PLANT INFORMATION

Nouryon Chemicals Finland Oy

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Effective: January 2026

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1. Facility Overview

A. Company Details

	Corporate	Manufacturing Site
Company Name	Nouryon Chemicals B.V. Haaksbergweg 88 (De Oliphant building) 1101 BZ Amsterdam Netherlands	Nouryon Chemicals Finland Oy Kuhnamontie 2 (P.O. Box 500) FI-44100 Äänekoski Finland
Telephone:	+31 88 984 1000	+358 14 518 3000
VAT number:	-	FI16369494
Chamber of Commerce:		Central Finland Chamber of Commerce, Jyväskylä
Website:	www.nouryon.com	
Contact:		cmc.customerrequests@nouryon.com

B. Manufacturing Site Contacts/Emergency Contacts

Name:	Oliver Ruppert	Ulla Urpilainen	Antti Haapsaari
Function:	Site Director	Quality Manager	EHS&S Manager
E-mail:	oliver.ruppert@nouryon.com	ulla.urpilainen@nouryon.com	antti.haapsaari@nouryon.com

C. Facility Description

Nouryon Chemicals Finland Oy is a Sodium Carboxymethylcellulose (NaCMC) - production plant in Finland which serves the paper, board, oilfield, paint, mining, detergent, food, feed, pharmaceutical and dental industry with purified (P-CMC), technical (T-CMC), and highly purified NaCMC products under the multiple different brand names.

The site area is 79 000 m^2 and located in Central Finland. Besides 3 separated production lines the plant has own solvent distillery. The site is inside the fences and access is controlled by 3rd party security service.

D. Certifications

The site, and its management systems are certified:

- Since 1995 according to ISO 9001
- Since 1997 according to ISO 14001
- Since 2007 according to HACCP
- Since 2008 according to ISO 22000 (including HACCP)
- Since 2011 according to FSSC 22000

All certifications are issued by DNV. Site has also Kosher and Halal certificates for the relevant products.

E. Plant History

The Äänekoski production site is originally built in 1944 by Wärtsilä Selluloosa.

The plant history has the following key steps:

1944 - Wärtsilä Selluloosa founded the plant
1996 - Acquisition by Industry Kapital (S)
2000 - Name change in to Noviant
2001 - Acquisition by JM Huber (US)
2004 - Integration into CP Kelco
2020 - Acquisition by Nouryon B.V.

2. Security

A. Supply Chain Security

U.S. Bioterrorism Act Registration:
In compliance with the U.S. Bioterrorism Act, Nouryon Chemicals Finland Oy facility has been registered with Registration no 11379431812.

Authorized Economic Operator (AEO)
Nouryon Chemicals Finland Oy is certified as economic operator for both Customs simplifications (AEOC) and for Security and Safety (AEOS).

Contingency Plan to Identify and Mitigate Business Interruption:
Nouryon Chemicals Finland Oy has established contingencies to supply product in the face of unplanned events.

B. Plant Security

Nouryon Chemicals Finland Oy Security Program is designed to provide a secure working environment.

Procedures have been established that provide for authorization of people and vehicles accessing Nouryon facilities. Identification documents (passes) are furnished to all people for entry access. Visitors and contractors are registered at the main gate.

- Own personnel are allowed entrance by means of electronical identification.
- The site is protected from unauthorized access by a perimeter fence, monitored security.
- Procedures are also in place to ensure that computer systems and the information they process are operated and maintained in a secure environment.
- Procedures are in place for the prevention, detection and investigation of crime and fraud.

C. Health, Safety and Environmental

Health and Safety Program:
Nouryon Chemicals Finland Oy has a documented health and safety program designed to protect the environment, our personnel, and our facilities. The program includes monitoring progress against goals, internal audits, self-assessments, and employee training.

D. Business continuity

Nouryon Chemicals Finland Oy business continuity is ensured for instance with the following actions:

- Continuous operations (24/7)
- Certified management systems
- Power supply – internal and external
- Multiple production lines
- Emergency Response Plan
- Approved back-up suppliers of raw materials

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Nouryon Chemicals Finland Oy Emergency Response Plan contains, amongst others, the following elements:

- Emergency response organization
- How to act in case of (fire, explosion, terrorism threat, spill, leakage, etc.)
- Who to involve direct and after first response
- Major risk incident scenario
- Major effect incident scenario
- Organization around the plan as such

E. Product Portfolio

The facility produces CMC at three separated production lines: technical, purified and highly purified.

