



**DRINKING PLEASURE ENERGIZED BY**

**LANXESS**  
Energizing Chemistry

Velcorin® technology is a cold sterilization agent that provides protection against micro-organisms that could spoil the drink and also maintains the natural flavour.

**X Velcorin®**

## **YOUR CHALLENGES** **OUR TECHNOLOGY**

As a manufacturer in the beverage industry, you are faced with increasingly tough challenges. On the one hand, new types of drinks (e.g., with added health benefits) always have to be developed, while still maintaining high production standards and ensuring that drinks are protected from spoiling.

Micro-organisms that can spoil drinks, such as yeasts, moulds and bacteria do not just affect the quality and particularly the organoleptic characteristics of the drink, but can in certain circumstances endanger the health of consumers.

Micro-organisms are everywhere when bottling beverages – in the ambient air, production plants, caps and the drinks themselves. As the manufacturer, you can choose between a variety of different methods to stabilise your drinks, whereby cold sterilisation with Velcorin® has prevailed and successfully established itself as one of the top technologies.

## **CONVINCING PROTECTION** **REAL FLAVOUR**

Velcorin® (dimethyldicarbonate/DMDC) is already highly effective at a low dosage against typical micro-organisms that can spoil drinks, it guarantees a supple flavour and is simple to use.

### **Your benefits from Velcorin®:**

- Highly effective against micro-organisms
- Neutral flavour
- Cost-effective
- Compatible with all types of packaging
- Application-specific advice and services

## **BROAD RANGE OF** **APPLICATIONS**

- **Carbonated & still juice drinks**
- **Isotonic sports beverages**
- **Iced teas**
- **Flavoured water**
- **Wine**



# UNCOMPROMISING AGAINST MICRO-ORGANISMS

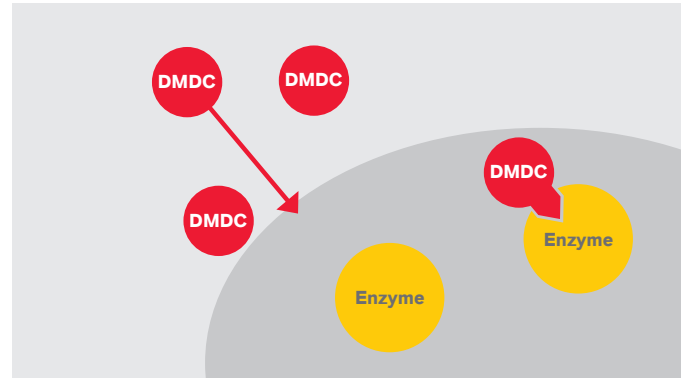
Velcorin® is added during the production of the beverage. Even at low concentrations, Velcorin® is very effective against typical micro-organisms such as yeast, bacteria and moulds.

## How does Velcorin® work?

Velcorin® penetrates the cell and deactivates enzymes, leading to the destruction of the micro-organisms.

