

Information requirements for physical hazards for biocidal products under the Regulation (EU) No 528/2012 (with reference to Regulation (EC) No 1272/2008 (CLP) including up to the 15th ATP, Regulation (EU) 2020/1182, amending CLP Regulation)

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4. PHYSICAL HAZARDS AND RESPECTIVE CHARACTERISTICS (Annex I, Part 2 of CLP Regulation)		
Information required	Specific rules for adaptation (justification for data waiving)	Reference to applicable test methods
4.1 Explosives (CLP 2.1)	<ul style="list-style-type: none"> not necessary for gases the test series 1-6 do not need to be performed if screening according to CLP Annex I Section 2.1.4.2 was used to conclude that the substance or mixture does not have explosive properties and reasoning/test results as applicable are provided not necessary if classified acc. to CLP Annex I Section 2.8 or 2.15 	Tests acc. to Part I of the Manual of Tests and Criteria, these test methods are referred to in CLP Annex I Section 2.1.2.3.
4.2 Flammable gases (CLP 2.2)	<ul style="list-style-type: none"> not necessary for liquids and solids not necessary if the gas is classified as Oxidizing gas (CLP Annex I Section 2.4) 	Flammability: ISO 10156, EN 1839 and for burning velocity measurement see ISO 817:2014, Annex C; Pyrophoricity: IEC 60079-20-1 (has been replaced by ISO/IEC 80079-20-1:2017) or DIN 51794; Chemical instability of gases: UN-MTC Part III, sub-section 35.4; these test methods are referred to in CLP Annex I Sections 2.2.4.1, 2.2.4.2 and 2.2.4.3.
4.3 Aerosols (CLP 2.3) Note: BPR refers to Flammable aerosols	<ul style="list-style-type: none"> not necessary if not an aerosol indicate the total percentage (by mass) of flammable components unless the Aerosol is classified as Aerosol cat. 1 because it contains more than 1 % flammable components or has a heat of combustion of at least 20 kJ/g and is not submitted to the flammability classification procedures (see the Note in Section 2.3, paragraph 2.3.2.2) 	UN Tests acc. to Part III of the Manual of Tests and Criteria, Sections 31.4, 31.5, 31.6, these test methods are referred to in CLP Annex I Section 2.3.2.2.

4.4 Oxidizing gases (CLP 2.4)	<ul style="list-style-type: none"> • not necessary for liquids and solids • not necessary unless the substance or mixture contains oxygen, fluorine or chlorine • not necessary if the substance or mixture contains oxygen, fluorine or chlorine and these elements are chemically bonded only to carbon or hydrogen 	ISO 10156, this test method is referred to in CLP Annex I Section 2.4.4.
4.5 Gases under pressure (CLP 2.5)	<ul style="list-style-type: none"> • not necessary for liquids and solids • not necessary if classified as an aerosol acc. to CLP Annex I Section 2.3 • indicate the critical temperature 	Gases under pressure shall be classified, according to their physical state when packaged, in one of four groups in accordance with CLP Annex I Section 2.5.2.1.
4.6 Flammable liquids (CLP 2.6)	<ul style="list-style-type: none"> • not necessary for gases and solids (solids with a melting point > 30 °C) • not necessary if the liquid is classified acc. to CLP Annex I Section 2.1, 2.3, 2.8, 2.9, 2.13 or 2.15 	CLP Annex I Section 2.6.4.4 Table 2.6.3 listed methods for determining the flash point of flammable liquids. Test L.2, this test method is referred to in CLP Annex I Section 2.6.4.5. CLP Annex I Section 2.6.4.6 Table 2.6.4 listed methods for determining the initial boiling point of flammable liquids.
4.7 Flammable solids (CLP 2.7)	<ul style="list-style-type: none"> • not necessary for gases and liquids • not necessary for those inorganic solids which are commonly known to be not flammable (indicate this) • not necessary if the solid is classified acc. to CLP Annex I Section 2.1, 2.3, 2.8, 2.10, 2.14 or 2.15 	Test N.1, this test method is referred to in CLP Annex I Section 2.7.2.3.
4.8 Self-reactive substances and mixtures (CLP 2.8)	<ul style="list-style-type: none"> • not necessary for gases • not necessary if the substance or mixture is an intentional explosive classified acc. to CLP Annex I Section 2.1 or if it is classified acc. to Section 2.9, 2.10, 2.13, 2.14 or 2.15 • the test series A to H need not be performed if the screening according to CLP Annex I, section 2.8.4.2 has been used to conclude that the substance or mixture does not have self-reactive properties and the appropriate test results are provided as justification. 	Test series A to H, referred to in CLP Annex I Section 2.8.4.1.

