# LEVOTHYROXINE SODIUM - levothyroxine sodium tablet
# Aurobindo Pharma Limited

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

**LEVOTHYROXINE SODIUM tablets, for oral use**
**Initial U.S. Approval: 2002**

**WARNING: NOT FOR TREATMENT OF OBESITY OR FOR WEIGHT LOSS**

***See full prescribing information for complete boxed warning.***

- **Thyroid hormones, including levothyroxine sodium, should not be used for the treatment of obesity or for weight loss.**
- **Doses beyond the range of daily hormonal requirements may produce serious or even life-threatening manifestations of toxicity (6, 10).**

## RECENT MAJOR CHANGES

| | |
|---|---|
| Dosage and Administration, Important Considerations for Dosing (2.2) | 2/2024 |
| Dosage and Administration, Monitoring TSH and/or Thyroxine (T4) Levels (2.4) | 2/2024 |

## INDICATIONS AND USAGE

Levothyroxine sodium is a L-thyroxine (T4) indicated in adult and pediatric patients, including neonates, for:

- Hypothyroidism: As replacement therapy in primary (thyroidal), secondary (pituitary), and tertiary (hypothalamic) congenital or acquired hypothyroidism. (1)
- Pituitary Thyrotropin (Thyroid-Stimulating Hormone, TSH) Suppression: As an adjunct to surgery and radioiodine therapy in the management of thyrotropin-dependent well-differentiated thyroid cancer. (1)

Limitations of Use:

- Not indicated for suppression of benign thyroid nodules and nontoxic diffuse goiter in iodine-sufficient patients
- Not indicated for treatment of hypothyroidism during the recovery phase of subacute thyroiditis

## DOSAGE AND ADMINISTRATION

- Administer once daily, preferably on an empty stomach, one-half to one hour before breakfast. (2.1)
- Administer at least 4 hours before or after drugs that are known to interfere with absorption. (2.1)
- Evaluate the need for dose adjustments when regularly administering within one hour of certain foods that may affect absorption. (2.1)
- Advise patients to stop biotin and biotin-containing supplements at least 2 days before assessing TSH and/or T4 levels. (2.2)
- Starting dose depends on a variety of factors, including age, body weight, cardiovascular status, and concomitant medications. Peak therapeutic effect may not be attained for 4 to 6 weeks. (2.2)
- See full prescribing information for dosing in specific patient populations. (2.3)
- Adequacy of therapy determined with periodic monitoring of TSH and/or T4 as well as clinical status. (2.4)

## DOSAGE FORMS AND STRENGTHS

Tablets: 137 mcg, 150 mcg, 175 mcg, 200 mcg, and 300 mcg (3)

## CONTRAINDICATIONS

- Uncorrected adrenal insufficiency. (4)

## WARNINGS AND PRECAUTIONS

- *Serious risks related to overtreatment or undertreatment with levothyroxine sodium:* Titrate the dose of levothyroxine sodium carefully and monitor response to titration. (5.1)

- *Cardiac adverse reactions in the elderly and in patients with underlying cardiovascular disease:* Initiate levothyroxine sodium at less than the full replacement dose because of the increased risk of cardiac adverse reactions, including atrial fibrillation. (2.3, 5.2, 8.5)
- *Myxedema coma:* Do not use oral thyroid hormone drug products to treat myxedema coma. (5.3)
- *Acute adrenal crisis in patients with concomitant adrenal insufficiency:* Treat with replacement glucocorticoids prior to initiation of levothyroxine sodium treatment. (5.4)
- *Worsening of diabetic control:* Therapy in patients with diabetes mellitus may worsen glycemic control and result in increased antidiabetic agent or insulin requirements. Carefully monitor glycemic control after starting, changing, or discontinuing thyroid hormone therapy. (5.5)
- *Decreased bone mineral density associated with thyroid hormone over-replacement:* Over-replacement can increase bone resorption and decrease bone mineral density. Give the lowest effective dose. (5.6)

**ADVERSE REACTIONS**

Adverse reactions associated with levothyroxine sodium therapy are primarily those of hyperthyroidism due to therapeutic overdosage: arrhythmias, myocardial infarction, dyspnea, muscle spasm, headache, nervousness, irritability, insomnia, tremors, muscle weakness, increased appetite, weight loss, diarrhea, heat intolerance, menstrual irregularities, and skin rash. (6)

**To report SUSPECTED ADVERSE REACTIONS, contact Aurobindo Pharma USA, Inc. at 1-866-850-2876 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.**

**DRUG INTERACTIONS**

See full prescribing information for drugs that affect thyroid hormone pharmacokinetics and metabolism (e.g., absorption, synthesis, secretion, catabolism, protein binding, and target tissue response) and may alter the therapeutic response to levothyroxine sodium. (7)

**USE IN SPECIFIC POPULATIONS**

Pregnancy may require the use of higher doses of levothyroxine sodium. (2.3, 8.1)

**See 17 for PATIENT COUNSELING INFORMATION.**

**Revised: 3/2024**

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## FULL PRESCRIBING INFORMATION: CONTENTS*

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

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## FULL PRESCRIBING INFORMATION

**WARNING: NOT FOR TREATMENT OF OBESITY OR FOR WEIGHT LOSS**

**Thyroid hormones, including levothyroxine sodium, either alone or with other therapeutic agents, should not be used for the treatment of obesity or for weight loss.**

**In euthyroid patients, doses within the range of daily hormonal requirements are ineffective for weight reduction.**

**Larger doses may produce serious or even life-threatening manifestations of toxicity, particularly when given in association with sympathomimetic amines such as those used for their anorectic effects *[see Adverse Reactions (6), Drug Interactions (7.7), and Overdosage (10)]*.**

## 1 INDICATIONS AND USAGE

**Hypothyroidism**

Levothyroxine sodium tablets are indicated in adult and pediatric patients, including neonates, as a replacement therapy in primary (thyroidal), secondary (pituitary), and tertiary (hypothalamic) congenital or acquired hypothyroidism.

**Pituitary Thyrotropin (Thyroid-Stimulating Hormone, TSH) Suppression**

Levothyroxine sodium tablets are indicated in adult and pediatric patients, including neonates, as an adjunct to surgery and radioiodine therapy in the management of thyrotropin-dependent well-differentiated thyroid cancer.

Limitations of Use

- Levothyroxine sodium tablets are not indicated for suppression of benign thyroid nodules and nontoxic diffuse goiter in iodine-sufficient patients as there are no clinical benefits and overtreatment with levothyroxine sodium tablets may induce hyperthyroidism *[see Warnings and Precautions (5.1)]*.
- Levothyroxine sodium tablets are not indicated for treatment of hypothyroidism during the recovery phase of subacute thyroiditis.

## 2 DOSAGE AND ADMINISTRATION

### 2.1 Important Administration Instructions

Administer levothyroxine sodium tablets as a single daily dose, on an empty stomach, one-half to one hour before breakfast.

Administer levothyroxine sodium tablets at least 4 hours before or after drugs known to interfere with levothyroxine sodium tablets absorption *[see Drug Interactions (7.1)]*.

Evaluate the need for dosage adjustments when regularly administering within one hour of certain foods that may affect levothyroxine sodium tablets absorption *[see Dosage and Administration (2.2 and 2.3), Drug Interactions (7.9), and Clinical Pharmacology (12.3)]*.

Administer levothyroxine sodium tablets to pediatric patients who cannot swallow intact tablets by crushing the tablet, suspending the freshly crushed tablet in a small amount (5 to 10 mL) of water and immediately administering the suspension by spoon or dropper. Ensure the patient ingests the full amount of the suspension. Do not store the suspension. Do not administer in foods that decrease absorption of levothyroxine sodium tablets, such as soybean-based infant formula *[see Drug Interactions (7.9)]*.

### 2.2 Important Considerations for Dosing

The dosage of levothyroxine sodium tablets for hypothyroidism or pituitary TSH suppression depends on a variety of factors including: the patient's age, body weight, cardiovascular status, concomitant medical conditions (including pregnancy), concomitant medications, co-administered food and the specific nature of the condition

being treated *[see Dosage and Administration (2.3), Warnings and Precautions (5), and Drug Interactions (7)]*. Dosing must be individualized to account for these factors and dosage adjustments made based on periodic assessment of the patient's clinical response and laboratory parameters *[see Dosage and Administration (2.4)]*.

For adult patients with primary hypothyroidism, titrate until the patient is clinically euthyroid and the serum TSH returns to normal *[see Dosage and Administration (2.3)]*.

For secondary or tertiary hypothyroidism, serum TSH is not a reliable measure of levothyroxine sodium tablets dosage adequacy and should not be used to monitor therapy. Use the serum free-T4 level to titrate levothyroxine sodium tablets dosing until the patient is clinically euthyroid and the serum free-T4 level is restored to the upper half of the normal range *[see Dosage and Administration (2.3)]*.

Inquire whether patients are taking biotin or biotin-containing supplements. If so, advise them to stop biotin supplementation at least 2 days before assessing TSH and/or T4 levels *[see Dosage and Administration (2.4) and Drug Interactions (7.10)]*.

The peak therapeutic effect of a given dose of levothyroxine sodium tablets may not be attained for 4 to 6 weeks.

