

## ANNEXURE 6

### Gap analysis for physico-chemical test methods

The gap analysis in this annexure focuses on the test method/methodology *per se*. When applying the test method, there may be variances in the specific criteria being tested for. The gaps in criteria are extensively dealt with in the section on Classification Criteria, Section 2.3 and in Annexure 5.

GHS	Current Requirement/Practice	Compliance or Gap
<p><b>1. Explosives:</b></p> <p>Use core set of tests according to UN Test Series 2 to 3 in Part 1 of UN Manual of Tests and Criteria</p>	<p><b>1. Explosives:</b></p> <p>SABS 0228 - Use test methods for explosives of Class 1: Part 1 of UN Manual of Tests and Criteria</p> <p>SABS 0265 - Use test methods for explosives of Class 1: Part 1 of UN Manual of Tests and Criteria</p>	<p>SABS 0228 – Compliant</p> <p>SABS 0265 - Compliant</p>
<p><b>2. Flammable Gases:</b></p> <p>Use method adopted by ISO (ISO 10156: 1996 Gases and gas mixtures)</p>	<p><b>2. Flammable Gases:</b></p> <p>SABS 0288 - Use test methods for gasses of Class 2 in accordance with ISO 10156</p> <p>SABS 0265:1999 - Use test methods for gasses of Class 2 in accordance with ISO 10156</p>	<p>SABS 0288 – Compliant</p> <p>SABS 0265 - Compliant</p>
<p><b>3. Flammable Aerosols:</b></p> <p>Use Ignition Distant Test, Enclosed Space Ignition</p>	<p><b>3. Flammable Aerosols:</b></p> <p>SABS 0288 – Test methods according to Class</p>	<p>SABS 0228 – UN Manual (3<sup>rd</sup> Ed), does</p>

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Test, Aerosol Foam Flammability Test according to sub-sections 31.4, 31.5, and 31.6 of UN Manual of Tests and Criteria; Use ISO/FDIS 13943:1999 to determine chemical heats of combustion.	2, according to UN Manual of Tests and Criteria, Part III, section 31  SABS 0265:1999 - Use test methods for gasses of Class 2 in accordance with ISO 10156	not yet provide a test method, reserves Section 31 for future test method  SABS 0265 – Not Compliant
<b>4. Oxidizing Gases:</b>  Use ISO test method for gasses and gas mixtures, ISO 10156:1996	<b>4. Oxidizing Gases:</b>  SABS 0265:1999 - Use test methods for gasses of Class 2 in accordance with ISO 10156	SABS 0265:1999 - Compliant
<b>5. Gases Under Pressure:</b>  Use vapour pressure, physical state and critical temperature, data found in literature; for most pure gasses information is provided in UN Recommendations on Transport of Dangerous Goods, Model regulations.	<b>5. Gases under pressure:</b>  SABS 0265:1999 - Use test methods for gasses of Class 2 in accordance with ISO 10156	SABS 0265:1999 - Compliant
<b>6. Flammable Liquids:</b>  Use test methods for flashpoint (closed cup) and initial boiling point from international literature (e.g. ASTM D 56-93; ISO 1523)	<b>6. Flammable Liquids:</b>  SABS 0228 – Use test methods of flammable liquids of Class 3: The closed cup flashpoint method (ISO 1523); viscosity test method (ISO 2431); solvent separation test; combustibility (ISO 9038)  SABS 0265 – Closed cup flash point and boiling point in accordance with SABS 0228	SABS 0228 – Similar test methods, but different criteria - the upper flash point of GHS is 93°C compared to 60.5°C for SABS 0228  SABS 0265 - Similar test methods, but different criteria - the upper flash point of GHS is 93°C compared to 60.5°C for SABS 0228
<b>7. Flammable Solids:</b>  Use test method N.1 according to UN Manual of Tests and Criteria, Part III, sub-section 33.2.1.	<b>7. Flammable Solids:</b>  SABS 0228 - Use test methods of substances class 4 according to UN Manual of Tests and	SABS 0228 – Compliant

