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A Stockpile of Information

Allan Little, Director of Marketing, Dissolution Systems

Dedicated to the science of dissolution, the Dissolution Exchange website is organized around three verbs: learn, solve, and discuss.

The **LEARN** tab focuses on the following topics: One-on-one training, recorded webinars, dissolution seminars, and related resources. We want to help educate your workforce through online training, recorded webinars featuring leading experts, and one- and two-day seminars that can even be taught at your facility.

Our one-on-one training course (available to anyone with Internet access) is a great way to ensure everyone in your company, whether in one country or many, is thoroughly trained. We keep the content up to date with all relevant regulatory groups.



Learn, Solve, and Discuss tabs at Dissolution Exchange

Best of all, the training materials are free. There is only a charge if you want to take the test and receive a certificate of completion.

Choose the **SOLVE** tab to access our dissolution Hotline. Fill in some basic information, post your question/challenge, and one of our dissolution experts will get in touch with you. We believe it isn't enough to supply quality equipment; we need to provide whatever assistance we can to ensure that you get the right results. Your question can be application or equipment based. Either way, we'll try to help.

Looking for input from your industry peers? Want to know what is on other people's minds? Click on the **DISCUSS** tab to connect with over 3,000 industry users from around the globe. Whether you are looking for answers or looking to assist someone else, the Dissolution Discussion Group is one of the best repositories of dissolution information available. Free to join, free to use. Check it out today.

You'll find the Dissolution Exchange here:

<http://dissolution.chem.agilent.com/>

Investigating Aberrant Dissolution Data

Bryan Crist, Scientific Affairs Manager, Dissolution Systems

At the Dissolution Discussion Group's quarterly online meeting on February 8, we considered the challenges involved in investigating aberrant data.

A recording of the full discussion (indeed all of the group's 29 recorded sessions to date) is available free when you register. In the meantime, here is my condensed summary:

While GMP pharmaceutical laboratories have standard operating procedures (SOP) for investigating out-of-specification (OOS) or suspect data produced in routine analysis, many of these procedures lack the detail needed to pinpoint the cause of the aberrant dissolution data. Leaving no stone unturned, our discussion focused on the four M's of investigation: man, method, machine, and materials. In more detailed terms, that's the analyst, the dissolution method, the dissolution apparatus and reagents as well as reference standards. By focusing on these four areas during an investigation, we may find multiple issues affecting dissolution test results.

The discovery of suspect or OOS data usually triggers a laboratory investigation report. The process begins with notifying the supervisor to discuss the results and review test procedures, including preparation of media and standards, sample handling and filtration, and an inspection of the dissolution apparatus within its environment. When an assignable cause is found, limited retesting may be required. When followed by proper documentation, the result could be replaced with the proper retest plan, which should be included in the SOP. If the investigation found that a dissolution procedure is not specific enough, the procedure must be modified and the analysts retrained. Further investigations should determine the impact of these corrective actions. Quite often, possibly due to a lack of detail in the aberrant data SOP, the specific cause of the suspect or OOS result may not be found, which may lead to extensive investigation and retesting to confirm or replace the initial result.

Other results that may trigger an investigation include, but are not limited to:

- Multiple timepoint results decreasing by more than 5%
- Results greater than the upper content uniformity limit
- Results greater than 125%
- Stability results outside 10% of the previous stability point
- Stability packaging configurations outside 15% agreement at the same stability point
- Evidence of crosslinking or undissolved gelatin capsules

The aberrant data investigation SOP should also include provisions for limited investigation upon OOS results obtained from stage one. This is because an analyst, for example, who has made a mistake in preparing media will most likely repeat the same error for stage two

analysis, which could generate an additional failure. This could erroneously result in a batch failure after stage three if the error is not detected.

This DDG online session details all the steps that should be included in the aberrant data investigation procedure to assist with a thorough investigation of dissolution data. This session has been recorded and is available on the <http://www.dissolution.com/>.