- Technical FINNFIX® grades are used for example in detergent as anti-redeposition agent and oilfield applications as shale inhibitor or lubricant in drilling mud.
- Purified FINNFIX® grades are ~~mainly~~ used in industrial applications as rheology modifier, thickener, stabilizer, water retention and binding agent.
- CALEXIS® grades are used in paper and board applications as strength agent.
- CELECT® grades are used for mining application in flotation process**.**
- CEKOL® grades (cellulose gum (E466) or sodium carboxymethylcellulose or carmellose sodium) are a highly purified/regulated products which are mainly used in food, feed, pharmaceutical, and personal care applications as thickener, stabilizer, binding agent, moisture retention agent and rheology modifier.

F. Manufacturing Description

Sodium Carboxymethylcellulose is produced from cellulose and monochloroacetic acid (MCA) and with sodium hydroxide (NaOH) as the third essential ingredient. The different steps in the CMC process are described in the flow sheet below. Cellulose is mixed with NaOH to form alkali cellulose in alcoholic reaction medium. The alkali cellulose is accessible and reactive towards MCA in the etherification step. MCA introduces carboxymethyl groups along the cellulose chain, which results in water solubility of NaCMC end-product. After completion of the etherification the product contains by-product salts (sodium chloride and sodium glycolate). If the product is not purified after etherification the end-product is technical CMC where purification level varies from 55 to 73%. In the case of purified CMC grades, the product is refined by washing to minimum 98.0% or 99.5% purity (on dry basis). The end-product is dried, milled, packaged and tested.

With regards to utilities like water, steam and air handling, there is a monitoring program in place. Potable water is used and supplied by the city; micro testing of city water samples is conducted frequently. Steam is indirectly used throughout the plant to aid in processing. Compressed air used in production is filtered.

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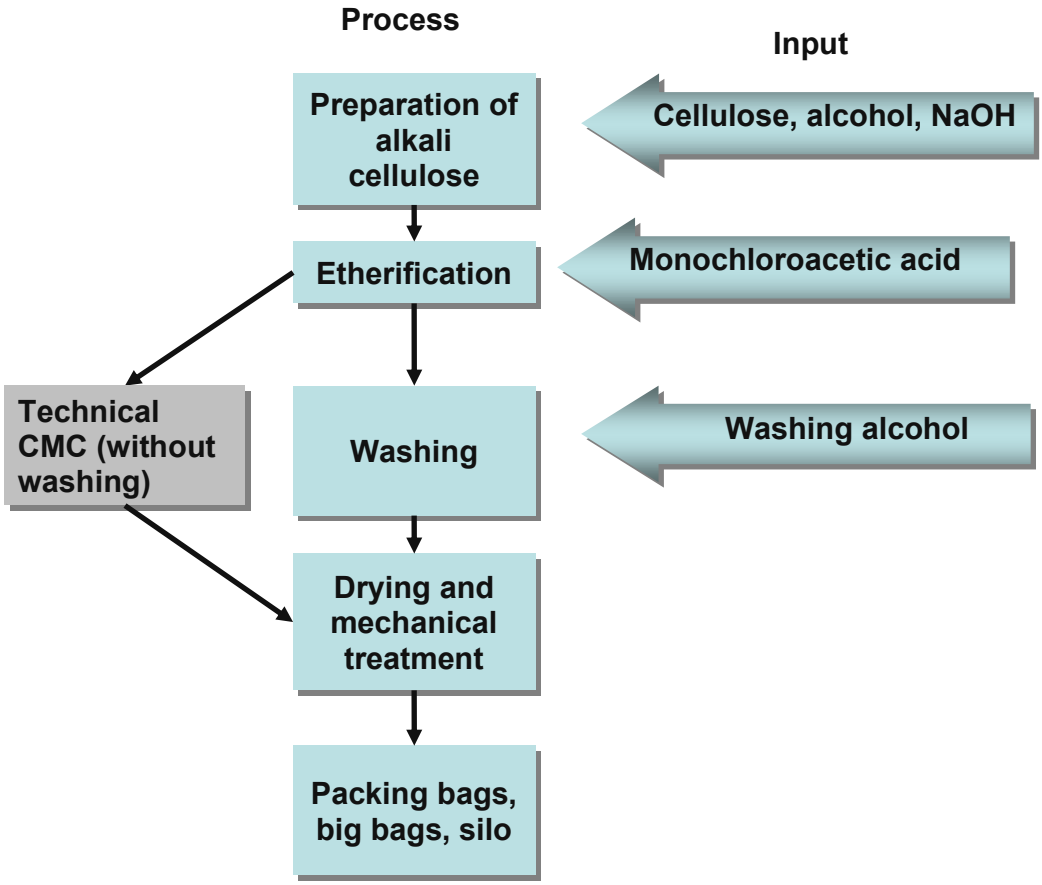