### 2.3 Recommended Dosage and Titration

Primary, Secondary, and Tertiary Hypothyroidism in Adults

The recommended starting daily dosage of levothyroxine sodium tablets in adults with primary, secondary, or tertiary hypothyroidism is based on age and comorbid cardiac conditions, as described in Table 1. For patients at risk of atrial fibrillation or patients with underlying cardiac disease, start with a lower dosage and titrate the dosage more slowly to avoid exacerbation of cardiac symptoms. Dosage titration is based on serum TSH or free-T4 *[see Dosage and Administration (2.2)]*.

**Table 1. Levothyroxine Sodium Tablets Dosing Guidelines for Hypothyroidism in Adults***

| Patient Population | Starting Dosage | Dosage Titration Based on Serum TSH or Free-T4 |
|---|---|---|
| Adults diagnosed with hypothyroidism | Full replacement dose is 1.6 mcg/kg/day. Some patients require a lower starting dose. | Titrate dosage by 12.5 to 25 mcg increments every 4 to 6 weeks, as needed until the patient is euthyroid. |
| Adults at risk for atrial fibrillation or with underlying cardiac disease | Lower starting dose (less than 1.6 mcg/kg/day) | Titrate dosage every 6 to 8 weeks, as needed until the patient is euthyroid. |
| Geriatric patients | Lower starting dose (less than 1.6 mcg/kg/day) | |

* Dosages greater than 200 mcg/day are seldom required. An inadequate response to daily dosages greater than 300 mcg/day is rare and may indicate poor compliance, malabsorption, drug interactions, or a combination of these factors *[see Dosage and Administration (2.1) and Drug Interactions (7)]*.

Primary, Secondary, and Tertiary Hypothyroidism in Pediatric Patients

The recommended starting daily dosage of levothyroxine sodium tablets in pediatric patients with primary, secondary, or tertiary hypothyroidism is based on body weight and changes with age as described in Table 2. Titrate the dosage (every 2 weeks) as needed based on serum TSH or free- T4 until the patient is euthyroid *[see Dosage and Administration (2.2)]*.

**Table 2. Levothyroxine Sodium Tablets Dosing Guidelines for Hypothyroidism in Pediatric Patients**

| Age | Starting Daily Dosage Per Kg Body Weight* |
|---|---|
| 0 to 3 months | 10 to 15 mcg/kg/day |
| 3 to 6 months | 8 to 10 mcg/kg/day |
| 6 to 12 months | 6 to 8 mcg/kg/day |
| 1 to 5 years | 5 to 6 mcg/kg/day |
| 6 to 12 years | 4 to 5 mcg/kg/day |
| Greater than 12 years but growth and puberty incomplete | 2 to 3 mcg/kg/day |
| Growth and puberty complete | 1.6 mcg/kg/day |

* Adjust dosage based on clinical response and laboratory parameters *[see Dosage and Administration (2.4) and Use in Specific Populations (8.4)]*.

*Pediatric Patients from Birth to 3 Months of Age at Risk for Cardiac Failure*

Start at a lower starting dosage and increase the dosage every 4 to 6 weeks as needed based on clinical and laboratory response.

*Pediatric Patients at Risk for Hyperactivity*

To minimize the risk of hyperactivity, start at one-fourth the recommended full replacement dosage, and increase on a weekly basis by one-fourth the full recommended replacement dosage until the full recommended replacement dosage is reached.

Hypothyroidism in Pregnant Patients

For pregnant patients with pre-existing hypothyroidism, measure serum TSH and free-T4 as soon as pregnancy is confirmed and, at minimum, during each trimester of pregnancy. In pregnant patients with primary hypothyroidism, maintain serum TSH in

the trimester-specific reference range.

The recommended daily dosage of levothyroxine sodium tablets in pregnant patients is described in Table 3.

**Table 3. Levothyroxine Sodium Tablets Dosing Guidelines for Hypothyroidism in Pregnant Patients**

| **Patient Population** | **Starting Dosage** | **Dose Adjustment and Titration** |
|---|---|---|
| Pre-existing primary hypothyroidism with serum TSH above normal trimester-specific range | Pre-pregnancy dosage may increase during pregnancy | Increase levothyroxine sodium tablets dosage by 12.5 to 25 mcg per day. Monitor TSH every 4 weeks until a stable dose is reached and serum TSH is within normal trimester-specific range. Reduce levothyroxine sodium tablets dosage to pre-pregnancy levels immediately after delivery. Monitor serum TSH 4 to 8 weeks postpartum. |
| New onset hypothyroidism (TSH ≥ 10 mIU per liter) | 1.6 mcg/kg/day | Monitor serum TSH every 4 weeks and adjust levothyroxine sodium tablets dosage until serum TSH is within normal trimester-specific range. |
| New onset hypothyroidism (TSH < 10 mIU per liter) | 1 mcg/kg/day | |

TSH Suppression in Well-differentiated Thyroid Cancer in Adult and Pediatric Patients

The levothyroxine sodium tablets dosage is based on the target level of TSH suppression for the stage and clinical status of thyroid cancer.

### 2.4 Monitoring TSH and/or Thyroxine (T4) Levels

Assess the adequacy of therapy by periodic assessment of laboratory tests and clinical evaluation.

Biotin supplementation may interfere with immunoassays for TSH, T4, and T3, resulting in erroneous thyroid hormone test results. Stop biotin and biotin-containing supplements for at least 2 days before assessing TSH and/or T4 levels *[see Drug Interactions (7.10)]*.

Persistent clinical and laboratory evidence of hypothyroidism despite an apparent adequate replacement dose of levothyroxine sodium tablets may be evidence of inadequate absorption, poor compliance, drug interactions, or a combination of these factors.

*Adults*

In adult patients with primary hypothyroidism, monitor serum TSH levels after an interval of 6 to 8 weeks after any change in dosage. In patients on a stable and appropriate replacement dosage, evaluate clinical and biochemical response every 6 to 12 months and whenever there is a change in the patient's clinical status.

*Pediatric Patients*

In patients with hypothyroidism, assess the adequacy of replacement therapy by measuring both serum TSH and total or free-T4. Monitor TSH and total or free-T4 in pediatric patients as follows: 2 and 4 weeks after the initiation of treatment, 2 weeks after any change in dosage, and then every 3 to 12 months thereafter following dosage stabilization until growth is completed. Poor compliance or abnormal values may necessitate more frequent monitoring. Perform routine clinical examination, including assessment of development, mental and physical growth, and bone maturation, at regular intervals.

The general aim of therapy is to normalize the serum TSH level. TSH may not normalize in some patients due to in utero hypothyroidism causing a resetting of pituitary-thyroid feedback. Failure of the serum T4 to increase into the upper half of the normal range within 2 weeks of initiation of levothyroxine sodium tablets therapy and/or of the serum TSH to decrease below 20 mIU per liter within 4 weeks may indicate the patient is not receiving adequate therapy. Assess compliance, dose of medication administered, and method of administration prior to increasing the dose of levothyroxine sodium tablets *[see Warnings and Precautions (5.1) and Use in Specific Populations (8.4)]*.

*Secondary and Tertiary Hypothyroidism*

Monitor serum free-T4 levels and maintain in the upper half of the normal range in these patients.

## 3 DOSAGE FORMS AND STRENGTHS

Levothyroxine Sodium Tablets, USP are available as follows:

- The 137 mcg are round, biconvex, turquoise color, mottled tablet, debossed with "137" and partial bisect (functional) on one side and "LV" on the other side.
- The 150 mcg are round, biconvex, blue color, mottled tablet, debossed with "150" and partial bisect (functional) on one side and "LV" on the other side.
- The 175 mcg are round, biconvex, lilac color, mottled tablet, debossed with "175" and partial bisect (functional) on one side and "LV" on the other side.

- The 200 mcg are round, biconvex, pink color, mottled tablet, debossed with “200” and partial bisect (functional) on one side and “LV” on the other side.

- The 300 mcg are round, biconvex, green color, mottled tablet, debossed with “300” and partial bisect (functional) on one side and “LV” on the other side.

## 4 CONTRAINDICATIONS

Levothyroxine sodium tablets are contraindicated in patients with uncorrected adrenal insufficiency *[see Warnings and Precautions (5.4)]*.

## 5 WARNINGS AND PRECAUTIONS

### 5.1 Serious Risks Related to Overtreatment or Undertreatment with Levothyroxine Sodium

Levothyroxine sodium has a narrow therapeutic index. Overtreatment or undertreatment with levothyroxine sodium may have negative effects on growth and development, cardiovascular function, bone metabolism, reproductive function, cognitive function, gastrointestinal function, and glucose and lipid metabolism in adult or pediatric patients.

In pediatric patients with congenital and acquired hypothyroidism, undertreatment may adversely affect cognitive development and linear growth, and overtreatment is associated with craniosynostosis and acceleration of bone age *[see Use in Specific Populations (8.4)]*.

Titrate the dose of levothyroxine sodium carefully and monitor response to titration to avoid these effects *[see Dosage and Administration (2.4)]*. Consider the potential for food or drug interactions and adjust the administration or dosage of levothyroxine sodium as needed *[see Dosage and Administration (2.1), Drug Interactions (7.1), and Clinical Pharmacology (12.3)]*.

### 5.2 Cardiac Adverse Reactions in the Elderly and in Patients with Underlying Cardiovascular Disease

Over-treatment with levothyroxine may cause an increase in heart rate, cardiac wall thickness, and cardiac contractility and may precipitate angina or arrhythmias, particularly in patients with cardiovascular disease and in elderly patients. Initiate levothyroxine sodium therapy in this population at lower doses than those recommended in younger individuals or in patients without cardiac disease *[see Dosage and Administration (2.3) and Use in Specific Populations (8.5)]*.

