

Technical Service Bulletin

NATIONAL[®] M1

NATIONAL M1 is a tapioca maltodextrin derived from tapioca starch. It is very bland in taste and non-hygroscopic which makes it suitable for various applications.

Physical Properties:

Colour	White to off-white
Form	Powder
Moisture	Approximately 5%
pH	Approximately 4.5

Features and Benefits:

NATIONAL M1 is a free flowing powder, which can be dispersed with cold water and contributes viscosity and body. Because of its high solubility, NATIONAL M1 can be used in food systems requiring little or no heat. NATIONAL M1 is ideally suitable as a bulking agent in spray-dried flavors or seasonings.

Applications:

NATIONAL M1 is recommended for use in baked goods, rehydration/ energy beverages, confectionery, peanut butter, and spray-dried flavors or seasoning.

Baked Goods: NATIONAL M1 is of special interest to cookies, cakes and muffins to stabilise moisture and moderate texture.

Rehydration/ Energy Beverage:

NATIONAL M1 provides excellent caloric density without exceeding osmotic balance. This is important in formulating rehydration/ energy beverages to provide a low residue carbohydrate source.

Confectionery: NATIONAL M1 is used as the sole agent to control sugar bloom and moderate stickiness in hard boil candy.

Peanut Butter: NATIONAL M1 can be added to peanut butter to improve body, provide smooth and creamy mouthfeel without grittiness.

Spray Dried Flavors/ Seasoning:

NATIONAL M1 can be used as an effective carrier for spray-dried products. Final powders are free flowing and are readily reconstituted in water.

Label Declaration:

Tapioca Maltodextrin

\$2.00 / kg FIS, GST excl. < 1mt 10+S
21/01/08

The information given and the recommendations made herein are based on our research and are believed to be accurate but no guaranty of their accuracy is made. In every case we urge and recommend that purchasers, before using any product in full-scale production, make their own tests to determine to their own satisfaction whether the product is of acceptable quality and is suitable for their particular purposes under their own operating conditions. No representative of ours has any authority to waive or change the foregoing provisions but, subject to these provisions, our engineers are available to assist with product queries and technical support. Nothing contained herein shall be construed to imply the non-existence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of this patent.

CONFIDENTIAL**NATIONAL® M1**

Label Designation

Tapioca Maltodextrin

Physical and Chemical Characteristics (*):

Color	White to Off-white
Form	Fine Powder
Granulation	
Through USSS #100	>98%

Physical and Chemical Specifications:

DE	9.0 - 13.0
Moisture	14% maximum
pH (20% solution)	4.0 - 4.7

Microbiological Specifications:

Total Plate Count	10,000/g maximum
Yeast	200/g maximum
Mold	200/g maximum
E. coli	negative
Salmonella	negative

Packaging and Storage:

NATIONAL® M1 is packaged in multi wall Kraft paper bags with a net weight of 25 kgs. We recommend that NATIONAL® M1 be stored in a clean, dry area at ambient temperature and away from heavily aromatic material. The best before date for NATIONAL® M1 is 24 months from the date of manufacture.

(*) While this information is typical of NATIONAL® M1 it should not be considered a specification.

Data may become outdated; update yearly.

The above information is made in good faith but no guaranty of its accuracy is made. Purchasers should make their own determination whether the product is of acceptable quality and is suitable for their particular purposes. No representative of ours has any authority to waive or change these provisions. Nothing contained herein shall be construed to imply the non-existence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of this patent.

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Nutritional Data

NATIONAL M1

Calories [†]	4.0 KCal./gram
Calories from Fat	0.01 KCal./gram
Total Fat	<0.15%
Saturated Fat	<0.08%
Cholesterol	None Detected
Sodium	Approx. 50mg/100g
Total Carbohydrates	Approx. 90 %
Dietary Fiber	Approx. 0.4%
Sugars	Approx. 0.5%
Protein	<0.5%
Vitamin A	None Detected *
Vitamin C	None Detected
Calcium	Approx. 50mg/100g
Moisture*	Approx. 10%
Ash	<0.5%

Note: Please note that while the above information is typical of NATIONAL M1, it should not be considered a specification, since the values may vary slightly between samples.

