic events, use meticulous angiographic techniques and minimize the length of the procedure. Avoid blood remaining in contact with syringes containing iodinated contrast agents, which increases risk of clotting. Avoid angiocardiography in patients with homocystinuria because of the risk of inducing thrombosis and embolism.

5.6 Extravasation and Injection Site Reactions

Extravasation can occur with ISOVUE administration, particularly in patients with severe arterial or venous disease. Inflammation, blistering, skin necrosis, and compartment syndrome have been reported following extravasation. In addition, injection site reactions such as pain and swelling at the injection site can also occur *[see Adverse Reactions (6.2)]*. Ensure intravascular placement of catheters prior to injection. Monitor patients for extravasation and advise patients to seek medical care for progression of symptoms.

5.7 Thyroid Storm in Patients with Hyperthyroidism

Thyroid storm has occurred after the intravascular use of iodinated agents in patients with hyperthyroidism or with an autonomously functioning thyroid nodule. Evaluate the risk in such patients before use of ISOVUE.

5.8 Thyroid Dysfunction in Pediatric Patients 0 Years to 3 Years of Age

Thyroid dysfunction characterized by hypothyroidism or transient thyroid suppression has been reported after both single exposure and multiple exposures to iodinated contrast agents in pediatric patients 0 years to 3 years of age.

Younger age, very low birth weight, prematurity, underlying medical conditions affecting thyroid function, admission to neonatal or pediatric intensive care units, and congenital cardiac conditions are associated with an increased risk of hypothyroidism after iodinated contrast agent exposure. Pediatric patients with congenital cardiac conditions may be at greatest risk given that they often require high doses of contrast during invasive cardiac procedures.

An underactive thyroid during early life may be harmful for cognitive and neurological development and may require thyroid hormone replacement therapy. After exposure to iodinated contrast agents, individualize thyroid function monitoring based on underlying risk factors, especially in term and preterm neonates.

5.9 Hypertensive Crisis in Patients with Pheochromocytoma

Hypertensive crisis in patients with pheochromocytoma has occurred with iodinated contrast agents. Closely monitor patients when administering ISOVUE if pheochromocytoma or catecholamine-secreting paragangliomas are suspected. Inject the minimum amount of ISOVUE necessary and have measures for treatment of

hypertensive crisis readily available.

5.10 Sickle Cell Crisis in Patients with Sickle Cell Disease

Iodinated contrast agents can promote sickling in individuals who are homozygous for sickle cell disease. Hydrate patients prior to and following ISOVUE administration and use only if the necessary imaging information cannot be obtained with alternative imaging modalities.

5.11 Severe Cutaneous Adverse Reactions

Severe cutaneous adverse reactions (SCAR) may develop from 1 hour to several weeks after intravascular contrast agent administration. These reactions include Stevens-Johnson syndrome and toxic epidermal necrolysis (SJS/TEN), acute generalized exanthematous pustulosis (AGEP), and drug reaction with eosinophilia and systemic symptoms (DRESS). Reaction severity may increase and time to onset may decrease with repeat administration of a contrast agent; prophylactic medications may not prevent or mitigate severe cutaneous adverse reactions. Avoid administering ISOVUE to patients with a history of a severe cutaneous adverse reaction to ISOVUE.

5.12 Interference with Laboratory Tests

ISOVUE can interfere with protein-bound iodine test *[see Drug Interactions (7.2)]*.

6 ADVERSE REACTIONS

The following adverse reactions are described in greater detail in other sections:

- Risks Associated with Intrathecal Administration *[see Warnings and Precautions (5.1)]*
- Hypersensitivity Reactions *[see Warnings and Precautions (5.2)]*
- Acute Kidney Injury *[see Warnings and Precautions (5.3)]*
- Cardiovascular Adverse Reactions *[see Warnings and Precautions (5.4)]*
- Thromboembolic Events *[see Warnings and Precautions (5.5)]*
- Extravasation and Injection Site Reactions *[see Warnings and Precautions (5.6)]*
- Thyroid Dysfunction in Pediatric Patients 0 to 3 Years of Age *[see Warnings and Precautions (5.8)]*
- Severe Cutaneous Adverse Reactions *[see Warnings and Precautions (5.11)]*

6.1 Clinical Trials Experience

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice.

Adverse Reactions in Adults

The safety of ISOVUE was evaluated in 2,246 adult patients receiving ISOVUE by intra-arterial or intravenous route in clinical studies. Table 4 shows the common adverse reactions (>1%).

Table 6: Adverse Reactions Reported in >1% of Patients Receiving Intra-arterial or Intravenous Injection of ISOVUE in Clinical Studies

Adverse Reaction	ISOVUE (N=2,246) %

Pain	2.8
Hot flashes	1.5
Burning sensation	1.4
Nausea	1.2
Warmth	1.1

The following adverse reactions occurred in ≤ 1% of patients receiving intra-arterial or intravenous injection of ISOVUE:

Cardiovascular disorders: tachycardia, hypotension, hypertension, myocardial ischemia, circulatory collapse, S-T segment depression, bigeminy, extrasystoles, ventricular fibrillation, angina pectoris, bradycardia, transient ischemic attack, thrombophlebitis

Gastrointestinal disorders: vomiting, anorexia

General disorders: headache, fever, chills, excessive sweating, back spasm

Nervous system disorders: vasovagal reaction, tingling in arms, grimace, faintness

Renal and urinary disorders: urinary retention

Respiratory: throat constriction, dyspnea, pulmonary edema

Skin and subcutaneous tissues: rash, urticaria, pruritus, flushing

Special senses: taste alterations, nasal congestion, visual disturbances

Adverse Reactions from Intra-arterial Use in Pediatric Patients

In a clinical trial with 76 pediatric patients undergoing angiocardiography, two adverse reactions (2.6%) were reported: worsening cyanosis and worsening peripheral perfusion.

