CElixir-SDS ™ Solutions Storage.

DO NOT REFRIGERATE CElixir-SDS Solutions.
CElixir-SDS™ Solutions should be capped immediately after use and stored at room temperature
(18°C to 26°C).

Support.

For technical support or customer service contact:
MicroSolv Technology Corporation
1 Industrial Way West, Bldg E
Eatontown, NJ 07724
Phone: 1-732-578-1777
Fax: 1-732-578-9777
Email: info@mtc-usa.com
www.mtc-usa.com

Technical Information

Initiator Solution:	pH 9.2, Borate Buffer
Accelerator Solution:	pH 9.2, SDS 50mM/Borate 12.5mM
Diluent:	pH 9.2, SDS 5mM/Borate 1.25mM

Re-ordering Information:

Catalog No.	Description
06200-75	3ml of Initiator Solution (A) and 90ml of Accelerator Solution (B), 90ml of Diluent Solution. This kit is designed for 200 test runs

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CElixirSDS™
NEUTRAL COMPOUNDS

Operating and Instruction Manual

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Eatontown, NJ 07724 USA
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www.MTC-USA.com

CElixir-SDS™

Kits for Neutral and Charged Molecules by CE

Instructions for use.

Background Information on Method

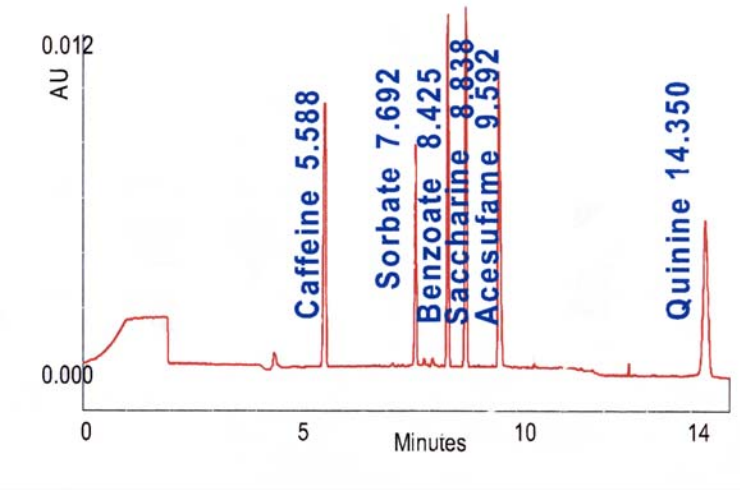
Intent of Use:

This allows the separation of neutral and charge molecules by using Capillary Electrophoresis (MEKC). The CElixir-SDS™ buffers and solutions are pre-made and easy to use.

Dynamic Coating for Reproducibility:

CElixir-SDS™ uses a dynamic coating principle which means for each run, the capillary wall is treated to produce a very precise EOF. A sample test mixture is recommended as an internal standard to measure relative migration since migration times can vary from day to day.

Analis Patent No. 5,611,903



Sample Electropherogram:

The individual vials can be reused for up to 10 (ten) runs. DO NOT REFILL the vials…dispose of used vials when reagents and buffers need replenishment.

Migration Times.

Migration time can vary between days and between capillaries, therefore it is recommended to use an internal standard and use relative migration times.

Re-use of Capillary.

Do not use the capillary for any other separations other than CElixir-SDS™ separations once you have coated it with CElixir-SDS™ Initiator Solution.

Between runs: there is not need to make any changes between runs. After the 10th sample has been analyzed, the solutions should be replaced with new vials and caps or use “Vial Increment” for the MDQ. The start of each day, the capillary must be re-initialized. See section on “Initiate The Capillary Each Day”.

Storage of the Capillary requires a rinse with CE Grade Water with a volume equivalent to 2 column volumes (2 times the capillary length, typically 1 minute at 20 psi).

3. Repeat above for (4.0) minutes using 0.5psi pressure.
4. Rinse the capillary with CElixir-SDS Initiator Solution (A) for (1.0) minute using 20psi pressure.
5. Repeat above using 0.5psi pressure for (4.0) minutes.
6. Rinse the capillary with CElixir-SDS Accelerator Solution (B) for (1.0) minute using 20psi pressure
7. Repeat above for (4.0) minutes using 0.5psi pressure.
8. The capillary is ready to be used with the CElixir-SDS™ system.
9. The Initiator Solution (A) is used only once/day or when a new capillary is installed. Returned unused solution to a clean, inert storage container for reuse.

Method of Separation.

Follow a method specific for your CE instrument. Following is a sample separation method and the electroherogram is shown on page 7.

Temperature:	25°C
Detection Wavelength:	200 nm for CElixir-SDS™
Detection Mode:	For DAD at 200nm use 10nm Bandwidth
Polarity:	Cathodic (Normal)
Current:	25 kV

Sample Program for Coating/Injection and Separation after Capillary is Initiated. See previous section on New Capillaries.