4.9 Pyrophoric liquids (CLP 2.9)	<ul style="list-style-type: none"> • not necessary for gases and solids • not necessary if experience in manufacture or handling shows that the substance or mixture does not ignite spontaneously on coming into contact with air at normal temperatures (i.e. the substance or mixture is known to be stable at room temperature for prolonged periods of time (days)) 	Test N.3, this test method is referred to in CLP Annex I Section 2.9.2.1.
4.10 Pyrophoric solids (CLP 2.10)	<ul style="list-style-type: none"> • not necessary for gases and liquids • not necessary if experience in manufacture or handling shows that the substance or mixture does not ignite spontaneously on coming into contact with air at normal temperatures (i.e. the substance or mixture is known to be stable at room temperature for prolonged periods of time (days)) 	Test N.2, this test method is referred to in CLP Annex I Section 2.10.2.1.
4.11 Self-heating substances and mixtures (CLP 2.11)	<ul style="list-style-type: none"> • not necessary for gases and liquids • not necessary for solids with melting point below 160 °C or the decomposition temperature is below 140 °C • not necessary if the substance or mixture is classified acc. to CLP Annex I Section 2.1, 2.8, 2.10, 2.14 or 2.15 	Test N.4, this test method is referred to in CLP Annex I Section 2.11.2.1.
4.12 Substances and mixtures which, in contact with water, emit flammable gases (CLP 2.12)	<ul style="list-style-type: none"> • not necessary for gases • not necessary if the substance or mixture does not contain metals or metalloids • not necessary if experience in handling shows that the substance or mixture does not react with water • not necessary if substance or mixture is readily soluble in water and forms a stable solution 	Test N.5, this test method is referred to in CLP Annex I Section 2.12.2.1.
4.13 Oxidizing liquids (CLP 2.13)	<ul style="list-style-type: none"> • not necessary for gases and solids • not necessary unless the substance or mixture contains oxygen, fluorine or chlorine • not necessary if the substance contains oxygen, fluorine or chlorine and these elements are chemically bonded only to carbon or hydrogen • not necessary if the substance or mixture is classified acc. to CLP Annex I Section 2.1, 2.9 or 2.15 	Test O.2, this test method is referred to in CLP Annex I Section 2.13.2.1.

4.14 Oxidizing solids (CLP 2.14)	<ul style="list-style-type: none"> • not necessary for gases and liquids • not necessary unless the substance or mixture contains oxygen, fluorine or chlorine • not necessary if the substance contains oxygen, fluorine or chlorine and these elements are chemically bonded only to carbon or hydrogen • not necessary if the substance or mixture is classified acc. to CLP Annex I Section 2.1, 2.10 or 2.15 	Test O.1 or Test O.3, these test methods are referred to in CLP Annex I Section 2.14.2.1.
4.15 Organic peroxides (CLP 2.15)	<ul style="list-style-type: none"> • not necessary for gases • not necessary for substances or mixtures that are not organic peroxides as defined by their molecular structure • not necessary if the substance or mixture is an intentional explosive classified acc. to CLP Annex I Section 2.1 or if it is classified acc. to Section 2.9 or 2.10 	Test series A to H, referred to in CLP Annex I Section 2.15.4.1.
4.16 Corrosive to metals (CLP 2.16)	<ul style="list-style-type: none"> • not necessary for gases • not necessary for solids with a melting point above 55 °C, unless they are hygroscopic • not necessary for substances or mixtures having neither acidic or basic functional group(s), nor containing halogen(s), nor being able to form complexes with metals 	Test C.1, acc.to Part III of the Manual of Tests and Criteria, Section, 37.4, this test method is referred to in CLP Annex I Section 2.16.2.1.
4.17. Additional physical indicators for hazards		
4.17.1. Auto-ignition temperature (liquids and gases)	<ul style="list-style-type: none"> • not necessary for solids • not necessary if the liquid is classified acc. to CLP Annex I Section 2.1, 2.3, 2.8, 2.9, 2.13 or 2.15 	ISO/IEC 80079-20-1 DIN EN 14522 DIN 51794 ASTM E 659 Regulation (EC) No 440/2008, Method A.15 - Auto-Ignition Temperature (Liquids and gases)
4.17.2. Relative self-ignition temperature for solids	<ul style="list-style-type: none"> • not necessary for gases and liquids • not necessary if the solid is classified acc. to CLP Annex I Section 2.1, 2.3, 2.8, 2.10, 2.14 or 2.15 	Regulation (EC) No 440/2008, Method A.16 - Relative Self-Ignition Temperature for Solids DIN EN 15188:2007 <i>(Note: DIN EN 15188 is currently revised. The new title will be "Determination of the spontaneous ignition behaviour of accumulations of dust and granular materials". The standard is supposed to be published in early 2021 (but the draft is already publicly available).</i>

<p>4.17.3. Dust explosion hazard</p>	<ul style="list-style-type: none"> • not necessary for gases and liquids • The study does not need to be conducted if the substance or mixture is marketed or used in a non-solid or granular form. • Not relevant as product cannot be oxidized or is not able to produce a dust of particle size < 1 mm in diameter that can ignite when exposed to an ignition source when dispersed in air. 	<p>Explosive atmospheres - Part 20-2: Material characteristics – Combustible dusts test methods: ISO/IEC 80079-20-2 dust explosibility in the modified Hartmann-tube: VDI 2263 Part 1 Lower explosion limit: EN 14034 (part 3) dust explosion constant (Kst) and explosion indices tests: EN 14034, parts 1+2 minimum ignition temperature: EN 50281-2-1. See also: Dust explosion hazards ST/SG/AC.10/46/Add.3. http://www.unece.org/fileadmin/DAM/trans/doc/2019/dgac10/ST-SG-AC10-46a3e.pdf</p>
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List of Abbreviations:

CLP: Classification, Labelling and Packaging of substances and mixtures according to Regulation (EC) No 1272/2008

ISO: International Organization for Standardization

IEC: International Electrotechnical Commission

ASTM: American Society for Testing and Materials

DIN: Deutsche Institut für Normung e.V. (German Institute for Standardization)

EN: European norm

VDI: Verein Deutscher Ingenieure (Association of German Engineers)