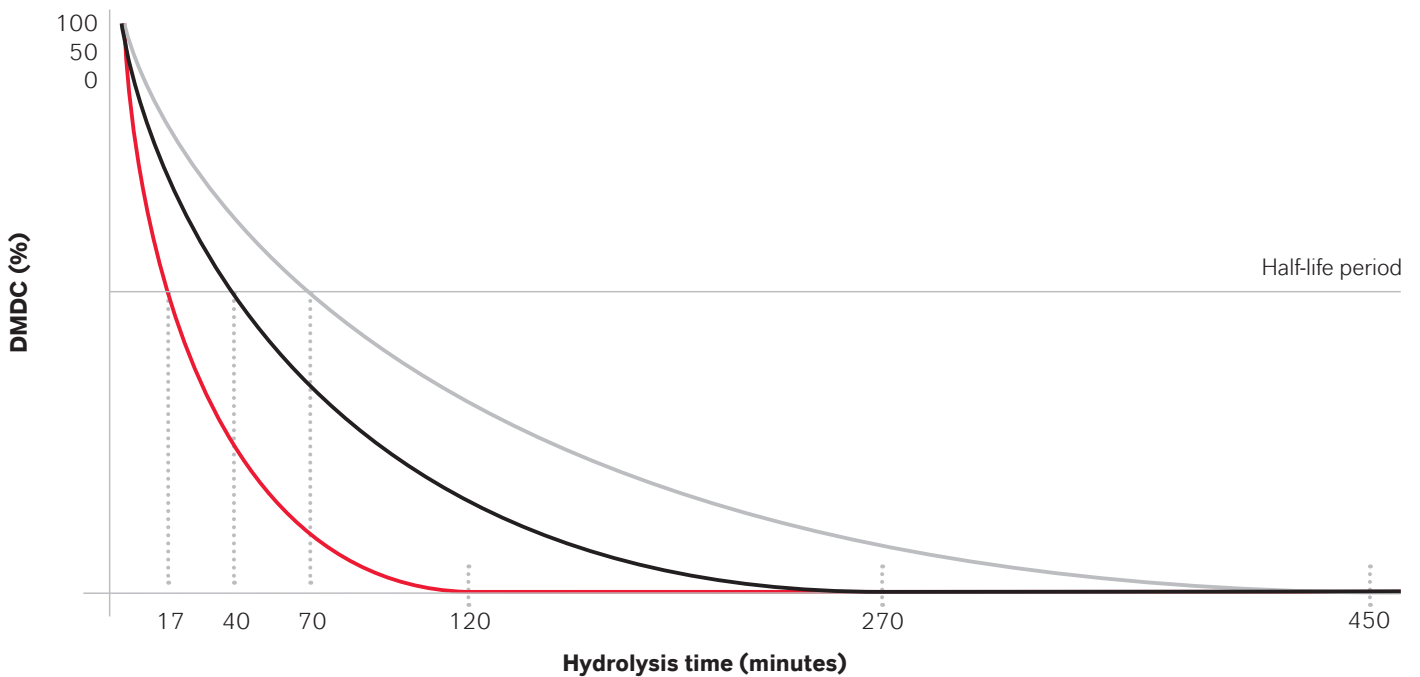
Once added to the beverage, Velcorin® rapidly breaks down into negligible amounts of methanol and carbon dioxide, naturally occurring compounds in many beverages such as fruit and vegetable juices and wines. Consequently, it has no effect on the taste, smell or colour of the beverage.

## A simplified illustration of how DMDC works



| What is Velcorin®?    |                            |
|-----------------------|----------------------------|
| Composition           | Dimethyldicarbonate (DMDC) |
| DMDC (pot. titration) | at least 99.8%             |

## Breakdown (hydrolysis) of Velcorin® in beverages

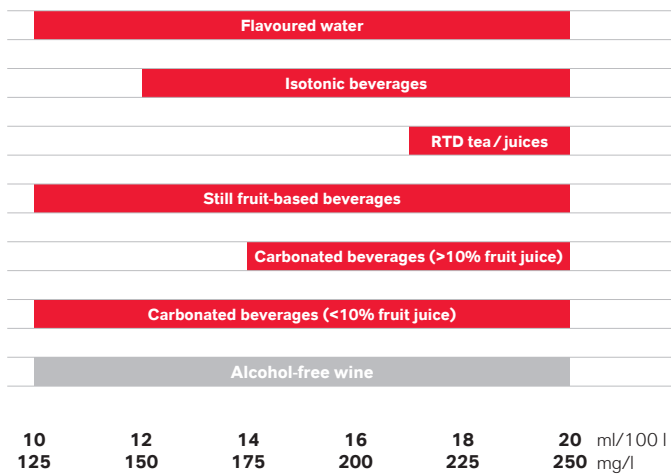


■ 20°C   ■ 10°C   ■ 4°C

# VELCORIN® – HAS A WORTHWHILE EFFECT

It is clear, that consumers are always on the look out for new and authentic flavours. It is easy to see why you can fully rely on Velcorin® during the filling process, if you place particular importance on the product quality and authentic taste of your soft drinks.