Monitor for cardiac arrhythmias during surgical procedures in patients with coronary artery disease receiving suppressive levothyroxine sodium therapy. Monitor patients receiving concomitant levothyroxine sodium and sympathomimetic agents for signs and symptoms of coronary insufficiency.

If cardiac symptoms develop or worsen, reduce the levothyroxine sodium dose or withhold for one week and restart at a lower dose.

### 5.3 Myxedema Coma

Myxedema coma is a life-threatening emergency characterized by poor circulation and hypometabolism and may result in unpredictable absorption of levothyroxine sodium from the gastrointestinal tract. Use of oral thyroid hormone drug products is not recommended to treat myxedema coma. Administer thyroid hormone products formulated for intravenous administration to treat myxedema coma.

### 5.4 Acute Adrenal Crisis in Patients with Concomitant Adrenal Insufficiency

Thyroid hormone increases metabolic clearance of glucocorticoids. Initiation of thyroid hormone therapy prior to initiating glucocorticoid therapy may precipitate an acute adrenal crisis in patients with adrenal insufficiency. Treat patients with adrenal insufficiency with replacement glucocorticoids prior to initiating treatment with levothyroxine sodium *[see Contraindications (4)]*.

### 5.5 Worsening of Diabetic Control

Addition of levothyroxine therapy in patients with diabetes mellitus may worsen glycemic control and result in increased antidiabetic agent or insulin requirements. Carefully monitor glycemic control after starting, changing, or discontinuing levothyroxine sodium *[see Drug Interactions (7.2)]*.

### 5.6 Decreased Bone Mineral Density Associated with Thyroid Hormone Over-Replacement

Increased bone resorption and decreased bone mineral density may occur as a result of levothyroxine over-replacement, particularly in post-menopausal women. The increased bone resorption may be associated with increased serum levels and urinary excretion of calcium and phosphorous, elevations in bone alkaline phosphatase, and suppressed serum parathyroid hormone levels. Administer the minimum dose of levothyroxine sodium that achieves the desired clinical and biochemical response to mitigate this risk.

## 6 ADVERSE REACTIONS

Adverse reactions associated with levothyroxine sodium therapy are primarily those of hyperthyroidism due to therapeutic overdosage *[see Warnings and Precautions (5) and Overdosage (10)]*. They include the following:

- *General:* fatigue, increased appetite, weight loss, heat intolerance, fever, excessive sweating
- *Central nervous system:* headache, hyperactivity, nervousness, anxiety, irritability, emotional lability, insomnia
- *Musculoskeletal:* tremors, muscle weakness, muscle spasm
- *Cardiovascular:* palpitations, tachycardia, arrhythmias, increased pulse and blood pressure, heart failure, angina, myocardial infarction, cardiac arrest
- *Respiratory:* dyspnea

- *Gastrointestinal:* diarrhea, vomiting, abdominal cramps, elevations in liver function tests
- *Dermatologic:* hair loss, flushing, rash
- *Endocrine:* decreased bone mineral density
- *Reproductive:* menstrual irregularities, impaired fertility

Seizures have been reported rarely with the institution of levothyroxine therapy.

Adverse Reactions in Pediatric Patients

Pseudotumor cerebri and slipped capital femoral epiphysis have been reported in pediatric patients receiving levothyroxine therapy. Overtreatment may result in craniosynostosis in infants who have not undergone complete closure of the fontanelles, and in premature closure of the epiphyses in pediatric patients still experiencing growth with resultant compromised adult height.

Hypersensitivity Reactions

Hypersensitivity reactions to inactive ingredients have occurred in patients treated with thyroid hormone products. These include urticaria, pruritus, skin rash, flushing, angioedema, various gastrointestinal symptoms (abdominal pain, nausea, vomiting and diarrhea), fever, arthralgia, serum sickness, and wheezing. Hypersensitivity to levothyroxine itself is not known to occur.

## 7 DRUG INTERACTIONS

### 7.1 Drugs Known to Affect Thyroid Hormone Pharmacokinetics

Many drugs can exert effects on thyroid hormone pharmacokinetics and metabolism (e.g., absorption, synthesis, secretion, catabolism, protein binding, and target tissue response) and may alter the therapeutic response to levothyroxine sodium (Tables 5 to 8).

**Table 5. Drugs That May Decrease T4 Absorption (Hypothyroidism)**

| Potential impact: Concurrent use may reduce the efficacy of levothyroxine sodium by binding and delaying or preventing absorption, potentially resulting in hypothyroidism. | |
|---|---|
| **Drug or Drug Class** | **Effect** |
| Phosphate Binders (e.g., calcium carbonate, ferrous sulfate, sevelamer, lanthanum) | Phosphate binders may bind to levothyroxine. Administer levothyroxine sodium at least 4 hours apart from these agents. |
| Orlistat | Monitor patients treated concomitantly with orlistat and levothyroxine sodium for changes in thyroid function. |
| Bile Acid Sequestrants | Bile acid sequestrants and ion exchange resins are |

| | |
|---|---|
| (e.g., colesevelam, cholestyramine, colestipol)<br>Ion Exchange Resins<br>(e.g., Kayexalate) | Bile acid sequestrants and ion exchange resins are known to decrease levothyroxine absorption. Administer levothyroxine sodium at least 4 hours prior to these drugs or monitor TSH levels. |
| Proton Pump Inhibitors<br>Sucralfate<br>Antacids<br>(e.g., aluminum & magnesium hydroxides, simethicone) | Gastric acidity is an essential requirement for adequate absorption of levothyroxine. Sucralfate, antacids and proton pump inhibitors may cause hypochlorhydria, affect intragastric pH, and reduce levothyroxine absorption. Monitor patients appropriately. |

**Table 6. Drugs That May Alter T4 and Triiodothyronine (T3) Serum Transport Without Affecting Free Thyroxine (FT4) Concentration (Euthyroidism)**

| Drug or Drug Class | Effect |
|---|---|
| Clofibrate<br>Estrogen-containing oral contraceptives<br>Estrogens (oral)<br>Heroin / Methadone<br>5-Fluorouracil<br>Mitotane<br>Tamoxifen | These drugs may increase serum thyroxine-binding globulin (TBG) concentration. |
| Androgens / Anabolic Steroids<br>Asparaginase<br>Glucocorticoids<br>Slow-Release Nicotinic Acid | These drugs may decrease serum TBG concentration. |
| Potential impact (below): Administration of these agents with levothyroxine sodium results in an initial transient increase in FT4. Continued administration results in a decrease in serum T4 and normal FT4 and TSH concentrations. | |
| Salicylates (> 2 g/day) | Salicylates inhibit binding of T4 and T3 to TBG and transthyretin. An initial increase in serum FT4 is followed by return of FT4 to normal levels with sustained therapeutic serum salicylate concentrations, although total T4 levels may decrease by as much as 30%. |
| Other drugs:<br>Carbamazepine<br>Furosemide (> 80 mg IV)<br>Heparin<br>Hydantoins<br>Non-Steroidal Anti-inflammatory Drugs<br>- Fenamates | These drugs may cause protein-binding site displacement. Furosemide has been shown to inhibit the protein binding of T4 to TBG and albumin, causing an increase free T4 fraction in serum. Furosemide competes for T4-binding sites on TBG, prealbumin, and albumin, so that a single high dose can acutely lower the total T4 level. Phenytoin and carbamazepine reduce serum protein binding of levothyroxine, and total and free T4 may be reduced by 20% to 40%, but most patients have normal serum TSH levels and are clinically euthyroid. Closely monitor thyroid hormone parameters. |

**Table 7. Drugs That May Alter Hepatic Metabolism of T4 (Hypothyroidism)**

| Potential impact: Stimulation of hepatic microsomal drug-metabolizing enzyme activity may cause increased hepatic degradation of levothyroxine, resulting in increased levothyroxine sodium requirements. | |
|---|---|
| **Drug or Drug Class** | **Effect** |
| Phenobarbital<br>Rifampin | Phenobarbital has been shown to reduce the response to thyroxine. Phenobarbital increases L-thyroxine metabolism by inducing uridine 5'-diphospho-glucuronosyltransferase (UGT) and leads to lower T4 serum levels. Changes in thyroid status may occur if barbiturates are added or withdrawn from patients being treated for hypothyroidism. Rifampin has been shown to accelerate the metabolism of levothyroxine. |

**Table 8. Drugs That May Decrease Conversion of T4 to T3**

| Potential impact: Administration of these enzyme inhibitors decreases the peripheral conversion of T4 to T3, leading to decreased T3 levels. However, serum T4 levels are usually normal but may occasionally be slightly increased. | |
|---|---|
| **Drug or Drug Class** | **Effect** |
| Beta-adrenergic antagonists<br>(e.g., Propranolol > 160 mg/day) | In patients treated with large doses of propranolol (> 160 mg/day), T3 and T4 levels change, TSH levels remain normal, and patients are clinically euthyroid. Actions of particular beta-adrenergic antagonists may be impaired when a hypothyroid patient is converted to the euthyroid state. |
| Glucocorticoids<br>(e.g., Dexamethasone $\geq$ 4 mg/day) | Short-term administration of large doses of glucocorticoids may decrease serum T3 concentrations by 30% with minimal change in serum T4 levels. However, long-term glucocorticoid therapy may result in slightly decreased T3 and T4 levels due to decreased TBG production (See above). |
| Other drugs:<br>Amiodarone | Amiodarone inhibits peripheral conversion of levothyroxine (T4) to triiodothyronine (T3) and may cause isolated biochemical changes (increase in serum free-T4, and decreased or normal free-T3) in clinically euthyroid patients. |

### 7.2 Antidiabetic Therapy

Addition of levothyroxine sodium therapy in patients with diabetes mellitus may worsen

glycemic control and result in increased antidiabetic agent or insulin requirements. Carefully monitor glycemic control, especially when thyroid therapy is started, changed, or discontinued *[see Warnings and Precautions (5.5)]*.