***Moisture:** The moisture content of all starches will vary, depending on environmental conditions during storage and manufacture. However, NATIONAL M1 will generally have a moisture content of around 10%.

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National Starch
FOOD INNOVATION

5-7 Averton Place, East Tamaki
P O Box 58 230, Greenmount,
Auckland

04 February 2008

MASSEY UNIVERSITY
IFNHH, Riddet Reception

PALMERSTON NORTH

M.U

Attention: Ray Winger

The following sample has been submitted for your evaluation.

Product Name: N-LITE LP		Application: Fat Memetic used in applications where no he
Batch No:		
Price valid for 3 months:	\$/ kg in ton lots \$6.45 / kg less ton lots (delivery charge applies for less ton lots)	
Pack size:	22.7kg	
Availability:	In Stock: No	
Lead Time:	In Stock: 2 – 4 days Non Stock: 10 – 12 weeks	
Product labelling:	Thickener E: 1440	
Product manufactured in:	USA	
This product is Non GM Identity Preserved, Halal and Kosher certified. (Statement (s) available on request)		

Recommendation: To decrease "stickiness" in fruit straps without decreasing viscosity

Please contact **Janet Donovan** on **273 5931** if you have any queries about this product.

This information is current and will be updated on every sample dispatched. The provided information will be valuable for your R.D and Purchasing personnel and if there is any information not supplied, please contact National Starch Chemical Pty Ltd.

N-LITE[®] LP

N-LITE LP, a unique modified food starch, is used as a fat mimetic in cold-process liquid food systems. The "LP" designates liquid/pregel applications, N-LITE LP is very oily, bland in flavor and has outstanding viscosity stability in liquid systems. A no- or low-fat product can be prepared having the organoleptic and textural properties of a high quality fat-rich product. N-LITE LP does not require cooking and contributes virtually no viscosity to the food product.

Physical Properties:

Color	White to off-white
Form	Powder
Moisture	Approximately 7%
pH	Approximately 6

Features and Benefits:

N-LITE LP can be added to a liquid food product to improve the lubricity and coating of the palate.

N-LITE LP is designed for cold process liquid systems but is very resistant to heat and also to acid and mechanical shear.

N-LITE LP should be blended with other dries for easiest dispersal in water. Vigorous agitation is also helpful.

N-LITE LP is compatible with other ingredients commonly used in food products.

Applications:

N-LITE LP is recommended for use in cold-process liquid systems where a high degree of lubricity, creaminess and resistance to gelling is required. These include pourable salad dressings, dry mix soups and microwavable cheese sauces.

Instant Salad Dressings: Excellent no- and low-fat pourable and (instant) spoonable salad dressings can be made with N-LITE LP. Low- and no-fat products will change little in viscosity during storage.

Soups: No- and low-fat dry mix soups with N-LITE LP will have a rich, creamy mouthfeel like their full fat counterparts.

Sauces: The fat content of a dry mix cream or cheese sauce can be reduced while maintaining a smooth, creamy texture with excellent body.

Label Declaration:

Food Starch-Modified

The information given and the recommendations made herein are based on our research and are believed to be accurate but no guaranty of their accuracy is made. In every case we urge and recommend that purchasers, before using any product in full-scale production, make their own tests to determine to their own satisfaction whether the product is of acceptable quality and is suitable for their particular purposes under their own operating conditions. No representative of ours has any authority to waive or change the foregoing provisions but, subject to these provisions, our engineers are available to assist with product queries and technical support. Nothing contained herein shall be construed to imply the non-existence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of this patent.

CONFIDENTIAL**N-LITE® LP**Label Designation
SourceFood Starch-Modified
Waxy Maize**Physical and Chemical Characteristics (*):**Color
FormWhite to Off-white
Fine Powder**Physical and Chemical Specifications:**

Granulation

Through USSS #20
Through USSS #10098% minimum
50% maximum
14% maximum
4.5 - 7.5

Moisture

pH (9% slurry)

Microbiological Specifications:Total Plate Count
Yeast
Mold
E. coli
Salmonella10,000/g maximum
200/g maximum
200/g maximum
negative
negative**Packaging and Storage:**

N-LITE® LP is packaged in multi wall Kraft paper bags with a net weight of 50 lbs. We recommend that N-LITE® LP be stored in a clean, dry area at ambient temperature and away from heavily aromatic material. The best before date for N-LITE® LP is 24 months from the date of manufacture.