## Standard dosing



## Exposure data on micro-organisms

Minimum lethal concentrations of Velcorin®; populations of up to 500 cfu/ml

|                                  | Velcorin® mg/l |
|----------------------------------|----------------|
| <b>Yeasts</b>                    |                |
| <i>Candida krusei</i>            | 100-200        |
| <i>Endomyces lactis</i>          | 50-100         |
| <i>Hansenula anomala</i>         | 25-50          |
| <i>Kloeckera apiculata</i>       | 25-50          |
| <i>Rhodotorula rubra</i>         | 50-200         |
| <i>Saccharomyces cerevisiae</i>  | 25-100         |
| <i>Saccharomyces diastaticus</i> | 50-200         |
| <i>Saccharomyces globosum</i>    | 25-50          |
| <i>Zygosaccharomyces bailii</i>  | 50-150         |
| <b>Moulds</b>                    |                |
| <i>Aureobasidium pullulans</i>   | 150-250        |
| <i>Byssochlamis fulva</i>        | 100-150        |
| <i>Penicillium glaucum</i>       | 150-200        |
| <b>Bacteria</b>                  |                |
| <i>Acetobacter pasteurianus</i>  | 50-100         |
| <i>Lactobacillus brevis</i>      | 150-200        |

## USED AROUND THE WORLD

The use of Velcorin® is approved for a wide range of different beverages around the world. Beverage manufacturers are responsible for ensuring that they meet all local legal requirements, including compliance for import/export activities. Prominent bodies, such as the EU Scientific Committee on Food, the FDA in the United States and the JECFA of the WHO, have all confirmed that dimethyldicarbonate is safe for use in the beverage industry. The production of Velcorin® is certified according to ISO 9001:2000 and ISO 14001:2005. Velcorin® is also certified to meet Halal & Kosher requirements.



## VELCORIN® DT TOUCH – DOSING TECHNOLOGY

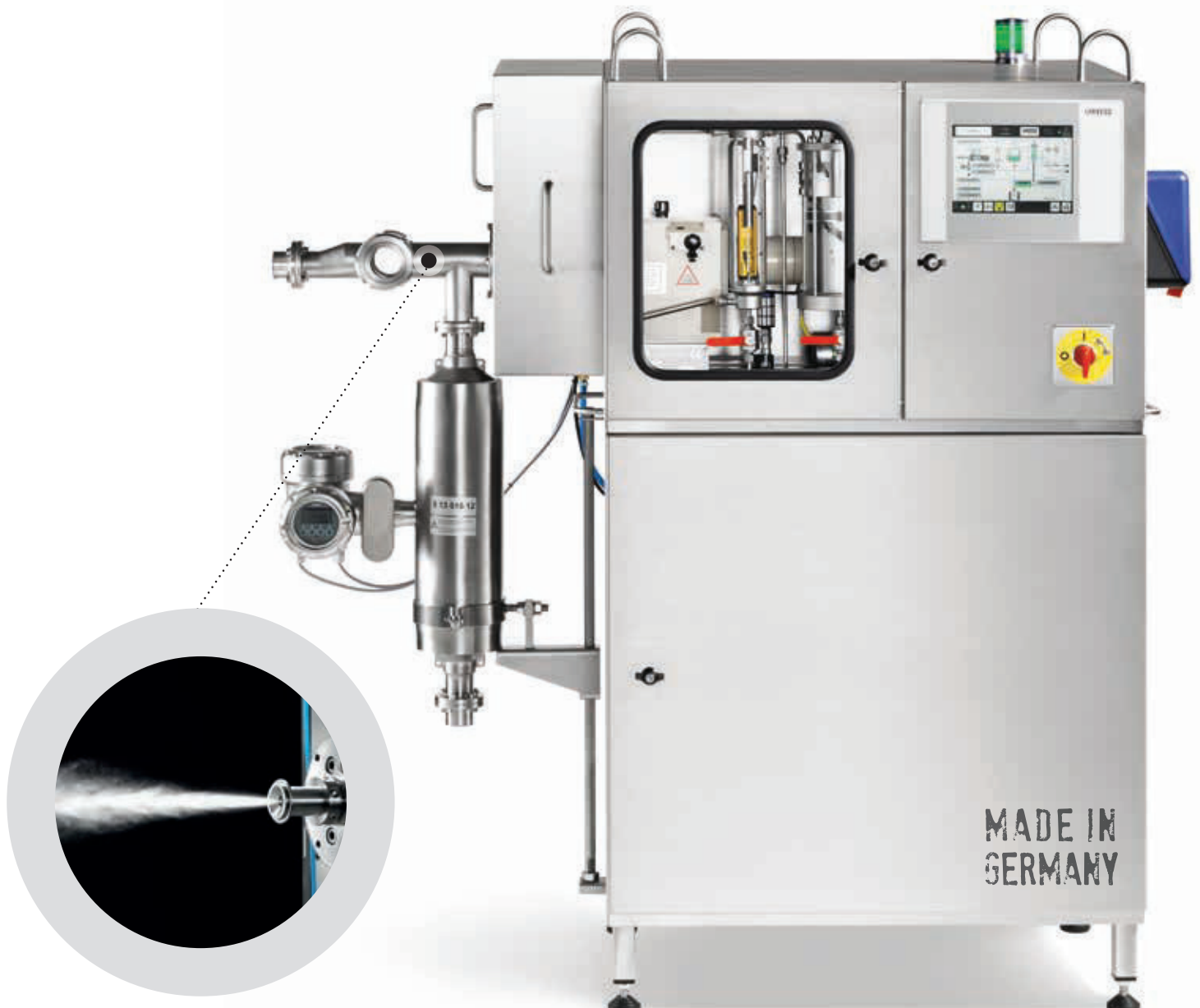
With Velcorin® we not only offer you a highly effective solution for the cold sterilisation of your beverage, but also provide a complete range of services with our state-of-the-art Velcorin® dosing units.

