**Minutes**

**INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY**

**SUBCOMMITTEE ON SOLUBILITY AND EQUILIBRIUM DATA**

**41st Annual Meeting (14th of SSED)**

Held in conjunction
with the 34th ICSC,
Prague, Czech Republic
30th August 2015

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**Sunday, August 30, 2015, 9:00-18:00**

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<table>
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| 1. | Introduction of participants and welcome to the new members  
A list of the participants is appended to these minutes. | Clara Magalhães |
| 2. | In memoriam John Lorimer  
David Shaw gave a brief eulogy describing Jack's roles in IUPAC and the SSED and the Solubility Data Commission and including a number of personal recollections.  
The meeting observed a minute's silence. |   |
| 3. | Approval of Minutes of the 40th Annual Meeting (15th of SSED) in conjunction with the 16th ISSP, Karlsruhe, Germany  
The minutes of the 15th SSED meeting were approved without corrections. | Earle Waghorne |
| 4. | Chairs Report  
A copy of the Chair's report is attached | Clara Magalhães |
| 5. | Franzosini Award  
Clara Magalhães requested nominations for the Franzosini award to be presented at the 17th ISSP in 2016 in Geneva. | Clara Magalhães |
<table>
<thead>
<tr>
<th></th>
<th>Representative to CODATA</th>
</tr>
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<tbody>
<tr>
<td>6</td>
<td>Clara Magalhães explained that IUPAC has no representatives to CODATA and asked for nominations to represent IUPAC. It was decided to contact the IUPAC secretariat to understand how it could become official.</td>
</tr>
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<table>
<thead>
<tr>
<th></th>
<th>Publications</th>
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<tbody>
<tr>
<td>7</td>
<td>7.1 Books</td>
</tr>
<tr>
<td></td>
<td>Clara Magalhães explained that IUPAC doesn’t require the De Gruyter be publisher of all IUPAC books.</td>
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<tr>
<td></td>
<td>David Fellhaur will have a list of authors for the book project on Nuclear Chemistry by the next meeting.</td>
</tr>
<tr>
<td></td>
<td>7.2 Chemistry International and Pure and Applied Chemistry</td>
</tr>
<tr>
<td></td>
<td>Wolfgang Voigt commented that the current lack of access to PAC was a deterrent for authors.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Projects</th>
</tr>
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<tbody>
<tr>
<td>8</td>
<td>8.1 Editor-in-Chief’s Report. Next volumes to be published in SDS.</td>
</tr>
<tr>
<td></td>
<td>The EiC report is appended to these minutes.</td>
</tr>
<tr>
<td></td>
<td>8.2 Subcommittee Reports</td>
</tr>
<tr>
<td></td>
<td>Subcommittee reports are appended to these minutes.</td>
</tr>
<tr>
<td></td>
<td>8.3 Analysis and revision of the present projects, and task group reports</td>
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<tr>
<td></td>
<td>The Chair’s report on the status of projects is appended to these minutes.</td>
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<tr>
<td></td>
<td>8.4 Data Base on Ionic Liquids</td>
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<tr>
<td></td>
<td>Magdalena Bendová and Zdnek Wagner reported that progress is satisfactory.</td>
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<td></td>
<td>Clara, do you have a copy of Zdnek’s report?</td>
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<tr>
<td></td>
<td>8.5 Orange Book</td>
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<td></td>
<td>Christo Balarew reported that there was the possibility of a supplement to the Orange Book covering physical chemical methods used in aqueous salt systems.</td>
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<tr>
<td>Section</td>
<td>Content</td>
</tr>
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</tbody>
</table>
| 8.6 | SSED web-site and new IUPAC web-site  
Clara Magalhães described the progress on the new IUPAC web-site. The power point of presentation is attached to the minutes. |
| 8.7 | New Projects  
See the report on Projects appended (8.3) |
| 8.8 | IUPAC reporting procedures  
It was decided to send all the SSED members a copy of the new project proposal forms. |
| 9. | Interdivisional committee  
David Shaw had circulated a discussion document about the future of the SSED within IUPAC. |
| 10. | Financial matters  
The possibility of receiving funding for the SSED, as opposed to project funding, from IUPAC or JPCRD was discussed.  
It was agreed that the residue of the money from the previous agreement with NIST could be used to help fund the Chair of the SSED when they attended ACD meetings if alternative funding wasn’t available. (Note that the Chair is not automatically a titular member of ACD and only titular members receive IUPAC funding. Associated members are effectively self funding and National Representatives are expected to have support from their NAO.) |
| 11. | Approach from Springer to include SDS volumes in their database  
Earle Waghorne explained that the coordinates of the Springer group had been sent to Dr. Soby who had agreed to initiate discussions with Springer in the near future. |
| 12. | 12.1 ISSP 2016  
It was formally agreed that the 2016 ISSP would be held in Geneva and Montserrat Filella reported on the organization of the meeting.  
12.2 Proposal to publish conference proceedings in the Journal of Solution Chemistry |
It was agreed that the papers not included in PAC would be published in a special issue of the Journal of Solution Chemistry.