(*) While this information is typical of N-LITE® LP it should not be considered as a specification.

Data may become outdated, update yearly.

The above information is made in good faith but no guaranty of its accuracy is made. Purchasers should make their own determination whether the product is of acceptable quality and is suitable for their particular purposes. No representative of ours has any authority to waive or change these provisions. Nothing contained herein shall be construed to imply the non-existence of any relevant patents or to constitute a permission, inducement or recommendation to practice any invention covered by any patent, without authority from the owner of this patent.

050928 AP



International Specialty Products

Sales Specification

MANUCOL® DH - Sodium Alginate

Specification No. 1039

DESCRIPTION

MANUCOL DH is a medium viscosity, pure sodium alginate suitable for use in food products.

DETAILED REQUIREMENTS

1. Viscosity (1% Solution)	40 - 90 mPa.s (cP)
2. pH (1% solution)	5.0-7.5
3. Loss on Drying	not greater than 13%
4. Particle Size	at least 98% through 355 µm at least 80% through 250 µm cream to light brown powder
5. (a) Appearance	not less than 48
(b) Powder Colour	18-27%
6. Ash (on dried solids basis)	not greater than 5 mg/kg (ppm)
7. Lead (Pb)	not greater than 3 mg/kg (ppm)
8. Arsenic (As)	not greater than 10 mg/kg (ppm)
9. Copper (Cu)	not greater than 10 mg/kg (ppm)
10. Zinc (Zn)	not greater than 0.5 mg/kg (ppm)
11. Mercury (Hg)	not greater than 0.5 mg/kg (ppm)
12. Cadmium (Cd)	not greater than 0.5 mg/kg (ppm)
13. Microbiological Limits	
Bacteria	not greater than 5000 cfu/g
(Total viable mesophilic aerobic count)	
Yeast and Mould	not greater than 300 cfu/g
Coliform	negative by MPN
E. coli	absent in 25 g
Salmonella	absent in 25 g

INGREDIENT

Sodium alginate E401

CAS: 9005-38-3

REGULATORY COMPLIANCE

Complies with Purity Criteria in current EC Directives

Kosher Approved

Food Chemicals Codex

Generally recognised as safe (GRAS) in accordance with 21 CFR 184.1724

QUALITY SYSTEM

MANUCOL DH is manufactured according to a Quality System registered to ISO9002

PACKAGING

MANUCOL DH is packaged in 25 kg multi-ply sacks fitted with polyethylene liner or equivalent. All packaging materials comply with relevant UK, EC and United States food contact legislation.

STORAGE

Packages should be kept sealed and stored in a cool dry place.

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15-Jul-98

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MANUCOL® is a registered trademark
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METHODS OF TESTING (Full details of test methods are available on request)