G. Product Safety

Highly purified products are manufactured, packed, and stored according to Good Manufacturing Practices (GMP).
For more details see CEKOL cellulose gum product information package.

Nouryon is committed to continuously improving processes to maintain the proper level of diligence in the name of public health safety.

H. Regulatory Inspections

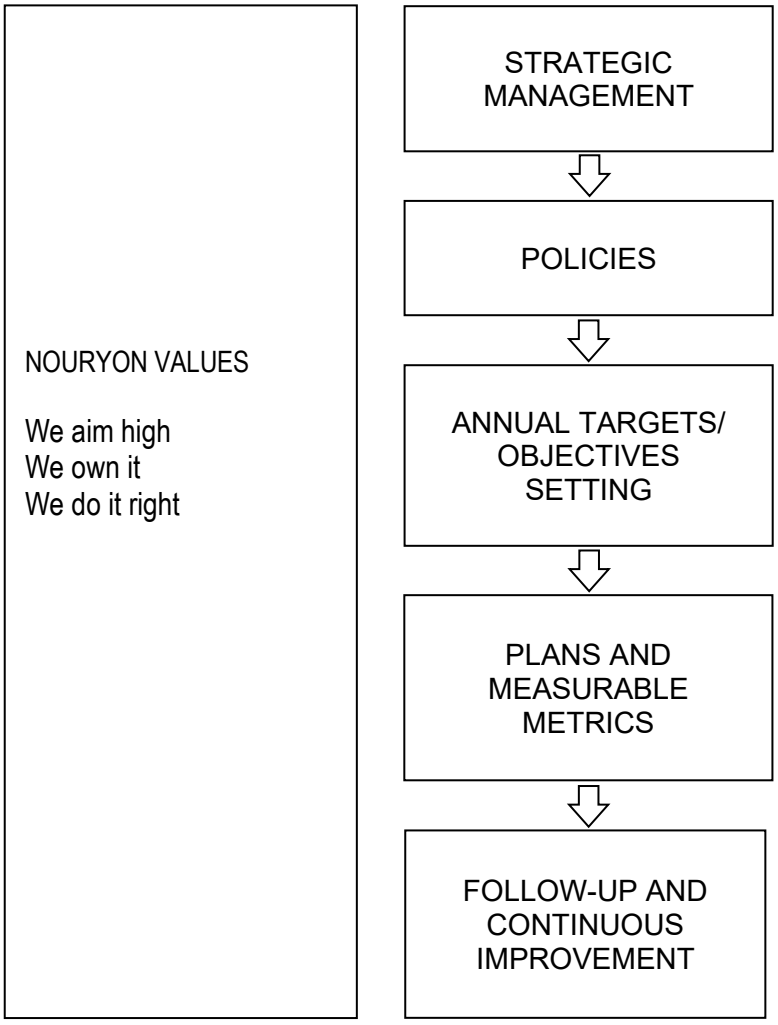
Authorities conduct frequent regulatory inspections at the site:

- Health Authorities audits Food Safety
- Finnish safety authority audits Occupational Safety and SEVESO compliance
- Centre for Economic Development, Transport and the Environment audits Environmental management

3. Details

A. Plant Management

Nouryon Chemicals Finland Oy is committed to the corporate Values, Growth Strategy, and Sustainability Goals (visit www.nouryon.com) by setting plant annual targets and objectives accordingly.



