

| COMPONENTS: 1. Sodium tellurite; Na_2TeO_3 ; [10102-20-2] 2. Sodium hydroxide; NaOH ; [1310-73-2] 3. Water; H_2O ; [7732-18-5] | ORIGINAL MEASUREMENTS: Lavut, E.A.; Vorob'eva, O.I. <i>Zh. Neorg. Khim.</i> 1960, 5, 1813-8; * <i>Russ. J. Inorg. Chem.</i> 1960, 5, 880-2. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|---------------------------|----------------|-------------------------|------------------|-------------------------|------------------|--------------------|--------|--------|--------|--------|--------|--------|-------|---|-------|-------|----|--------|----|---|------|-------|-------|------|--------|-------|---|------|-------|-------|------|--------|-------|-------|------|-------|-------|------|-------|-------|---|------|-------|-------|------|-------|-------|---|------|-------|-------|------|-------|-------|---|------|-------|-------|------|-------|-------|---|------|-------|-------|------|-------|-------|---|------|-------|-------|------|-------|-------|---|-------|-------|-------|-------|-------|-------|---|-------|------|-------|-------|-------|-------|---|-------|---|-------|-------|-------|-------|---|-------|---|-------|-------|-------|-------|---|
| VARIABLES: Concentrations of the components One temperature: 298 K | PREPARED BY: Mary R. Masson | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EXPERIMENTAL VALUES: <p style="text-align: center;">Solubility in the $\text{Na}_2\text{O} - \text{TeO}_2 - \text{H}_2\text{O}$ system at 25°C</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Na_2TeO_3</th> <th>NaOH</th> <th>Na_2O</th> <th>TeO_2</th> <th>Na_2O^a</th> <th>TeO_2^a</th> <th>Solid^b</th> </tr> <tr> <th>mass %</th> <th>mass %</th> <th>mass %</th> <th>mass %</th> <th>mol/kg</th> <th>mol/kg</th> <th>phase</th> </tr> </thead> <tbody> <tr><td>-</td><td>52.97</td><td>41.05</td><td>0.</td><td>11.235</td><td>0.</td><td>A</td></tr> <tr><td>0.35</td><td>51.69</td><td>40.17</td><td>0.25</td><td>10.878</td><td>0.026</td><td>A</td></tr> <tr><td>0.35</td><td>50.66</td><td>39.36</td><td>0.25</td><td>10.516</td><td>0.026</td><td>A + B</td></tr> <tr><td>0.69</td><td>43.62</td><td>34.00</td><td>0.50</td><td>8.375</td><td>0.048</td><td>B</td></tr> <tr><td>0.79</td><td>41.79</td><td>32.60</td><td>0.57</td><td>7.870</td><td>0.053</td><td>B</td></tr> <tr><td>0.92</td><td>39.39</td><td>30.79</td><td>0.65</td><td>7.246</td><td>0.059</td><td>B</td></tr> <tr><td>2.71</td><td>35.37</td><td>28.17</td><td>1.95</td><td>6.504</td><td>0.175</td><td>B</td></tr> <tr><td>6.32</td><td>32.27</td><td>26.78</td><td>4.55</td><td>6.292</td><td>0.415</td><td>C</td></tr> <tr><td>8.16</td><td>26.50</td><td>22.82</td><td>5.88</td><td>5.164</td><td>0.517</td><td>C</td></tr> <tr><td>23.30</td><td>12.48</td><td>16.19</td><td>16.78</td><td>3.897</td><td>1.569</td><td>C</td></tr> <tr><td>37.59</td><td>3.65</td><td>13.35</td><td>27.07</td><td>3.615</td><td>2.847</td><td>C</td></tr> <tr><td>44.95</td><td>-</td><td>12.56</td><td>32.39</td><td>3.681</td><td>3.687</td><td>C</td></tr> <tr><td>45.17</td><td>-</td><td>12.57</td><td>32.60</td><td>3.699</td><td>3.725</td><td>C</td></tr> </tbody> </table> <p style="text-align: right;">(continued on next page)</p> | | Na_2TeO_3 | NaOH | Na_2O | TeO_2 | Na_2O^a | TeO_2^a | Solid ^b | mass % | mass % | mass % | mass % | mol/kg | mol/kg | phase | - | 52.97 | 41.05 | 0. | 11.235 | 0. | A | 0.35 | 51.69 | 40.17 | 0.25 | 10.878 | 0.026 | A | 0.35 | 50.66 | 39.36 | 0.25 | 10.516 | 0.026 | A + B | 0.69 | 43.62 | 34.00 | 0.50 | 8.375 | 0.048 | B | 0.79 | 41.79 | 32.60 | 0.57 | 7.870 | 0.053 | B | 0.92 | 39.39 | 30.79 | 0.65 | 7.246 | 0.059 | B | 2.71 | 35.37 | 28.17 | 1.95 | 6.504 | 0.175 | B | 6.32 | 32.27 | 26.78 | 4.55 | 6.292 | 0.415 | C | 8.16 | 26.50 | 22.82 | 5.88 | 5.164 | 0.517 | C | 23.30 | 12.48 | 16.19 | 16.78 | 3.897 | 1.569 | C | 37.59 | 3.65 | 13.35 | 27.07 | 3.615 | 2.847 | C | 44.95 | - | 12.56 | 32.39 | 3.681 | 3.687 | C | 45.17 | - | 12.57 | 32.60 | 3.699 | 3.725 | C |
| Na_2TeO_3 | NaOH | Na_2O | TeO_2 | Na_2O^a | TeO_2^a | Solid ^b | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| mass % | mass % | mass % | mass % | mol/kg | mol/kg | phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| - | 52.97 | 41.05 | 0. | 11.235 | 0. | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.35 | 51.69 | 40.17 | 0.25 | 10.878 | 0.026 | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.35 | 50.66 | 39.36 | 0.25 | 10.516 | 0.026 | A + B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.69 | 43.62 | 34.00 | 0.50 | 8.375 | 0.048 | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.79 | 41.79 | 32.60 | 0.57 | 7.870 | 0.053 | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.92 | 39.39 | 30.79 | 0.65 | 7.246 | 0.059 | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.71 | 35.37 | 28.17 | 1.95 | 6.504 | 0.175 | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.32 | 32.27 | 26.78 | 4.55 | 6.292 | 0.415 | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8.16 | 26.50 | 22.82 | 5.88 | 5.164 | 0.517 | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23.30 | 12.48 | 16.19 | 16.78 | 3.897 | 1.569 | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37.59 | 3.65 | 13.35 | 27.07 | 3.615 | 2.847 | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 44.95 | - | 12.56 | 32.39 | 3.681 | 3.687 | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 45.17 | - | 12.57 | 32.60 | 3.699 | 3.725 | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AUXILIARY INFORMATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| METHOD APPARATUS/PROCEDURE: <p>The solubility of sodium tellurite in concentrated sodium hydroxide solutions was measured in Plexiglas vessels: equilibrium was reached in 2 - 3 days. The solutions and the solid phases were analysed for Te by the chromate method, and for sodium by alkalimetry or by precipitation as sodium zinc uranyl acetate. The solid phases were identified by Schreinemakers' method (2).</p> <p>To study the region where polytellurites may be expected, sodium tellurite solutions were mixed with tellurium dioxide or a previously synthesized polytellurite.</p> | SOURCE AND PURITY OF MATERIALS: Tellurium dioxide and sodium tellurite were freshly prepared (1). ESTIMATED ERROR: No estimates possible. REFERENCES: 1. Vorob'eva, O.I.; Lavut, E.A. <i>Zh. Neorg. Khim.</i> 1958, 3, 2006. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| COMPONENTS: | | ORIGINAL MEASUREMENTS: | | |
|--|----------------|--|------------------|--------------------|
| 1. Sodium tellurite; Na_2TeO_3 ; [10102-20-2] | | Lavut, E.A.; Vorob'eva, O.I. | | |
| 2. Sodium hydroxide; NaOH ; [1310-73-2] | | <i>Zh. Neorg. Khim.</i> 1960, 5, 1813-8; * <i>Russ. J. Inorg. Chem.</i> 1960, 5, 880-2. | | |
| 3. Water; H_2O ; [7732-18-5] | | | | |
| EXPERIMENTAL VALUES (continued): | | | | |
| Na_2O | TeO_2 | Na_2O^a | TeO_2^a | Solid ^b |
| mass % | mass % | mol/kg | mol/kg | phase |
| 12.79 | 34.60 | 3.922 | 4.121 | C |
| 12.90 | 36.30 | 4.097 | 4.477 | C + D |
| 12.78 | 35.75 | 4.006 | 4.352 | D |
| 12.62 | 34.91 | 3.881 | 4.169 | D |
| 11.93 | 34.53 | 3.595 | 4.041 | E |
| 11.67 | 33.23 | 3.417 | 3.779 | E |
| 10.75 | 31.33 | 2.995 | 3.389 | E |
| 10.00 | 27.67 | 2.589 | 2.782 | F |
| 9.46 | 24.70 | 2.318 | 2.351 | F |
| 7.45 | 20.34 | 1.665 | 1.765 | F |
| 5.82 | 16.89 | 1.215 | 1.369 | F |
| 5.37 | 14.80 | 1.085 | 1.162 | F |
| 4.46 | 13.35 | 0.876 | 1.018 | F |
| 3.62 | 10.52 | 0.680 | 0.768 | F |
| 1.47 | 4.48 | 0.252 | 0.298 | F |
| 1.09 | 3.36 | 0.184 | 0.220 | F |
| 1.05 | 2.75 | 0.176 | 0.179 | F |
| 0.78 | 2.43 | 0.130 | 0.157 | G |
| 0.65 | 2.03 | 0.108 | 0.131 | G |