<table>
<thead>
<tr>
<th>13.</th>
<th>Next SSED meetings and ISSP 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>It was agreed that the next meeting of the SSED would be held in conjunction with the 2016 ISSP in Geneva.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>14.</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.1</td>
<td>Social media - Dissemination of the information about SSED</td>
</tr>
<tr>
<td></td>
<td>Magdalena Bendová described the Facebook and LinkedIn pages</td>
</tr>
<tr>
<td>14.2</td>
<td>The &quot;Observer category&quot;</td>
</tr>
<tr>
<td></td>
<td>Clara Magalhães explained that this category had been created some time ago and provide a way to introduce new scientists to IUPAC and its activities.</td>
</tr>
<tr>
<td>14.3</td>
<td>A membership position in ACD as titular member</td>
</tr>
<tr>
<td></td>
<td>It was noted that Clara Magalhães has served her term as a titular member of ACD and is now an associate member. David Shaw has been elected as a titular member and Earle Waghorne as the national representative for Ireland.</td>
</tr>
<tr>
<td>14.4</td>
<td>New members and new scientific areas</td>
</tr>
<tr>
<td></td>
<td>Clara Magalhães explained that it was a challenge to attract new people from new scientific areas. The ISSP provides one important way to attract new members.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>15.</th>
<th>Any other business</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>There was no further business</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>15.</th>
<th>Adjournment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Clara Magalhães</td>
</tr>
</tbody>
</table>
Attendees at the Meeting

ATONASSOVA, Dr. Maria
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Fax: +48 (22) 8225996
Email: cegie@chem.uw.edu.pl

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Email: steiger@chemie.uni-hamburg.de

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Tel: +49 (3731) 394338
Fax: + 49 (3731) 394058
Email: wolfgang.voigt@chemie.tu-freiberg.de

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Email: earle.waghorne@ucd.ie

WAGNER, Dr. Zdeněk
Institute of Chemical Process Fundamentals, Academy of Sciences of the Czec Republic
Email: wagner@icpf.cas.cz
Subcommittee on Solubility and Equilibrium Data

Activity Report
From March 2014 to July 2015
Important features

- **Signature of IUPAC-NIST agreement for online publication of IUPAC Solubility Data Series Volumes 1 to 65 – 19th September 2014**

- **Publication of all SDS volumes online with free access**

- **Contact of Springer and De Gruyter to use and disseminate some of the data**
Visibility of SSED within IUPAC 2014/2015

- **CI, 36, No. 1, January – February 2014**
  - ♦ *Mark your calendar*
    - ♣ Pg. 32: 21-25 July 2014 – Solubility Phenomena – Karlsruhe, Germany

- **CI, 36, No. 2, March – April 2014**
  - ♦ *The Project Place*
    - ♣ Pg. 21-22: Unveilling the Mysteries of Ionic Liquids in Prague, Magdalena Bendová
  - ♦ *Where 2B & Y*
    - ♣ Pg. 33: Solubility Phenomena, 21-25 July 2014, Karlsruhe, Germany
  - ♦ *Mark your calendar*
    - ♣ Pg. 36: 21-25 July 2014 – Solubility Phenomena – Karlsruhe, Germany
Visibility of SSED within IUPAC 2014/2015

  - *Mark your calendar*
    - ♠ Pg. 35: 21-25 July 2014 – Solubility Phenomena – Karlsruhe, Germany

- *Ci*, 36, No. 4, July – August 2014
  - *Making an imPACt*
  - *Making an imPACt*
  - *Mark your calendar*
    - ♠ Pg. 36: 21-25 July 2014 – Solubility Phenomena – Karlsruhe, Germany
Visibility of SSED within IUPAC 2014/2015