### 7.3 Oral Anticoagulants

Levothyroxine sodium increases the response to oral anticoagulant therapy. Therefore, a decrease in the dose of anticoagulant may be warranted with correction of the hypothyroid state or when the levothyroxine sodium dose is increased. Closely monitor coagulation tests to permit appropriate and timely dosage adjustments.

### 7.4 Digitalis Glycosides

Levothyroxine sodium may reduce the therapeutic effects of digitalis glycosides. Serum digitalis glycoside levels may decrease when a hypothyroid patient becomes euthyroid, necessitating an increase in the dose of digitalis glycosides.

### 7.5 Antidepressant Therapy

Concurrent use of tricyclic (e.g., amitriptyline) or tetracyclic (e.g., maprotiline) antidepressants and levothyroxine sodium may increase the therapeutic and toxic effects of both drugs, possibly due to increased receptor sensitivity to catecholamines. Toxic effects may include increased risk of cardiac arrhythmias and central nervous system stimulation. Levothyroxine sodium may accelerate the onset of action of tricyclics. Administration of sertraline in patients stabilized on levothyroxine sodium may result in increased levothyroxine sodium requirements.

### 7.6 Ketamine

Concurrent use of ketamine and levothyroxine sodium may produce marked hypertension and tachycardia. Closely monitor blood pressure and heart rate in these patients.

### 7.7 Sympathomimetics

Concurrent use of sympathomimetics and levothyroxine sodium may increase the effects of sympathomimetics or thyroid hormone. Thyroid hormones may increase the risk of coronary insufficiency when sympathomimetic agents are administered to patients with coronary artery disease.

### 7.8 Tyrosine-Kinase Inhibitors

Concurrent use of tyrosine-kinase inhibitors such as imatinib may cause hypothyroidism. Closely monitor TSH levels in such patients.

### 7.9 Drug-Food Interactions

Consumption of certain foods may affect levothyroxine sodium absorption thereby necessitating adjustments in dosing *[see Dosage and Administration (2.1)]*. Soybean flour, cottonseed meal, walnuts, and dietary fiber may bind and decrease the absorption of levothyroxine sodium from the gastrointestinal tract. Grapefruit juice may delay the absorption of levothyroxine and reduce its bioavailability.

### 7.10 Drug-Laboratory Test Interactions

Thyroxine-binding Globulin (TBG)

Consider changes in TBG concentration when interpreting T4 and T3 values. Measure and evaluate unbound (free) hormone and/or determine the free-T4 index (FT4I) in this circumstance. Pregnancy, infectious hepatitis, estrogens, estrogen-containing oral contraceptives, and acute intermittent porphyria increase TBG concentration. Nephrosis, severe hypoproteinemia, severe liver disease, acromegaly, androgens, and corticosteroids decrease TBG concentration. Familial hyper- or hypo-thyroxine binding globulinemias have been described, with the incidence of TBG deficiency approximating 1 in 9000.

Biotin

Biotin supplementation is known to interfere with thyroid hormone immunoassays that are based on a biotin and streptavidin interaction, which may result in erroneous thyroid hormone test results. Stop biotin and biotin-containing supplements for at least 2 days prior to thyroid testing.

## 8 USE IN SPECIFIC POPULATIONS

### 8.1 Pregnancy

Risk Summary

The clinical experience, including data from postmarketing studies, in pregnant women treated with oral levothyroxine to maintain euthyroid state have not reported increased rates of major birth defects, miscarriages, or other adverse maternal or fetal outcomes. There are risks to the mother and fetus associated with untreated hypothyroidism in pregnancy. Since TSH levels may increase during pregnancy, TSH should be monitored and levothyroxine sodium dosage adjusted during pregnancy *(see Clinical Considerations)*. Animal reproductive studies have not been conducted with levothyroxine sodium. Levothyroxine sodium should not be discontinued during pregnancy and hypothyroidism diagnosed during pregnancy should be promptly treated.

The estimated 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.

Clinical Considerations

*Disease-Associated Maternal and/or Embryo/Fetal Risk*

Maternal hypothyroidism during pregnancy is associated with a higher rate of

complications, including spontaneous abortion, gestational hypertension, pre-eclampsia, stillbirth, and premature delivery. Untreated maternal hypothyroidism may have an adverse effect on fetal neurocognitive development.

*Dose Adjustments During Pregnancy and the Postpartum Period*

Pregnancy may increase levothyroxine sodium requirements. Serum TSH levels should be monitored and the levothyroxine sodium dosage adjusted during pregnancy. Since postpartum TSH levels are similar to preconception values, the levothyroxine sodium dosage should return to the pre-pregnancy dose immediately after delivery *[see Dosage and Administration (2.3)].*

### 8.2 Lactation

Risk Summary

Published studies report that levothyroxine is present in human milk following the administration of oral levothyroxine. No adverse effects on the breastfed infant have been reported and there is no information on the effects of levothyroxine on milk production. Adequate levothyroxine treatment during lactation may normalize milk production in hypothyroid lactating mothers with low milk supply. The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for levothyroxine sodium and any potential adverse effects on the breastfed infant from levothyroxine sodium or from the underlying maternal condition.

### 8.4 Pediatric Use

Levothyroxine sodium is indicated in patients from birth to less than 17 years of age:

- As a replacement therapy in primary (thyroidal), secondary (pituitary), and tertiary (hypothalamic) congenital or acquired hypothyroidism.
- As an adjunct to surgery and radioiodine therapy in the management of thyrotropindependent well-differentiated thyroid cancer.

Rapid restoration of normal serum T4 concentrations is essential for preventing the adverse effects of congenital hypothyroidism on cognitive development as well as on overall physical growth and maturation. Therefore, initiate levothyroxine sodium therapy immediately upon diagnosis. Levothyroxine is generally continued for life in these patients *[see Warnings and Precautions (5.1)]*.

Closely monitor infants during the first 2 weeks of levothyroxine sodium therapy for cardiac overload and arrhythmias.

### 8.5 Geriatric Use

Because of the increased prevalence of cardiovascular disease among the elderly, initiate levothyroxine sodium at less than the full replacement dose *[see Dosage and Administration (2.3) and Warnings and Precautions (5.2)]*. Atrial arrhythmias can occur in elderly patients. Atrial fibrillation is the most common of the arrhythmias observed with levothyroxine overtreatment in the elderly.

## 10 OVERDOSAGE

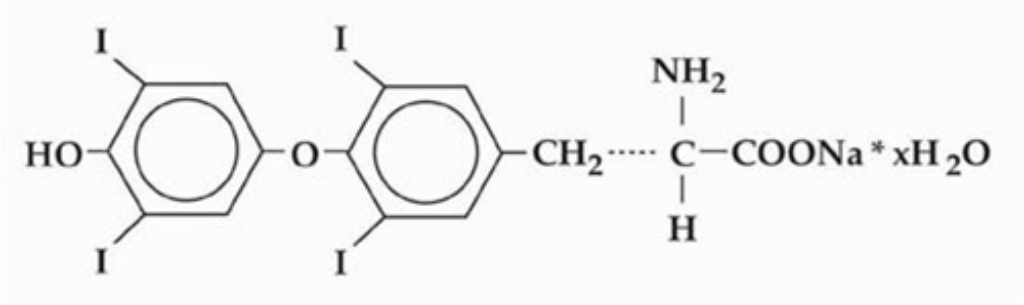
The signs and symptoms of overdosage are those of hyperthyroidism *[see Warnings and Precautions (5) and Adverse Reactions (6)]*. In addition, confusion and disorientation may occur. Cerebral embolism, shock, coma, and death have been reported. Seizures occurred in a 3-year-old child ingesting 3.6 mg of levothyroxine. Symptoms may not necessarily be evident or may not appear until several days after ingestion of levothyroxine sodium.

Reduce the levothyroxine sodium dosage or discontinue temporarily if signs or symptoms of overdosage occur. Initiate appropriate supportive treatment as dictated by the patient's medical status.

For current information on the management of poisoning or overdosage, contact the National Poison Control Center at 1-800-222-1222 or www.poison.org.