^a Molalities calculated by the compiler.

^b Solid phases: A - $\text{NaOH}\cdot\text{H}_2\text{O}$, B - Na_2TeO_3 , C - $\text{Na}_2\text{TeO}_3\cdot 5\text{H}_2\text{O}$,
D - $\text{Na}_2\text{TeO}_2\text{O}_5\cdot 3\text{H}_2\text{O}$, E - $\text{Na}_2\text{Te}_3\text{O}_7\cdot 5\text{H}_2\text{O}$,
F - $\text{Na}_2\text{Te}_4\text{O}_9\cdot 5\text{H}_2\text{O}$, G - TeO_2

| COMPONENTS: 1. Sodium tellurite; Na ₂ TeO ₃ ; [10102-20-2] 2. Sodium hydroxide; NaOH; [1310-73-2] 3. Water; H ₂ O; [7732-18-5] | ORIGINAL MEASUREMENTS: Lavut, E.A.; Vorob'eva, O.I.; Shul'gina, I.M. Zh. Neorg. Khim. 1961, 6, 2758-61; *Russ. J. Inorg. Chem. 1961, 6, 1394-6. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|--|----------------------------|--|---|--|---|-----------------------------|------|-------|-------|------|-------|-------|---|-------|-------|-------|------|-------|-------|---|-------|-------|-------|-------|-------|-------|---|-------|------|-------|-------|-------|-------|---|-------|------|-------|-------|-------|-------|---|-------|------|-------|-------|-------|-------|---|-------|------|-------|-------|-------|-------|---|-------|------|-------|-------|-------|-------|---|-------|------|-------|-------|-------|-------|---|-------|---|-------|-------|-------|-------|---|
| VARIABLES: Concentrations of the components One temperature: 343 K | PREPARED BY: Mary R. Masson | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EXPERIMENTAL VALUES: Solubility in the Na ₂ O - TeO ₂ - H ₂ O system at 70°C <table border="1" data-bbox="201 504 1075 846"> <thead> <tr> <th>Na₂TeO₃ mass %</th> <th>NaOH mass %</th> <th>Na₂O mass %</th> <th>TeO₂ mass %</th> <th>Na₂O^a mol/kg</th> <th>TeO₂^a mol/kg</th> <th>Solid^b phase</th> </tr> </thead> <tbody> <tr><td>0.79</td><td>44.68</td><td>34.80</td><td>0.57</td><td>8.687</td><td>0.055</td><td>B</td></tr> <tr><td>11.58</td><td>25.44</td><td>22.96</td><td>8.34</td><td>5.392</td><td>0.761</td><td>B</td></tr> <tr><td>24.92</td><td>16.47</td><td>19.73</td><td>17.95</td><td>4.772</td><td>1.776</td><td>B</td></tr> <tr><td>38.13</td><td>9.72</td><td>18.19</td><td>27.46</td><td>5.400</td><td>3.166</td><td>B</td></tr> <tr><td>43.12</td><td>6.81</td><td>17.35</td><td>31.06</td><td>5.426</td><td>3.772</td><td>C</td></tr> <tr><td>46.13</td><td>4.94</td><td>16.73</td><td>33.23</td><td>5.394</td><td>4.161</td><td>C</td></tr> <tr><td>50.58</td><td>2.66</td><td>16.21</td><td>36.44</td><td>5.523</td><td>4.822</td><td>C</td></tr> <tr><td>52.90</td><td>1.08</td><td>15.64</td><td>38.11</td><td>5.456</td><td>5.163</td><td>C</td></tr> <tr><td>53.70</td><td>0.30</td><td>15.25</td><td>38.76</td><td>5.350</td><td>5.281</td><td>C</td></tr> <tr><td>55.53</td><td>-</td><td>15.54</td><td>39.99</td><td>5.638</td><td>5.634</td><td>C</td></tr> </tbody> </table> <p style="text-align: right;">(continued on next page)</p> | | Na ₂ TeO ₃ mass % | NaOH mass % | Na ₂ O mass % | TeO ₂ mass % | Na ₂ O ^a mol/kg | TeO ₂ ^a mol/kg | Solid ^b phase | 0.79 | 44.68 | 34.80 | 0.57 | 8.687 | 0.055 | B | 11.58 | 25.44 | 22.96 | 8.34 | 5.392 | 0.761 | B | 24.92 | 16.47 | 19.73 | 17.95 | 4.772 | 1.776 | B | 38.13 | 9.72 | 18.19 | 27.46 | 5.400 | 3.166 | B | 43.12 | 6.81 | 17.35 | 31.06 | 5.426 | 3.772 | C | 46.13 | 4.94 | 16.73 | 33.23 | 5.394 | 4.161 | C | 50.58 | 2.66 | 16.21 | 36.44 | 5.523 | 4.822 | C | 52.90 | 1.08 | 15.64 | 38.11 | 5.456 | 5.163 | C | 53.70 | 0.30 | 15.25 | 38.76 | 5.350 | 5.281 | C | 55.53 | - | 15.54 | 39.99 | 5.638 | 5.634 | C |