• *Ci*, 36, No. 5, September – October 2014
  ➢ *Making an imPACt*

• *Ci*, 37, No. 1, January – February 2015
  ➢ *Chemical Speciation of Environmental Significant Metals*
  ➢ *Conference Call*
    ♣ Pg. 30: David Shaw, 100 volume of IUPAC’s Solubility Data Series

• *Ci*, 37, No. 2, March – April 2015
  ➢ *Conference Call*
    ♣ Pg. 30-31: Marcus Altmaier, Solubility Phenomena and Related Equilibrium Processes
Completed SDS Volumes
IUPAC-NIST Solubility Data Series

• **Volume 100**: Tomasz Mioduski, Cezary Gumiński and Dewen Zeng

• **Volume 100**: Tomasz Mioduski, Cezary Gumiński and Dewen Zeng

• **Volume 100**: Tomasz Mioduski, Cezary Gumiński and Dewen Zeng
Completed SDS Volumes
IUPAC-NIST Solubility Data Series (cont.)

- **Volume 101**: Marian Góral, David G. Shaw, Andrzej Mączyński, Barbara Wiśniewska-Gocłowska and Paweł Oracz
- **Volume 102**: William E. Acree Jr.
- **Volume 103**: H. Lawrence Clever, Rubin Battino, Hiroshi Miyamoto, Yuri Yampolski and Colin L. Young
Completed SDS Volumes
IUPAC-NIST Solubility Data Series (cont.)

- **2014 – JPCRD Volume 43 – number 4**
  - Rubin Battino, Timothy R. Rettich and Toshihiro Tominaga

- **2015 – JPCRD Volume 44 – number 1**
  - David G. Shaw and Andrzej Maczynski
### JPCRD metrics

**number of downloads and/or views**

<table>
<thead>
<tr>
<th>SDS Volume(Part)</th>
<th>Publication Date</th>
<th>Compilation Period</th>
<th>PDF download</th>
<th>Full text view</th>
<th>Abstract view</th>
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<td>03/2014 – 06/2015</td>
<td>69</td>
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<td>online – 25/04/2014</td>
<td>04/2014 – 06/2015</td>
<td>82</td>
<td>139</td>
<td>315</td>
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<tr>
<td>103</td>
<td>online - 18/08/2014</td>
<td>08/2014 – 06/2015</td>
<td>134</td>
<td>178</td>
<td>509</td>
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</tbody>
</table>
Previous Incomplete SDS Volumes to be published

- **Volume 92**: Part 2 - Heinz Gamsjäger, et al.
  - “Metal carbonates. Solubility and Related Thermodynamic Quantities of Lead(II) carbonates”

- **Volume 95**: Part 3 - Alex de Visscher, Jan Vanderdeelen,
  - “Alkaline Earth Carbonates in Aqueous Systems. Sr and Ba”

- **Volume 101**: Parts 2 and 3 – Marian Goral, et al,
  - “Alcohols + Hydrocarbons + Water.”
• **Volume 87** (Issue 5) 2015: communications presented in the 16th International Symposium on Solubility Phenomena and Related Equilibrium Processes (ISSP-16), Karlsruhe, Germany, 21–25 July 2014. This conference is part of the *Solubility Phenomena* series. (6 papers)
Projects already finished

2006-034-1-500: Solubility of oxygen in all solvents (update of volume 7, 1981)

2007-045-1-500: Solubility data related to industrial processes. Solubility of higher alkynes in liquids

2012-025-1-500: Polycyclic Aromatic Hydrocarbons in Pure and Binary Solvent Mixtures (Update of Volumes 54, 58 and 59)

2012-030-1-500: Rare Earth Metal Fluorides in Water and Aqueous Systems


<table>
<thead>
<tr>
<th>Project number: 2002-031-1-500</th>
<th>Project number: 2011-031-1-500</th>
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<tr>
<td>Project number: 2002-035-1-500</td>
<td>Project number: 2011-043-1-500</td>
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<td>Project number: 2002-044-1-500</td>
<td>Project number: 2011-065-3-500</td>
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<tr>
<td>Project number: 2008-025-1-500</td>
<td>Project number: 2012-004-1-500</td>
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<tr>
<td>Project number: 2011-031-1-500</td>
<td>Project number: 2012-006-1-500</td>
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<tr>
<td>Project number: 2011-043-1-500</td>
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<tr>
<td>Project number: 2012-022-1-500</td>
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<td>Project number: 2012-031-1-500</td>
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<tr>
<td>Project number: 2013-034-1-500</td>
<td>Project number: 2014-012-2-500</td>
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Projects for publication

