Brand Name: Bonlock

Generic Name: Calcium Carbonate (Elemental Calcium 500 mg) & Combination.

Dosage Form: Oral Tablet

Composition of Bonlock:

Calcium Carbonate 500 mg, Vit D3 200 IU, Magnesium 40 mg, Manganese 1.8 mg, Zinc 7.5 mg + Copper 1 mg + Boran 250 mcg per tablet

Summary of Mechanism of Action of Bonlock:

- **Calcium Source**: Bonlock provides a bioavailable source of calcium, supporting bone mineralization, and preventing bone loss.
- **Bone Health**: Calcium carbonate in Bonlock contributes to bone strength and reduces the risk of fractures by maintaining adequate calcium levels in the body.
- **Muscle and Nerve Function**: Calcium ions from calcium carbonate are essential for muscle contractions and nerve signal transmission.
- **Blood Clotting**: Calcium carbonate in Bonlock supports the clotting process by participating in the coagulation cascade.
- **Acid-Base Balance**: Helps regulate blood pH by acting as a buffer.

1. Indications of Bonlock:

- **Calcium Deficiency**: Calcium Carbonate in Bonlock is used to prevent and treat calcium deficiency when the diet does not provide enough calcium.
- **Osteoporosis**: Calcium Carbonate in Bonlock used as a calcium supplement to help treat or prevent osteoporosis, a condition where bones become weak and brittle.
- **Hypocalcemia**: Bonlock used to treat low levels of calcium in the blood, which may occur in conditions like hypoparathyroidism.
- **PMS (Premenstrual Syndrome)**: Bonlock used to relieve PMS symptoms related to calcium deficiency.

2. Dosage and Administration of Bonlock:

- **Calcium Supplementation**:
    - **Adults**: The usual dose is **500 mg to 1000 mg** of Calcium Carbonate, taken once or twice daily, with meals for better absorption. The dosage may vary depending on individual calcium requirements.
    - **Pediatric**: For children, the recommended dosage is based on age and specific needs; consult with a pediatrician for appropriate dosing.
- **With Food**: Calcium Carbonate in Bonlock is best absorbed when taken with food, so it should be consumed with meals.

3. Contraindications

- **Hypercalcemia**: Contraindicated in patients with elevated calcium levels in the blood (hypercalcemia).
- **Severe Renal Impairment**: Should not be used in patients with severe kidney disease (renal failure) due to the risk of developing calcium deposits in the kidneys.
- **Kidney Stones**: Contraindicated in patients with a history of calcium-based kidney stones.
- **Hyperparathyroidism**: Should be avoided in patients with hyperparathyroidism due to the risk of excessive calcium buildup.

4. Warnings and Precautions

- **Renal Function**: Caution should be exercised in patients with mild to moderate renal impairment. Monitor calcium levels in the blood regularly.
- **Hypercalcemia**: Overuse of calcium supplements may lead to **hypercalcemia** (too much calcium in the blood), which can cause symptoms like nausea, vomiting, and confusion.
- **Calcium Absorption**: Excessive intake of calcium may interfere with the absorption of other essential minerals like magnesium, phosphorus, and zinc.
- **Interaction with Medications**: Calcium Carbonate can interfere with the absorption of certain medications, such as antibiotics (e.g., tetracyclines, quinolones) and bisphosphonates.
- **Vitamin D**: Calcium absorption is enhanced by Vitamin D. If you are taking Vitamin D supplements, calcium doses may need to be adjusted.
- **Monitoring**: It is important to monitor calcium levels and kidney function, especially in patients on long-term therapy.

5. Adverse Reactions

- **Common Side Effects**:
    - Constipation
    - Flatulence (gas)
    - Bloating
    - Nausea
- **Serious Side Effects**:
    - **Hypercalcemia** (excessive calcium in the blood), which may cause confusion, nausea, vomiting, weakness, or kidney stones.
    - **Kidney Stones**: Long-term excessive use may increase the risk of kidney stones.
    - **Abnormal Heart Rhythms**: High calcium levels can lead to arrhythmias (irregular heartbeats).

6. Drug Interactions

- **Antibiotics (Tetracyclines, Quinolones)**: Calcium can interfere with the absorption of certain antibiotics, making them less effective. Separate doses by at least **2-3 hours**.
- **Thyroid Medications**: Calcium supplements may reduce the absorption of thyroid medications like levothyroxine. Space out doses by at least **4 hours**.
- **Bisphosphonates (e.g., Alendronate)**: Calcium can interfere with the absorption of bisphosphonates, which are used to treat osteoporosis. Take these medications at least **30 minutes before calcium** supplements.
- **Diuretics (Thiazide)**: Thiazide diuretics can increase calcium levels in the blood. This may require monitoring to avoid hypercalcemia.

7. Use in Specific Populations

- **Pregnancy**: **Calcium Carbonate** is generally considered safe during pregnancy. The recommended dietary allowance (RDA) for calcium should be followed, and the total intake should not exceed recommended levels.
- **Lactation**: Calcium is excreted in breast milk, but it is generally considered safe to take during breastfeeding. Follow recommended dosage guidelines.
- **Pediatrics**: Safe and effective for children, but the dosage should be based on age and need. Pediatric doses should be monitored to avoid overdose.

8. Overdose

- **Symptoms of Overdose**:
    - Nausea, vomiting
    - Constipation
    - Abdominal pain
    - Hypercalcemia (confusion, fatigue, excessive thirst, and frequent urination)
- **Management of Overdose**:
    - In case of overdose, **seek immediate medical attention**.
    - Treatment may include intravenous fluids and medications to reduce calcium levels (such as diuretics or bisphosphonates).
    - Monitor calcium and kidney function in the case of significant overdose.

9. Pharmacology

- **Mechanism of Action**: Calcium Carbonate is a calcium salt that, when ingested, dissociates into calcium ions, which are essential for many physiological functions, including bone mineralization, muscle function, and nerve signaling.
- **Absorption**: Calcium Carbonate is well absorbed in the stomach and is most effective when taken with food, as food stimulates stomach acid production, aiding absorption.
- **Metabolism**: Calcium is metabolized by the body and regulated by the parathyroid hormone, vitamin D, and the kidneys.

10. Storage

- Store at room temperature (15°C to 30°C) in a dry place.
- Keep out of the reach of children to prevent accidental overdose.
- For chewable tablets, keep them in their original packaging to prevent moisture absorption.

11. Packaging:

- Each Alu-Alu strip of Bonlock contains 10 tablets.
- Each box of Bonlock contains 10 strips.

Note: This summary provides general prescribing information.