Extractables and Leachables Safety Information Exchange: Creating an Extractables/Leachables Database

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Introduction
The Extractables and Leachables Safety Information Exchange (ELSIIE) is a consortium of pharmaceutical, medical device delivery, and biotechnology companies. ELSIE’s core objective is to establish a comprehensive database for its member companies that will provide a jointly-developed and credible source of:

- Safety information on extractables and leachables
- Extraction profiles from standardized study protocols for a range of materials commonly used in medical devices and container closure systems

ELSIIE was formed in 2007. Current members include: AstraZeneca, Baxter International, Boehringer Ingelheim, GlaxoSmithKline, Pfizer, sanofi-aventis, and Schering Plough.

Why Create A Database?

1. Identify “Best” Knowledge and Increase Knowledge Sharing
   - There has not been any industry-wide effort to compile, organize, appraise and summarize extractables/leachables data from public sources
   - Consequently, each company must undertake these efforts separately without benefit of the knowledge and experience gained through collaboration with other experts in industry and government, resulting in significant duplication across companies.

2. Improve Efficiency
   - Currently, there is no central source of safety data on which to base decisions regarding the need for additional safety studies (e.g., genotoxicity assays and in vivo studies).
   - Therefore, there is a risk that such studies may be conducted unnecessarily.

3. Improve Risk Assessment and Decision-making
   - The same or similar container closure materials are used in many different pharmaceuticals, biologics, and medical devices: there is no repository of extractables information (e.g., extractables profiles, study protocols) about these materials that could

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<tr>
<th>Why Is ELSIE Doing To Create A Database?</th>
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<td>To date ELSIE has:</td>
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<td>Developed a prototype database for safety information using di-ethylhexylphthalate as a model</td>
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<td>Compiled an initial list of chemical entities for inclusion in the database</td>
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<td>Begun a pilot program to create controlled extraction studies protocols and to generate data, which will be evaluated to define the scope and elements of a materials information database</td>
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The safety information database would include publicly available information that is relevant for inclusion in regulatory submissions, and which would be derived from the literature research and prior experience of ELSIE members. The Consortium will, in future, consider the inclusion of proprietary safety data.

Figure 2 shows the general process for creating the safety database.

Next Steps

- Development and implementation of user requirements for the safety database
- Prioritization of chemical entities on the list of key extractables/leachables to include in the safety database
- Development of protocols for data collection, organization and entry
- Development of protocols for database access
- Complete controlled extraction study protocols
- Assess resources needed to conduct controlled extraction studies
- Discuss materials information database concept with materials suppliers

Benefits of ELSIE

- Advance ICH Q8, Q9, Q10 and Quality by Design concepts by enhancing the prospects for identifying potential safety issues at the initial stages of the development process, when container-closure materials are being screened and selected
- Reduce duplication of effort and minimize testing
- Facilitate development of high quality and safe products for patients
- Confirm patient safety and product quality as priority goals of the medical products industry
- Strengthen supplier-manufacturer relationships

Serve as a forum for exchanging experience and perspectives among experts

- Decrease the risk of substantial, unanticipated delays and associated costs

Figure 1. Organization of ELSIE

Figure 2. General process for creating the safety information database.

Figure 3. General process for conducting the pilot program to assess feasibility of developing a materials information database.

Figure 4. Extractables information on plastic at point A and point C plus knowledge of potential degradation pathways is used to build the molding “knowledge space”.

To Join ELSIE

All pharmaceutical, biotechnology, and medical device companies are invited to join ELSIE.

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