

FLUORESCITE- fluorescein sodium injection, solution
Alcon, Inc.

HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use FLUORESCITE® safely and effectively. See full prescribing information for FLUORESCITE® (fluorescein injection, USP) 10 %.

FLUORESCITE® (fluorescein injection, USP) 10 % Intravenous injection

Initial U.S. Approval: 1976

----- **INDICATIONS AND USAGE** -----

FLUORESCITE® Injection 10% is indicated in diagnostic fluorescein angiography or angioscopy of the retina and iris vasculature. (1)

----- **DOSAGE AND ADMINISTRATION** -----

The normal adult dose of FLUORESCITE® Injection 10% (100 mg/mL) is 500 mg via intravenous administration. (2.1)

For children, the dose should be calculated on the basis of 7.7 mg for each kg of actual body weight (or 35 mg for each 10 pounds of body weight) up to a maximum of 500 mg via intravenous administration. (2.1)

Do not mix or dilute with other solutions or drugs. (2.2)

----- **DOSAGE FORMS AND STRENGTHS** -----

Single use 5 mL vial containing 100 mg/mL fluorescein. (3)

----- **CONTRAINDICATIONS** -----

FLUORESCITE® Injection 10% is contraindicated in patients with known hypersensitivity to fluorescein sodium or any other ingredients in this product (4.1)

----- **WARNINGS AND PRECAUTIONS** -----

Respiratory reactions may require intervention. (5.1)

Severe local tissue damage can occur with extravasation during injection. (5.2)

Nausea and/or vomiting may occur within minutes following injection. (5.3)

----- **ADVERSE REACTIONS** -----

The most common adverse reactions include skin discoloration, urine discoloration, nausea, vomiting, and gastrointestinal distress. (6)

To report SUSPECTED ADVERSE REACTIONS, contact Alcon Laboratories, Inc. at 1-800-757-9195 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

----- **USE IN SPECIFIC POPULATIONS** -----

Caution should be exercised when fluorescein sodium is administered to a nursing woman. (8.3)

See 17 for PATIENT COUNSELING INFORMATION and FDA-approved patient labeling.

Revised: 2/2016

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FULL PRESCRIBING INFORMATION

1 INDICATIONS AND USAGE

FLUORESCITE[®] Injection 10% is indicated in diagnostic fluorescein angiography or angiography of the retina and iris vasculature.

2 DOSAGE AND ADMINISTRATION

2.1 Dosing

Adult Dose- The normal adult dose of FLUORESCITE[®] Injection 10% (100 mg/mL) is 500 mg via intravenous administration.

For children, the dose should be calculated on the basis of 7.7 mg for each kg of actual body weight (or 35 mg for each 10 pounds of body weight) up to a maximum of 500 mg via intravenous administration.

2.2 Preparation for Administration

Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration. Do not mix or dilute with other solutions or drugs. Flush intravenous cannulas before and after drugs are injected to avoid physical incompatibility reactions.

2.3 Administration

Inject the dose rapidly (1 mL per second is normally recommended) intravenously into the antecubital vein, after taking precautions to avoid extravasation. A syringe, filled with FLUORESCITE[®], may be attached to transparent tubing and a 23 gauge butterfly needle for injection. Insert the needle and draw the patient's blood to the hub of the syringe so that a small air bubble separates the patient's blood in the tubing from the fluorescein. With the room lights on, slowly inject the blood back into the vein while watching the skin over the needle tip. If the needle has extravasated, the patient's blood will be seen to bulge the skin and the injection should be stopped before any fluorescein is injected. When assured that

extravasation has not occurred, the room light may be turned off and the fluorescein injection completed. Luminescence usually appears in the retina and choroidal vessels in 7 to 14 seconds and can be observed by standard viewing equipment.

Reduction in dose from 5 mL to 2 mL of FLUORESCITE® Injection 10% may be appropriate in cases when a highly sensitive imaging system e.g., scanning laser ophthalmoscope is used.

3 DOSAGE FORMS AND STRENGTHS

Single use 5 mL vial containing 100 mg/mL fluorescein.