1. **Viscosity (1% Solution)**
Pour 450 g distilled water into a 600 ml glass beaker. Add 5.00 g product slowly while stirring the solution with an electric stirrer fitted with a propeller-type metal paddle. Adjust the weight of solution to 500 g with additional distilled water, rinsing the walls of the beaker. Stir for two hours at 800 rpm, then adjust the temperature to 20 degrees C, stirring by hand to eliminate any layering effects. Measure the viscosity immediately using an LV model of the Brookfield¹ viscometer at 60 rpm, with spindle 1, at 20 degrees C.
2. **pH (1% Solution)**
Measure the pH of a 1% solution at 20 degrees C using a pH meter.
3. **Loss on Drying**
Spread 5-10 g product evenly on a predried tared watch glass and weigh accurately. Dry in an oven at 105 ± 1 degrees C for four hours. Cool in a desiccator and re-weigh.
4. **Particle Size**
Sieve 10 g product on the specified British Standard Screens (200 mm diameter) for three minutes each screen using an Alpine² Air Jet Sieve. Use the finest mesh sieve first and progress to the coarsest mesh. Record the weight of product remaining on each screen and calculate the percentage which passes through each specified screen.
5. **Powder Colour**
Place powder in an optically flat Photovolt cuvette to a depth of 2 cm. Do not shake or tap. Using a green tristimulus filter, measure the powder colour on a Photovolt³ reflectometer standardised against a white enamel standard of 75% reflectance.
6. **Ash**
Use the procedure given in the current edition of the Food Chemicals Codex.
- 7-12. **Lead, Arsenic, Copper, Zinc, Mercury and Cadmium**
These metals may be determined by atomic absorption techniques.
13. **Microbiological Limits**
For bacteria (TVMAC), E coli, salmonella, yeast and mould, follow the procedures as given for microbial limit tests in the current edition of the United States Pharmacopoeia. Method for coliform is available on request. For bacteria, plate out 1 ml of 1% solution and incubate for 48 hours at 30-35 degrees C. For yeast and mould plate out 1 ml of 1% solution on acidified potato dextrose agar and incubate for 5 days at 20-25 degrees C. Express results as colony forming units (c.f.u.) per gram.

SUPPLIERS OF TESTING EQUIPMENT

¹ Brookfield Engineering Laboratories, Stoughton, Massachusetts.

² Hosakawa Micron Ltd, Augsburg, Germany.

³ Photovolt Corporation, Indianapolis, Indiana



International Specialty Products

Sales Specification

MANUCOL® LF - Sodium Alginate

Specification No. 1034

DESCRIPTION

MANUCOL LF is a low viscosity, pure sodium alginate suitable for use in food products.

DETAILED REQUIREMENTS

1.	Viscosity (1% Solution)	10 - 40 mPa.s (cP)
2.	pH (1% solution)	5.0-7.5
3.	Loss on Drying	not greater than 13%
4.	Particle Size	at least 98% through 355 µm at least 80% through 250 µm
5.	(a) Appearance	cream to light brown powder
	(b) Powder Colour	not less than 38
6.	Ash (on dried solids basis)	18-27%
7.	Lead (Pb)	not greater than 5 mg/kg (ppm)
8.	Arsenic (As)	not greater than 3 mg/kg (ppm)
9.	Copper (Cu)	not greater than 10 mg/kg (ppm)
10.	Zinc (Zn)	not greater than 10 mg/kg (ppm)
11.	Mercury (Hg)	not greater than 0.5 mg/kg (ppm)
12.	Cadmium (Cd)	not greater than 0.5 mg/kg (ppm)
13.	Microbiological Limits	
	Bacteria	not greater than 5000 cfu/g
	(Total viable mesophilic aerobic count)	
	Yeast and Mould	not greater than 300 cfu/g
	Coliform	negative by MPN
	E. coli	absent in 25 g
	Salmonella	absent in 25 g

INGREDIENT

Sodium alginate E401

CAS: 9005-38-3

REGULATORY COMPLIANCE

Complies with Purity Criteria in current EC Directives

Kosher Approved

Food Chemicals Codex

Generally recognised as safe (GRAS) in accordance with 21 CFR 184.1724

QUALITY SYSTEM

MANUCOL LF is manufactured according to a Quality System registered to ISO9002

PACKAGING

MANUCOL LF is packaged in 25 kg multi-ply paper sacks fitted with polyethylene liner or equivalent. All packaging materials comply with relevant UK, EC and United States food contact legislation.

STORAGE

Packages should be kept sealed and stored in a cool dry place.