| Na ₂ TeO ₃ mass % | NaOH mass % | Na ₂ O mass % | TeO ₂ mass % | Na ₂ O ^a mol/kg | TeO ₂ ^a mol/kg | Solid ^b phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0.79 | 44.68 | 34.80 | 0.57 | 8.687 | 0.055 | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11.58 | 25.44 | 22.96 | 8.34 | 5.392 | 0.761 | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24.92 | 16.47 | 19.73 | 17.95 | 4.772 | 1.776 | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 38.13 | 9.72 | 18.19 | 27.46 | 5.400 | 3.166 | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43.12 | 6.81 | 17.35 | 31.06 | 5.426 | 3.772 | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 46.13 | 4.94 | 16.73 | 33.23 | 5.394 | 4.161 | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50.58 | 2.66 | 16.21 | 36.44 | 5.523 | 4.822 | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 52.90 | 1.08 | 15.64 | 38.11 | 5.456 | 5.163 | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 53.70 | 0.30 | 15.25 | 38.76 | 5.350 | 5.281 | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 55.53 | - | 15.54 | 39.99 | 5.638 | 5.634 | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AUXILIARY INFORMATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| METHOD APPARATUS/PROCEDURE: Isothermal dissolution and isothermal crystallization methods were used to determine the solubilities. Glass or Perspex vessels were employed; equilibrium was usually reached after 8 - 10 hr. The solutions and the solid phases, after separation, were analysed for tellurium and sodium (1), and the compositions of the solid phases were established by Schreinemakers' method. | SOURCE AND PURITY OF MATERIALS: Tellurium dioxide, sodium tellurite and sodium tetratellurite were synthesized. ESTIMATED ERROR: No estimates possible. REFERENCES: 1. Lavut, E.A.; Vorob'eva, O.I. Zh. Neorg. Khim. 1960, 3, 1813. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| COMPONENTS: | | | ORIGINAL MEASUREMENTS: | | |
|--|----------------|-------------------------|---|------------------------------------|--------------------|
| 1. Sodium tellurite; Na_2TeO_3 ; [10102-20-2] | | | Lavut, E.A.; Vorob'eva, O.I.; Shul'gina, I.M. | | |
| 2. Sodium hydroxide; NaOH ; [1310-73-2] | | | Zh. Neorg. Khim. 1961, 6, 2758-61; *Russ. J. Inorg. Chem. 1961, 6, 1394-6. | | |
| 3. Water; H_2O ; [7732-18-5] | | | | | |
| EXPERIMENTAL VALUES (continued): | | | | | |
| Na_2O | TeO_2 | Na_2O^a | TeO_2^a | Mole ratio | Solid ^b |
| mass % | mass % | mol/kg | mol/kg | $\text{Na}_2\text{O}:\text{TeO}_2$ | phase |
| 15.54 | 39.99 | 5.638 | 5.634 | 1:1.0 | C |
| 15.22 | 40.75 | 5.577 | 5.799 | 1:1.04 | C + D |
| 15.22 | 40.33 | 5.524 | 5.685 | 1:1.02 | C + D |
| 14.05 | 39.26 | 4.855 | 5.269' | 1:1.08 | D |
| 13.92 | 37.73 | 4.645 | 4.889 | 1:1.05 | D |
| 13.32 | 37.14 | 4.338 | 4.697 | 1:1.08 | D |
| 11.93 | 35.02 | 3.628 | 4.136 | 1:1.13 | D |
| 10.93 | 34.64 | 3.240 | 3.988 | 1:1.23 | F |
| 10.90 | 32.52 | 3.108 | 3.601 | 1:1.16 | F |
| 7.27 | 22.74 | 1.676 | 2.036 | 1:1.22 | F |
| 5.71 | 18.15 | 1.210 | 1.494 | 1:1.23 | F |
| 2.28 | 8.06 | 0.410 | 0.563 | 1:1.36 | F |
| 1.73 | 6.14 | 0.303 | 0.418 | 1:1.37 | F |
| 1.05 | 3.62 | 0.178 | 0.238 | 1:1.34 | F |
| 0.70 | 2.73 | 0.117 | 0.177 | 1:1.51 | G |

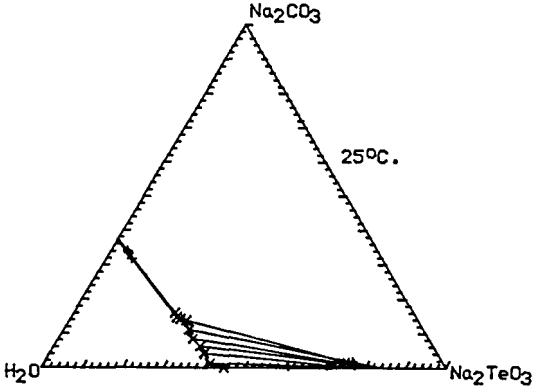
^a Molalities calculated by the compiler.

^b Solid phases: B - Na_2TeO_3 , C - $\text{Na}_2\text{TeO}_3 \cdot 5\text{H}_2\text{O}$, D - $\text{Na}_2\text{Te}_2\text{O}_5 \cdot 3\text{H}_2\text{O}$,
F - $\text{Na}_2\text{Te}_3\text{O}_7 \cdot 5\text{H}_2\text{O}$, G - TeO_2

70°C.