Adverse Reactions from Oral Use in Adult and Pediatric Patients

There were no new adverse reactions from oral use of ISOVUE in adult and pediatric patients *[see Clinical Studies (14)].*

6.2 Postmarketing Experience

The following adverse reactions have been identified during post approval use of ISOVUE. Because the reactions are reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or to establish a causal relationship to drug exposure.

Blood and lymphatic system disorders: thrombocytopenia

Cardiovascular disorders: cardiopulmonary arrest, cardiac decompensation, arrhythmias, myocardial infarction, shock, electrocardiographic changes (e.g., increased QTc, increased R-R, increased T- wave amplitude), decreased systolic pressure, deep vein thrombosis, arterial spasms, vasodilation, chest pain, pallor

Endocrine disorders: hyperthyroidism, hypothyroidism

Eye disorders: lacrimation increased, conjunctivitis, eye pruritus, transient blindness, visual disturbance, photophobia

Gastrointestinal disorders: retching, abdominal pain, salivary hypersecretion, salivary gland enlargement

General disorders and administration site conditions: injection site pain, malaise

Immune system disorders: anaphylaxis characterized by cardiovascular, respiratory, and cutaneous manifestations (e.g., chest tightness, laryngeal edema, periorbital edema, facial edema); delayed hypersensitivity reactions including generalized maculopapular rash, erythema, pruritus, localized blistering, skin peeling

Musculoskeletal disorders: compartment syndrome following extravasation, muscle spasm, musculoskeletal pain, muscular weakness

Nervous system disorders: coma, seizure, tremors, syncope, depressed level of consciousness or loss of consciousness, encephalopathy

Psychiatric disorders: confusional state

Respiratory system disorders: respiratory arrest, respiratory failure, acute respiratory distress syndrome, respiratory distress, apnea, asthma, sneezing, choking, laryngeal edema, bronchospasm, rhinitis

Skin and subcutaneous tissue disorders: Stevens-Johnson syndrome and toxic epidermal necrolysis (SJS/TEN), acute generalized exanthematous pustulosis (AGEP), erythema multiforme and drug reaction with eosinophilia and systemic symptoms (DRESS), skin necrosis, face edema

7 DRUG INTERACTIONS

7.1 Drug-Drug Interactions

Metformin

In patients with renal impairment, metformin can cause lactic acidosis. Iodinated contrast agents appear to increase the risk of metformin-induced lactic acidosis, possibly as a result of worsening renal function. Stop metformin at the time of, or prior to, ISOVUE administration in patients with an eGFR between 30 and 60 mL/min/1.73 m^2; in patients with a history of hepatic impairment, alcoholism, or heart failure; or in patients who will be administered intra-arterial iodinated contrast agents. Re-evaluate eGFR 48 hours after the imaging procedure and reinstitute metformin use only after renal function is stable.

Radioactive Iodine

Administration of ISOVUE may interfere with thyroid uptake of radioactive iodine (I-131 and I-123) and decrease therapeutic and diagnostic efficacy. Avoid thyroid therapy or testing for up to 6 weeks post ISOVUE.

7.2 Drug-Laboratory Test Interactions

Protein-Bound Iodine Test

Iodinated contrast agents, including ISOVUE, will temporarily increase protein-bound iodine in blood. Avoid protein-bound iodine test for at least 16 days following administration of ISOVUE. However, thyroid function tests that do not depend on iodine estimations, e.g., triiodothyronine (T_3) resin uptake and total or free thyroxine (T_4) assays are not affected.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Risk Summary

Available data from published literature and postmarketing cases from decades of use with iopamidol during pregnancy have not identified a drug-associated risk of major birth defects, miscarriage, or other adverse maternal or fetal outcomes. Iopamidol crosses the placenta and reaches fetal tissues in small amounts (*see Data*). In animal reproduction studies, no adverse developmental outcomes were observed with intravenous administration of iopamidol to pregnant rats and rabbits during organogenesis at doses up to 2.7 and 1.4 times, respectively, the maximum recommended human dose (*see Data*).

The background risk of major birth defects and miscarriage for the indicated population is unknown. All pregnancies have a background risk of birth defect, loss, or other adverse outcomes. In the U.S. general population, the estimated background risk of major birth defects and miscarriage in clinically recognized pregnancies is 2 to 4% and 15 to 20%, respectively.

Data

Human Data

Literature reports show that intravenously administered iopamidol crosses the placenta and is visualized in the digestive tract of exposed infants after birth.