2002-031-1-500: Solubility data of compounds relevant to mobility of metals in the environment. Alkaline earth metal carbonates. Part 3

2011-043-1-500: Solubility data related to Industrial Processes. Solubility data in ternary systems containing water alcohol, and hydrocarbon
Last meetings and conferences

**SSED meeting** – The 40\(^{th}\) solubility subcommittee annual meeting (13\(^{th}\) of SSED) occurred in Karlsruhe, Germany, on the 20\(^{th}\) July 2014 in conjunction with the 16\(^{th}\) ISSP.

**16\(^{th}\) ISSP** - The 16\(^{th}\) International Symposium on Solubility Phenomena and Related Equilibrium Processes occurred in Karlsruhe, Germany, from the 21\(^{st}\) to the 25\(^{th}\) July 2014.

**248\(^{th}\) American Chemical Society National Meeting** – 10 - 14\(^{th}\) August 2014, San Francisco, California, Division of Chemical Information – symposium “The IUPAC Solubility Data Series: 100 Volumes of Solubility Data Online”
Next meeting and conference

SSED meeting – The 42\textsuperscript{nd} solubility subcommittee annual meeting (15\textsuperscript{th} of SSED) will occur in Geneve, Switzerland, on the 23\textsuperscript{rd} July 2016 in conjunction with the 17\textsuperscript{th} ISSP.

17\textsuperscript{th} ISSP - The 17\textsuperscript{th} International Symposium on Solubility Phenomena and Related Equilibrium Processes will occur in Geneve, Switzerland, from the 24\textsuperscript{th} to the 29\textsuperscript{th} July 2016.
To date, the Subcommittee on Solubility and Equilibrium Data (SSED) has published 103 volumes in the *Solubility Data Series*. A number of volumes are quite large and thus have been published in parts in *JPCRD* bringing the total number of SDS publications to 136. Four volumes were published in 2014, and two volumes were published in 2015.

The updated list of published volumes is given in the Appendix. For solid-liquid systems, we are planning a new project on Alkaline Earth Metal Chlorides, and a revision of the draft volume on Be Sulfates (Jack Lorimer and Jiri Hala, project number 2012-006-1-500). Details on these and other new volumes are anticipated to be discussed by the chairs of the gas-liquid, liquid-liquid and solid-liquid subcommittees during the 14th meeting of the SSED.
## Appendix I. SDS Volumes Published from 1979 to 2015

<table>
<thead>
<tr>
<th>Volume</th>
<th>Author, Title, Publisher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Page</td>
<td>Reference</td>
</tr>
<tr>
<td>------</td>
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</tr>
<tr>
<td>72</td>
<td>V. Sazonov and G.T. Heffer, <em>Nitromethane with Water or Organic Solvents: Ternary and Quaternary</em></td>
</tr>
</tbody>
</table>
81(9) J. Eyseltlová, Ammonium Phosphates, JPCRD, 29(6), 1447 (2000)


<table>
<thead>
<tr>
<th>Volume</th>
<th>Authors</th>
<th>Title</th>
<th>Journal</th>
<th>Pages</th>
</tr>
</thead>
</table>

- Volumes 1-53 published by Pergamon Press
- Volumes 54-65 published by Oxford University Press
- The New Jersey Institute of Technology has a complete collection of volumes 1-65 which are available on interlibrary loan. Inquiries should be sent to Bruce Slutsky
  Technical Reference Librarian
  Robert Van Houten Library
  New Jersey Institute of Technology
  Newark, NJ 07102, USA
  Email: Bruce.Slutsky@njit.edu

## Solid-Liquid Solubility Report 2015: material

published last year:

<table>
<thead>
<tr>
<th>Year</th>
<th>Volume</th>
<th>Title</th>
<th>Journal, Volume, Pages</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>100-1</td>
<td>Rare Earth Metal Fluorides in Water and Aqueous Systems. Part 1. Scandium Group (Sc, Y, La)</td>
<td>JPCRD 2014, 43, 013105</td>
<td>Mioduski, T; Guminski, C; Zeng, D</td>
</tr>
<tr>
<td>2014</td>
<td>100-2</td>
<td>Rare Earth Metal Fluorides in Water and Aqueous Systems. Part 2. Light Lanthanides (Ce–Eu)</td>
<td>JPCRD 2015, 44, 013102</td>
<td>Mioduski, T; Guminski, C; Zeng, D</td>
</tr>
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</table>