B. Management Responsibility

Quality Policy

The main principle of our operations is to understand well the needs and wishes of our customers. We strive to develop our products and operations so that we can meet all necessary requirements.
The management will ensure that all personnel are aware of this policy and understand its content.

Planning

The production facility maintains a quality improvement plan that includes clearly stated goals. Quality objectives are clearly designated in the quality improvement plan, and all are measurable and consistent with the Quality Policy. Progress toward all targets, objectives, and goals are reviewed during the Management System Review and during regular internal meetings throughout the year.

Responsibility, Authority and Communication

Responsibilities and authorities are clearly defined by management through use of defined work processes and the roles and responsibilities required ensuring effectiveness. Each position within the production facility has a written job description with defined responsibilities and has a training record to ensure they have the required skills, knowledge, and experience to ensure success within the job.

The plant has quality organization independent from the production organization. The quality representative has the responsibility and authority to approve or reject all raw materials, packaging components, and finished products. In addition, the quality representative participates in reviews and approval of changes within the facility's Management of Change (MOC) process.

Management Review

A Management Review is conducted at least once per year with the top management (local quality steering group). This review includes at least:

- Previous reports
- Audit reports (internal and external)
- Self-assessments (significant findings)
- Status of corrective and preventive actions, MOC, compliance tasks
- Performance results relative to business objectives and targets
- Performance results relative to quality objectives and quality policy
- Adequacy of current measurements and resources

C. Resource Management

Provision of Resources
The production facility utilizes work process, roles and responsibilities that are clearly defined. The work force includes sufficient salaried, hourly, and contract personnel to ensure the requirements of the work process and quality system are met.

Training
The production facility has an established training program that is created and facilitated by the departments to ensure that all personnel have the appropriate education, training, and experience to complete their assigned tasks. Nouryon Chemicals Finland Oy conducts a new employee orientation which includes GMP, Safety, Environmental and other topics. Frequency of other job specific training is determined by each department.
External resources are trained according to the case specific needs (e.g., type of work and work environment).

Infrastructure (Facilities and Equipment)
The production facility has an adequate number of buildings, equipment, and raw materials to manufacture, process, package, test, and store products. The buildings are in a good state of repair and all critical equipment has a preventative maintenance and cleaning schedule.

Work Environment
There is an active housekeeping and pest control program in place at the production facility to maintain the facility in an appropriately clean and sanitary condition. Both programs include written procedures that assign responsibilities and describe the methods, equipment, and materials to be used.

D. Product Realization

Planning of Product Realization
Product requirements are documented and maintained within individual product specifications. In-process and final product sampling, testing plans and test results are documented. Nouryon maintains an environmental and hygiene control program to minimize contamination.

Nouryon Chemicals Finland Oy has its own Quality Control laboratory, which tests, all critical incoming materials, in-process, and final products per Nouryon specifications according to a defined plan. External accredited laboratory services are used for some analyses (e.g., microbiological purity).

Customer-Related Processes
Each product manufactured by Nouryon Chemicals Finland Oy has a written, controlled product specification that is adhered to.

Nouryon Chemicals Finland Oy Äänekoski maintains documentation of all customer feedback and complaints. Each reported issue is investigated, and a report of the investigation and corrective actions taken is made available to the customer.

Purchasing
The production facility has documented supplier management program in place to ensure that raw materials, packaging materials and services meet defined requirements. Raw material specifications are documented. Raw materials and packaging materials are evaluated and verified prior to approval for use by quality and the production representatives. Supplier qualification and assessment procedures are in place and performance of each supplier is monitored and risk assessed on regular basis.

Production and Maintenance Operations
Nouryon Chemicals Finland Oy has outfitted the manufacturing facility with equipment suitable to its purpose, constructed and installed in such a way as to minimize the possibility of contamination of the product from the equipment, operators, or the environment. The equipment is maintained according to written procedures. The manufacturing process and facility have been designed to minimize the possibility of cross-contamination.

Preventive maintenance is performed on equipment identified as critical to the product quality and safety.

Cleaning procedures are in place for use after maintenance activities, shutdown activities, and after product campaign changes.