70°C.

e - see page 408

| COMPONENTS: 1. Sodium tellurite; Na_2TeO_3 ; [10102-20-2] 2. Sodium carbonate; Na_2CO_3 ; [497-19-8] 3. Water; H_2O ; [7732-18-5] | ORIGINAL MEASUREMENTS: Kunev, D.K.; Vassilev, H. <i>C.R. Acad. Bulg. Sci.</i> <u>1968</u> , 21, 233-5. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|-------------------------------------|--------------------------------------|-------------------------------------|--------------------------------------|-----------------------------|-------|---|-------|-----|---|-------|------|-------|-------|---|-------|------|-------|-------|---|-------|------|-------|-------|---|-------|------|-------|-------|---|-------|-------|-------|-------|---|-------|-------|-------|-------|---|-------|-------|-------|-------|---|-------|-------|-------|-------|---|-------|-------|-------|-------|---|
| VARIABLES: Concentrations of the components One temperature: 298 K | PREPARED BY: Mary R. Masson | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EXPERIMENTAL VALUES: Composition of the solution phase at 25°C <table border="1" data-bbox="77 499 628 822"> <thead> <tr> <th>Na_2TeO_3 mass %</th> <th>Na_2CO_3 mass %</th> <th>Na_2TeO_3 mol/kg</th> <th>Na_2CO_3^a mol/kg</th> <th>Solid^b phase</th> </tr> </thead> <tbody> <tr><td>44.97</td><td>-</td><td>3.688</td><td>0.0</td><td>A</td></tr> <tr><td>40.97</td><td>1.15</td><td>3.195</td><td>0.187</td><td>A</td></tr> <tr><td>38.12</td><td>4.01</td><td>2.973</td><td>0.654</td><td>B</td></tr> <tr><td>36.08</td><td>6.14</td><td>2.818</td><td>1.003</td><td>B</td></tr> <tr><td>33.12</td><td>8.29</td><td>2.551</td><td>1.335</td><td>B</td></tr> <tr><td>30.80</td><td>11.03</td><td>2.390</td><td>1.789</td><td>B</td></tr> <tr><td>28.71</td><td>13.76</td><td>2.252</td><td>2.257</td><td>B</td></tr> <tr><td>27.02</td><td>14.23</td><td>1.076</td><td>2.285</td><td>C</td></tr> <tr><td>25.92</td><td>14.76</td><td>1.972</td><td>2.348</td><td>C</td></tr> <tr><td>24.84</td><td>15.92</td><td>1.892</td><td>2.535</td><td>C</td></tr> </tbody> </table>  <p>^a Molalities calculated by the compiler.</p> <p>^b Solid phases: A - $\text{Na}_2\text{TeO}_3 \cdot 5\text{H}_2\text{O}$, B - $\text{Na}_2\text{TeO}_3 \cdot 3\text{H}_2\text{O}$, C - $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$</p> | | Na_2TeO_3 mass % | Na_2CO_3 mass % | Na_2TeO_3 mol/kg | Na_2CO_3^a mol/kg | Solid ^b phase | 44.97 | - | 3.688 | 0.0 | A | 40.97 | 1.15 | 3.195 | 0.187 | A | 38.12 | 4.01 | 2.973 | 0.654 | B | 36.08 | 6.14 | 2.818 | 1.003 | B | 33.12 | 8.29 | 2.551 | 1.335 | B | 30.80 | 11.03 | 2.390 | 1.789 | B | 28.71 | 13.76 | 2.252 | 2.257 | B | 27.02 | 14.23 | 1.076 | 2.285 | C | 25.92 | 14.76 | 1.972 | 2.348 | C | 24.84 | 15.92 | 1.892 | 2.535 | C |
| Na_2TeO_3 mass % | Na_2CO_3 mass % | Na_2TeO_3 mol/kg | Na_2CO_3^a mol/kg | Solid ^b phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 44.97 | - | 3.688 | 0.0 | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40.97 | 1.15 | 3.195 | 0.187 | A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 38.12 | 4.01 | 2.973 | 0.654 | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36.08 | 6.14 | 2.818 | 1.003 | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33.12 | 8.29 | 2.551 | 1.335 | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30.80 | 11.03 | 2.390 | 1.789 | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28.71 | 13.76 | 2.252 | 2.257 | B | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27.02 | 14.23 | 1.076 | 2.285 | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25.92 | 14.76 | 1.972 | 2.348 | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24.84 | 15.92 | 1.892 | 2.535 | C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AUXILIARY INFORMATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| METHOD APPARATUS/PROCEDURE: Isothermal dissolution and crystallization were used to determine the solubilities in the system. Equilibrium was established in 18 - 20 hr. Glass covered vessels were used, and they were kept in a thermostat at $25 \pm 0.5^\circ\text{C}$ while equilibrium was established. The liquid and solid phases were analysed for tellurium and sodium by titration with dichromate and acid, respectively. The solid phases were identified by the method of Schreinemakers. | SOURCE AND PURITY OF MATERIALS: Sodium tellurite was prepared by sintering equivalent amounts of sodium carbonate and tellurium dioxide at 550° in an atmosphere of CO_2 . The TeO_2 used in the synthesis was repeatedly purified by dissolution in sodium hydroxide, neutralization to pH 9 - 10, where impurities precipitated as hydroxides, then neutralization of the filtrate to pH 5.5 to precipitate TeO_2 . ESTIMATED ERROR: Temperature: ± 0.5 K REFERENCES: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| COMPONENTS: | | ORIGINAL MEASUREMENTS: | | | | |
|---|---------------------------|---|---------------------------------|----------------------------|--------------------|--|
| 1. Sodium tellurite; Na_2TeO_3 ; [10102-20-2] 2. Sodium carbonate; Na_2CO_3 ; [497-19-8] 3. Water; H_2O ; [7732-18-5] | | Chimbulev, M.; Vasilev, Kh.; Kunev, D. <i>Khim. Ind. (Sofia)</i> <u>1973</u> , 45, 71-3. | | | | |
| VARIABLES: | | PREPARED BY: | | | | |
| Concentrations of the components Three temperatures: 303, 333 and 363 K | | Mary R. Masson | | | | |
| EXPERIMENTAL VALUES: | | Composition of the solution phase | | | | |
| | Na_2TeO_3 | Na_2CO_3 | $\text{Na}_2\text{TeO}_3^a$ | Na_2CO_3^a | Solid ^b | |
| | mass % | mass % | mol/kg | mol/kg | phase | |
| | <u>Temperature = 30°C</u> | | | | | |
| | 46.23 | - | 3.800 | 0. | A | |
| | 39.10 | 5.68 | 3.196 | 0.970 | A | |
| | 32.91 | 12.37 | 2.714 | 2.133 | A | |
| | 31.33 | 14.52 | 2.611 | 2.530 | A + D | |
| | 22.98 | 17.84 | 1.752 | 2.844 | D | |
| | 15.67 | 21.30 | 1.122 | 3.188 | D | |
| | 10.04 | 25.91 | 0.707 | 3.817 | D | |
| | 8.1 | 27.2 | 0.565 | 3.966 | D + C | |
| | 6.24 | 27.52 | 0.425 | 3.920 | C | |
| | 3.35 | 27.90 | 0.220 | 3.829 | C | |
| | - | 28.14 | 0. | 3.695 | C | |
| | <u>Temperature = 60°C</u> | | | | | |
| | 51.68 | | 4.827 | 0. | A | |
| | 48.53 | 2.03 | 4.430 | 0.387 | A | |
| | 46.07 | 4.26 | 4.186 | 0.809 | A | |
| | 44.15 | 6.73 | 4.056 | 1.293 | A + E | |
| | 41.61 | 8.69 | 3.778 | 1.650 | E | |
| | 33.02 | 10.46 | 2.637 | 1.746 | E | |
| | 27.14 | 14.32 | 2.092 | 2.308 | E | |
| | 21.10 | 17.65 | 1.555 | 2.719 | E | |
| | 14.21 | 20.97 | 0.989 | 3.052 | E | |
| | 7.96 | 25.58 | 0.541 | 3.631 | E | |
| | - | 31.42 | 0. | 4.323 | E | |
| (continued on next page) | | | | | | |
| AUXILIARY INFORMATION | | | | | | |
| METHOD APPARATUS/PROCEDURE: | | | SOURCE AND PURITY OF MATERIALS: | | | |
| The method of isothermal dissolution was used. Equilibrium required 8 - 12 hr. The solid phases were identified by the method of Streinmekers, and by X-ray methods. | | | | | | |
| | | | ESTIMATED ERROR: | | | |
| | | | Temperature: ± 0.1 K | | | |
| | | | REFERENCES: | | | |