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Tests and Criteria, Part III, sub-section 33.2.1.	Criteria, Part III, sub-section 33.2.1  SABS 0265 – No test prescribed	SABS 0265 – Not Compliant
<p><b>8. Self-Reactive Substances:</b></p> <p>Use test methods described in UN Manual of Tests and Criteria, Part II, of Division 4.1 (Test Series A to H)</p>	<p><b>8. Self-Reactive Substances:</b></p> <p>SABS 0228 - Use test methods described in UN Manual of Tests and Criteria, Part II, of Division 4.1 (Test Series A to H)</p> <p>SABS 0265 – No method prescribed</p>	<p>SABS 0228 – Compliant</p> <p>SABS 0265 – Non-compliant</p>
<p><b>9. Pyrophoric Liquids:</b></p> <p>Use test method N.3 according to UN Manual of Tests and Criteria, Part III, sub-section 33.3.1.5</p>	<p><b>9. Pyrophoric Liquids:</b></p> <p>SABS 0228:2003 - Use test methods of substances class 4 according to UN Manual of Tests and Criteria, Part III, sub-section 33.3.1.5</p> <p>SABS 0265 – No method prescribed</p>	<p>SABS 0228 – Compliant</p> <p>SABS 0265 – Non-compliant</p>
<p><b>10. Pyrophoric Solids:</b></p> <p>Use test method N.2 according to UN Manual of Tests and Criteria, Part III, sub-section 33.3.1.4</p>	<p><b>10. Pyrophoric Solids:</b></p> <p>SABS 0288 - Use test methods of substances class 4 according to UN Manual of Tests and Criteria, Part III, sub-section 33.3.1.4</p> <p>SABS 0265 – No method prescribed</p>	<p>SABS 0288 – Compliant</p> <p>SABS 0265 – Non-compliant</p>
<p><b>11. Self-Heating Substances:</b></p> <p>Use test method N.4 according to UN Manual of Tests and Criteria, Part III, sub-section 33.3.1.6</p>	<p><b>11. Self-Heating Substances</b></p> <p>SABS 0288 – Use test methods of substances class 4 according to UN Manual of Tests and Criteria, Part III, sub-section 33.3.1.6</p>	<p>SABS 0288 – Compliant</p>

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	SABS 0265 – No method prescribed	SABS 0265 – Non-compliant
<p><b>12. Substances which, in contact with water, emit flammable gases:</b></p> <p>Use test method N.5 according to UN Manual of Tests and Criteria, sub-section 33.4.1.4</p>	<p><b>12. Substances which, in contact with water, emit flammable gases:</b></p> <p>SABS 0288 – Test methods of substances class 4 according to UN Manual of Tests and Criteria, Part III, sub-section 33.4.1.4</p> <p>SABS 0265 – Initial boiling point tested in accordance with SABS 0288</p>	<p>SABS 0288 – Compliant</p> <p>SABS 0265 – Compliant</p>
<p><b>13. Oxidizing Liquids:</b></p> <p>Use test method O.2 according to UN Manual of Tests and Criteria, sub-section 34.4.2</p>	<p><b>13. Oxidizing Liquids:</b></p> <p>SABS 0288 – Test methods of substances of Division 5.1 according to UN Manual of Tests and Criteria, Part III, sub-section 34.4.2</p> <p>SABS 0265 – Test for of organic peroxide content, available oxygen content, burning time in accordance to SABS 0228, and Test O.2 of the UN Manual of Tests and Criteria</p>	<p>SABS 0288 – Compliant</p> <p>SABS 0265 – Non-Compliant</p>
<p><b>14. Oxidizing Solids:</b></p> <p>Use test method O.1 according to UN Manual of Tests and Criteria, sub-section 34.4.1</p>	<p><b>14. Oxidizing Solids:</b></p> <p>SABS 0288 – Test methods of substances Division 5.1 according to UN Manual of Tests and Criteria, Part III, sub-section 34.4.1</p> <p>SABS 0265 – Test for of organic peroxide content, available oxygen content, burning time in accordance to SABS 0228, and Test O.2 of the UN Manual of Tests and Criteria</p>	<p>SABS 0288 – Compliant</p> <p>SABS 0265 – Non Compliant</p>

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<p><b>15. Organic Peroxides:</b></p> <p>Use test methods according to UN Manual of Tests and Criteria, Part II, of Division 5.2 (Test Series A to H)</p>	<p><b>15. Organic Peroxides:</b></p> <p>SABS 0288 – Test methods of substances Division 5.2 according to UN Manual of Tests and Criteria, Part II section 20-28</p> <p>SABS 0265 – Test for of organic peroxide content, available oxygen content, burning time in accordance to SABS 0228, and Test O.2 of the UN Manual of Tests and Criteria</p>	<p>SABS 0288 – Compliant</p> <p>SABS 0265 – Not Compliant</p>
<p><b>16. Corrosive to Metals:</b></p> <p>Use test method described in ASTM G31-72</p>	<p><b>16. Corrosive to Metals:</b></p> <p>SABS 0288 – Test methods according to Class 8, according to UN Manual of Tests and Criteria, Part III, section 37</p> <p>SABS 0265 – No method prescribed</p>	<p>SABS 0288 – UN Manual, does not yet provide a test method, reserves Section 37 for future test method</p> <p>SABS 0265 – Not Compliant</p>