### Features of Velcorin® DT Touch:

- High-quality and robust metering pump with monitorable dosing
- Temperature-controlled, stainless steel upper and lower cabinets containing 25 kg or 3 kg bottles
- Control and visualisation via touch panel PC
- Excellent dispersion of Velcorin®
- Beverage flow rate measured by the mass measuring device
- Automatic ventilation on the Velcorin® side
- Easy and safe operation

### Control and visualisation of dosing process

- Included in the electronic control system of the filling line
- Automatic display of messages, warnings and maintenance intervals
- System visualisation in a dynamic flow chart
- Clear overview of the target and actual values
- Data storage for the last 24 months
- Data transfer via USB
- Various operator levels/access rights





The Velcorin® dosing pump is installed in new or existing filling lines. Only minor modifications to the filling line are required for this purpose.

## Sizes

| Model range | Min. beverage flow rate l/h | Max. beverage flow rate l/h | Max. Metering rate ml/hl | Connections in DN |
|-------------|-----------------------------|-----------------------------|--------------------------|-------------------|
| DT 3 Touch  | 600                         | 3,600                       | 20                       | 40                |
| DT 6 Touch  | 1,200                       | 7,200                       | 20                       | 40                |
| DT 13 Touch | 2,400                       | 14,400                      | 20                       | 50                |
| DT 18 Touch | 3,600                       | 21,600                      | 20                       | 50                |
| DT 30 Touch | 6,000                       | 36,000                      | 20                       | 50                |
| DT 50 Touch | 8,400                       | 50,400                      | 20                       | 80                |
| DT 75 Touch | 13,200                      | 79,200                      | 20                       | 80                |

\*Maximum permissible dosing rate depends on the product and country registration.

## ALWAYS ON HAND

You too can benefit from a reliable and competent partner – LANXESS. Wherever you are and whenever you need us, our specialists are always on hand to provide detailed advice and comprehensive support for everything relating to the use of Velcorin®:

- Advice on the use of Velcorin® and Velcorin® DT Touch
- Support in laboratory and production testing
- Employee training
- Comprehensive registration management

**What can we do for you? We look forward to each new challenge – and our next conversation with you!**

[www.velcorin.com](http://www.velcorin.com)





The application, use and handling of our products and the products produced by your company on the basis of our application-specific advice are beyond our control and are therefore entirely your own responsibility. Our products are sold in compliance with the appropriate current version of our general sales and delivery terms. According to EU guidelines, Velcorin® is a hazardous substance with the following hazard characteristics: a health hazard (when ingested), poisonous (when inhaled), caustic.

All of the brands are protected brands of the LANXESS Group, unless specified otherwise.

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