COMPONENTS:

1. Sodium tellurite; Na_2TeO_3 ; [10102-20-2]
2. Sodium carbonate; Na_2CO_3 ; [497-19-8]
3. Water; H_2O ; [7732-18-5]

ORIGINAL MEASUREMENTS:

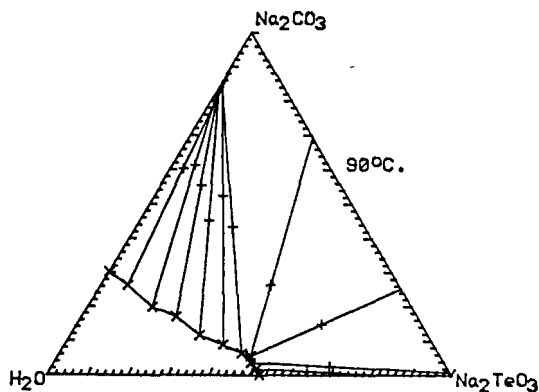
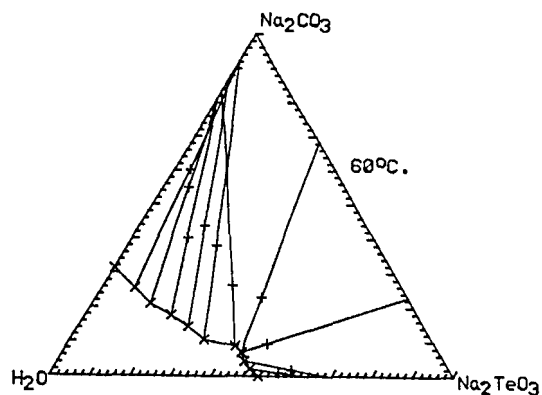
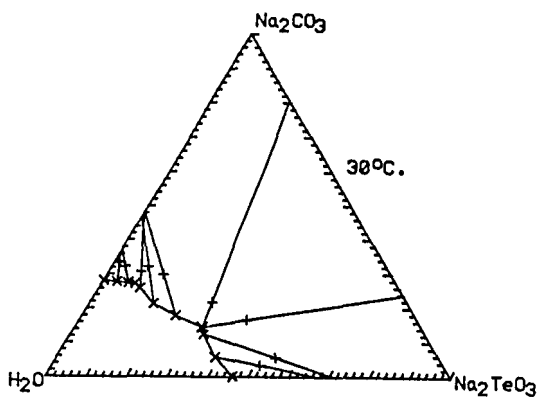
Chimbulev, M.; Vasilev, Kh.; Kunev, D.
Khim. Ind. (Sofia) 1973, 45, 71-3.

EXPERIMENTAL VALUES (continued):

| Na_2TeO_3 mass % | Na_2CO_3 mass % | $\text{Na}_2\text{TeO}_3^a$ mol/kg | Na_2CO_3^a mol/kg | Solid ^b phase |
|-------------------------------------|------------------------------------|---------------------------------------|--------------------------------------|-----------------------------|
| <u>Temperature = 90°C</u> | | | | |
| 52.46 | | 4.980 | 0. | F |
| 50.79 | 1.71 | 4.826 | 0.340 | F |
| 48.65 | 3.57 | 4.595 | 0.705 | F |
| 47.53 | 5.44 | 4.561 | 1.091 | F + E |
| 44.92 | 6.28 | 4.154 | 1.214 | E |
| 39.07 | 8.84 | 3.385 | 1.601 | E |
| 31.86 | 11.51 | 2.539 | 1.918 | E |
| 23.34 | 16.94 | 1.764 | 2.676 | E |
| 15.81 | 19.87 | 1.109 | 2.915 | E |
| 6.59 | 26.28 | 0.443 | 3.694 | E |
| - | 30.15 | 0. | 4.072 | E |

^a Molalities calculated by the compiler.

^b Solid phases: A - $\text{Na}_2\text{TeO}_3 \cdot 5\text{H}_2\text{O}$, B - $\text{Na}_2\text{TeO}_3 \cdot 3\text{H}_2\text{O}$, C - $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$,
 D - $\text{Na}_2\text{CO}_3 \cdot 5\text{H}_2\text{O}$, E - $\text{Na}_2\text{CO}_3 \cdot \text{H}_2\text{O}$, F - Na_2TeO_3



| | |
|---|--|
| COMPONENTS: 1. Sodium tellurite; Na_2TeO_3 ; [10102-20-2] 2. Sulfuric acid; H_2SO_4 ; [7664-93-9] 3. Water; H_2O ; [7732-18-5] | ORIGINAL MEASUREMENTS: Babayan, G.G.; Kapantsyan, E.E.; Arutyunyan, M.G.; Akopyan, Z.A. <i>Arm. Khim. Zh.</i> <u>1973</u> , 26, 467-72. |
| VARIABLES: One temperature: 298 K Concentrations of the components | PREPARED BY: Mary R. Masson |
| EXPERIMENTAL VALUES: The results were presented only in the form of a diagram. <div style="text-align: center;"> </div> <p>Solid phases: I - $4\text{H}_2\text{SO}_4 \cdot \text{Na}_2\text{TeO}_3 \cdot \text{H}_2\text{O}$; II - $4\text{H}_2\text{SO}_4 \cdot \text{Na}_2\text{TeO}_3 \cdot 4\text{H}_2\text{O}$; III - $3\text{H}_2\text{SO}_4 \cdot \text{Na}_2\text{TeO}_3 \cdot 3\text{H}_2\text{O}$; IV - $\text{H}_2\text{SO}_4 \cdot 3\text{Na}_2\text{TeO}_3 \cdot 10\text{H}_2\text{O}$; V - $\text{Na}_2\text{TeO}_3 \cdot 5\text{H}_2\text{O}$</p> | |
| AUXILIARY INFORMATION | |
| METHOD APPARATUS/PROCEDURE: | SOURCE AND PURITY OF MATERIALS: ESTIMATED ERROR: No estimate possible. REFERENCES: |

