

SOLUTION OF PURE CRYSTALLINE ESSENTIAL AMINO ACIDS & D-SORBITOL

MORIAMIN®-S-2

PRESCRIPTION ONLY MEDICINE

READ THE LEAFLET CAREFULLY BEFORE USING
IF YOU HAVE ANY QUESTIONS, ASK YOUR DOCTOR

Protein is first decomposed into the individual amino acids in the body, which are then synthesized into necessary body protein. For weak patients in poor nutritional state due to the reduced metabolic functions, it is essential to directly administer an efficiently proportioned mixture of amino acids that can be readily utilized in the body.

MORIAMIN-S-2 is a total amino acid preparation containing 8 essential amino acids, semi-essential amino acids (Arginine and Histidine) and glycine rationally in accordance with the formula of Vuj-N Amino Acid Mixture, with addition of D-Sorbitol 5w/v%^(1,2)

[Composition]

Component	Content(g/20ml)	Content(g/200ml)	Content(g/500ml)
L-Isoleucine	0.110g	1.100g	2.750g
L-Leucine	0.246g	2.460g	6.150g
L-Lysine HCl	0.446g	4.460g	11.150g
L-Methionine	0.142g	1.420g	3.550g
L-Phenylalanine	0.174g	1.740g	4.350g
L-Threonine	0.108g	1.080g	2.700g
L-Tryptophan	0.036g	0.360g	0.900g
L-Valine	0.122g	1.220g	3.050g
L-Arginine HCl	0.160g	1.600g	4.000g
L-Histidine HCl.H ₂ O	0.080g	0.800g	2.000g
Glycine	0.200g	2.000g	5.000g
D-Sorbitol	1.000g	10.000g	25.000g
Total amino acid	1.824g	18.240g	45.600g
Amino acid concentration	9.12w/v%	9.12w/v%	9.12w/v%

Total Nitrogen: 13.1mg/ml
Electrolyte concentration: Na⁺: ca. 18mEq/l
Cl⁻: ca. 182mEq/l
Free amino acid concentration: 8.432w/v%

[Indications]

Supply of amino acid in the following conditions:
Hypoproteinemia, undernutrition, pre- and post-operation.

[Administration and Dosage]

Usually administer 20~500ml slowly at a time intravenously or by intravenous drip for an adult. The speed of administration is preferably ca. 10g amino acids in 60 min. for their utilization in the body, usually on the standard of 200 ml in 80~100 min. (ca. 40~30 drops/min.) for an adult, and more slowly for a child, old person and serious patient.

It may be adjusted properly depending on the age, symptoms and body weight of patients, but the dosage of D-Sorbitol must be less than 100g per day.

[Cautions in use]

(1) Don't administer to the following patients:

- 1) patients with or in danger of hepatic coma
- 2) patients with severe renal disorder or hyperazotemia
- 3) patients with abnormality of amino acid metabolism
- 4) patients with hereditary fructose intolerance

(2) Administer carefully to the following patients:

- 1) patients with severe acidosis
- 2) patients with congestive heart failure

(3) Side effects:

- 1) Hypersensitivity:
Rarely a symptom of hypersensitivity such as rash may appear, and in such a case, stop the administration.
- 2) Digestive organs:
Sometimes such symptoms as nausea, vomiting, etc. may appear.
- 3) Circulatory organs:
Sometimes such symptoms as chest discomfort, palpitation, etc. may appear.
- 4) Rapid administration of large quantity:
Rapid administration of large quantity may cause acidosis.
- 5) Others: Sometimes chill, fever, sensation of heat, headache or vascular pain may appear.

(4) Administration to the elderly:

Since physiological function are usually reduced in elderly patients, special caution is necessary by such measures as reduction of administration speed dosage reduction and etc.

(5) Precautions in application:

(1) Before administration

1) Crystallization may appear in the cold season, in such a case warm it to 50~60°C, and after dissolution leave it cool nearly to the body temperature before use.

2) Don't use unless perfectly transparent.

3) Never use the solution remaining after use.

(2) Preparation

MORIAMIN S-2 in one-point-cut ampoules should be opened by snapping the ampoule neck in the direction opposite to the blue mark. (Do not use a file to cut it open) Before opening the ampoule, wipe the ampoule neck with ethanol cotton to prevent contamination by foreign matter.

(3) At the time of administration

As Na⁺ ca. 18mEq/l and Cl⁻ ca. 182mEq/l are contained, be careful about electrolyte balance in case of administration of a large quantity or in case of combination use with electrolyte solution.

(4) Administration speed

Administer slowly into the vein.

[Pharmacological effects and actions]

1) Each amino acid is reasonably formulated at the rate of Vuj-N Amino Acid Mixture for high utilization in the body to improve A/G ratio and plasma protein volume^(3,4)

2) Sorbitol combined as a carbohydrate is efficiently metabolized even when the carbohydrate utilization is disturbed due to operative invasion, diabetes etc., thereby enhancing the amino acid utilization.⁽⁵⁻⁸⁾

[Non-clinical study]

Acute toxicity⁽⁹⁾ LD₅₀ (ml/kg)

Animal	Route	i.v.
Rat	♂	65.0 (in fasting)
	♀	38.8 (in non-fasting)

(Rate of infusion: 5 to 10ml/kg/minute)

[Properties]

This preparation is colorless to slightly yellowish transparent aqueous solution for injection.

pH and Osmotic pressure ratio

pH	Osmotic pressure ratio
5.8~6.8	Ca. 4

[Cautions in handling]

Cautions:

The 200 and 500 ml vials are without airway tube. To prevent leakage, it is necessary to insert the airway needle immediately before drip infusion.

Validity for use: 3 years from the month of manufacture.

[Packing]

20ml x 5A
200ml x 20V, 500ml x 10V

[References]

- 1) Howe, E. E. et al. : J. Biol. chem., 162, 395 (1946)
- 2) Silber, R. H. et al. : J. Biol. chem., 164, 639 (1946)
- 3) H. Sato et al. : GEKA-SHIVRYO, 9, 341 (1967)
- 4) H. Abe et al. : YAKURI-TO-CHIRYO (Basic Pharmacol. Therap.) 4, 1841 (1976)
- 5) Blakley, R. L. : Biochem. J., 49, 257 (1951)
- 6) Seeberg, V. P. et al. : Proc. Soc. Exp. Biol. Med., 89, 303 (1955)
- 7) I. Isaka : MIE-IGAKU, 4, 1019 (1960)
- 8) T. Oishi : NIPPON GEKA GAKKAI ZASSHI (J. of Japan Surgical Society) 60, 1117 (1959)
- 9) Morishita's internal report.

Follow exactly your physician's prescription

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Manufactured by:
Tai Yu Chemical & Pharmaceutical Co., Ltd.
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