4 CONTRAINDICATIONS

FLUORESCITE® Injection 10% is contraindicated in patients with known hypersensitivity to fluorescein sodium or any other ingredients in this product. Rare cases of death due to anaphylaxis have been reported. *[see Warnings and Precautions (5.1) and Adverse Reactions (6)].*

Fluorescein sodium can induce serious intolerance reactions. These reactions of intolerance are always unpredictable but they are more frequent in patients who have previously experienced an adverse reaction after fluorescein injection (symptoms other than nausea and vomiting) or in patients with history of allergy such as food or drug induced urticaria, asthma, eczema, allergic rhinitis.

Detailed questioning of each patient is recommended before the angiography to evaluate any prior history of allergy.

5 WARNINGS AND PRECAUTIONS

5.1 Respiratory Reactions

Caution is to be exercised in patients with a history of allergy or bronchial asthma. An emergency tray should be available in the event of possible reaction to FLUORESCITE® Injection 10%.

If a potential allergy is suspected, an intradermal skin test may be performed prior to intravenous administration, i.e., 0.05 mL injected intradermally to be evaluated 30 to 60 minutes following injection. Given the sensitivity and specificity of skin testing, a negative skin test is not proof that a patient is not allergic to fluorescein.

5.2 Severe Local Tissue Damage

Care must be taken to avoid extravasation during injection as the high pH of fluorescein solution can result in severe local tissue damage. The following complications resulting from extravasation of fluorescein have been noted to occur: severe pain in the arm for several hours, sloughing of the skin, superficial phlebitis, subcutaneous granuloma, and toxic neuritis along the median curve in the antecubital area. When significant extravasation occurs, the injection should be discontinued and conservative measures to treat damaged tissue and to relieve pain should be implemented. *[see Administration (2.3) and Adverse Reactions(6)].*

5.3 Nausea and/or Vomiting

Nausea and/or vomiting and gastrointestinal distress occur commonly within the first few minutes following injection. These reactions usually subside within 10 minutes.

6 ADVERSE REACTIONS

Skin and Urine Discoloration

The most common reaction is temporary yellowish discoloration of the skin and urine. Urine may attain a bright yellow color. Discoloration of the skin usually fades in 6 to 12 hours and usually fades in urine

in 24 to 36 hours.

Gastrointestinal Reactions

Nausea, vomiting, and gastrointestinal distress are common adverse events. A strong taste may develop after injection.

Hypersensitivity Reactions

Symptoms and signs of hypersensitivity have occurred. Generalized hives and itching, bronchospasm and anaphylaxis have been reported. Rare cases of death have been reported. [see *Contraindications (4.1) and Warnings and Precautions (5.1)*].

Cardiopulmonary Reactions

Cardiac arrest, basilar artery ischemia, severe shock and death may occur rarely.

Neurologic Reactions

Headache may occur. Convulsions and syncope may rarely occur following injection.

Thrombophlebitis

Thrombophlebitis at the injection site has been reported. Extravasation of the solution at the injection site causes intense pain at the site and a dull aching pain in the injected arm. [see *Administration (2.3) and Warnings and Precautions (5.2)*].

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Adequate animal reproduction studies have not been conducted with fluorescein sodium. It is also not known whether fluorescein sodium can cause fetal harm when administered to a pregnant woman. Fluorescein sodium should be given to a pregnant woman only if clearly needed.

8.3 Nursing Mothers

Fluorescein sodium injection has been demonstrated to be excreted in human milk for up to 4 days. Following fluorescein angiography, breast-feeding should therefore be discontinued for at least 4 days and the milk should be pumped off and discarded during this period.

8.4 Pediatric Use

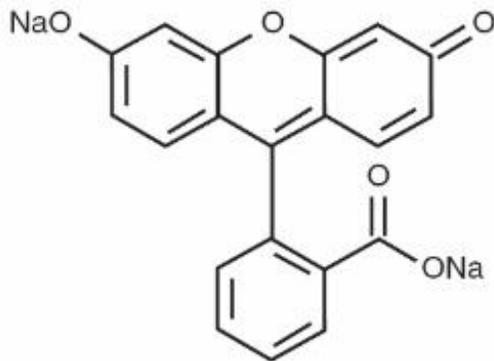
Pediatric patients have been included in clinical studies. No overall differences in safety or effectiveness have been observed between pediatric and adult patients.

8.5 Geriatric Use

No overall differences in safety or effectiveness have been observed between elderly and other adult patients.

