



# MilkSafe™ App and Portable Reader

User Manual

**CHR HANSEN**

*Improving food & health*

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## Introduction

### Intended use

The MilkSafe® Portable Reader (referred to as “the Reader”) is used for digital interpretation of MilkSafe® Rapid Tests for antibiotic residues in milk together with the MilkSafe™ App and MilkSafe™ Cloud for data traceability and transparency.

### Materials included

- › Portable Reader
- › Cartridge
- › A CR2 3V lithium battery (not supplied by Chr. Hansen additionally)

## Warranty

The MilkSafe® Portable Reader is covered by a warranty for one year against defects in materials and workmanship. This period begins from the date of first delivery, and within this period readers will be repaired or replaced as decided by Chr. Hansen A/S.

The warranty does not cover defects caused by excessive wear and tear or damage due to shipping, accident, abuse, misuse, problems with electrical power, or usage not in accordance with product instructions, if other than original spare parts supplied by the manufacturer have been used or if repairs or alterations have been performed by anyone else than the manufacturer or agents approved by the manufacturer. The warranty does not cover removable parts (such as cartridges for the test strips) or consumables. The battery included is not covered by the warranty and Chr. Hansen does not carry any responsibility of use.

## Main features of the app

### Run Test

When selecting the **Run test** button in the app, the user will be asked to connect to the Reader via Bluetooth. After connecting to the Reader, the user will be able to select a test and analyze the results thereof.

## Test Records

**Test Records** in the app allow the user to view the previous test results. Each test record can be reviewed in simple and detailed view which gives the user access to; date, type of test, overall test result, test result per antibiotic group and status of synchronization with the MilkSafe™ Cloud.

Furthermore, test records can be shared by mail directly from the menu by using the share functionality.

## Settings

**Settings** located on the home page in the app enables the user to configure the language settings of the app.

## Safety precautions

### Ambient conditions

- › Temperature range: 5 to 70°C / 41 to 158°F
- › Humidity: Max 80%
- › The Reader should be protected from humidity, including water splashes.
- › The Reader can be operated up to 2,000 m altitude.

### Power supply

The instrument is powered by a CR2 3V lithium battery. The battery should be removed when the Reader is not in use for any longer period. The Reader will automatically turn off after 7 minutes without activity if the battery is not removed and the cartridge remains inserted. Turn the reader on again by reinserting the cartridge.

When connecting to a Reader in the app and the battery power is at 10% or below a screen will notify you to replace it. It is recommended to change the battery upon notification to avoid running out of power.

## Getting started

### Setting up the Reader

- ◆ Unpack the Reader carefully and check that all parts are present:
  - › Reader
  - › Cartridge
  - › One CR2 3V lithium battery
- ◆ Insert the battery with the + upward. The Reader is now ready for use (the Reader will only turn on when the test cartridge is inserted).

### Setting up the App

- ◆ Download the MilkSafe™ app from App Store or Google Play.
- ◆ Sign in with the username and password provided by your MilkSafe™ Administrator\*, select Continue without login if you do not have an account or select the ? in the upper right corner to find help.

## Reader Operation

In the following paragraph, the steps to read a test strip is described. Please note that the procedure below is not a complete description of all the steps in the test procedure. Please confer with the respective test kit manual for an elaborate test procedure.

### Performing a test

- 1 Run a test according to the specific product insert.
- 2 Remove the sample pad from the test strip after incubation.
- 3 Open the App and sign in or Continue without login. *Please note that results are only stored and synchronized with the MilkSafe™ Cloud when you are signed in.*
- 4 Select **Run Test**.
- 5 Insert the cartridge into the Portable Reader. The window in the cartridge must face towards the LED light. The LED light on the Reader will turn on.
- 6 Connect to the Reader via Bluetooth by selecting the serial number corresponding to the one on the back of the Reader and press **Confirm**.

\*Administrator: an internal person managing the MilkSafe™ Cloud

- 7 Enter relevant test information such as route number / sample id info and press **Continue**.
- 8 Insert the test strip into the test cartridge so the red lines face towards the cartridge window. **Make sure that the test strip is inserted all the way into the cartridge. If it is not, the reading result may be incorrect.**
- 9 Select the relevant test type and press **Confirm**.
- 10 Press the button to begin the analysis. Wait for the analysis to be completed and read the results. See the section about Reading Test Results for interpretation guidance. OPTIONAL: Add photo documentation as a part of the test.

### Reading the Test Results

Positive results are shown in **red** and with a **+** after the substance line. Negative results are shown in **green** and with a **-** after the substance line.

The numbers given after the substance in the results screen represent the line ratio: the intensity of the test line divided by the intensity of the control line.

Ratio < 0.9:        **Positive**

Ratio 0.9 – 1.1:    Weak positive

Ratio >1.1:        **Negative**

### Verification procedure

Verify the accuracy of the measurements performed with the MilkSafe™ Portable Reader by reading standard strips. The standard strips with 4 lines can be used to verify the results of MilkSafe™ 2BC while standard strips with 5 lines can be used to verify the results of MilkSafe™ 3BTC, 3BTS and 4BTSC.

- 1 Select the standard strip corresponding to the test you are using.
- 2 Complete step 3 through 10 in section Performing a test with the standard strip. The strip is ready for use.
- 3 The obtained ratios for each substance line should be  $1.0 \pm 0.1$ . If the ratios exceed  $1.0 \pm 0.2$ , perform the reading again. If the ratios again exceed  $1.0 \pm 0.2$ , please contact your local Chr. Hansen representative.

## Updates

### App

App updates happen automatically through Apple AppStore and Google Play when available.

## Maintenance Notes

### Cleaning of the Reader

It is recommended to clean the Reader on a regular basis. If you use the Reader in a working area that is subject to dust or contamination, you should clean the Reader more often. Use a dry cloth to clean the Reader. If the contamination is persistent, you can also rub the surface of the Reader with a cloth that has been moisturized with 75% alcohol (isopropanol or ethanol). Do not use aggressive cleaning agents such as acetone. If the inside of the Reader is contaminated, please contact your supplier for technical assistance.

The cartridge should be cleaned with 75% isopropanol or ethanol regularly to avoid clogging.

### Service and repairs

For all service or repair needed beyond the change of battery, please contact your supplier for assistance. Attempts to open or repair the Reader beyond the battery port by any non-authorized personnel will void the warranty.



## Troubleshooting


Issue	Cause	Action
LED light not lit/Bluetooth cannot find the reader	<ul style="list-style-type: none"> <li>› Test cartridge not properly inserted</li> <li>› Low or exhausted battery</li> <li>› LED light or hardware failure</li> </ul>	<ul style="list-style-type: none"> <li>› Reinsert test cartridge</li> <li>› Change the battery</li> <li>› Contact your local Chr. Hansen Sales representative</li> </ul>
Unable to read the test strip	<ul style="list-style-type: none"> <li>› Test strip not correctly inserted/Sample pad not removed</li> <li>› Direction and position of the test cartridge</li> </ul>	<ul style="list-style-type: none"> <li>› Check and adjust the position of the test strip/remove sample pad and reinsert the test strip</li> <li>› Check the direction and position the test cartridge</li> </ul>


## Experts for the dairy industry

Chr. Hansen believes in improving the quality of food and health. We believe the best results are achieved when working closely with you.

Our experienced application and industry specialists provide you with the knowledge, inspiration, support, and customized solutions you need to be successful.

Contact your local Chr. Hansen representative to learn more about how we can work together to find the perfect solution for you.

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