There is traceability forward from the raw materials through to the final batch and backward from final batches through to the raw materials. Final batches are assigned a unique batch number. Production records are in place for each product and detailed batch records are created for each final batch. In-process and final product sampling and testing plans are in place to ensure appropriate monitoring of defined critical process and product parameters occurs within each unit operation of the production process. The production is responsible for reviewing the initial batch data and the Quality department is responsible for reviewing the homogenized lot data. Any out-of-specification result is documented and investigated according to a written procedure. Documented procedures are in place to prevent mix-ups during packaging and labeling. Retain samples are collected from each batch and maintained at least one year past the expiry date. Expiry date of product is indicated in the product specification and is based on appropriate stability testing.

All packaging materials are purchased according to documented specifications and are visually inspected prior to use. Our product packaging is selected to ensure that it provides adequate protection without interacting with or contaminating the product. All packaged products follow weight control standards in accordance with standards. Finished products are stored in appropriate conditions to ensure the quality of the product is not compromised.

Control of Measuring and Monitoring Devices
All quality critical equipment and instrumentation are on a documented schedule for calibration and maintenance. The schedule is established by considering such things as manufacturer's recommendation, experience, nature of the process, or other pertinent factors. Non-routine maintenance activities are also scheduled when specific problems such as leaks, known or suspected equipment failure, or visual inspections show a need.

Product Crisis Management
In addition, Nouryon Integrated Supply Chain has a documented Product Recall process which has been put into place to ensure consistent management of all product-related quality and food safety incidents, which could lead to a potential crisis that may involve a recall, market withdrawal or stock recovery. There is a procedure to assist manufacturing facilities in the event of a product related crisis so that is handled in an efficient and effective manner. Nouryon’s Product Recall Procedure focus on preventing harm to consumers, preserving customer confidence in Nouryon, and removing recalled products from the market as quickly and efficiently as possible.

Nouryon Chemicals Finland Oy performs simulated product recall exercises to verify the effectiveness of traceability and drive improvement in the execution of the process.

E. Measurement, Analysis, and Improvement

General
The performance of key process and product metrics throughout the production facility are monitored daily to determine if proceedings are warranted.

Measurement and Monitoring
To ensure customer satisfaction, customer complaints, returns and feedback are routinely reviewed to provide areas for consistency. The production facility conducts internal audits at planned intervals to ensure that it conforms to the

requirements of the standards. The responsibilities and requirements for planning and conducting audits, and for reporting results and maintaining records are defined in a documented procedure.

In addition to our internal assessments and audits, we are regularly audited by external certification bodies.
Audit results are communicated to management on a routine basis as well as during the Management System Review.
Corrective actions are entered in a tracking database to ensure documentation of root cause, follow-up, and verification of effectiveness.

The facility has a comprehensive analytical sample and testing plan. Test methods are either industry standard or developed within Nouryon Chemicals Finland Oy and are validated to ensure adequate precision and accuracy for the intended use. Nouryon Chemicals Finland Oy provides certificates of analysis with each batch of product on customer request.

Control of Nonconforming Product
Any raw material, intermediate or finished product found not to meet its specification is clearly identified and segregated to prevent inadvertent use or release for sale. Records of nonconforming products are maintained and all incidences of nonconformance are investigated to identify the root cause. Investigations are documented and corrective actions are taken to prevent recurrence of the problem. Furthermore, non-conforming products are blocked for allocation to orders in the ERP (Enterprise Resource Planning) system, SAP (Systems, Applications, and Products in Data Processing).

Analysis of Data
Nouryon Chemicals Finland Oy uses data derived from customer complaints, product reviews, process capability studies, internal audits and audits by customers for evaluating the effectiveness of its quality systems to identify opportunities for improvement.

First Pass Success Rate (FPSR) from line data is monitored because this is the first indication if the initial reaction has gone well. All other downstream activity is under more frequent or constant monitoring with idea to re-adjust in an as early possible stadium of the process.

Improvement
A documented corrective and preventive action procedure is in place at the production facility which ensures that issues such as product nonconformities, the manufacturing process and associated work processes, customer complaints and problems with the quality system itself are investigated in a timely manner to determine root cause and appropriate follow-up actions.