11 DESCRIPTION

FLUORESCITE[®] (fluorescein injection, USP) 10% contains fluorescein sodium (equivalent to fluorescein 10% w/v). It is a sterile solution for use intravenously as a diagnostic aid. Its chemical name is spiro[isobenzofuran-1(3H),9'-[9H]xanthene]-3-one, 3'6'-dihydroxy, disodium salt. The active ingredient is represented by the chemical structure:



376.27 MW

FLUORESCITE[®] (fluorescein injection, USP) 10% is supplied as a sterile, unpreserved, unit dose aqueous solution, that has a pH of 8.0 – 9.8 and an osmolality of 572-858 mOsm/kg.

Active ingredient: fluorescein sodium

Inactive Ingredients: Sodium hydroxide and/or hydrochloric acid (to adjust pH), and water for injection.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

Fluorescein sodium responds to electromagnetic radiation and light between the wavelengths of 465-490 nm and fluoresces, i.e., emits light at wavelengths of 520-530 nm. Thus, the hydrocarbon is excited by blue light and emits light that appears yellowish-green. Following intravenous injection of fluorescein sodium in an aqueous solution, the unbound fraction of the fluorescein can be excited with a blue light flash from a fundus camera as it circulates through the ocular vasculature, and the yellowish green fluorescence of the dye is captured by the camera. In the fundus, the fluorescence of the dye demarcates the retinal and/or choroidal vasculature under observation, distinguishing it from adjacent areas/structures.

12.3 Pharmacokinetics

Distribution:

Within 7 to 14 seconds after intravenous (IV) administration into antecubital vein, fluorescein usually appears in the central artery of the eye. Within a few minutes of IV administration of fluorescein sodium, a yellowish discoloration of the skin occurs, which begins to fade after 6 to 12 hours of dosing. Various estimates of volume of distribution indicate that fluorescein distributes well into interstitial space (0.5 L/kg).

Metabolism:

Fluorescein undergoes rapid metabolism to fluorescein monoglucuronide. After IV administration of fluorescein sodium (14 mg/kg) to 7 healthy subjects, approximately 80% of fluorescein in plasma was converted to glucuronide conjugate after a period of 1 hour post dose, indicating relatively rapid conjugation.

Excretion:

Fluorescein and its metabolites are mainly eliminated via renal excretion. After IV administration, the urine remains slightly fluorescent for 24 to 36 hours. A renal clearance of 1.75 mL/min/kg and a hepatic clearance (due to conjugation) of 1.50 mL/min/kg have been estimated. The systemic clearance of fluorescein was essentially complete by 48 to 72 hours after administration of 500 mg fluorescein.

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

There have been no long-term studies done using fluorescein in animals to evaluate carcinogenic potential.

16 HOW SUPPLIED/STORAGE AND HANDLING

16.1 How Supplied

FLUORESCITE® (fluorescein injection, USP) 10% is supplied in a single use 5 mL glass vial with a gray FluroTec coated chlorobutyl stopper and purple flip-off aluminum seal. The vial stopper is not made with natural rubber latex. The vial contains a sterile, red-orange solution of fluorescein sodium.

NDC 0065-0092-05

NDC 0065-0092-65

16.2 Storage

Store at 2° - 25°C (36° - 77°F).

Do Not Freeze

17 PATIENT COUNSELING INFORMATION

After administration of fluorescein sodium, skin will attain a temporary yellowish discoloration. Urine attains a bright yellow color. Discoloration of the skin usually fades in 6 to 12 hours and usually fades in urine in 24 to 36 hours. [see *Adverse Reactions (6)*]

Distributed By:

ALCON LABORATORIES, INC.

Fort Worth, Texas 76134 USA

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9012850-0216

PRINCIPAL DISPLAY PANEL

NDC 0065-0092-65

1 Dozen 5 mL Vials

Florescite® 10%

(fluorescein injection, USP) 10%

STERILE

100 mg/mL Fluorescein

Rx Only

FOR INTRAVENOUS USE

Store at 2° - 25° C (36° - 77° F)

Do Not Freeze

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ALCON LABORATORIES, INC.
Fort Worth, Texas 76134 USA

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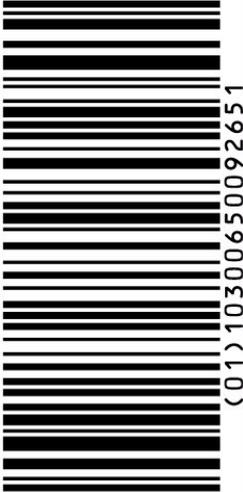
LOT:

EXP.:

MFD.:

NDC 0065-0092-65			1 Dozen 5 mL Vials
Fluorescite[®] 10%			
(fluorescein injection, USP) 10%			
STERILE			
100 mg/mL Fluorescein			
Rx Only			
FOR INTRAVENOUS USE			
Store at 2° - 25° C (36° - 77° F).			
Do Not Freeze			
Alcon [®]			
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Fort Worth, Texas 76134 USA			
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MFD.:	EXP.:	LOT:



NDC 0065-0092-65

Fluorescite[®] 10%
(fluorescein injection, USP) 10%
100 mg/mL FLUORESCEIN

5 mL STERILE

ALCON LABORATORIES, INC.
Fort Worth, Texas 76134 USA

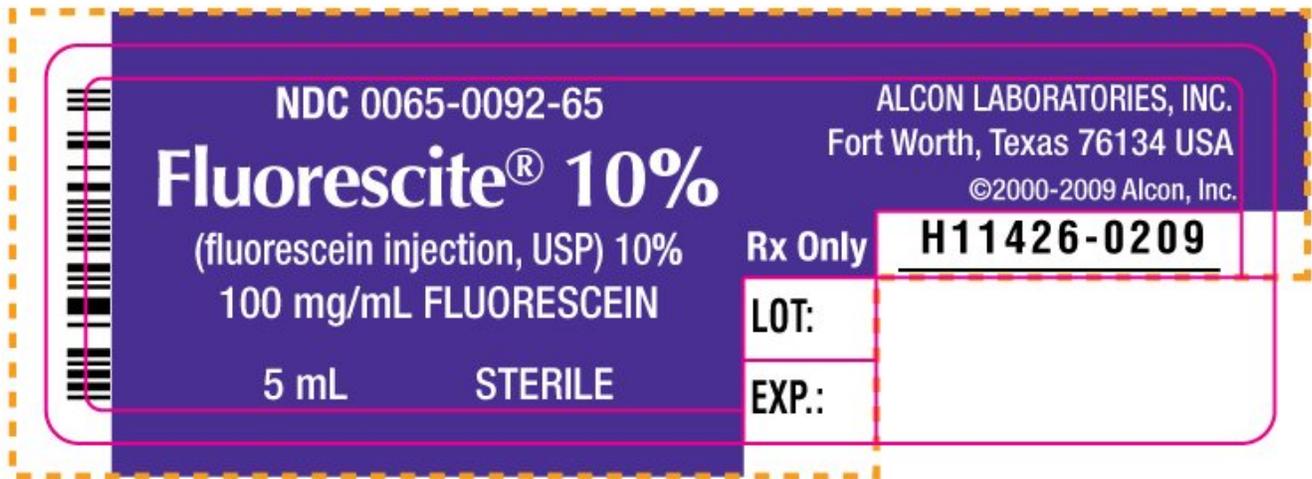
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Rx Only

H11426-0209

LOT:

EXP.:



FLUORESCITE

fluorescein sodium injection, solution

Product Information

Product Type	HUMAN PRESCRIPTION DRUG	Item Code (Source)	NDC:0065-0092
Route of Administration	OPHTHALMIC		

Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
FLUORESCEIN SODIUM (UNII: 93X55PE38 X) (FLUORESCEIN - UNII:TPY09G7XIR)	FLUORESCEIN	100 mg in 1 mL

Inactive Ingredients

Ingredient Name	Strength
SODIUM HYDROXIDE (UNII: 55X04QC32I)	
HYDROCHLORIC ACID (UNII: QTT17582CB)	

WATER (UNII: 059QF0KO0R)

Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:0065-0092-05	12 in 1 CARTON	09/15/1972	10/31/2013
1		5 mL in 1 VIAL; Type 0: Not a Combination Product		
2	NDC:0065-0092-65	12 in 1 CARTON	09/15/1972	
2		5 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	NDA021980	09/15/1972	

Labeler - Alcon, Inc. (008018525)

Registrant - Alcon Research Ltd (007672236)

Establishment

Name	Address	ID/FEI	Business Operations
Alcon Research Ltd		007672236	MANUFACTURE(0065-0092)

Establishment

Name	Address	ID/FEI	Business Operations
INTERNATIONAL MEDICATION SYSTEMS, LIMITED		055750020	MANUFACTURE(0065-0092)

Revised: 12/2016

Alcon, Inc.