Animal Data

Iopamidol did not affect fetal development and did not induce teratogenic changes in the offspring in either rats or rabbits at the following dose levels tested: 600 mg, 1,500 mg, or 4,000 mg iodine/kg in rats, administered intravenously once a day during days 6 through 15 of pregnancy; 300 mg, 800 mg, or 2,000 mg iodine/kg in rabbits, administered intravenously once a day during days 6 through 18 of pregnancy.

8.2 Lactation

Risk Summary

There are no data on the presence of iopamidol in human milk, the effects on the breastfed infant, or the effects on milk production. Iodinated contrast agents are present unchanged in human milk in very low amounts, with poor absorption from the gastrointestinal tract of a breastfed infant. The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for ISOVUE and any potential adverse effects on the breastfed infant from ISOVUE or from the underlying maternal condition.

Clinical Considerations

Interruption of breastfeeding after exposure to iodinated contrast agents is not necessary because the potential exposure of the breastfed infant to iodine is small. However, a lactating woman may consider interrupting breastfeeding and pumping and discarding breast milk for 10 hours (approximately 5 half- lives) after ISOVUE administration in order to minimize drug exposure to a breastfed infant.

8.4 Pediatric Use

The safety and effectiveness of ISOVUE have been established in pediatric patients for intra-arterial administration for angiocardiography and for intravenous administration for excretory urography and contrast computed tomography (head and body).

The safety and effectiveness of ISOVUE have been established in pediatric patients for

oral administration for CT of the abdomen and pelvis to delineate the gastrointestinal tract. Use of ISOVUE for this indication is supported by evidence from an adequate and well-controlled clinical study in adults (n=152) and pediatric patients 3 to 16 years of age (n=66) who underwent CT of the abdomen and pelvis with oral administration of ISOVUE and from additional safety data from post-approval use of enteral iopamidol in adult and pediatric patients *[see Adverse Reactions (6.2)] and Clinical Studies (14)]*.

Pediatric patients at higher risk of experiencing adverse reactions during and after contrast medium administration may include those having asthma, sensitivity to medication or allergens, cyanotic heart disease, congestive heart failure, or serum creatinine greater than 1.5 mg/dL, or those less than 12 months of age.

Thyroid function tests indicative of thyroid dysfunction, characterized by hypothyroidism or transient thyroid suppression have been reported following iodinated contrast media administration in pediatric patients, including term and preterm neonates; some patients were treated for hypothyroidism. After exposure to iodinated contrast media, individualize thyroid function monitoring in pediatric patients 0 years to 3 years of age based on underlying risk factors, especially in term and preterm neonates *[see Warning and Precautions (5.8) and Adverse Reactions (6.2)].*

The safety and effectiveness of ISOVUE for cerebral, peripheral, and selective visceral arteriography, aortography, coronary arteriography, cardiac ventriculography, and peripheral venography have not been established in pediatric patients.

8.5 Geriatric Use

Iopamidol is excreted by the kidney, and the risk of adverse reactions to ISOVUE may be greater in patients with renal impairment. Because patients 65 years of age and older are more likely to have renal impairment, care should be taken in dose selection, and it may be useful to monitor renal function *[see Warnings and Precautions (5.3) and Use in Specific Populations [8.6]).*

8.6 Renal Impairment

The clearance of iopamidol decreases with increasing degree of renal impairment and results in delayed opacification of the urinary system. In addition, preexisting renal impairment increases the risk for acute kidney injury *[see Warnings and Precautions (5.3)]*. Iopamidol can be removed by dialysis.

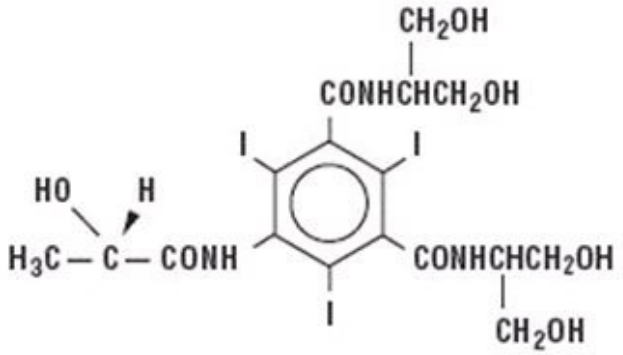
10 OVERDOSAGE

The manifestations of overdosage are life-threatening and affect mainly the pulmonary and cardiovascular systems. Treatment of an overdose is directed toward support of all vital functions and the prompt institution of symptomatic therapy. Iopamidol can be removed by dialysis.

11 DESCRIPTION

ISOVUE (iopamidol) injection is a radiographic contrast agent for intra-arterial or intravenous use.

