

# Technical Data Sheet

## Cap-off Additives – CA210.2 and CA340.2 Concentrate for Permanent Ink

These long-standing and well-established cap-off additives (CA) allow for alcohol-based permanent markers to be left uncapped for days, if not weeks\*. They work by forming a soft skin on the surface of the marker nib, which slows down evaporation of the solvent and prevents the marker from drying out. When the marker is written out, the skin is removed by friction and then the ink flows normally again. Compatible with most alcohol-based permanent inks, our additives are compatible with ethanol, n-propanol and iso-propanol. Please avoid the use of protic solvents (such as benzyl alcohol), inks containing nigrosine, fluorinated surfactants and high resin contents, as these materials can impede cap-off additive performance.

\*formulation dependent

CA Additive	Appearance	Upper Effective Temperature	Recommended Addition Level
○ CA210.2	Pale straw coloured oily wax	25°C	1 to 2%
○ CA340.2 concentrate	Pale straw coloured oily wax	35°C	0.5 to 1%

### ● Instructions for Use

CA additives must be thoroughly dispersed into the ink to achieve optimum cap-off performance.

We recommend conducting trials with different percentages of additive to determine the optimal level for a given ink system. A high shear or emulsifying mixer should be used to ensure complete dispersion of the additive. Mixing should continue until the ink reaches a temperature of 40°C. This is to ensure that the waxes have melted into the ink solution and are uniformly dispersed.

Once the additive is dispersed in the ink, it is recommended to assemble the ink into marker pens. If pens are not immediately assembled, at colder temperatures, the additive can precipitate out of the ink. If this occurs, allow the ink to warm back up to room temperature, which should see the waxes go back into solution. If the additive does not fully disperse after this, then the mixing procedure described above should be repeated.

### ● Shelf Life

The shelf life of CA additives is 12 months from receipt when stored in the original sealed containers.

**Caution:** For more information, please refer to the Material Safety Data Sheet.

✉ For further information please email [lab@multichem.net](mailto:lab@multichem.net)

**Disclaimer:** It is your responsibility as the writing instrument manufacturer to establish the overall safety and fitness for purpose of the marker components incorporating our inks and to establish overall compliance to regulations and legislation related to the industry. All marker pen components should be thoroughly tested by you for compatibility with our inks. Multichem makes no guarantees (either express or implied) with respect to this technical data or our advice regarding component selection. Multichem will not accept any liability for any loss arising in connection with this technical data or the recommendations expressed within (other than that resulting from our gross negligence). Please contact your component suppliers for more specific advice regarding component suitability and selection. The information contained within this technical data sheet is not exhaustive and you should verify the performance of your final product.