



MapleSolutions

3019 Lake Road, Dollard Des Ormeaux, QC, H9B 2R3 Canada - Tel : 1 (514) 472 0094 www.maplechemicals.com

TECHNICAL BULLETIN

STATEMENT OF USE

MA-ZYME CA is a unique cellulase enzyme which converts cellulosic fibers (i.e.: cotton or rayon) to glucose, cellobiose, and other glucose polymer, or lower molecular weight than cellulose. **MA-ZYME CA** is an acid stable form of cellulase and is most efficient at a pH of 4.5 to 5.0 and at temperatures of 130-135°F..

TYPICAL PROPERTIES

Appearance	Amber to Brown, Clear Liquid
Odor	Slight fermentation odor
pH Neat	4.2 – 4.8
Density, lb/gal	~10

Goods to be pretreated or reworked for pilling problems should be loaded into a garment washer, beck or jet with MATERGE AP or suitable wetter/penetrants. After loading the machine, the pH should be adjusted with acetic acid or a sodium acetate/acetic acid buffer (ie: Hipochem Buffer-50) to a pH of 4.5 - 5.5. The machine should be **preheated** to 135°F and allowed to equilibrate before adding **MA-ZYME CA**. Do heat machine after addition of enzyme. The hot spot that can occur during heating will deactivate enzyme that will cause it not to perform or perform erratically. If the **MA-ZYME CA** is to be pre-diluted before pumping into the machine, the bath should also be buffered to the proper pH range before adding the **MA-ZYME CA**.

Machine settings should be as follows:

Liquor ratio as low as possible; High reel speeds; Jet flow as high as possible or garment equipment with good agitation

I. Process Conditions:	MATERGE AP	1 - 2% owg
	Buffer to control pH 4.0 – 5.0)	2 - 4% owg
	MA-ZYME CA	1 - 4% owg
	Temperature	135°F (maximum)
	Reaction Time	20 - 90 mins.
	pH	4.5 - 5.5

The condition of the fabric, the desired final effects, and the type of processing equipment will determine the best combination of time and concentrations.

II. Deactivation: **MA-ZYME CA** can be inactivated by raising pH above 8.0 or raising temperature above 160°F. (71 °C), or a combination of the above. After the desired effect has been achieved, we recommend inactivating **MA-ZYME CA** within the next operating bath.

Caution: The pH and temperature should not be changed from the above conditions during storage or use, as these are critical to optimum performance of the cellulase. If the cellulase is exposed to conditions outside its recommended use range, the enzyme may become deactivated in which case it will not perform or may perform erratically. Excessive damage to fabrics or garments may also occur if the cellulase is used incorrectly. If questions arise, consult Boehme Filatex technical personnel before using.

STORAGE CONDITIONS/ACTIVITY

MA-ZYME CA may lose approx. 5% of its activity after four months when stored at 78°F (25°C) out of direct sunlight and in the original, closed container; however, if stored at 104°F (40°C), **MA-ZYME CA** may lose up to 5% of its activity in one month. Obviously it should be stored in as cool an area as is available. Do not let **MA-ZYME CA** freeze.

DISCLAIMER:

- **MA-ZYME CA** is not recommended for use on fabric containing Tencel®
- **MA-ZYME CA** is for use in specialty denim processing in combination with pumice stones. (Not for animal or human consumption).
- The recommended processing procedure herein is for reference and do not represent an endorsed method of processing.



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- The user has the responsibility to ascertain that the levels of use and the conditions that are used are safe to use on the specific fabric being processed.

PHYSIOLOGICAL DATA

For Industrial Use Only: The usual precautions in keeping chemicals from the eyes and skin and avoiding ingestion and prolonged inhalation of vapors and airborne particulate matter should be observed.

While every care has been taken to ensure the accuracy of the information contained in this publication, no warranty or liability will be accepted as the conditions of usage are beyond our control. Product specifications can be provided upon request.

Our Technical Sales Department is available to assist customers in preparing formulae and procedures to suit their specific requirements. Production trials are recommended to determine effectiveness. Process information submitted by our customers will be treated in confidence.