Iopamidol is designated chemically as (S)-N,N’-bis[2-hydroxy-1-(hydroxymethyl)-ethyl]-2,4,6-triiodo-5- lactamidoisophthalamide with a molecular weight of 777.09, an empirical formula of C17H22I3N3O8, and the following structural formula:



ISOVUE is a sterile, clear, colorless to pale yellow solution available in four concentrations of iodine:

- ISOVUE 200 mg iodine/mL: Each mL contains 408 mg iopamidol (providing 200 mg organically bound iodine) and the following inactive ingredients: 0.26 mg edetate calcium disodium (providing 0.029 mg (0.001 mEq) sodium) and 1 mg tromethamine.
- ISOVUE 250 mg iodine/mL: Each mL contains 510 mg iopamidol (providing 250 mg organically bound iodine) and the following inactive ingredients: 0.33 mg edetate calcium disodium (providing 0.036 mg (0.002 mEq) sodium) and 1 mg tromethamine.
- ISOVUE 300 mg iodine/mL: Each mL contains 612 mg iopamidol (providing 300 mg organically bound iodine) and the following inactive ingredients: 0.39 mg edetate calcium disodium (providing 0.043 mg (0.002 mEq) sodium) and 1 mg tromethamine.
- ISOVUE 370 mg iodine/mL: Each mL contains 755 mg iopamidol (providing 370 mg organically bound iodine) and the following inactive ingredients: 0.48 mg edetate calcium disodium (providing 0.053 mg (0.002 mEq) sodium) and 1 mg tromethamine.

The pH of ISOVUE has been adjusted to 6.5 to 7.5 with hydrochloric acid and/or sodium hydroxide.

Physicochemical characteristics are shown in Table 5. ISOVUE is hypertonic as compared to plasma and cerebrospinal fluid (approximately 285 and 301 mOsm/kg water, respectively).

Table 7: Physicochemical Characteristics of ISOVUE

Concentration (mg Iodine/mL)	**200**	**250**	**300**	**370**
Osmolality @ 37°C (mOsm/kg water)	413	524	616	796
Viscosity (cP) @ 37°C	2.0	3.0	4.7	9.4
Viscosity (cP) @ 20°C	3.3	5.1	8.8	20.9
Specific Gravity @ 37°C	1.227	1.281	1.339	1.405

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

The iodine atoms in iopamidol provide attenuation of X-rays in direct proportion to the concentration of iopamidol. Since concentration changes over time, iopamidol provides time-dependent image contrast, which may assist in visualizing body structures.

In imaging of the body, iodinated contrast agents diffuse from the vessels into the extravascular space. In normal brain with an intact blood-brain barrier, contrast does not diffuse into the extravascular space. In patients with a disrupted blood-brain barrier, contrast agent accumulates in the extravascular space in the region of disruption.

12.2 Pharmacodynamics

Following administration of ISOVUE, the degree of enhancement is related to the iodine concentration in the tissue of interest. However, the exposure-response relationships and time course of pharmacodynamic response of iopamidol have not been fully characterized.

12.3 Pharmacokinetics

Absorption

Following oral administration, iopamidol is minimally absorbed from the gastrointestinal tract. Less than 1% of the administered dose is recovered in urine within 12 hours post-dose.

Distribution

After intravascular administration, plasma concentrations of iodine fall within 5 to 10 minutes due to distribution into the vascular and extracellular fluid compartments. Equilibration with the extracellular compartments is reached in about 10 minutes.

The apparent volume of distribution suggests that iopamidol is distributed evenly between blood and extracellular fluid. Iopamidol may be visualized in the renal parenchyma within 30 to 60 seconds following rapid intravenous administration. Iopamidol did not bind to serum or plasma proteins at 1 hour after administration.

Elimination

The plasma half-life is approximately 2 hours; the half-life is not dose dependent.

Metabolism

Iopamidol does not undergo significant metabolism, deiodination, or biotransformation.

Excretion

Iopamidol is excreted primarily through the kidneys. In patients with normal renal function, the cumulative urinary excretion for iopamidol, expressed as a percentage of administered intravenous dose, is approximately 35% to 40% at 60 minutes, 80% to 90% at 8 hours, and 90% or greater in the 72- to 96- hour period after administration. In patients with normal renal function, approximately 1% or less of the administered dose appears in cumulative 72- to 96-hour fecal samples.

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

Long-term studies in animals have not been performed with iopamidol to evaluate carcinogenic potential. No evidence of genetic toxicity was obtained in *in vitro* tests. In animal reproduction studies performed on rats, intravenously administered iopamidol did not induce adverse effects on fertility or general reproductive performance.

14 CLINICAL STUDIES

Oral Administration for CT of the Abdomen and Pelvis

The safety and effectiveness of orally administered ISOVUE for CT of the abdomen and pelvis were evaluated in a study in which previously collected images were prospectively re-read from 218 consecutive patients, including 152 adult patients and 66 pediatric patients aged 3 to 16 years, who underwent CT of the abdomen and pelvis after oral ISOVUE administration. Patients who received ISOVUE by enteral tube, who had suspected bowel obstruction, or who had history of surgery altering bowel transit time were excluded. CT images were evaluated by three blinded, independent readers who assessed delineation of each of five segments of the gastrointestinal tract (stomach, duodenum, jejunum, proximal ileum, and distal ileum) using a three-point scale (poor, sufficient, good). Segments rated as sufficient or good were defined as having adequate anatomic delineation. Patients were considered to have adequate delineation if at least three of the five segments were rated as adequate.

All 218 patients had evaluable CT images. Patient age ranged from 3 years to 97 years, with a mean of 39 years. Patients were 55% female, 75% White, 9% Black or African American, 4% Asian, and <1% Native Hawaiian or Other Pacific Islander, with race not reported or unknown in 12% of patients. ISOVUE was also administered intravenously in 213 (98%) patients.