## 11 DESCRIPTION

Levothyroxine sodium tablets, USP is L-thyroxine (T4) and contains synthetic crystalline L-3,3',5,5'-tetraiodothyronine sodium salt. Synthetic T4 is chemically identical to that produced in the human thyroid gland. Levothyroxine (T4) sodium has a molecular formula of $C_{15}H_{10}I_4N\ NaO_4 \bullet\ H_2O$, molecular weight of 798.86 (anhydrous), and structural formula as shown:




Levothyroxine sodium tablets, USP for oral administration are supplied in the following strengths: 137 mcg, 150 mcg, 175 mcg, 200 mcg, and 300 mcg. Each levothyroxine sodium tablet, USP contains the inactive ingredients butylated hydroxyanisole, colloidal silicon dioxide, croscarmellose sodium, gelatin, maltodextrin, mannitol, microcrystalline cellulose, povidone, and sodium stearyl fumarate. Levothyroxine sodium tablets contain no ingredients made from a gluten-containing grain (wheat, barley, or rye). Table 9 provides a listing of the color additives by tablet strength:

**Table 9: Levothyroxine Sodium Tablet Color Additives**

| Strength | Color additive(s) |
|---|---|

| (mcg) | Color additive(s) |
|---|---|
| 137 | FD&C Blue No.1 |
| 150 | FD&C Blue No.2 |
| 175 | D&C Red No. 27, D&C Red No. 30 and FD&C Blue No. 1 |
| 200 | FD&C Red No.40 |
| 300 | D&C Yellow No. 10, FD&C Blue No. 1 and FD&C Yellow No. 6* |

* Note – FD&C Yellow No. 6 is orange in color.

FDA approved dissolution method and acceptance criterion differs from the USP monograph dissolution testing.

## 12 CLINICAL PHARMACOLOGY

### 12.1 Mechanism of Action

Thyroid hormones exert their physiologic actions through control of DNA transcription and protein synthesis. Triiodothyronine (T3) and L-thyroxine (T4) diffuse into the cell nucleus and bind to thyroid receptor proteins attached to DNA. This hormone nuclear receptor complex activates gene transcription and synthesis of messenger RNA and cytoplasmic proteins.

The physiological actions of thyroid hormones are produced predominantly by T3, the majority of which (approximately 80%) is derived from T4 by deiodination in peripheral tissues.

### 12.2 Pharmacodynamics

Oral levothyroxine sodium is a synthetic T4 hormone that exerts the same physiologic effect as endogenous T4, thereby maintaining normal T4 levels when a deficiency is present.

### 12.3 Pharmacokinetics

Absorption

Absorption of orally administered T4 from the gastrointestinal tract ranges from 40% to 80%.

The majority of the levothyroxine sodium dose is absorbed from the jejunum and upper ileum. The relative bioavailability of levothyroxine sodium tablets, compared to an equal nominal dose of oral levothyroxine sodium solution, is approximately 93%. T4 absorption is increased by fasting, and decreased in malabsorption syndromes and by certain foods such as soybeans. Dietary fiber decreases bioavailability of T4. Absorption may also decrease with age. In addition, many drugs and foods affect T4 absorption *[see Drug Interactions (7)]*.

Distribution

Circulating thyroid hormones are greater than 99% bound to plasma proteins, including thyroxine-binding globulin (TBG), thyroxine-binding prealbumin (TBPA), and albumin (TBA), whose capacities and affinities vary for each hormone. The higher affinity of both TBG and TBPA for T4 partially explains the higher serum levels, slower metabolic clearance, and longer half-life of T4 compared to T3. Protein-bound thyroid hormones exist in reverse equilibrium with small amounts of free hormone. Only unbound hormone is metabolically active. Many drugs and physiologic conditions affect the binding of thyroid hormones to serum proteins *[see Drug Interactions (7)]*. Thyroid hormones do not readily cross the placental barrier *[see Use in Specific Populations (8.1)]*.

Elimination

*Metabolism*

T4 is slowly eliminated (see Table 10). The major pathway of thyroid hormone metabolism is through sequential deiodination. Approximately 80% of circulating T3 is derived from peripheral T4 by monodeiodination. The liver is the major site of degradation for both T4 and T3, with T4 deiodination also occurring at a number of additional sites, including the kidney and other tissues. Approximately 80% of the daily dose of T4 is deiodinated to yield equal amounts of T3 and reverse T3 (rT3). T3 and rT3 are further deiodinated to diiodothyronine.

Thyroid hormones are also metabolized via conjugation with glucuronides and sulfates and excreted directly into the bile and gut where they undergo enterohepatic recirculation.

*Excretion*

Thyroid hormones are primarily eliminated by the kidneys. A portion of the conjugated hormone reaches the colon unchanged and is eliminated in the feces. Approximately 20% of T4 is eliminated in the stool. Urinary excretion of T4 decreases with age.

**Table 10. Pharmacokinetic Parameters of Thyroid Hormones in Euthyroid Patients**

| Hormone | Ratio in Thyroglobulin | Biologic Potency | $t_{1/2}$ (days) | Protein Binding (%)* |
|---|---|---|---|---|
| Levothyroxine (T4) | 10 to 20 | 1 | 6 to 7** | 99.96 |
| Liothyronine (T3) | 1 | 4 | ≤ 2 | 99.5 |

* Includes TBG, TBPA, and TBA

** 3 to 4 days in hyperthyroidism, 9 to 10 days in hypothyroidism

## 13 NONCLINICAL TOXICOLOGY

### 13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

Long-term carcinogenicity studies in animals to evaluate the carcinogenic potential of

levothyroxine have not been performed. Studies to evaluate mutagenic potential and animal fertility have not been performed.

## 16 HOW SUPPLIED/STORAGE AND HANDLING

How Supplied

Levothyroxine Sodium Tablets, USP are supplied as follows:

**Levothyroxine Sodium Tablets, USP 137 mcg** are round, biconvex, turquoise color, mottled tablet, debossed with “137” and partial bisect (functional) on one side and “LV” on the other side and are available as follows:

| | |
|---|---|
| Bottles of 90 | NDC 59651-554-90 |
| Bottles of 1,000 | NDC 59651-554-99 |

**Levothyroxine Sodium Tablets, USP 150 mcg** are round, biconvex, blue color, mottled tablet, debossed with “150” and partial bisect (functional) on one side and “LV” on the other side and are available as follows:

| | |
|---|---|
| Bottles of 90 | NDC 59651-555-90 |
| Bottles of 1,000 | NDC 59651-555-99 |

**Levothyroxine Sodium Tablets, USP 175 mcg** are round, biconvex, lilac color, mottled tablet, debossed with “175” and partial bisect (functional) on one side and “LV” on the other side and are available as follows:

| | |
|---|---|
| Bottles of 90 | NDC 59651-556-90 |
| Bottles of 1,000 | NDC 59651-556-99 |

**Levothyroxine Sodium Tablets, USP 200 mcg** are round, biconvex, pink color, mottled tablet, debossed with “200” and partial bisect (functional) on one side and “LV” on the other side and are available as follows:

| | |
|---|---|
| Bottles of 90 | NDC 59651-557-90 |
| Bottles of 1,000 | NDC 59651-557-99 |

**Levothyroxine Sodium Tablets, USP 300 mcg** are round, biconvex, green color, mottled tablet, debossed with “300” and partial bisect (functional) on one side and “LV” on the other side and are available as follows:

| | |
|---|---|
| Bottles of 90 | NDC 59651-558-90 |
| Bottles of 1,000 | NDC 59651-558-99 |

Storage and Handling

Store levothyroxine sodium tablets, USP at 20° to 25°C (68° to 77°F); excursions permitted to 15° to 30°C (59° to 86°F) [See USP Controlled Room Temperature].

Levothyroxine sodium tablets, USP should be protected from light and moisture.

## 17 PATIENT COUNSELING INFORMATION

Inform the patient of the following information to aid in the safe and effective use of levothyroxine sodium:

Dosing and Administration

- Instruct patients to take levothyroxine sodium only as directed by their healthcare provider.
- Instruct patients to take levothyroxine sodium as a single dose, preferably on an empty stomach, one-half to one hour before breakfast.
- Inform patients that agents such as iron and calcium supplements and antacids can decrease the absorption of levothyroxine. Instruct patients not to take levothyroxine sodium tablets within 4 hours of these agents.
- Instruct patients to notify their healthcare provider if they are pregnant or breastfeeding or are thinking of becoming pregnant while taking levothyroxine sodium.

Important Information

- Inform patients that it may take several weeks before they notice an improvement in symptoms.
- Inform patients that the levothyroxine in levothyroxine sodium is intended to replace a hormone that is normally produced by the thyroid gland. Generally, replacement therapy is to be taken for life.
- Inform patients that levothyroxine sodium should not be used as a primary or adjunctive therapy in a weight control program.
- Instruct patients to notify their healthcare provider if they are taking any other medications, including prescription and over-the-counter preparations.
- Instruct patients to discontinue biotin or any biotin-containing supplements for at least 2 days before thyroid function testing is conducted.
- Instruct patients to notify their physician of any other medical conditions they may have, particularly heart disease, diabetes, clotting disorders, and adrenal or pituitary gland problems, as the dose of medications used to control these other conditions may need to be adjusted while they are taking levothyroxine sodium. If they have diabetes, instruct patients to monitor their blood and/or urinary glucose levels as

directed by their physician and immediately report any changes to their physician. If patients are taking anticoagulants, their clotting status should be checked frequently.
- Instruct patients to notify their physician or dentist that they are taking levothyroxine sodium prior to any surgery.

Adverse Reactions

- Instruct patients to notify their healthcare provider if they experience any of the following symptoms: rapid or irregular heartbeat, chest pain, shortness of breath, leg cramps, headache, nervousness, irritability, sleeplessness, tremors, change in appetite, weight gain or loss, vomiting, diarrhea, excessive sweating, heat intolerance, fever, changes in menstrual periods, hives or skin rash, or any other unusual medical event.
- Inform patients that partial hair loss may occur rarely during the first few months of levothyroxine sodium therapy, but this is usually temporary.