### Beryllium compounds (Jacks volume)

I will attach the original layout from Jack Lorimer of the Beryllium volume here in order to show the extension (Jacks record from Jan. 2011)

**IUPAC-NIST Solubility Data Series. xx. Beryllium Compounds in Aqueous and Non-aqueous Media**

*John W. Lorimer, Editor, Evaluator, Compiler*

*Department of Chemistry, The University of Western Ontario, London, ON Canada, N6A 5B7*

*Jiri Hála, Evaluator, Compiler*

*Institute of Chemistry and Technology of Environmental Protection, Technical University, Purkynova 118, Brno, Czech Republic*

*Christo Balarew, Compiler*

*Institute of General and Inorganic Chemistry, Bulgarian Academy of Sciences, Acad. G. Bonchev, Str., Bl. 11, BG-1040 Sofia, Bulgaria*

*C. Kalidas, Compiler*

*Department of Chemistry, Indian Institute of Technology, Madras 600036, India*

**Contents**

**Total Compilations:**

**Total estimated Critical Evaluations:**

**Total estimated pages:**

1. Preface
2. Critical Evaluations
   2.1 Solubility of BeSO₄ in Aqueous Systems

2.2 Binary System BeSO₄ + H₂O
   2.2.1 Solubility
      2.2.1.1 Solid Phase Ice
      2.2.1.2 Solid Phase BeSO₄·6H₂O
      2.2.1.3 Solid Phase BeSO₄·5H₂O
      2.2.1.4 Solid Phase BeSO₄·4H₂O
      2.2.1.5 Solid Phase BeSO₄·2H₂O
      2.2.1.6 Solid Phase BeSO₄·H₂O
   2.2.2 Vapor pressures of Saturated Solutions
      2.2.2.1 Solid Phase BeSO₄·4H₂O
      2.2.2.2 Solid Phase BeSO₄·2H₂O
      2.2.2.3 Solid Phase BeSO₄·H₂O
2.2.3 Phase Diagrams for the System
   2.2.3.1 Under the Vapor Pressure of the Saturated Solution
   2.2.3.2 At 0.1 MPa

2.3 Ternary Systems
   2.3.1 Ternary Systems of the type BeSO$_4$ + M$_x$(SO$_4$)$_y$ + H$_2$O
     2.3.1.1 BeSO$_4$ + H$_2$SO$_4$ + H$_2$O
     2.3.1.2 BeSO$_4$ + alkali metak sulfates + H$_2$O
     2.3.1.3 BeSO$_4$ + other alkaline earth metak sulfates + H$_2$O
     2.3.1.4 BeSO$_4$ + transition metal sulfates
     2.3.1.5 BeSO$_4$ + Al$_2$(SO$_4$)$_3$ + H$_2$O
     2.3.1.6 BeSO$_4$ + (NH$_4$)$_2$SO$_4$ + H$_2$O
   2.3.2 Ternary Systems for which a Sulfate is not the second component
     2.3.2.1 BeSO$_4$ + BeO + H$_2$O and BeSO$_4$ + NaOH + H$_2$O
   2.4 BeSO$_4$ in D$_2$O, Mixed Solvents and Non-aqueous Solvents
     2.4.1 BeSO$_4$ + C$_2$H$_5$OH (ethanol) + H$_2$O