| COMPONENTS: 1. Sodium tellurite; Na ₂ TeO ₃ ; [10102-20-2] 2. Perchloric acid; HClO ₄ ; [7601-90-3] 3. Water; H ₂ O; [7732-18-5] | ORIGINAL MEASUREMENTS: Masson, M.R. <i>J. Inorg. Nucl. Chem.</i> <u>1976</u> , 38, 545-8. Masson, M.R. <i>unpublished data</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|------------------------------------|-------------|-------------|------------------------|-----|-----|----|--------|------------------|------------------------|-----|-----|----|--------|------------------|-------------------------|-----|-----|----|--------|------------------|------------------------|-----|------|----|-------|------------------------------------|------------------------|-----|-----|----|--------|------------------------------------|
| VARIABLES: Temperature: 293 - 300 K Composition | PREPARED BY: Mary R. Masson | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EXPERIMENTAL VALUES: Concentrations are expressed in terms of mol dm ⁻³ <table border="1" data-bbox="241 483 1075 766"> <thead> <tr> <th>Minimum solubility</th> <th>pK_{H₃L}^H</th> <th>pK_{H₂L}^H</th> <th>Temp.</th> <th>Equil. time</th> <th>Solid phase</th> </tr> </thead> <tbody> <tr> <td>1.2 x 10⁻⁵</td> <td>2.7</td> <td>6.3</td> <td>20</td> <td>1 week</td> <td>TeO₂</td> </tr> <tr> <td>1.2 x 10⁻⁵</td> <td>2.9</td> <td>6.3</td> <td>25</td> <td>1 week</td> <td>TeO₂</td> </tr> <tr> <td>1.15 x 10⁻⁵</td> <td>3.0</td> <td>6.1</td> <td>30</td> <td>1 week</td> <td>TeO₂</td> </tr> <tr> <td>5.0 x 10⁻⁴</td> <td>2.8</td> <td>6.25</td> <td>20</td> <td>5 min</td> <td>"H₂TeO₃"</td> </tr> <tr> <td>3.5 x 10⁻⁴</td> <td>2.7</td> <td>6.2</td> <td>30</td> <td>30 min</td> <td>"H₂TeO₃"</td> </tr> </tbody> </table> <p>The solubility at any particular pH can be found from the equation (1)</p> $\log (S/S_0 - 1) = \text{pH} - \text{pK}$ <p>where S is the solubility to be found, S_0 is the minimum solubility, and pK is $\text{pK}_{\text{H}_3\text{L}}^{\text{H}}$ for pH-values between 2 and 4, and $\text{pK}_{\text{H}_2\text{L}}^{\text{H}}$ for pH-values between 5 and 7.5. The solubility between pH 4 and 5 is approximately equal to the minimum value.</p> <p style="text-align: right;">(continued on next page)</p> | | Minimum solubility | pK _{H₃L} ^H | pK _{H₂L} ^H | Temp. | Equil. time | Solid phase | 1.2 x 10 ⁻⁵ | 2.7 | 6.3 | 20 | 1 week | TeO ₂ | 1.2 x 10 ⁻⁵ | 2.9 | 6.3 | 25 | 1 week | TeO ₂ | 1.15 x 10 ⁻⁵ | 3.0 | 6.1 | 30 | 1 week | TeO ₂ | 5.0 x 10 ⁻⁴ | 2.8 | 6.25 | 20 | 5 min | "H ₂ TeO ₃ " | 3.5 x 10 ⁻⁴ | 2.7 | 6.2 | 30 | 30 min | "H ₂ TeO ₃ " |
| Minimum solubility | pK _{H₃L} ^H | pK _{H₂L} ^H | Temp. | Equil. time | Solid phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.2 x 10 ⁻⁵ | 2.7 | 6.3 | 20 | 1 week | TeO ₂ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.2 x 10 ⁻⁵ | 2.9 | 6.3 | 25 | 1 week | TeO ₂ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.15 x 10 ⁻⁵ | 3.0 | 6.1 | 30 | 1 week | TeO ₂ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.0 x 10 ⁻⁴ | 2.8 | 6.25 | 20 | 5 min | "H ₂ TeO ₃ " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.5 x 10 ⁻⁴ | 2.7 | 6.2 | 30 | 30 min | "H ₂ TeO ₃ " | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AUXILIARY INFORMATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| METHOD APPARATUS/PROCEDURE: Solutions of sodium tellurite were adjusted to a range of pH-values by addition of perchloric acid. After the necessary equilibration time, aliquots were removed, filtered, then analysed for tellurite by titration with potassium permanganate (2) or silver nitrate (3). $K_{\text{H}_3\text{L}}^{\text{H}} = \frac{[\text{H}_2\text{TeO}_3][\text{H}^+]}{[\text{H}_3\text{TeO}_3^+]}$ $K_{\text{H}_2\text{L}}^{\text{H}} = \frac{[\text{HTeO}_3^-][\text{H}^+]}{[\text{H}_2\text{TeO}_3]}$ | SOURCE AND PURITY OF MATERIALS: Sodium tellurite was prepared from Koch-Light electronic grade tellurium dioxide (99.998% pure). Other reagents were AnalaR grade. ESTIMATED ERROR: Temperature: ±0.1 K pK-values: ±0.2 - 0.3 Analyses: ±10% at 10 ⁻⁵ mol dm ⁻³ level, ± 1% at higher levels. REFERENCES: <ol style="list-style-type: none"> Krebs, H.A.; Speakman, J.C. <i>J. Chem. Soc.</i> <u>1945</u>, 593. Issa, I.M.; Awad, S.A. <i>Analyst</i> <u>1953</u>, 78, 487. Masson, M.R. <i>Mikrochim. Acta</i> <u>1976 I</u>, 399. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| COMPONENTS: | ORIGINAL MEASUREMENTS: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--------------------------------|------|-------|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|------|--------------------------------|------|------|------|-------|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|
| 1. Sodium tellurite; Na_2TeO_3 ; [10102-20-2] 2. Perchloric acid; HClO_4 ; [7601-90-3] 3. Water; H_2O ; [7732-18-5] | Masson, M.R. <i>J. Inorg. Nucl. Chem.</i> 1976, 38, 545-8. Masson, M.R. unpublished data | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EXPERIMENTAL VALUES (continued): | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Solubility of " TeO_2 " Temperature = 20°C | Solubility of " H_2TeO_3 " Temperature = 20°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>pH</th> <th>concentration $\times 10^5$</th> </tr> </thead> <tbody> <tr><td>8.25</td><td>446</td></tr> <tr><td>8.25</td><td>235</td></tr> <tr><td>8.14</td><td>137</td></tr> <tr><td>7.60</td><td>30.8</td></tr> <tr><td>7.27</td><td>10.8</td></tr> <tr><td>7.11</td><td>8.4</td></tr> <tr><td>6.80</td><td>5.45</td></tr> <tr><td>6.27</td><td>1.68</td></tr> <tr><td>4.19</td><td>1.40</td></tr> <tr><td>4.17</td><td>1.31</td></tr> <tr><td>3.84</td><td>1.21</td></tr> <tr><td>3.44</td><td>1.48</td></tr> <tr><td>2.77</td><td>2.05</td></tr> <tr><td>2.43</td><td>3.0</td></tr> </tbody> </table> | pH | concentration $\times 10^5$ | 8.25 | 446 | 8.25 | 235 | 8.14 | 137 | 7.60 | 30.8 | 7.27 | 10.8 | 7.11 | 8.4 | 6.80 | 5.45 | 6.27 | 1.68 | 4.19 | 1.40 | 4.17 | 1.31 | 3.84 | 1.21 | 3.44 | 1.48 | 2.77 | 2.05 | 2.43 | 3.0 | <table border="1"> <thead> <tr> <th>pH</th> <th>concentration $\times 10^4$</th> </tr> </thead> <tbody> <tr><td>8.12</td><td>187</td></tr> <tr><td>7.83</td><td>93.5</td></tr> <tr><td>7.63</td><td>74.8</td></tr> <tr><td>7.42</td><td>46.7</td></tr> <tr><td>7.13</td><td>26.7</td></tr> <tr><td>6.88</td><td>18.7</td></tr> <tr><td>6.30</td><td>9.35</td></tr> <tr><td>5.83</td><td>6.23</td></tr> <tr><td>4.95</td><td>4.67</td></tr> <tr><td>4.29</td><td>3.74</td></tr> <tr><td>3.41</td><td>2.41</td></tr> <tr><td>2.98</td><td>9.00</td></tr> <tr><td>2.57</td><td>12.2</td></tr> <tr><td>2.49</td><td>12.84</td></tr> <tr><td>1.685</td><td>108</td></tr> </tbody> </table> | pH | concentration $\times 10^4$ | 8.12 | 187 | 7.83 | 93.5 | 7.63 | 74.8 | 7.42 | 46.7 | 7.13 | 26.7 | 6.88 | 18.7 | 6.30 | 9.35 | 5.83 | 6.23 | 4.95 | 4.67 | 4.29 | 3.74 | 3.41 | 2.41 | 2.98 | 9.00 | 2.57 | 12.2 | 2.49 | 12.84 | 1.685 | 108 |
