

**Immunocal®/HMS 90®***protein isolate*

Glutathione Precursor

Immunotec

**Information for the Patient:** Please read this information carefully. It is a good practice to inform your doctor or healthcare practitioner about any over-the-counter and nonprescription products you are taking. This information should not replace your doctor's advice. For further information or advice, please ask your doctor or pharmacist or have them contact Immunotec.

**What is IMMUNOCAL/HMS 90?** IMMUNOCAL/HMS 90 is a Natural Health Product (NPN-80004370) that can be obtained without prescription. IMMUNOCAL/HMS 90 is made from cow's milk, but differs from cow's milk in that it is 90% protein, has almost no fat or lactose, so can be well tolerated in lactose-intolerant individuals.

IMMUNOCAL/HMS 90 is exclusively produced for Immunotec, utilizing both a proprietary process developed specifically for the production of IMMUNOCAL/HMS 90, and by making use of a proprietary and unique formulation developed by Immunotec.

**What does IMMUNOCAL/HMS 90 do?** IMMUNOCAL/HMS 90 (NPN-80004370) is a natural source of the glutathione precursor cysteine for the maintenance of a strong immune system. It contains specific undenatured proteins that supply the body with the building blocks needed for the production of glutathione in the cells. These building blocks are called "precursors" and glutathione precursors are relatively rare in the normal diet. Ingesting glutathione itself does not effectively raise glutathione in the cells; this is why the precursors are needed.

**Why is glutathione important?** Glutathione is an essential component of the cell; with low glutathione levels, cells cannot perform many of their functions properly. Although glutathione functions in numerous roles in the metabolism, major functions can be summarized in three areas:

1. It is the major antioxidant produced by the body. Antioxidants such as vitamins C or E cannot be made by your body and in fact would not work properly if glutathione were not present.
2. It is important in detoxifying many substances including heavy metals, breakdown products of cigarettes and automobile exhaust, many cancer-causing agents, and numerous pollutants and toxins encountered on a daily basis.
3. The immune system depends on a steady supply of glutathione; without it, immune defenses become weakened.

**Who needs glutathione?** Optimal glutathione levels are important for everyone. Glutathione levels fall as individuals age, with rigorous exercise, and are lowered by a number of illnesses. There is a constant demand for glutathione in daily life; stress, pollution and infectious disease are all causes of glutathione depletion.

**Which illnesses may be helped by raising glutathione?** Many disease states are characterized by low glutathione levels. IMMUNOCAL/HMS 90 has been developed as a strategy to help sustain glutathione levels as cited in numerous medical references.

**Who should avoid IMMUNOCAL/HMS 90?** People who have a specific allergy to milk proteins (different from lactose intolerance) should avoid use of this product. People who are taking immunosuppressive medication, as in the case of organ transplants should not take this product.

**Who should be cautious about their intake of IMMUNOCAL/HMS 90?** People who are on a protein-restricted diet need to calculate into their daily equation 9 grams of protein per pouch and should not exceed their daily protein limit. Keep in mind that IMMUNOCAL/HMS 90 has a very high "biological value" as a protein and will supply an excellent source of amino acids for those individuals who may be challenged nutritionally.

**Resolution of any side effects:** Abdominal cramps and bloating can occasionally occur. This is usually corrected by increasing the fluid intake. Rarely, some individuals may experience a rash with this product. Although this may indicate an allergy, it often represents a "detoxification reaction". In both cases, discontinuing the product will resolve the symptom. If these or other symptoms are severe or persistent, a health care practitioner should be consulted.

**What is the dosage and when should it be taken?** As a natural source of the glutathione cysteine precursor for the maintenance of the good health, 10 grams per day (one pouch) is recommended. As a natural source of the glutathione cysteine precursor for the maintenance of a strong immune system, 20 grams per day is recommended. 30-40 grams per day have been used in clinical trials without ill effects.

IMMUNOCAL/HMS 90 is best administered on an empty stomach or with a light meal. Concomitant intake of another high protein load may adversely affect absorption.

**How is IMMUNOCAL/HMS 90 prepared?** The proteins in IMMUNOCAL/HMS 90 are very fragile. **Do not heat this product or add it to hot liquids. Do not use a high-powered blender to mix.** Heat and severe mechanical action will break down the protein and diminish the usefulness of the product.

IMMUNOCAL/HMS 90 is a dehydrated powder. It must be rehydrated with liquids before use. If left standing too long after mixing, the usefulness of the product may be reduced. It is generally recommended that the product be consumed within 30 minutes of mixing.

- Pour 60 mL of liquid to the fill line. Add 1-2 pouches of HMS 90. Seal and shake for 10-15 seconds. Add more liquid, drink immediately.

Or choose an alternative method that suits your personal preferences and lifestyle:

- Empty one pouch of product into a small container, add 2 tablespoons of your favorite juice or liquid and make a gravy-like paste. Add 180-240 mL of juice or liquid, stir and drink.
- Add the product to applesauce or yogurt.

**How to store IMMUNOCAL/HMS 90:** Keep IMMUNOCAL/HMS 90 in a cool dry place. Avoid prolonged exposure to hot environments. Refrigeration will prolong the life of the product but is optional.

**Notes:**