



Sodium carboxymethyl cellulose

Sunrose® F300HC, F300HG

- Gel Preparation-

Sunrose®, which is a polymer electrolyte, can be transformed into a variety of gels by the addition of metallic salts that change the ionization state of carboxyl group.

Gel form of Sunrose® (CMC)

Sunrose® F300HG is a granulated form of F300HC, which is another Sunrose® product with **high viscosity and elasticity**. By adding the food additive Al^{3+} (aluminum potassium sulfate) these can be easily turned into a gel form, and gel consistency can be freely adjusted by varying the amount of additive.

Graph 1: Quality of Sunrose®

Product	1% viscosity (mPa.s)	DS (M/C6)	Purity (%)	pH	Particle form
F300HG	2,000 - 3,500	0.85 - 0.95	99<	6.0 - 8.0	Granular
F300HC	2,500 - 3,500	0.85 - 0.95	99<	6.0 - 8.0	Powder

Method of Sunrose® (CMC) Gel Preparation

Preparing a very firm gel (2% CMC solution with Al^{3+} additive [15% of CMC by weight])

1. First, dissolve 1.05 grams of Al^{3+} in 350ml of water, and then gradually add 7.0 grams of CMC while agitating the solution at 10,000rpm using a Homo Mixer (mfg by PRIMIX Corporation).
2. Agitate for about 3 to 5 minutes; a firm gel will form.
 - Ingredients for preparing approx. 2 liters of gel:
 - 2 liters water
 - 40 grams CMC
 - 6 grams Al^{3+}



F300HG as a very firm gel

It is also possible to prepare this gel by putting the alum and water into a plastic bag containing CMC. Mix well by a kneading action, and then let stand for a while.

Gel firmness can be flexibly controlled by altering the type and quantity of the additive and also the grade of Sunrose®.

With Sunrose®, a solution for gel-use can also be prepared by dissolving a high-viscosity grade at high concentration.

For more details on our products, please contact:

NIPPON PAPER INDUSTRIES CO., LTD. Innovative Material Sales
4-6 Kandasurugadai, Chiyoda-ku, Tokyo 101-0062, Japan
Tel: 81- (0) 3-6665-1050