The percentage of patients with adequate anatomic delineation of the gastrointestinal tract was 77%, 81%, and 97% for the three readers with lower bounds of the 95% confidence intervals of 71%, 75%, and 94%, respectively.

16 HOW SUPPLIED/STORAGE AND HANDLING

How Supplied

ISOVUE (iopamidol) injection is a clear, colorless to pale yellow solution available in the following presentations:

Concentration (mg Iodine/mL)	Package Size	Package Type	Sale Unit	NDC
200	200 mL	Single-Dose Bottle	Carton of 10	0270-1314-15
250	100 mL	Single-Dose Bottle	Carton of 10	0270-1317-02
300	30 mL	Single-Dose Vial	Carton of 10	0270-1315-25
	50 mL	Single-Dose Vial	Carton of 10	0270-1315-30
	100 mL	Single-Dose Bottle	Carton of 10	0270-1315-35
	150 mL	Single-Dose Bottle	Carton of 10	0270-1315-50
370	50 mL	Single-Dose Vial	Carton of 10	0270-1316-30
	100 mL	Single-Dose Bottle	Carton of 10	0270-1316-35
	125 mL	Single-Dose Bottle	Carton of 10	0270-1316-04
	150 mL	Single-Dose Bottle	Carton of 10	0270-1316-37

Storage and Handling

Store at 20°C to 25°C (68°F to 77°F) [See USP controlled room temperature]. Protect from light.

17 PATIENT COUNSELING INFORMATION

Hypersensitivity Reactions

Advise the patient concerning the risk of hypersensitivity reactions that can occur both during and after ISOVUE administration. Advise the patient to report any signs or symptoms of hypersensitivity reactions during the procedure and to seek immediate medical attention for any signs or symptoms experienced after discharge *[see Warnings and Precautions (5.2)].*

Advise patients to inform their physician if they develop a rash after receiving ISOVUE *[see Warnings and Precautions (5.11)].*

Acute Kidney Injury

Advise the patient concerning appropriate hydration to decrease the risk of contrast induced kidney injury *[see Warnings and Precautions (5.3)].*

Extravasation

If extravasation occurs during injection, advise patients to seek medical care for progression of symptoms *[see Warnings and Precautions (5.6)].*

Thyroid Dysfunction

Advise parents/caregivers about the risk of developing thyroid dysfunction after ISOVUE administration. Advise parents/caregivers about when to seek medical care for their child to monitor for thyroid function *[see Warnings and Precautions (5.8)].*

Lactation

Advise a lactating woman that interruption of breastfeeding is not necessary, however, to minimize exposure to a breastfed infant, a lactating woman may consider pumping and discarding breast milk for 10 hours after ISOVUE administration *[see Use in Specific Populations (8.2)].*

Manufactured for:
Bracco Diagnostic Inc.
Princeton, NJ 08540

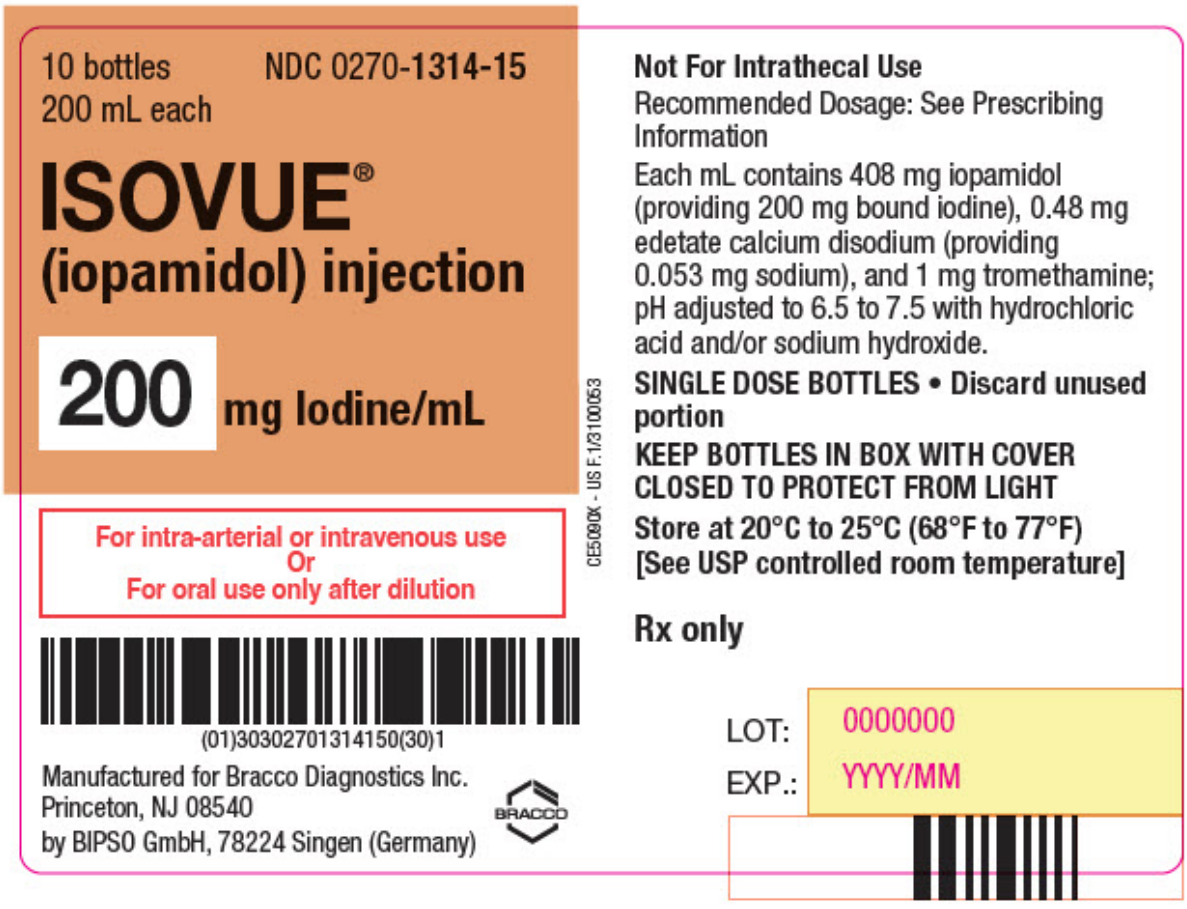
Manufactured by:
BIPSO GmbH
78224 Singen (Germany)