2.5 BeSeO$_4$ in Aqueous Systems
   2.5.1 BeSeO$_4$ + H$_2$O

3. Experimental Data
3.1 Binary System BeSO₄ + H₂O
   3.1.1 Solubility
   3.1.2 Vapor pressures of Saturated Solutions
3.2 Ternary Systems of the type BeSO₄ + Mₓ(SO₄)ᵧ + H₂O
   3.2.1 BeSO₄ + H₂SO₄ + H₂O
   3.2.2 BeSO₄ + Li₂SO₄ + H₂O
   3.2.3 BeSO₄ + Na₂SO₄ + H₂O
   3.2.4 BeSO₄ + K₂SO₄ + H₂O
   3.2.5 BeSO₄ + Rb₂SO₄ + H₂O
   3.2.6 BeSO₄ + Cs₂SO₄ + H₂O
   3.2.7 BeSO₄ + MgSO₄ + H₂O
   3.2.8 BeSO₄ + CaSO₄ + H₂O
   3.2.9 BeSO₄ + UO₂SO₄ + H₂O
   3.2.10 BeSO₄ + MnSO₄ + H₂O
   3.2.11 BeSO₄ + FeSO₄ + H₂O
   3.2.12 BeSO₄ + CuSO₄ + H₂O
   3.2.13 BeSO₄ + Ag₂SO₄ + H₂O
   3.2.14 BeSO₄ + ZnSO₄ + H₂O
   3.2.15 BeSO₄ + Al₂(SO₄)₃ + H₂O
   3.2.16 BeSO₄ + (NH₄)₂SO₄ + H₂O
3.3 Ternary Systems for which a Sulfate is not the Second Component
   3.3.1 BeSO₄ + BeO + H₂O and BeSO₄ + NaOH + H₂O
   3.3.2 BeSO₄ + BeCl₂ + H₂O
   3.3.3 BeSO₄ + CH₃NHCH₃ (urea) + H₂O
   3.3.4 BeSO₄ + acetamide + H₂O
3.4 Quaternary Systems
   3.4.1 BeSO₄ + H₂SO₄ + H₃PO₄ + H₂O
   3.4.2 BeSO₄ + H₂SO₄ + Li₂SO₄ + H₂O
   3.4.3 BeSO₄ + Li₂SO₄ + MgSO₄ + H₂O
   3.4.4 BeSO₄ + MgCl₂ + acetylurea + H₂O
   3.4.5 BeSO₄ + MnSO₄ + ZnSO₄ + H₂O
   3.4.6 BeSO₄ + Al₂(SO₄)₃ + (NH₄)₂SO₄ + H₂O
3.5 BeSO₄ in D₂O, Mixed Solvents and Non-aqueous Solvents
   3.5.1 BeSO₄ + D₂O + H₂O
   3.5.2 BeSO₄ + CH₃OH (methanol) + H₂O
   3.5.3 BeSO₄ + C₂H₅OH (ethanol) + H₂O
   3.5.4 BeSO₄ + CaSO₄ + C₂H₂OH (ethanol)
   3.5.5 BeSO₄ + Al₂(SO₄)₃ + C₂H₂OH (ethanol)
   3.5.6 BeSO₄ + C₃H₇OH (propanol) + H₂O
   3.5.7 BeSO₄ + CH₃NH₂ (methanamide) + H₂O
   3.5.8 BeSO₄ + CH₃NH(CH₃)₂ (N,N-dimethylformamide) + H₂O
   3.5.9 BeSO₄ + CH₃NH(CH₃)₂ (sulfinyldimethane) + H₂O
3.6 BeSeO₄ in Aqueous Systems
   3.6.1 BeSeO₄ + K₂SeO₄ + H₂O
   3.6.2 BeSeO₄ + BeO + H₂O
   3.6.3 BeSeO₄ + UO₂SeO₄ + H₂O
   3.6.4 BeSeO₄ + CoSeO₄ + H₂O
   3.6.5 BeSeO₄ + NiSeO₄ + H₂O
   3.6.6 BeSeO₄ + CuSeO₄ + H₂O
   3.6.7 BeSeO₄ + ZnSeO₄ + H₂O
3.7. Be₂(OH)₂CO₃ in Aqueous Systems
   3.7.1 Be₂(OH)₂CO₃ + NaF + NaHCO₃ + Na₂CO₃ + NaClO₄ + H₂O
3.8 Be₃(IO₃)₂ in Aqueous Systems
3.11 BeCl₂ in Aqueous Systems
3.11.1 BeCl₂ + H₂O
3.11.2 BeCl₂ + HCl + H₂O
3.11.3 BeCl₂ + LiCl + H₂O
3.11.4 BeCl₂ + RbCl + H₂O
3.11.5 BeCl₂ + CsCl + H₂O
3.11.6 BeCl₂ + MgCl₂ + H₂O
3.11.7 BeCl₂ + CaCl₂ + H₂O
3.11.8 BeCl₂ + BaCl₂ + H₂O
3.11.9 BeCl₂ + ZnCl₂ + H₂O
3.11.10 BeCl₂ + CdCl₂ + H₂O
3.11.11 BeCl₂ + HgCl₂ + H₂O
3.11.12 BeCl₂ + CuCl₂ + H₂O
3.11.13 BeCl₂ + InCl₃ + H₂O
3.11.14 BeCl₂ + CH₃N₂O₃ + H₂O