Distributed by:
**Aurobindo Pharma USA, Inc.**
279 Princeton-Hightstown Road
East Windsor, NJ 08520

Manufactured by:
**Aurobindo Pharma Limited**
Hyderabad-500 032, India

Issued: March 2024

**PACKAGE LABEL-PRINCIPAL DISPLAY PANEL - 137 mcg (90 Tablets Bottle)**

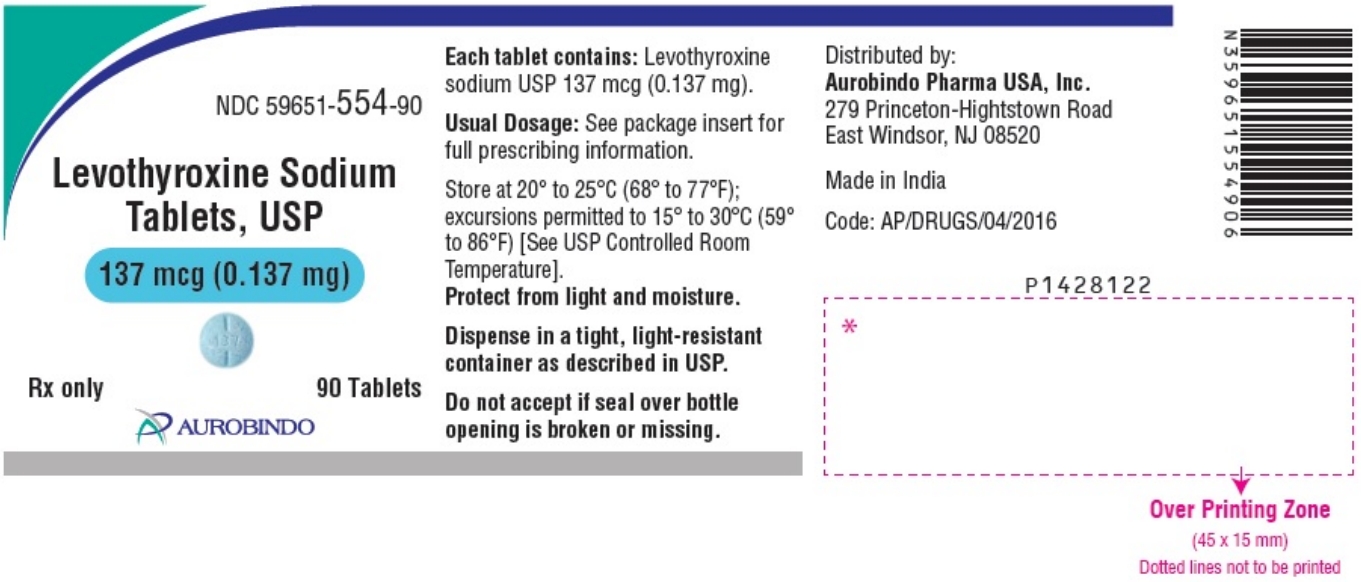
**NDC 59651-554-90**

**Levothyroxine Sodium**
**Tablets, USP**

**137 mcg (0.137 mg)**

**Rx only 90 Tablets**

**AUROBINDO**




**PACKAGE LABEL-PRINCIPAL DISPLAY PANEL - 150 mcg (90 Tablets Bottle)**

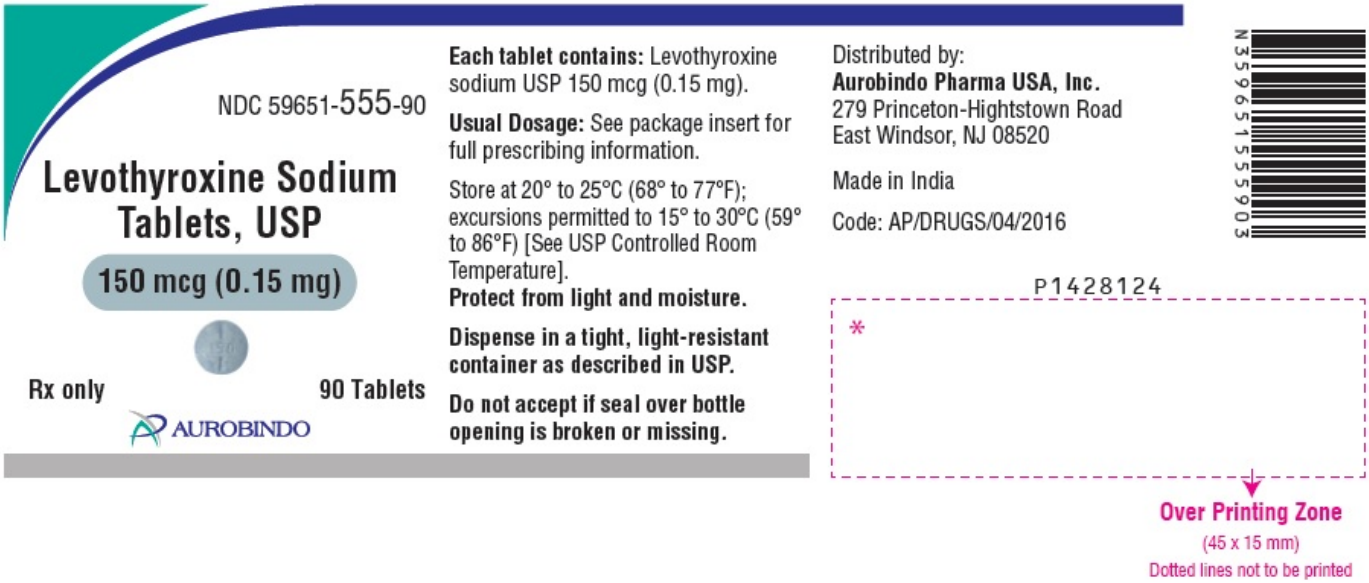
**NDC 59651-555-90**

**Levothyroxine Sodium**
**Tablets, USP**

**150 mcg (0.15 mg)**

**Rx only** **90 Tablets**

**AUROBINDO**



**PACKAGE LABEL-PRINCIPAL DISPLAY PANEL - 175 mcg (90 Tablets Bottle)**

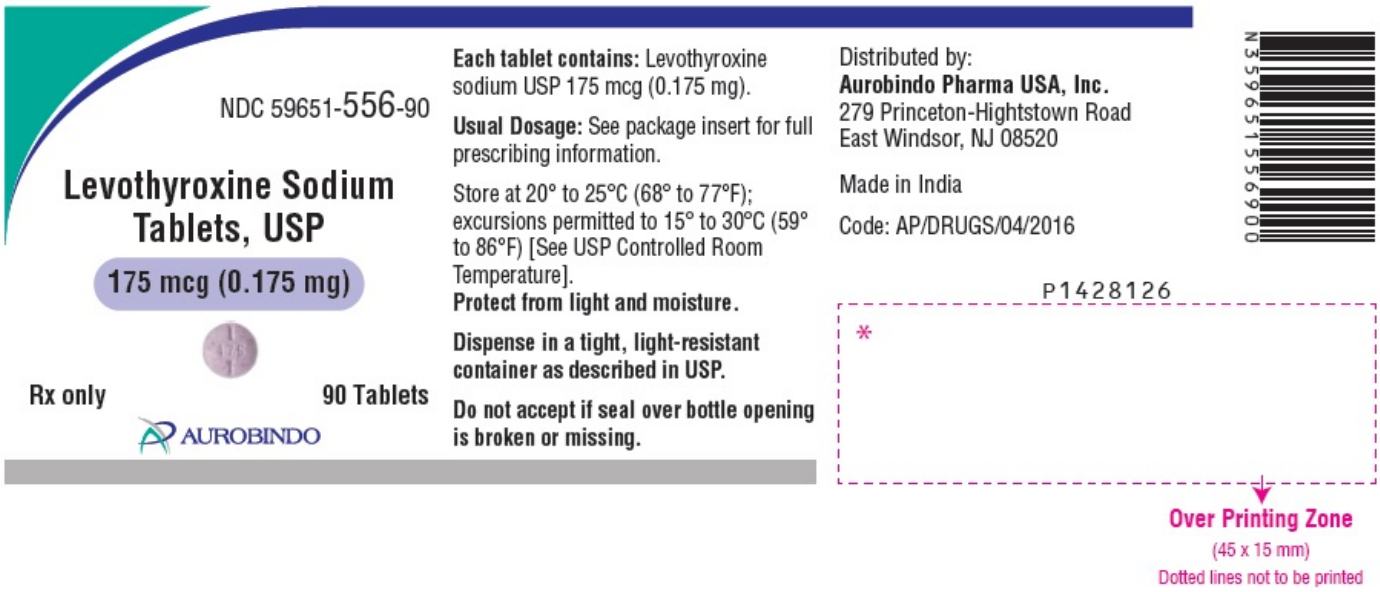
**NDC 59651-556-90**

**Levothyroxine Sodium**
**Tablets, USP**

**175 mcg (0.175 mg)**

**Rx only** **90 Tablets**

**AUROBINDO**




**PACKAGE LABEL-PRINCIPAL DISPLAY PANEL - 200 mcg (90 Tablets Bottle)**

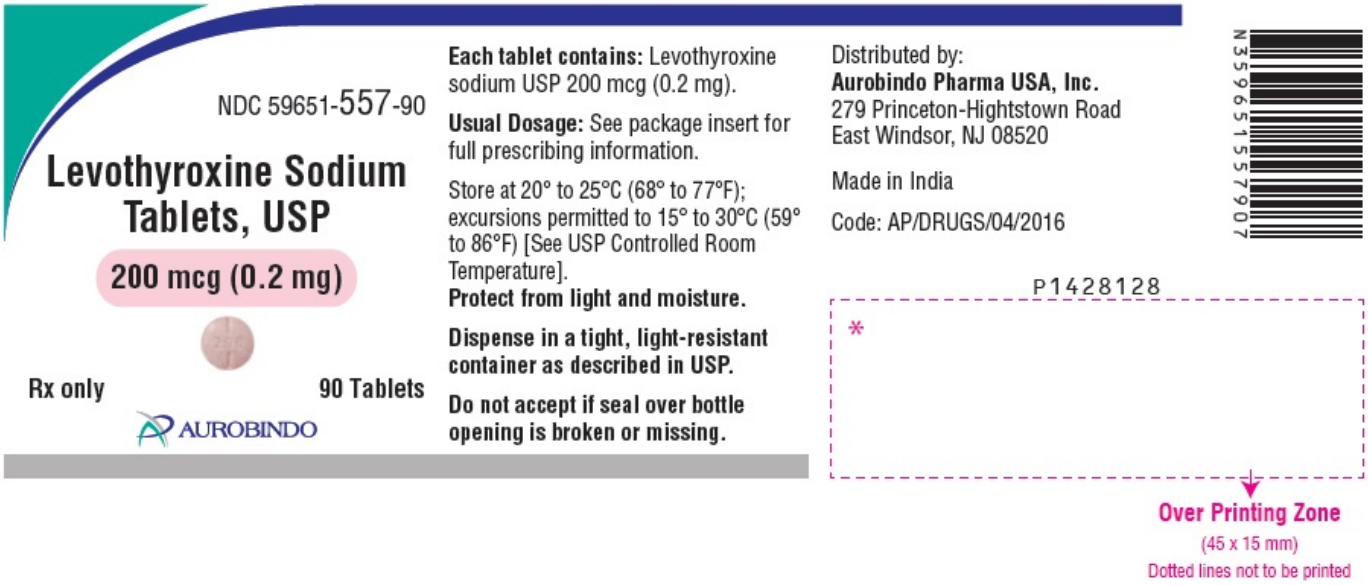
**NDC 59651-557-90**

**Levothyroxine Sodium**
**Tablets, USP**

**200 mcg (0.2 mg)**

**Rx only** **90 Tablets**

**AUROBINDO**




**PACKAGE LABEL-PRINCIPAL DISPLAY PANEL - 300 mcg (90 Tablets Bottle)**

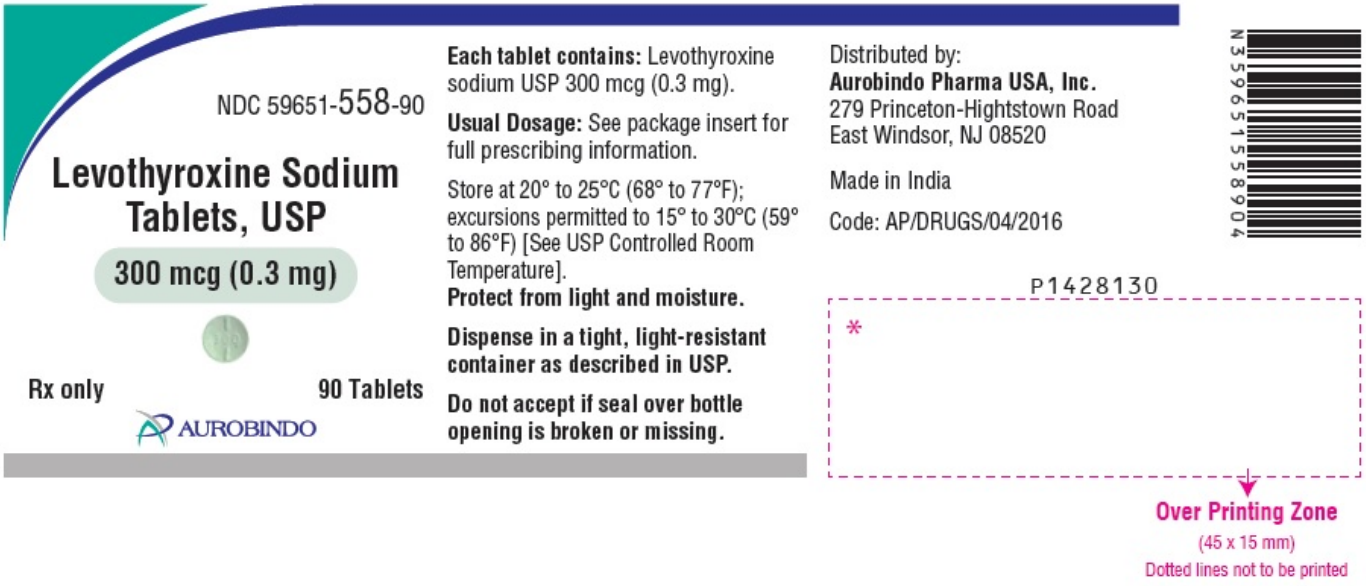
**NDC 59651-558-90**

**Levothyroxine Sodium Tablets, USP**

**300 mcg (0.3 mg)**

**Rx only 90 Tablets**

**AUROBINDO**




## LEVOTHYROXINE SODIUM

levothyroxine sodium tablet

## Product Information

| | | | |
|---|---|---|---|
| **Product Type** | HUMAN PRESCRIPTION DRUG | **Item Code (Source)** | NDC:59651-554 |
| **Route of Administration** | ORAL | | |

## Active Ingredient/Active Moiety

| Ingredient Name | Basis of Strength | Strength |
|---|---|---|
| **LEVOTHYROXINE SODIUM** (UNII: 9J765S329G) (LEVOTHYROXINE - UNII:Q51BO43MG4) | LEVOTHYROXINE SODIUM ANHYDROUS | 137 ug |

## Inactive Ingredients

| Ingredient Name | Strength |
|---|---|
| **BUTYLATED HYDROXYANISOLE** (UNII: REK4960K2U) | |
| **SILICON DIOXIDE** (UNII: ETJ7Z6XBU4) | |
| **CROSCARMELLOSE SODIUM** (UNII: M28OL1HH48) | |
