

For the use only of a Registered Medical Practitioner or a Hospital or a Laboratory.

This package insert is continually updated. Please read carefully before using a new pack.

#### For Paediatric Use

# Vitamin D3 Oral Solution 400 IU

400 IU



# NATIO DROPS'

# Composition

Each 0.5 ml contains: Cholecalciferol I.P.

(In Nano Droplet form)

In a flavoured base

Excipients q.s.
Appropriate overages of vitamin added

#### Indications

Prevention of vitamin D3 deficiency

# Dosage

0 - 1 year of age: 400 IU/day

1 - 18 years of age: 600IU/day

or as directed by physician only.

# Use in special population

**Hepatic Insufficiency:** The intestinal absorption of cholecalciferol may be markedly impaired; conversion to calcifediol may also be reduced significantly, with the requirement of high doses. Agents not requiring hepatic hydroxylation (e.g. calcitriol, alphacalcidol) are preferred.

Renal Insufficiency: Although only small amounts of a vitamin D dose are recovered in the urine, metabolic conversion to calcitriol is impaired and higher doses are generally required in most conditions. Agents not requiring hepatic hydroxylation (e.g. calcitriol) are preferred.

#### Contraindications

- Hypersensitivity to cholecalciferol, ergocalciferol or Vitamin D metabolites (e.g. calcitriol, calcifediol, alfacalcidol, calcipotriol)
- Hypercalcemia or hypercalciuria.
- Diseases and/or conditions, which lead to hypercalcaemia (e.g. nephrocalcinosis, myeloma, bone metastases, primary hyperparathyroidism, sarcoidosis, prolonged immobilisation accompanied by hypercalcaemia).

- Nephrolithiasis
- Hvpervitaminosis D

# Precautions and warnings

The product should be prescribed with caution to patients suffering from sarcoidosis due to risk of increased metabolism of vitamin D into its active form. These patients should be monitored with regard to the calcium content in serum and urine. During long-term treatment, serum calcium levels should be followed and renal function should be monitored through measurements of serum creatinine.

In case of hypercalciuria or signs of impaired renal function the dose should be reduced or the treatment discontinued

The product should be used with caution in patients with impairment of renal function and the effect on calcium and phosphate levels should be monitored. The risk of soft tissue calcification should be taken into account.

In patients with severe renal insufficiency, vitamin D in the form of cholecalciferol is not metabolised normally and other forms of vitamin D should be used. The content of vitamin D should be considered when prescribing other medicinal products containing vitamin D. Additional doses of vitamin D should be taken under close medical supervision. In such cases it is necessary to monitor serum calcium levels and urinary calcium excretion frequently.

Caution is required in patients suffering from cardiac conditions like arteriosclerosis due to the possible exacerbation related to hypercalcaemia and in patients with hyperlipidemia due to possibility of LDL elevation.

The content of this product should be considered when prescribing other medicinal products containing vitamin D and preparation containing calcium. Prescription of this product with other vitamin D supplements should be done under close medical supervision. In such cases serum calcium levels should be monitored.

In patients with compromised calcium metabolism serum concentrations of phosphate should be checked during the vitamin D therapy to reduce the risk of ectopic calcification.

Medical supervision is recommended for use of this product in children.

#### Drug Interactions

Thiazide diuretics reduce the urinary excretion of calcium. Due to the increased risk of hypercalcaemia, serum calcium should be regularly monitored during concomitant use of thiazide diuretics.

Concomitant use of phenytoin or barbiturates may reduce the effect of vitamin D since the metabolism increases.

Concomitant use of Vitamin D with Vitamin D analogues is not recommended due to the additive effect and increased toxic potential.

Excessive dosing of vitamin D can induce hypercalcaemia, which may increase the risk of digitalis toxicity and serious arrhythmias due to the additive inotropic effects. The electrocardiogram (ECG) and serum calcium levels of patients should be closely monitored.

Glucocorticoid steroids may increase vitamin D metabolism and elimination.

Systemic corticosteroids reduce calcium absorption. Moreover, the effect of vitamin D may be decreased.

Simultaneous treatment with ion exchange resins such as cholestyramine or laxatives such as paraffin oil may reduce the gastrointestinal absorption of vitamin D. Therefore, a time interval as long as possible between the intakes is recommended.

The absorption and therefore the efficacy of ketoconazole will be decreased by the concomitant intake of this product.

Concomitant treatment with rifampicin can decrease the effect of vitamin D3 because of metabolic activation

Calcipotriene is a drug similar to Vitamin D. Taking vitamin D along with calcipotriene might increase the effects and side effects of calcipotriene. Taking large amount of Vitamin D along with diltiazem might decrease the effectiveness of diltiazem. When given with antacids, vitamin D increases the absorption of aluminum salts.

# **Adverse Reactions**

High dose of cholecalciferol can cause weakness, fatigue, sleepiness, headache, loss of appetite, dry mouth, metallic taste, nausea and vomiting. Vitamin D toxicity, including nephrocalcinosis/ renal failure, hypertension can occur with prolonged use of cholecalciferol, relatively low doses can produce toxicity in hypersensitive infants and children. Hypervitaminosis D is reversible upon discontinuation of treatment unless renal damage is severe. Metabolism and nutrition disorder like hypercalcaemia and hypercalcium is uncommon. Skin and subcutaneous disorders like pruritus, rash and urticaria are rarely observed.

# Overdosage

Treatment of hypercalcaemia: The treatment with vitamin D must be discontinued. Treatment with thiazide diuretics, lithium, vitamin A, and cardiac glycosides must also be discontinued. Rehydration, and, according to severity, isolated or combined treatment with loop diuretics, bisphosphonates, calcitonin and corticosteroids should be considered. Serum electrolytes, renal function and diuresis must be monitored. In severe cases. ECG and CVP should be followed.

In hypervitaminosis D cases of weakness, fatigue, muscle pain, polydipsia, polyuria, decreased appetite have been reported.

Overdose can lead to hypervitaminosis and hypercalcemia.

Symptoms of hypercalcemia may include anorexia, thirst, nausea, vomiting, diarrhea, constipation, abdominal pain, muscle weakness, anorexia, nocturia, headache fatigue, mental disturbances, polydipsia, polyuria, bone pain, nephrocalcinosis, renal calculi and in severe cases, cardiac arrhythmias. Extreme hypercalcemia may result in coma and death. Persistently high calcium levels may lead to irreversible renal damage and soft tissue calcification.

### Storage

Store below 25°C. Protect from direct sunlight

Do not use if the solution is turbid.

Once opened, should be used within one month. Keep all medicines out of reach of children.

### Presentation

Vitamin D3 400 IU/0.5ml in a 15 ml/ 10 ml bottle with a dropper.

#### Manufactured by: Pulse Pharmaceuticals Pvt. Ltd.

Kh. No. 400, 407, 409, Karondi, Roorkee-247667,

Dist. Haridwar, Uttarakhand (INDIA)

Mfg. Lic.: 86/UA/SC/P-2007

# Marketed by: Sanofi Consumer Healthcare India Limited

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### For your feedback/queries, Call 18002689945 or Email us at: customercare.chc@sanofi.com

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#### Updated: Aug 2024

### Sources:

- 1. Cholecaliciferol CCDS v1 dated LRC-11-Apr-2019
- Deksel® Kids Pack insert updated in Feb 2020 from M/s. Pulse Pharmaceuticals Private Limited- (as accessed on 3<sup>rd</sup> Feb 2022)
- 3. Depura by Sanofi Pack Insert, Updated Feb 2022