

## DeniSafe® system certification

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**To:** Metod Makina San. Ve Tic. Ltd. Sti, Oruç Reis Mh. Vadi Cd. Giyimkent Sitesi 5.Sk. No:28-30  
Atışalanı-Esenler İstanbul / TURKEY

**From:** Novozymes A/S, Denmark

**Date:** 10/01/2020

### **Certification of Metod Makina's system Magic Box for use as a DeniSafe® certified system for use with DeniSafe® certified enzymes for denim wet processing.**

#### **Executive Summary**

Novozymes' development of unique, low temperature and low water effective enzymes has made it feasible to introduce innovative, highly effective processes for Denim washing with significant water savings and sustainability benefits.

Novozymes has done an evaluation of Metod Makina's Magic Box for spray application in closed washing machines, by evaluating product documentation, installation and laundry procedures and air measurements for enzyme exposure. It is found that Metod Makina with this installation and documentation meets all the recommendations given by Novozymes safety department for use of enzymes in low water spray machines.

Novozymes therefor accept that our formulators which have "DeniSafe®" verified enzyme products can sell to laundries with such installations from Metod Makina.

Metod Makina agrees to ensure safe use of their machine acc. to Novozymes' requirements as well as their own know-how in the area, to mandate use of DeniSafe® verified enzyme products, to promote their machine as DeniSafe® verified using the brand and logo from Novozymes in their product literature, and on their machines, by signing this co-branding agreement.

Regardless of the results of the "DeniSafe® verification" performed by Novozymes it remains the responsibility of Metod Makina and their customers to ensure safe operation and use of the equipment with any chemicals as well as enzymes (see disclaimer for details).

Novozymes verification is done for Novozymes' and Novozymes' channels partners to accept sales of enzymes for the above-mentioned equipment.



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### A. Verification of Metod Makina's Magic Box system installation – requirements from Novozymes

To verify that Metod Makina's Magic Box system meets Novozymes' requirements, Novozymes has reviewed the system and its operation and documentation and found the enzyme exposure levels by air sampling to be below the 40 ng/m<sup>3</sup> air acceptance level (details can be found in separate report).

#### Requirements:

1. Metod Makina's Magic Box system, i.e. the Magic Box spray system and the washing machine it is installed on, has filter on the air outlet(s) (HEPA 14 specification) and water lock on drain(s) and must be leakproof around door and dosing equipment seals and proven airtight during operation by doing a leak test with colored liquid.
2. Metod Makina has established an Instruction Manual (to be appended in Appendix A) specifying the requirements of Metod Makina and their customers for training, inspections and safe use and maintenance of the equipment and these meets Novozymes' guidelines. These guidelines include Novozymes' guidelines for Personal Protection Equipment (PPE). PPE should be used near the open washing machine for 20 minutes after spray treatment.
3. Novozymes general recommendations for safe application and use of enzymes are shared with the customer of Metod Makina (see section B).
4. Metod Makina should provide specific safety guidelines for using the machine with enzymes. Such guidelines should as a minimum include:
  - Safety inspection for leaks before use and at regular intervals during use (at least semi-annually)
  - A description from the equipment manufacturer on how to use the equipment for enzyme spraying
  - Inform the laundry that only RTU enzymes certified by Novozymes can be used for the spray/fog application. Communicate and suggest channel partner company names with certified RTU products.
  - A step after enzyme application controlled by the software to remove any airborne aerosols, to minimize enzyme exposure (rinse, vacuum or similar)
  - The ability to block the opening of the door at least 2 min after a rinse step has been performed to eliminate any remaining aerosols in the air above the liquid/fabric interface. If this is not controlled by the machine it must be controlled via operating procedures and adequate staff training which must be documented



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### B. General recommendations for safe application and use of enzymes

- Novozymes generally recommend respiratory protective equipment (PPE; at least P3/N100 mask) when there is a risk of inhalation of airborne enzyme via droplets or dust at levels above the prescribed TLV of 60 ng EP/m<sup>3</sup> for peak values or if the exposure level is unknown, especially during:
  - ✓ open enzyme handling
  - ✓ cleaning and maintenance of production equipment in contact with enzymes
  - ✓ maintenance, repair and cleaning around production equipment where enzymes are used
- PPE must be used if visible spillage is present
- PPE must be used during all cleaning and maintenance/repair in enzyme handling areas
- Spilled enzyme must be removed immediately using a soft water hose (no high-pressure air or water)
- Written procedures are recommended for cleaning of spilled enzyme products
- Test of employees for sensitization/allergy should be considered if allergy symptoms are observed among the workers. Please contact your enzyme supplier.

#### NOVOZYMES CERTIFICATION COMMITTEE

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#### **Validity of DeniSafe® certificate:**

This certificate is valid from 01/01/2020 until 31/12/2020.

All previous certificates regarding the above products are considered null and void.

#### **Disclaimer:**

Laws, regulations and/or third-party rights may prevent customers from importing, using, processing and/or reselling the products described herein in a given manner. Without separate, written agreement between the customer and Novozymes to



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such effect, this document does not constitute a representation or warranty of any kind and is subject to change without further notice.

Novozymes performs various work environment tests to assist customers in mitigating the risk that employees may develop enzyme allergy when handling Novozymes enzyme products. Such tests can be analysis of air-sampling filters or tests of surface contamination.

Tests are performed diligently and will normally provide good guidance for the customer in evaluating the relative safety of the work environment. However, the tests have limitations and the peak value of enzyme exposure may not be captured because it will be instant, individual measurements influenced by a number of factors, e.g. humidity, placement and orientation of air filters, selection of surfaces, room ventilation and different work behaviours and more.

The tests are only provided as an indication of the typical air and surface contamination levels to assist the customer in making informed decisions about safe handling of Novozymes enzyme products. Since the conditions of actual use are beyond the control of Novozymes, it is the sole responsibility of the customer to determine the appropriate safety level and make sure that relevant staff is given adequate handling instructions. The accuracy or completeness of test results and any recommendations or suggestions are made without any warranty or guarantee.



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### Appendix A – Metod Makina's system Magic Box Instructions Manual



Magic Box -  
Instructions Manual

CERTIFICATE



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