Time	Function	Value	Duration	Inlet Vial	Outlet Vial	Comments
	Rinse	20.0 psi	1.00 min	(C1) Acceleartor	Empty (A1)	
	Injection	0.5 psi	5.0 sec	(S1)Sample	Accelerator (B1)	
	Injection	0.1 psi	10.0 sec	(D1)Water	Accelerator (B1)	Water Plug
0.0	Separation	25 kV	16 min*	(E1) Accelerator	Accelerator (B1)	Ramp
2.0	Auto Zero					
16.0*	Stop Run					
16.0*	Rinse	20.0 psi	1.00min	(F1)Accelerator	Empty (A1)	
17.0*	End					

Vials used for separation method should be replaced every ten runs (On Beckman MDQ, use “Vial Increment”).

** Time adapted to individual separation requirements. 1 psi = 0.06895 bar.*

INTRODUCTION TO CElixir-SDS™

CElixir-SDS™ enhances the analysis of small, non-charged and charged molecules by CE (MEKC). The CElixir-SDS™ kits provide a dynamic coating when applied to the surface of the capillary wall produces a stable and highly reproducible EOF. By following the simple instructions contained in this manual, it becomes very easy to separate neutral compounds and charged compounds.

Coating Definition.

The proprietary properties of the CElixir-SDS™ dynamic coating system achieves its uniform EOF characteristics by a stable bond formed between the capillary wall, the polycations in the Initiator Solution (A) and the polyanions in the Accelerator Solution (B).

Run Buffer/Background Electrolyte.

No other buffers/Background Electrolytes (BGE) are needed. The Separating Buffer, included in the kit is the run buffer/BGE. The Separating Buffer contains SDS which forms micelles.

Matched Solutions.

Each CElixir-SDS™ kit is supplied with 3ml of Initiator Solution (A) which is used only once a day or when a new capillary is used; 90ml of Accelerator Solution (B) and 90ml of Diluent . These solutions are provided with a Serial Number and must be used together as a matched set. Initiator Solutions of one kit cannot be used with the Accelerator Solutions of another kit. It is important that care is taken to use the correct matched set for reproducible results. This kit is designed to provide 150-250 tests.

Reagents and Materials.

Materials Needed to Separate Neutral/Charged Compounds

CElixir-SDS Initiator	Solution (A) Included
CElixir-SDS Accelerator	Solution (B) Included
CElixir-SDS Diluent	Solution, Included
Capillary	Bare Fused Silica, typically 75µm ID by 60cm long. Not included
CE Grade Water	Not included
Vials	Not Included
NaOH (0.1M) Solution	Not Included

Preparation:

Sample Preparation.

Depending on the concentration and solutiblity of your analytes, the sample can be diluted with any of the following: (1)CE Grade Water or in (2)CE Grade Water containing 50% Methanol or in (3) CElixir-SDS Diluent.
For example; 360ul diluent and 40ul of sample is a good starting point. The sample and the sample matrix determines which should be used. If you have any questions or are not sure which to use, contact MicroSolv's Technical Support Staff @ technical.service@micrsolvtech.com

Hydrodynamic (Pressure) Injection Technique:
You must use this injection technique with this kit.

Electrokinetic (Current) Injection Technique:
When using this technique, Electrokinetic Injection cannot be used.

Run Buffer and CElixir-SDS™ Solutions.

The solutions provided in the CElixir-SDS™ kits are ready to use and require no further preparation. CElixir-SDS™ kits do not operate correctly with any other run buffer and should not be used. Do not dispose of the CElixir-SDS ™ Initiator Solution(A); it is only used once/day or when a new capillary is installed. **After use, return the unused solution to a clean glass vial with an inert, solid cap for storage and reuse**

Operation

Refer to your instrument manual for general operation and instructions on how to perform suitable separations.

Filling Vials (for Beckman P/ACE MDQ)

Using other CE instruments is easy. Please modify this method according to your instruments requirements.

Always use vials that are recommended by your CE instrument or their exact equivalent.

DO NOT OVER-FILL the VIALS.

Load your CE instrument's autosampler with vials containing CElixir-SDS, reagents and samples.

Reagent	Vial	Inlet	Outlet
NaOH Solution (0.1M)	1 Vial	A1	
Initiator (A) 1.4ml	1 Vial	B1 (only for Initializing)	
Accelerator (B) 1.4ml	4 Vial	C1, E1, F1	B1
CE Grade Water 1.4ml	1 Vial	D1	
Empty Vial	1 Vial		A1
Samples	Vials: Buffer Inlet	S1	

Starting with a New Capillary.

When using a new capillary follow the recommended procedures of the manufacturer for cutting this capillary. A true perpendicular cut to the ends of the capillary are vital to the success of any CE separation. For cutting a MicroSolvCE capillary please refer to our website at www.MicroSolvTech.com; enter the Electrophoresis pages to find the Capillary Electrophoresis Primer. The direct URL is http://www.microsolvtech.com/cutcap.asp.

It is highly recommended to burn up to 2mm of the polyimide from each end of the capillary for injection ruggedness and reproducibility.

Capillaries should be dedicated to CElixir-SDS™.

Initiate the Capillary Each Day or when new.

1. Install the new capillary by following the CE instrument manufacturer's instructions.
2. Rinse the newly installed capillary with 0.1M NaOH Solution for one (1) minute using 20psi pressure.