METHODS OF TESTING (Full details of test methods are available on request)

1. **Viscosity (1% Solution)**
Pour 450 g distilled water into a 600 ml glass beaker. Add 5.00 g product slowly while stirring the solution with an electric stirrer fitted with a propeller-type metal paddle. Adjust the weight of solution to 500 g with additional distilled water, rinsing the walls of the beaker. Stir for two hours at 800 rpm, then adjust the temperature to 20 degrees C, stirring by hand to eliminate any layering effects. Measure the viscosity immediately using an LV model of the Brookfield¹ viscometer at 60 rpm, with spindle 1, at 20 degrees C.
2. **pH (1% Solution)**
Measure the pH of a 1% solution at 20 degrees C using a pH meter.
3. **Loss on Drying**
Spread 5-10 g product evenly on a predried tared watch glass and weigh accurately. Dry in an oven at 105 ± 1 degrees C for four hours. Cool in a desiccator and re-weigh.
4. **Particle Size**
Sieve 10 g product on the specified British Standard Screens (200 mm diameter) for three minutes each screen using an Alpine² Air Jet Sieve. Use the finest mesh sieve first and progress to the coarsest mesh. Record the weight of product remaining on each screen and calculate the percentage which passes through each specified screen.
5. **Powder Colour**
Place powder in an optically flat Photovolt cuvette to a depth of 2 cm. Do not shake or tap. Using a green tristimulus filter, measure the powder colour on a Photovolt³ reflectometer standardised against a white enamel standard of 75% reflectance.
6. **Ash**
Use the procedure given in the current edition of the Food Chemicals Codex.
- 7-12. **Lead, Arsenic, Copper, Zinc, Mercury and Cadmium**
These metals may be determined by atomic absorption techniques.
13. **Microbiological Limits**
For bacteria (TVMAC), E coli, salmonella, yeast and mould, follow the procedures as given for microbial limit tests in the current edition of the United States Pharmacopoeia. Method for coliform is available on request. For bacteria, plate out 1 ml of 1% solution and incubate for 48 hours at 30-35 degrees C. For yeast and mould plate out 1 ml of 1% solution on acidified potato dextrose agar and incubate for 5 days at 20-25 degrees C. Express results as colony forming units (c.f.u.) per gram.

SUPPLIERS OF TESTING EQUIPMENT

¹ Brookfield Engineering Laboratories, Stoughton, Massachusetts.

² Hosakawa Micron Ltd, Augsburg, Germany.

³ Photovolt Corporation, Indianapolis, Indiana.



International Specialty Products

Sales Specification

MANUGEL[®] GMB - Sodium Alginate

Specification No. 1007

DESCRIPTION

MANUGEL GMB is a high viscosity, pure sodium alginate suitable for use in food products where high gel strength is required.

DETAILED REQUIREMENTS

1.	Viscosity (1% Solution)	110 -270 mPa.s (cP)
2.	pH (1% solution)	5.0-7.5
3.	Loss on Drying	not greater than 13%
4.	Particle Size	at least 98% through 355 µm at least 80% through 250 µm
5.	(a) Appearance	cream to light brown powder
	(b) Powder Colour	not less than 38
6.	Ash (on dried solids basis)	18-27%
7.	Lead (Pb)	not greater than 5 mg/kg (ppm)
8.	Arsenic (As)	not greater than 3 mg/kg (ppm)
9.	Copper (Cu)	not greater than 10 mg/kg (ppm)
10.	Zinc (Zn)	not greater than 10 mg/kg (ppm)
11.	Mercury (Hg)	not greater than 0.5 mg/kg (ppm)
12.	Cadmium (Cd)	not greater than 0.5 mg/kg (ppm)
13.	Microbiological Limits	
	Bacteria	not greater than 5000 cfu/g
	(Total viable mesophilic aerobic count)	
	Yeast & Mould	not greater than 300 cfu/g
	Coliform	negative by MPN
	E. coli	absent in 25 g
	Salmonella	absent in 25 g

INGREDIENTS

Sodium alginate E401

CAS: 9005-38-3

REGULATORY COMPLIANCE

Complies with Purity Criteria in current EC Directives

Kosher Approved

Food Chemicals Codex

Generally recognised as safe (GRAS) in accordance with 21 CFR 184.1724

QUALITY SYSTEM

MANUGEL GMB is manufactured according to a Quality System registered to ISO9002.

PACKAGING

MANUGEL GMB is packaged in 25 kg multi-ply paper sacks fitted with polyethylene liner or equivalent. All packaging materials comply with relevant UK, EC and United States food contact legislation.