ISOVUE is a registered trademark of Bracco Diagnostics Inc.

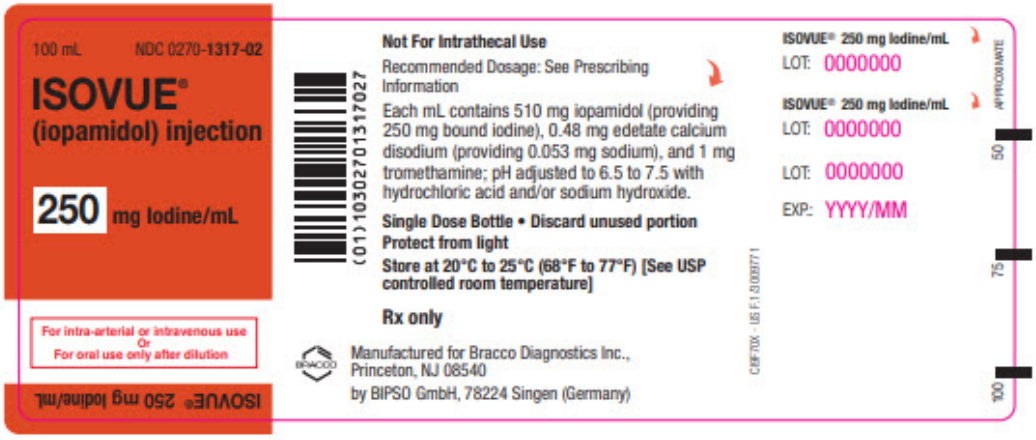
Revised October 2025

Isovue 200: 200mL Bottle Label
NDC 0270-1314-15

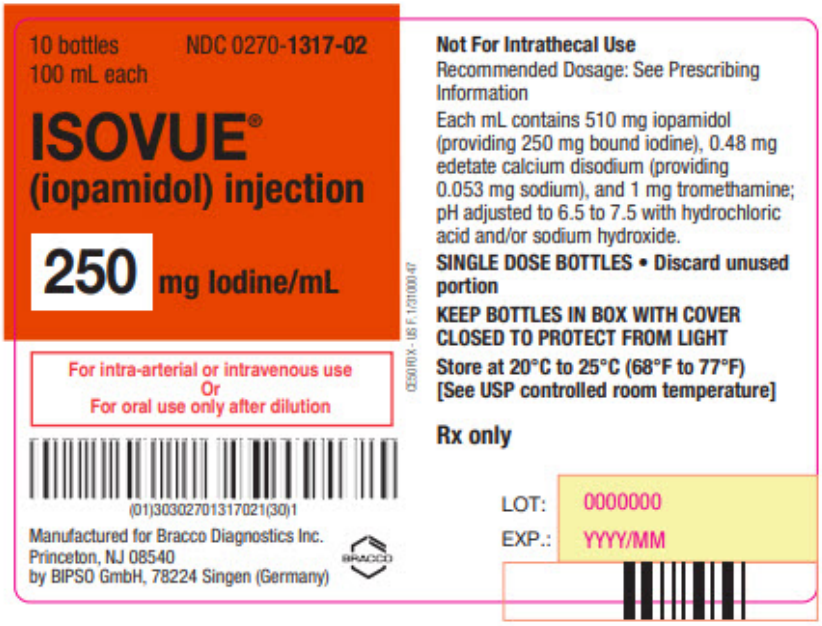
Isovue 200:10x 200mL Box Label
NDC 0270-1314-15