| **GELATIN, UNSPECIFIED** (UNII: 2G86QN327L) | |
| **MALTODEXTRIN** (UNII: 7CVR7L4A2D) | |
| **MANNITOL** (UNII: 3OWL53L36A) | |
| **MICROCRYSTALLINE CELLULOSE** (UNII: OP1R32D61U) | |
| **POVIDONE K30** (UNII: U725QWY32X) | |
| **SODIUM STEARYL FUMARATE** (UNII: 7CV7WJK4UI) | |
| **FD&C BLUE NO. 1** (UNII: H3R47K3TBD) | |

## Product Characteristics

| | | | |
|---|---|---|---|
| **Color** | BLUE (Turquoise) | **Score** | 2 pieces |
| **Shape** | ROUND (biconvex) | **Size** | 7mm |
| **Flavor** | | **Imprint Code** | 137;LV |
| **Contains** | | | |

## Packaging

| # | Item Code | Package Description | Marketing Start Date | Marketing End Date |
|---|---|---|---|---|
| **1** | NDC:59651-554-90 | 90 in 1 BOTTLE; Type 0: Not a Combination Product | 07/16/2024 | |
| **2** | NDC:59651-554-99 | 1000 in 1 BOTTLE; Type 0: Not a Combination Product | 07/16/2024 | |

## Marketing Information

| Marketing Category | Application Number or Monograph Citation | Marketing Start Date | Marketing End Date |
|---|---|---|---|
| ANDA | ANDA216414 | 07/16/2024 | |

# LEVOTHYROXINE SODIUM

levothyroxine sodium tablet

## Product Information

| | | | |
|---|---|---|---|
| **Product Type** | HUMAN PRESCRIPTION DRUG | **Item Code (Source)** | NDC:59651-555 |
| **Route of Administration** | ORAL | | |

## Active Ingredient/Active Moiety

| Ingredient Name | Basis of Strength | Strength |
|---|---|---|
| **LEVOTHYROXINE SODIUM** (UNII: 9J765S329G) (LEVOTHYROXINE - UNII:Q51BO43MG4) | LEVOTHYROXINE SODIUM ANHYDROUS | 150 ug |

## Inactive Ingredients

| Ingredient Name | Strength |
|---|---|
| **BUTYLATED HYDROXYANISOLE** (UNII: REK4960K2U) | |
| **SILICON DIOXIDE** (UNII: ETJ7Z6XBU4) | |
| **CROSCARMELLOSE SODIUM** (UNII: M28OL1HH48) | |
| **GELATIN, UNSPECIFIED** (UNII: 2G86QN327L) | |
| **MALTODEXTRIN** (UNII: 7CVR7L4A2D) | |
| **MANNITOL** (UNII: 3OWL53L36A) | |
| **MICROCRYSTALLINE CELLULOSE** (UNII: OP1R32D61U) | |
| **POVIDONE K30** (UNII: U725QWY32X) | |
| **SODIUM STEARYL FUMARATE** (UNII: 7CV7WJK4UI) | |
| **FD&C BLUE NO. 2** (UNII: L06K8R7DQK) | |