STORAGE

Packages should be kept sealed and stored in a cool, dry place.

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METHODS OF TESTING (Full details of test methods are available on request)

1. **Viscosity (1% Solution)**

Pour 450 g distilled water into a 600 ml glass beaker. Add 5.00 g product slowly while stirring the solution with an electric stirrer fitted with a propeller-type metal paddle. Adjust the weight of solution to 500 g with additional distilled water, rinsing the walls of the beaker. Stir for two hours at 800 rpm, then adjust the temperature to 20 degrees C, stirring by hand to eliminate any layering effects. Measure the viscosity immediately using an LV model of the Brookfield¹ viscometer at 60 rpm, with spindle 2, at 20 degrees C.

2. **pH (1% Solution)**

Measure the pH of a 1% solution at 20 degrees C using a pH meter.

3. **Loss on Drying**

Spread 5-10 g product evenly on a predried tared watch glass and weigh accurately. Dry in an oven at 105 ± 1 degrees C for four hours. Cool in a desiccator and re-weigh.

4. **Particle Size**

Sieve 10 g product on the specified British Standard Screens (200 mm diameter) for three minutes each screen using an Alpine² Air Jet Sieve. Use the finest mesh sieve first and progress to the coarsest mesh. Record the weight of product remaining on each screen and calculate the percentage which passes through each specified screen.

5. **Powder Colour**

Place powder in an optically flat Photovolt cuvette to a depth of 2 cm. Do not shake or tap. Using a green tristimulus filter, measure the powder colour on a Photovolt³ reflectometer standardised against a white enamel standard of 75% reflectance.

6. **Ash**

Use the procedure given in the current edition of the Food Chemicals Codex.

7-12. **Lead, Arsenic, Copper, Zinc, Mercury and Cadmium**

These metals may be determined by atomic absorption techniques.

13. **Microbiological Limits**

For bacteria (TVMAC), E coli, salmonella, yeast and mould, follow the procedures as given for microbial limit tests in the current edition of the United States Pharmacopoeia. Method for coliform is available on request. For bacteria, plate out 1 ml of 1% solution and incubate for 48 hours at 30-35 degrees C. For yeast and mould plate out 1 ml of 1% solution on acidified potato dextrose agar and incubate for 5 days at 20-25 degrees C. Express results as colony forming units (c.f.u.) per gram.

SUPPLIERS OF TESTING EQUIPMENT

¹ Brookfield Engineering Laboratories, Stoughton, Massachusetts

² Hosakawa Micron Ltd, Augsburg, Germany

³ Photovolt Corporation, Indianapolis, Indiana

Product Specification Bulletin

FMC BioPolymer

Not Just Products. Partners.

Protanal[®] LF 120 alginate - 2205500

SPECIFICATIONS:

Purity	fulfills the requirements of FAO/WHO, FCC and Commission Directive 98/86/EC
Appearance	white to yellowish brown free-flowing powder almost odorless and without taste
Viscosity (in 1% aq.sol.)	200 to 400 mPa•s
pH (in 1% aq.sol.)	6.0 to 8.0
Particle size	minimum of 99% through 120 mesh BS
Loss on drying	maximum 15%
Water insolubles	maximum 2% on anhydrous basis
Arsenic	maximum 3 mg/kg
Lead	maximum 5 mg/kg
Heavy metals	maximum 20 mg/kg

MICROBIOLOGY:

Total count	maximum 5,000 cfu/gram
Mold and yeast	maximum 500 cfu/gram
Coliforms	negative by test
Salmonella	negative by test

PRODUCT INGREDIENT: sodium alginate (E-401)

STORAGE CONDITIONS: Store in a cool, dry location

APPLICATION:

- Recommended for use in fruit preparations

TECHNICAL SERVICE CENTERS:
FMC BioPolymer

The Americas:

1735 Market Street
Philadelphia, PA 19103
Phone: 1-800-526-3649
1-215-299-6234
Fax: 1-215-299-5809

Rua Maria Monteiro, 830
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13025-151, Campinas, SP, Brazil
Phone: 55-19-255-5222
Fax: 55-19-255-1954