Also, please mark your calendars for attending our next one-hour DDG online session on May 10 at 10:30 a.m. US Eastern time. The topic for this session will be entitled "Stirred, Not Shaken; Minimizing the Impact of Vibration." You may register for these free sessions on the <http://www.dissolution.com/>.



Protect Your Investment!

Allan Little, Director of Marketing, Dissolution Systems



Tired of replacing your paddles, basket shafts, baskets, and height-setting accessories?

Damage to paddles and basket shafts often occurs when these accessories are off the dissolution apparatus and are being cleaned or in storage! Throwing these items in a drawer may be convenient, but it is a good way to damage these components.

Agilent has a possible solution to extend the life of your accessories. We are now selling six packs of accessories that are shipped in these sturdy plastic cases. Not only are your accessories protected during shipment, but you now have a convenient storage container for your accessories when not in use.



Ordering details

Description	Part no.
Paddle, lower, PTFE-coated, 6/pk	16-3602
Paddle, lower, electropolished stainless steel, 6/pk	16-3603
Receptor, 21 in. total, 6/pk	16-3613
Basket, lower, 3-clip, 6/pk	16-3631

Do You Speak Spanish?

**Allan Little, Director of Marketing,
Dissolution Systems**

The Dissolution 1-on-1 training course is the most comprehensive course of its kind. This online, self-paced training is an adaptation of our Fundamentals of Dissolution program. It was developed to allow chemists to interactively learn at their own pace. The seven chapters cover everything from theory to practical lessons in how to perform an actual test.

This program is now available in Spanish! Best of all the program is free to access and use. There is a charge if you need a certificate of successful completion (providing you pass the proficiency exam).

To access the Dissolution Training, visit the Dissolution Exchange (<http://dissolution.chem.agilent.com/>) and click on:



Many companies have standardized on this course as their prerequisite dissolution training. Because it is offered on line, it is easily accessible around the globe. Agilent routinely updates the material to reflect current regulatory guidelines. It is available in English, Chinese, and now Spanish!

Hablas Español?

**Allan Little, Director de Márketing,
Sistemas de disolución**

El curso de capacitación Dissolution 1-on-1 es el curso más completo de este tipo. Esta capacitación en línea y autodidacta es una adaptación de nuestro programa Fundamentals of Dissolution. Fue desarrollado para permitir que los químicos aprendan interactivamente a su propio ritmo. Los siete capítulos cubren todo, desde teoría hasta lecciones prácticas sobre cómo realizar una prueba real.

¡Este programa ahora está disponible en español! Lo mejor de todo es que el programa es de libre acceso y uso. Hay un cargo si necesita un certificado de finalización exitosa (siempre que apruebe el examen de competencia).

Para acceder a Dissolution Training, visite Dissolution Exchange (<http://dissolution.chem.agilent.com/>) y haga clic en:



Muchas compañías se han estandarizado en este curso como su entrenamiento previo de disolución. Debido a que se ofrece en línea, es fácilmente accesible en todo el mundo. Agilent actualiza rutinariamente el material para reflejar las pautas regulatorias actuales. ¡Está disponible en inglés, chino, y ahora en español!

Questions You Asked

- Q.** How is a suspension cup used in the dissolution apparatus? Can it be used for any suspension?
- A.** This suspension cup was designed for injectable suspensions, which are often quite thick or may become a solid when exposed to subcutaneous or intramuscular fluids upon injection.

The problem with a viscous liquid, especially one that solidifies upon injection, is the variability in the surface area of the dose. The same holds true for injection into a dissolution vessel. The variability of the doses' surface area will lead to excessive variability in drug release results with the dissolution apparatus.

With the suspension cup, the dose is injected into the cup, then tapped on a solid surface to expel any air bubbles. When the apparatus is ready, the suspension cup and holder are introduced to the vessel and the test begins. The surface of the dosage form should stay within the cup as the test progresses, which greatly reduces variability from position to position with the apparatus. If the suspension is not viscous, this suspension cup will not work as intended.



Suspension cup

Learn more:

www.agilent.com/lifesciences/dissolution

Buy online:

www.agilent.com/chem/store

Contact Agilent's dissolution chemists:

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