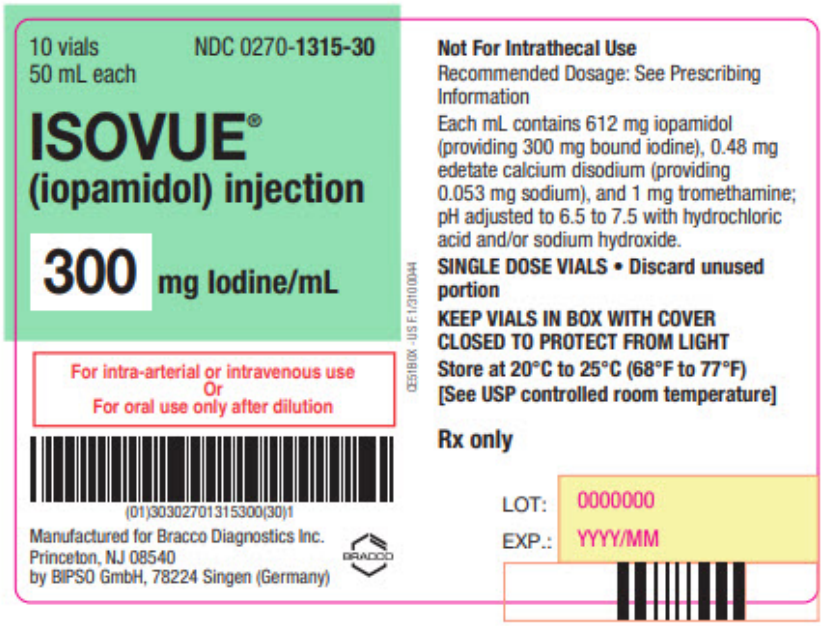
Isovue 250: 100mL Bottle Label
NDC 0270-1317-02



Isovue 250: 10x 100mL Box label
NDC 0270-1317-02



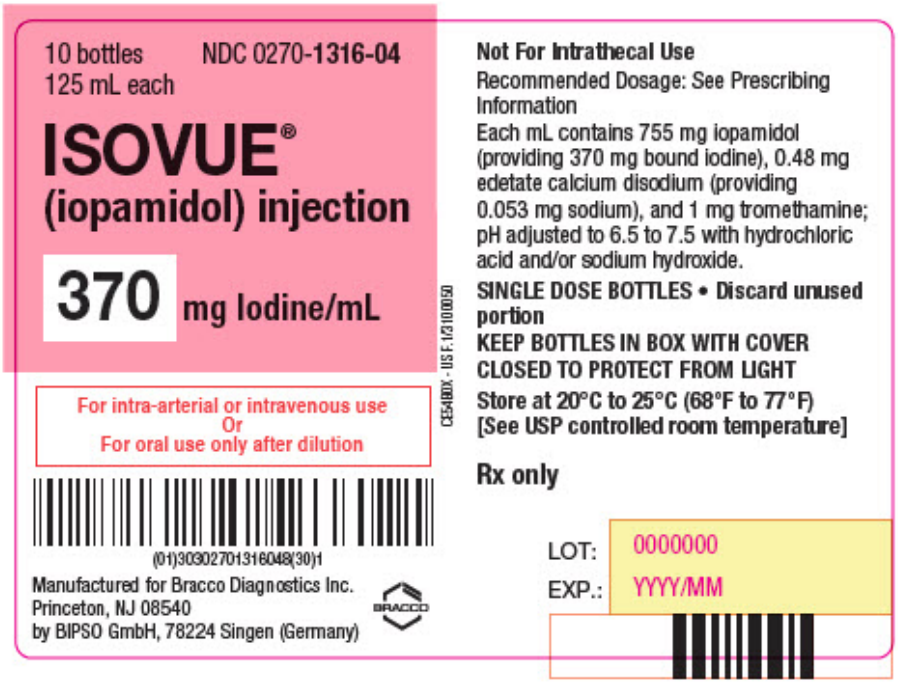
Isovue 300: 10x 50mL Box label
NDC 0270-1315-30



Isovue 300: 50mL Vial Label
NDC 0270-1315-30

Isovue 370: 125mL Bottle label
NDC 0270-1316-04

Isovue 370: 10x 125mL Box Label
NDC 0270-1316-04



ISOVUE 300

iopamidol injection, solution

Product Information			
Product Type	HUMAN PRESCRIPTION DRUG	**Item Code (Source)**	NDC:0270-1315
Route of Administration	INTRAVASCULAR		

Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
IOPAMIDOL (UNII: JR13W81H44) (IOPAMIDOL - UNII:JR13W81H44)	IOPAMIDOL	612 mg in 1 mL

Inactive Ingredients

Ingredient Name	Strength
TROMETHAMINE (UNII: 023C2WHX2V)	1 mg in 1 mL
EDETATE CALCIUM DISODIUM (UNII: 25IH6R4SGF)	0.39 mg in 1 mL

Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:0270-1315-50	10 in 1 BOX	12/31/1985	
1		150 mL in 1 BOTTLE; Type 0: Not a Combination Product		
2	NDC:0270-1315-25	10 in 1 BOX	12/31/1985	
2		30 mL in 1 VIAL, SINGLE-DOSE; Type 0: Not a Combination Product		
3	NDC:0270-1315-30	10 in 1 BOX	12/31/1985	
3		50 mL in 1 VIAL, SINGLE-DOSE; Type 0: Not a Combination Product		
4	NDC:0270-1315-35	10 in 1 BOX	12/31/1985	
4		100 mL in 1 BOTTLE; Type 0: Not a Combination Product		