Av. De las Granjas No. 300
Colonia Electricistas
Del. Azcapotzalco
C.P. 02060, Mexico, D.F.
Phone: 52-5-352-3589
Fax: 52-5-352-3273

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1050 Brussels, Belgium
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Fax: 32-2-645-9434

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N-3002 Drammen, Norway
Phone: 47-32-20-3500
Fax: 47-32-20-3510

Asia Pacific:

85 Science Park Drive
#02-08 The Cavendish
Singapore 118259
Phone: 65 872-2920
Fax: 65 872-2927

REGULATORY STATUS:

In the United States, alginic acid, sodium alginate, calcium alginate, potassium alginate, and ammonium alginate are affirmed as Generally Recognized as Safe when used as a stabilizer or thickener within the limitations specified in the regulations. Propylene glycol alginate is regulated as a food additive in 21 CFR 172.858.

Within the European Union, alginic acid (E 400), sodium alginate (E 401), potassium alginate (E 402), ammonium alginate (E 403), calcium alginate (E 404), and propane 1,2 diol alginate (E 405) are included the Miscellaneous Additive Directives. Refer to the Miscellaneous Additives Directive for the specific conditions of use for these additives.

Alginic acid (INS 400), sodium alginate (INS 401), potassium alginate (INS 402), ammonium alginate (INS 403), calcium alginate (INS 404), and propane 1,2 diol alginate (INS 405) have been evaluated by the Joint FAO/WHO Expert Committee on Food Additives and are permitted for use in food, as specified in the evaluation(s).

PATENTS:

FMC Corporation does not warrant against infringement of patents of third parties by reason of any uses made of the product in combination with other material or in the operation of any process; purchasers assume all risks of patent infringement by reason of any such use, combination, or operation.

WARRANTY:

Because of the numerous factors affecting results, FMC BioPolymer ingredients are sold on the understanding that purchasers will make their own test to determine the suitability of these products for their particular purpose. The several uses suggested by FMC BioPolymer are presented only to assist our customers in exploring possible applications. All information and data presented are believed to be accurate and reliable, but are presented without the assumption of any liability by FMC BioPolymer.

TECHNICAL SERVICE:

The information contained in this bulletin is intended to be general in nature. Techniques and data pertaining to specific uses for FMC ingredients and new developments will be published periodically in the form of supplemental application bulletins.



4666 Faries Parkway
Decatur, Illinois 62526
800-637-5843

NovaXanTM 80

For clear results
NF/FCC Grade Xanthan Gum
Thickener and Stabilizer, for Excipient/Food Use

DESCRIPTION:

ADM NovaXanTM 80 is an off-white to light tan colored, free-flowing granular powder that meets the specifications of the National Formulary, the Food Chemicals Codex and the J.E.C.F.A.

GENERAL CHARACTERISTICS:

Viscosity (1.0% in 1.0% KCl)	1200 - 1600 cP
Particle Size	100% through USS 60 mesh, 250 μ 95% minimum through USS 80 mesh, 177 μ
Powder Color	Not less than 60
pH (1.0% Solution)	5.5 to 8.1

STANDARD SPECIFICATIONS:

Identification	Meets NF/FCC tests
Assay	Meets NF/FCC tests
Loss on Drying	6 - 14%
Viscosity	Meets NF/FCC tests
Ash	Between 6.5% and 16%
Arsenic	Not more than 3 ppm
Lead	Not more than 2 ppm
Heavy Metals (as Pb)	Not more than 20 ppm
Isopropyl Alcohol	Not more than 750 ppm
	Not more than 500 ppm (Europe & Japan)
Pyruvic Acid	Not less than 1.5%
Nitrogen	Not more than 1.5%

MICROBIOLOGICAL:

Total Plate Count	Not more than 2000/g
Yeast and Molds	Not more than 100/g
Salmonella	Meets NF test
Escherichia coli	Meets NF test

Shelf life:

36 months from the certificate of analysis test date

PACKAGING:

25 kg boxes, product and package code 174910-2L

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XA-103-040121 NovaXan 80

622 8799

622 2720

25 kg

39.50 /kg