## Product Characteristics

| | | | |
|---|---|---|---|
| **Color** | BLUE | **Score** | 2 pieces |
| **Shape** | ROUND (biconvex) | **Size** | 7mm |
| **Flavor** | | **Imprint Code** | 150;LV |
| **Contains** | | | |

## Packaging

| # | Item Code | Package Description | Marketing Start Date | Marketing End Date |
|---|---|---|---|---|
| **1** | NDC:59651-555-90 | 90 in 1 BOTTLE; Type 0: Not a Combination Product | 07/16/2024 | |
| **2** | NDC:59651-555-99 | 1000 in 1 BOTTLE; Type 0: Not a Combination Product | 07/16/2024 | |

# Marketing Information

| Marketing Category | Application Number or Monograph Citation | Marketing Start Date | Marketing End Date |
|---|---|---|---|
| ANDA | ANDA216414 | 07/16/2024 | |

# LEVOTHYROXINE SODIUM

levothyroxine sodium tablet

| Product Information | | | |
|---|---|---|---|
| **Product Type** | HUMAN PRESCRIPTION DRUG | **Item Code (Source)** | NDC:59651-556 |
| **Route of Administration** | ORAL | | |

| Active Ingredient/Active Moiety | | |
|---|---|---|
| **Ingredient Name** | **Basis of Strength** | **Strength** |
| **LEVOTHYROXINE SODIUM** (UNII: 9J765S329G) (LEVOTHYROXINE - UNII:Q51BO43MG4) | LEVOTHYROXINE SODIUM ANHYDROUS | 175 ug |

| Inactive Ingredients | |
|---|---|
| **Ingredient Name** | **Strength** |
| **BUTYLATED HYDROXYANISOLE** (UNII: REK4960K2U) | |
| **SILICON DIOXIDE** (UNII: ETJ7Z6XBU4) | |
| **CROSCARMELLOSE SODIUM** (UNII: M28OL1HH48) | |
| **GELATIN, UNSPECIFIED** (UNII: 2G86QN327L) | |
| **MALTODEXTRIN** (UNII: 7CVR7L4A2D) | |
| **MANNITOL** (UNII: 3OWL53L36A) | |
| **MICROCRYSTALLINE CELLULOSE** (UNII: OP1R32D61U) | |
| **POVIDONE K30** (UNII: U725QWY32X) | |
| **SODIUM STEARYL FUMARATE** (UNII: 7CV7WJK4UI) | |
| **D&C RED NO. 27** (UNII: 2LRS185U6K) | |
| **D&C RED NO. 30** (UNII: 2S42T2808B) | |
| **FD&C BLUE NO. 1** (UNII: H3R47K3TBD) | |

| Product Characteristics | | | |
|---|---|---|---|
| **Color** | PURPLE (Lilac) | **Score** | 2 pieces |
| **Shape** | ROUND (biconvex) | **Size** | 7mm |
| **Flavor** | | **Imprint Code** | 175;LV |
| **Contains** | | | |

| Packaging | | | | |
|---|---|---|---|---|
| **#** | **Item Code** | **Package Description** | **Marketing Start Date** | **Marketing End Date** |
| **1** | NDC:59651-556-90 | 90 in 1 BOTTLE; Type 0: Not a Combination Product | 07/16/2024 | |
| **2** | NDC:59651-556-99 | 1000 in 1 BOTTLE; Type 0: Not a Combination Product | 07/16/2024 | |

## Marketing Information

| Marketing Category | Application Number or Monograph Citation | Marketing Start Date | Marketing End Date |
|---|---|---|---|
| ANDA | ANDA216414 | 07/16/2024 | |

# LEVOTHYROXINE SODIUM

levothyroxine sodium tablet

## Product Information

| | | | |
|---|---|---|---|
| **Product Type** | HUMAN PRESCRIPTION DRUG | **Item Code (Source)** | NDC:59651-557 |
| **Route of Administration** | ORAL | | |

## Active Ingredient/Active Moiety

| Ingredient Name | Basis of Strength | Strength |
|---|---|---|
| **LEVOTHYROXINE SODIUM** (UNII: 9J765S329G) (LEVOTHYROXINE - UNII:Q51BO43MG4) | LEVOTHYROXINE SODIUM ANHYDROUS | 200 ug |

## Inactive Ingredients

| Ingredient Name | Strength |
|---|---|
| **BUTYLATED HYDROXYANISOLE** (UNII: REK4960K2U) | |
| **SILICON DIOXIDE** (UNII: ETJ7Z6XBU4) | |
| **CROSCARMELLOSE SODIUM** (UNII: M28OL1HH48) | |
| **GELATIN, UNSPECIFIED** (UNII: 2G86QN327L) | |
| **MALTODEXTRIN** (UNII: 7CVR7L4A2D) | |
| **MANNITOL** (UNII: 3OWL53L36A) | |
| **MICROCRYSTALLINE CELLULOSE** (UNII: OP1R32D61U) | |
| **POVIDONE K30** (UNII: U725QWY32X) | |
| **SODIUM STEARYL FUMARATE** (UNII: 7CV7WJK4UI) | |
| **FD&C RED NO. 40** (UNII: WZB9127XOA) | |

## Product Characteristics

| | | | |
|---|---|---|---|
| **Color** | PINK | **Score** | 2 pieces |
| **Shape** | ROUND (biconvex) | **Size** | 7mm |
| **Flavor** | | **Imprint Code** | 200;LV |
| **Contains** | | | |

## Packaging

| # | Item Code | Package Description | Marketing Start Date | Marketing End Date |
|---|---|---|---|---|
| **1** | NDC:59651-557-90 | 90 in 1 BOTTLE; Type 0: Not a Combination Product | 07/16/2024 | |
| **2** | NDC:59651-557-99 | 1000 in 1 BOTTLE; Type 0: Not a Combination Product | 07/16/2024 | |

## Marketing Information

| Marketing Category | Application Number or Monograph Citation | Marketing Start Date | Marketing End Date |
|---|---|---|---|
| ANDA | ANDA216414 | 07/16/2024 | |

# LEVOTHYROXINE SODIUM

levothyroxine sodium tablet

## Product Information

| | | | |
|---|---|---|---|
| **Product Type** | HUMAN PRESCRIPTION DRUG | **Item Code (Source)** | NDC:59651-558 |
| **Route of Administration** | ORAL | | |

## Active Ingredient/Active Moiety

| Ingredient Name | Basis of Strength | Strength |
|---|---|---|
| **LEVOTHYROXINE SODIUM** (UNII: 9J765S329G) (LEVOTHYROXINE - UNII:Q51BO43MG4) | LEVOTHYROXINE SODIUM ANHYDROUS | 300 ug |

## Inactive Ingredients

| Ingredient Name | Strength |
|---|---|
| **BUTYLATED HYDROXYANISOLE** (UNII: REK4960K2U) | |
| **SILICON DIOXIDE** (UNII: ETJ7Z6XBU4) | |
| **CROSCARMELLOSE SODIUM** (UNII: M28OL1HH48) | |
| **GELATIN, UNSPECIFIED** (UNII: 2G86QN327L) | |
| **MALTODEXTRIN** (UNII: 7CVR7L4A2D) | |
| **MANNITOL** (UNII: 3OWL53L36A) | |
| **MICROCRYSTALLINE CELLULOSE** (UNII: OP1R32D61U) | |
| **POVIDONE K30** (UNII: U725QWY32X) | |
| **SODIUM STEARYL FUMARATE** (UNII: 7CV7WJK4UI) | |
| **D&C YELLOW NO. 10** (UNII: 35SW5USQ3G) | |
| **FD&C BLUE NO. 1** (UNII: H3R47K3TBD) | |
| **FD&C YELLOW NO. 6** (UNII: H77VEI93A8) | |

## Product Characteristics

| | | | |
|---|---|---|---|
| **Color** | GREEN | **Score** | 2 pieces |
| **Shape** | ROUND (biconvex) | **Size** | 7mm |
| **Flavor** | | **Imprint Code** | 300;LV |
| **Contains** | | | |

## Packaging

| # | Item Code | Package Description | Marketing Start Date | Marketing End Date |
|---|---|---|---|---|
| 1 | NDC:59651-558- | 90 in 1 BOTTLE; Type 0: Not a Combination | 07/16/2024 | |

| | | | | |
|---|---|---|---|---|
| **1** | 90 | Product | 07/16/2024 | |
| **2** | NDC:59651-558-99 | 1000 in 1 BOTTLE; Type 0: Not a Combination Product | 07/16/2024 | |

## Marketing Information

| Marketing Category | Application Number or Monograph Citation | Marketing Start Date | Marketing End Date |
|---|---|---|---|
| ANDA | ANDA216414 | 07/16/2024 | |

## Labeler - Aurobindo Pharma Limited (650082092)

## Establishment

| Name | Address | ID/FEI | Business Operations |
|---|---|---|---|
| APL HEALTHCARE LIMITED | | 650918514 | ANALYSIS(59651-554, 59651-555, 59651-556, 59651-557, 59651-558) , MANUFACTURE(59651-554, 59651-555, 59651-556, 59651-557, 59651-558) |

Revised: 7/2024 Aurobindo Pharma Limited