3.12 BeCl₂ in Non-aqueous Systems
3.12.1 BeCl₂ + C₂H₁₀O
3.12.2 BeCl₂ + Organic solvents
3.12.3 BeCl₂ + HCl + C₂H₅O
3.12.4 BeCl₂ + BeC₂H₂O₂; + C₂H₅O
3.12.5 BeCl₂C₂H₂O₂ + AlCl₃C₂H₁₀O; + C₄H₁₀O

3.13 BeF₂ in Aqueous Systems
3.13.1 BeF₂ + HF
3.13.2 BeF₂ + NaF + H₂O
3.13.3 BeF₂ + RbF + H₂O
3.13.4 BeF₂ + NH₄F + H₂O
5.41 BeF₂ + HF + CH₄O ??

3.14 NaBeF₄ in Aqueous Systems
3.14.1 Na₂BeF₄ + H₂O
3.14.2 Na₂BeF₄ + NaF + H₂O
3.14.3 Na₂BeF₄ + Na₂SO₄ + H₂O
3.14.4 Na₂BeF₄ + C₂H₂O₂Na + C₂H₂O; + H₂O

3.15 NH₄BeF₃ in Aqueous Systems
3.15.1 NH₄BeF₃ + (NH₄)₂SO₄ + H₂O
3.15.2 (NH₄)₂BeF₄ + Na₂BeF₄ + H₂O
3.15.3 (NH₄)₂BeF₄ + K₂BeF₄ + H₂O
3.15.4 \((\text{NH}_4)_2\text{BeF}_4 + \text{NH}_4\text{MnF}_3 + \text{H}_2\text{O}\)

3.16 MBeF\(_4\) in Aqueous Systems, \(M = \text{Mg}, \text{Zn}, \text{Cd}, \text{Ni}, \text{Co}, \text{Cu}\)

- 3.16.1 MgBeF\(_4\) + H\(_2\)O
- 3.16.2 ZnBeF\(_4\) + H\(_2\)O
- 3.16.3 CdBeF\(_4\) + H\(_2\)O
- 3.16.4 NiBeF\(_4\) + H\(_2\)O
- 3.16.5 CoBeF\(_4\) + H\(_2\)O
- 3.16.6 CuBeF\(_4\) + H\(_2\)O

Proposal to split off into
Part 1: BeSO\(_4\)

Part 2: BeSeO\(_4\)

BeCl\(_2\)-H\(_2\)O shall be included in the new project proposal of Boris Krumgalz about Alkaline Earth Chlorides – binary systems

How to proceed with the other beryllium systems (chlorides, nitrates, BeF\(_4^{2-}\), non-aqueous BeCl\(_2\)- etc) has to be clarified.

It is also not quite clear, whether the compilation sheets are complete for these systems

Heinz Gamsjäger indicated to be ready to help in this work, however is occupied until the end of next year with other projects.

**Alkaline Earth Chloride – Water**

Boris Krumgalz suggested a volume on Alkaline Earth Chlorides – Water systems between -25 and +100 °C.

Extension to cover the complete temperature range should be discussed with inclusion of further project members (maybe W. Voigt, D. Zeng), further reviewer (for high T-p range: V. Valyashko).
Volumes Published Since Last Meeting:

None

Current Projects:

2011-43-1-500 Hydrocarbon-Alcohol-Water Systems


2012-31-1-500 Web-site Modernization Project

This project was funded in February 2013 and is well underway. The Task Group has communicated by email and Skype conference call. The web pages have been brought up to date and are again useful for internal and external communication. Further modifications to better reflect the full scope of SSED activities are being considered by the Task Group and will be presented at the Prague meeting. Changes in the composition of the Task Group may be proposed.
The Stability Constant Sub-Committee has two active projects at this juncture.

1. *Humic-Metal Binding Constants Database* (Project #2008-025-1-500), M. Filella Task Group Chair, continues to make slow progress mainly because of the retirement of some of the participants. Data on the interaction of humic substances with ‘strategic elements’ are now being collected and extracted within the framework of two Master theses at the University of Geneva.

2. "*Critical Evaluation of Thermodynamic Data of Sulfate Complexes in Solution*" (Project #2012-008-1-500). Participants are Dr. G. Hefter (Task Group Chair) and Dr. C. Guminski, University of Warsaw, Poland. Dr. D. Meyrick, formerly of Murdoch University, has had to retire from the project due to a change of employment. Dr Shane Peterson of Murdoch University has been funded on a casual basis by Dr Hefter, from his own resources, to assist with bibliographic searching. Most of the literature has now been obtained and compilation work has commenced. Progress on the latter is slow due to the other commitments of the participants.