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA	NDA018735	12/31/1985	

ISOVUE 370

iopamidol injection, solution

Product Information

Product Type	HUMAN PRESCRIPTION DRUG	**Item Code (Source)**	NDC:0270-1316
Route of Administration	INTRAVASCULAR		

Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
IOPAMIDOL (UNII: JR13W81H44) (IOPAMIDOL - UNII:JR13W81H44)	IOPAMIDOL	755 mg in 1 mL

Inactive Ingredients

Ingredient Name	Strength

TROMETHAMINE (UNII: 023C2WHX2V)	1 mg in 1 mL
EDETATE CALCIUM DISODIUM (UNII: 25IH6R4SGF)	0.48 mg in 1 mL

Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:0270-1316-52	10 in 1 BOX	12/31/1985	02/28/2025
1		75 mL in 1 BOTTLE; Type 0: Not a Combination Product		
2	NDC:0270-1316-35	10 in 1 BOX	12/31/1985	
2		100 mL in 1 BOTTLE; Type 0: Not a Combination Product		
3	NDC:0270-1316-04	10 in 1 BOX	12/31/1985	
3		125 mL in 1 BOTTLE; Type 0: Not a Combination Product		
4	NDC:0270-1316-37	10 in 1 BOX	12/31/1985	
4		150 mL in 1 BOTTLE; Type 0: Not a Combination Product		
5	NDC:0270-1316-30	10 in 1 BOX	12/31/1985	
5		50 mL in 1 VIAL; Type 0: Not a Combination Product		

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA	NDA018735	12/31/1985	

ISOVUE 200

iopamidol injection, solution

Product Information

Product Type	HUMAN PRESCRIPTION DRUG	**Item Code (Source)**	NDC:0270-1314
Route of Administration	INTRAVASCULAR		

Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
IOPAMIDOL (UNII: JR13W81H44) (IOPAMIDOL - UNII:JR13W81H44)	IOPAMIDOL	408 mg in 1 mL

Inactive Ingredients

Ingredient Name	Strength
TROMETHAMINE (UNII: 023C2WHX2V)	1 mg in 1 mL
EDETATE CALCIUM DISODIUM (UNII: 25IH6R4SGF)	0.26 mg in 1 mL

Packaging				
#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:0270-1314-15	10 in 1 BOX	12/31/1985	
1		200 mL in 1 BOTTLE; Type 0: Not a Combination Product		

Marketing Information			
Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA	NDA018735	12/31/1985	

ISOVUE 250

iopamidol injection, solution

Product Information			
Product Type	HUMAN PRESCRIPTION DRUG	Item Code (Source)	NDC:0270-1317
Route of Administration	INTRAVASCULAR		

Active Ingredient/Active Moiety		
Ingredient Name	Basis of Strength	Strength
IOPAMIDOL (UNII: JR13W81H44) (IOPAMIDOL - UNII:JR13W81H44)	IOPAMIDOL	510 mg in 1 mL

Inactive Ingredients	
Ingredient Name	Strength
TROMETHAMINE (UNII: 023C2WHX2V)	1 mg in 1 mL
EDETATE CALCIUM DISODIUM (UNII: 25IH6R4SGF)	0.33 mg in 1 mL

Packaging				
#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:0270-1317-02	10 in 1 BOX	12/31/1985	
1		100 mL in 1 BOTTLE; Type 0: Not a Combination Product		

Marketing Information			
Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA	NDA018735	12/31/1985	

Labeler - BRACCO DIAGNOSTICS INC (849234661)

Registrant - BRACCO DIAGNOSTICS INC (849234661)

Establishment

Name	Address	ID/FEI	Business Operations
BRACCO IMAGING SPA		434384007	API MANUFACTURE(0270-1316, 0270-1317, 0270-1315, 0270-1314)

Establishment

Name	Address	ID/FEI	Business Operations
BIPSO GmbH		342104149	MANUFACTURE(0270-1315, 0270-1316, 0270-1317, 0270-1314) , ANALYSIS(0270-1314, 0270-1316, 0270-1317, 0270-1315)

Establishment

Name	Address	ID/FEI	Business Operations
Patheon Italia S.p.A		434078638	ANALYSIS(0270-1314, 0270-1316, 0270-1317, 0270-1315) , MANUFACTURE(0270-1316, 0270-1315, 0270-1317, 0270-1314)

Establishment

Name	Address	ID/FEI	Business Operations
Labor LS SE & Co. KG		314929072	ANALYSIS(0270-1314, 0270-1316, 0270-1317, 0270-1315)

Establishment

Name	Address	ID/FEI	Business Operations
S.M. FARMACEUTICI SRL		430188286	ANALYSIS(0270-1314, 0270-1316, 0270-1317, 0270-1315) , MANUFACTURE(0270-1316, 0270-1315, 0270-1317, 0270-1314)

Establishment

Name	Address	ID/FEI	Business Operations
BioChem Labor für biologishe und chemische Analytik GmbH		318354230	ANALYSIS(0270-1314, 0270-1316, 0270-1317, 0270-1315)