| pH | concentration $\times 10^5$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8.25 | 446 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8.25 | 235 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8.14 | 137 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.60 | 30.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.27 | 10.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.11 | 8.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.80 | 5.45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.27 | 1.68 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.19 | 1.40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.17 | 1.31 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.84 | 1.21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.44 | 1.48 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.77 | 2.05 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.43 | 3.0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| pH | concentration $\times 10^4$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8.12 | 187 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.83 | 93.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.63 | 74.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.42 | 46.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.13 | 26.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.88 | 18.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.30 | 9.35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.83 | 6.23 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.95 | 4.67 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.29 | 3.74 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.41 | 2.41 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.98 | 9.00 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.57 | 12.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.49 | 12.84 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1.685 | 108 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature = 25°C | Temperature = 30°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tbody> <tr><td>8.46</td><td>451</td></tr> <tr><td>8.45</td><td>227</td></tr> <tr><td>8.29</td><td>152</td></tr> <tr><td>7.62</td><td>31.4</td></tr> <tr><td>7.30</td><td>12.2</td></tr> <tr><td>7.02</td><td>8.1</td></tr> <tr><td>6.73</td><td>5.85</td></tr> <tr><td>6.68</td><td>4.2</td></tr> <tr><td>6.18</td><td>1.9</td></tr> <tr><td>4.21</td><td>1.6</td></tr> <tr><td>4.13</td><td>1.1</td></tr> <tr><td>3.87</td><td>1.2</td></tr> <tr><td>3.46</td><td>1.55</td></tr> <tr><td>2.81</td><td>2.9</td></tr> <tr><td>2.43</td><td>3.55</td></tr> </tbody> </table> | 8.46 | 451 | 8.45 | 227 | 8.29 | 152 | 7.62 | 31.4 | 7.30 | 12.2 | 7.02 | 8.1 | 6.73 | 5.85 | 6.68 | 4.2 | 6.18 | 1.9 | 4.21 | 1.6 | 4.13 | 1.1 | 3.87 | 1.2 | 3.46 | 1.55 | 2.81 | 2.9 | 2.43 | 3.55 | <table border="1"> <tbody> <tr><td>7.42</td><td>47.9</td></tr> <tr><td>7.28</td><td>36.4</td></tr> <tr><td>7.04</td><td>26.45</td></tr> <tr><td>6.77</td><td>16.35</td></tr> <tr><td>6.16</td><td>6.35</td></tr> <tr><td>5.61</td><td>4.35</td></tr> <tr><td>4.88</td><td>3.75</td></tr> <tr><td>4.50</td><td>3.55</td></tr> <tr><td>4.38</td><td>3.80</td></tr> <tr><td>3.85</td><td>3.9</td></tr> <tr><td>3.80</td><td>3.75</td></tr> <tr><td>3.57</td><td>3.9</td></tr> <tr><td>3.44</td><td>3.95</td></tr> <tr><td>3.21</td><td>4.7</td></tr> <tr><td>2.61</td><td>6.3</td></tr> <tr><td>2.33</td><td>10.6</td></tr> </tbody> </table> | 7.42 | 47.9 | 7.28 | 36.4 | 7.04 | 26.45 | 6.77 | 16.35 | 6.16 | 6.35 | 5.61 | 4.35 | 4.88 | 3.75 | 4.50 | 3.55 | 4.38 | 3.80 | 3.85 | 3.9 | 3.80 | 3.75 | 3.57 | 3.9 | 3.44 | 3.95 | 3.21 | 4.7 | 2.61 | 6.3 | 2.33 | 10.6 |
| 8.46 | 451 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8.45 | 227 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8.29 | 152 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.62 | 31.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.30 | 12.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.02 | 8.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.73 | 5.85 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.68 | 4.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.18 | 1.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.21 | 1.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.13 | 1.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.87 | 1.2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.46 | 1.55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.81 | 2.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.43 | 3.55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.42 | 47.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.28 | 36.4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.04 | 26.45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.77 | 16.35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.16 | 6.35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5.61 | 4.35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.88 | 3.75 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.50 | 3.55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.38 | 3.80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.85 | 3.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.80 | 3.75 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.57 | 3.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.44 | 3.95 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.21 | 4.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.61 | 6.