3. A new proposal from Prof Ivo Leito, University of Tartu, Estonia, on pKₐ values in nonaqueous solvents is currently under consideration by the Analytical Division of IUPAC.
In Memoriam: John William Lorimer

John (Jack) William Lorimer passed away peacefully at the age of 86 at University Hospital on Sunday, 1 February 2015. Born in Oshawa, Ontario, Jack attended the University of Toronto, where he obtained his Ph.D. in Chemistry. After positions in Leiden, The Netherlands, and with the National Research Council in Halifax, Nova Scotia, Jack joined the University of Western Ontario, where he taught and did research in the Chemistry Department until his retirement.

In IUPAC, Jack made major and very broad contributions over many years, starting in 1979. He was a very active member in the Analytical Chemistry Division, in the former Solubility Data Commission (SDC, also known as Commission V.8), and later and to this day, in the Subcommittee on Solubility and Equilibrium Data (SSED). The beginning of the SDC is linked to Jack's initial IUPAC activities: at the 1979 IUPAC General Assembly, in Davos, Switzerland, the SDC was created and Jack was appointed as co-secretary together with Lewis Herman Gevartman, while Steven Kertes was the first chair. Jack was co-secretary of this commission until 1983, and later became chair from 1988 to 1991.

In 1984 Jack Lorimer hosted the 1st International Symposium on Solubility Phenomena (ISSP), in London, Ontario. He was considered an excellent scientific and social host, running the conference very smoothly. For the next thirty years, he actively participated in all the ISSP either as a member of the scientific commissions or as speaker, editor, or IUPAC representative.

Since the beginning of SDC, the compilation and critical evaluation of solubility data was one of the main goals. This work is published in the volumes of the Solubility Data Series (SDS). Steven Kertes was the first editor-in-chief, starting in 1979, and Jack took that position in 1988 following the unexpected death of Steven Kertes. From 1988 to 1991 Jack accumulated the functions of chair of the Commission and editor-in-chief of the SDS, a work that he continued until 1996, always with the same levels of focus and enthusiasm. Under Jack’s editorship, twenty-five SDS volumes were published. The publication of the SDS continues (103 volumes published to this day), a tribute to the effort, discipline, and leadership that Jack brought to this task.

During all his life and his entire IUPAC tenure, Jack was an active member and helpful advisor. The members of the solubility community will remember him as a great scientist, demanding always the highest standards, but also as a kind, warm, and excellent person, a great friend on whom we could always rely. Jack was always ready to help, although this often meant that his own projects had to take second priority. His last project, “The solubility of beryllium sulfate and other beryllium compounds in aqueous and non-aqueous media” was left almost finished. This was typical of Jack’s selfless approach. He left a deep impression on all members of the IUPAC Commission V.8 that all subsequent chairs have continued, pursuing high scientific standards in a pleasant human environment.

Jack was also a member of the IUPAC Bureau from 1994 to 2001, member (1999-2001) and chair (2002-3) of the Project Committee, and member (1996-2003) and chair (2004-9) of the Interdivisional Committee on Terminology, Nomenclature and Symbols (ICTNS). Perhaps less known to the IUPAC community at large is that, while a member of the Bureau, it was Jack who first proposed the IUPAC Fellows scheme. Just 20 years ago, Jack chaired a Committee on Affiliate Membership, formed by the Bureau in 1995. Along with some changes in the Affiliate Membership Program, the Committee proposed that leaders in IUPAC, including chairs of committees and commissions, be made Fellows when their terms expired. The idea was strongly supported and broadened into what it is today, a way to recognize all IUPAC service.

Jack was a Fellow of The Chemical Institute of Canada, and also had a long involvement with The Electrochemistry Society. Jack was a world class researcher in various areas of physical chemistry, including thermodynamics of liquids, transport phenomena in membranes, and electrochemistry, and has published over sixty papers in these fields. He was a lifelong birder and avid naturalist with the McIlwraith Field Naturalists of London (now Nature London) and lived a life of boundless curiosity and kindness. He will be greatly missed.

We present our heartfelt condolences to his family, and in particular to his wife Shirley who many of us have had the privilege to meet at various IUPAC events.