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.33 | 10.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Temperature = 30°C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tbody> <tr><td>8.44</td><td>479</td></tr> <tr><td>8.28</td><td>264.5</td></tr> <tr><td>8.16</td><td>163.5</td></tr> <tr><td>7.32</td><td>35</td></tr> <tr><td>7.22</td><td>12.7</td></tr> <tr><td>6.84</td><td>7.1</td></tr> <tr><td>6.48</td><td>5.9</td></tr> <tr><td>6.29</td><td>2.3</td></tr> <tr><td>6.02</td><td>1.9</td></tr> <tr><td>4.15</td><td>2.3</td></tr> <tr><td>4.00</td><td>1.1</td></tr> <tr><td>3.83</td><td>1.9</td></tr> <tr><td>3.34</td><td>2.5</td></tr> <tr><td>2.76</td><td>2.6</td></tr> <tr><td>2.34</td><td>6.1</td></tr> </tbody> </table> | 8.44 | 479 | 8.28 | 264.5 | 8.16 | 163.5 | 7.32 | 35 | 7.22 | 12.7 | 6.84 | 7.1 | 6.48 | 5.9 | 6.29 | 2.3 | 6.02 | 1.9 | 4.15 | 2.3 | 4.00 | 1.1 | 3.83 | 1.9 | 3.34 | 2.5 | 2.76 | 2.6 | 2.34 | 6.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8.44 | 479 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8.28 | 264.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8.16 | 163.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.32 | 35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7.22 | 12.7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.84 | 7.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.48 | 5.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.29 | 2.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6.02 | 1.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.15 | 2.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4.00 | 1.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.83 | 1.9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.34 | 2.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.76 | 2.6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2.34 | 6.1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Note: all concentrations are given in mol dm^{-3} . | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| COMPONENTS: | | | | | ORIGINAL MEASUREMENTS: | | | | |
|---|---------------------------------|---------------------------|-----------------------------------|-----------------------------|---|---------------------------|-----------------------------------|-----------------------------|--------------------|
| 1. Sodium tellurite; Na_2TeO_3 ; [10102-20-2] | | | | | Vorob'eva, O.I.; Lavut, E.A. <i>Zh. Neorg. Khim.</i> 1957, 2, 1154-1157; <i>*Russ. J. Inorg. Chem. (Eng. Transl.)</i> 1957, 2, 261. | | | | |
| 2. Ethanol; $\text{C}_2\text{H}_5\text{OH}$; [64-17-5] | | | | | | | | | |
| 3. Water; H_2O ; [7732-18-5] | | | | | | | | | |
| VARIABLES: | | | | | PREPARED BY: | | | | |
| Concentrations of the components One temperature: 298 K | | | | | Mary R. Masson | | | | |
| EXPERIMENTAL VALUES: | | | | | | | | | |
| Initial | Ethanol layer | | | | Aqueous layer | | | | Solid ^b |
| $\text{C}_2\text{H}_5\text{OH}$ | $\text{C}_2\text{H}_5\text{OH}$ | Na_2TeO_3 | $\text{C}_2\text{H}_5\text{OH}^a$ | $\text{Na}_2\text{TeO}_3^a$ | $\text{C}_2\text{H}_5\text{OH}$ | Na_2TeO_3 | $\text{C}_2\text{H}_5\text{OH}^a$ | $\text{Na}_2\text{TeO}_3^a$ | phase |
| % v/v | mass % | mass % | mol/kg | mol/kg | mass % | mass % | mol/kg | mol/kg | |
| 100 | 95.70 | - | 483.087 | 0. | No separate layer | | | | A |
| 96 | 91.52 | - | 234.262 | 0. | " | | | | B |
| 91.4 | 88.58 | 0.10 | 169.852 | 0.040 | " | | | | B |
| 90.0 | 85.50 | 0.10 | 128.880 | 0.031 | " | | | | B |
| 85.3 | 77.09 | 0.20 | 73.682 | 0.040 | " | | | | B |
| 80.0 | 72.75 | 0.20 | 58.378 | 0.033 | " | | | | B |
| 76.8 | 70.64 | 0.50 | 53.130 | 0.078 | " | | | | B |
| 72.0 | 62.43 | 1.00 | 37.055 | 0.123 | " | | | | B |
| 64.0 | 61.63 | 1.30 | 56.087 | 0.158 | 3.24 | 40.80 | 1.257 | 3.290 | B |
| 57.6 | 61.00 | 1.30 | 35.121 | 0.156 | 3.28 | 40.64 | 1.270 | 3.270 | B |
| 48.0 | 60.57 | 2.07 | 35.191 | 0.250 | 3.26 | 40.87 | 1.267 | 3.301 | B |
| 48.0 | 61.07 | 2.05 | 35.943 | 0.251 | 3.24 | 40.78 | 1.256 | 3.287 | B |
| | 43.45 | 6.48 | 18.836 | 0.584 | 7.18 | 36.35 | 2.760 | 2.905 | none |
| | 29.11 | 15.46 | 11.399 | 1.259 | 15.15 | 27.27 | 5.711 | 2.137 | none |
| | 28.12 | 16.82 | 11.086 | 1.379 | 17.45 | 24.72 | 6.550 | 1.929 | none |
| 8.7 | - | - | - | - | 2.98 | 41.74 | 1.170 | 3.407 | B |
| 0.0 | - | - | - | - | - | 44.97 | 0. | 3.688 | B |
| <p>a Molalities calculated by the compiler.</p> <p>b Solid phases: A - $\text{Na}_2\text{TeO}_3 \cdot x\text{H}_2\text{O}$, B - $\text{Na}_2\text{TeO}_3 \cdot 5\text{H}_2\text{O}$</p> <p style="text-align: right;">(continued on next page)</p> | | | | | | | | | |
| AUXILIARY INFORMATION | | | | | | | | | |
| METHOD APPARATUS/PROCEDURE: | | | | | SOURCE AND PURITY OF MATERIALS: | | | | |
| Reaction mixtures were placed in sealed glass ampoules, which were equilibrated for at least 30 days, with shaking. Weighed samples were dissolved in water, then the ethanol was distilled off and determined iodometrically. Tellurite was determined by the periodate method (1) or chromatographically (2). Sodium was determined gravimetrically as the zinc uranyl acetate, after prior precipitation of tellurium dioxide. The compositions of the solid residues were determined by Schreinemaker's method. | | | | | Sodium tellurite was prepared by dissolving tellurium dioxide in 20% aqueous sodium hydroxide in stoichiometric proportions. A fivefold amount of ethanol was added to precipitate sodium tellurite pentahydrate. An excess amount of sodium hydroxide was found not to disturb the reaction. | | | | |
| | | | | | ESTIMATED ERROR: | | | | |
| | | | | | No estimates possible. | | | | |
| | | | | | REFERENCES: | | | | |
| | | | | | 1. Syrokonskii, V.S.; Knyazeva, R.N. <i>Zavod. Lab.</i> 1950, 16, 1041. | | | | |
| | | | | | 2. Schrenk, W.T. and Browning, B.L. <i>J. Am. Chem. Soc.</i> 1926, 48, 139. | | | | |

COMPONENTS:

1. Sodium tellurite; Na_2TeO_3 ; [10102-20-2]
2. Ethanol; $\text{C}_2\text{H}_5\text{OH}$; [64-17-5]
3. Water; H_2O ; [7732-18-5]

ORIGINAL MEASUREMENTS:

Vorob'eva, O.I.; Lavut, E.A.
Zh. Neorg. Khim. 1957, 2, 1154-1157;
 **Russ. J. Inorg. Chem. (Eng. Transl.)*
1957, 2, 261.

EXPERIMENTAL VALUES (continued):

