

Item Description	Item Remarks
Explosion severity analysis (20L sphere): Triplicate test	to EN 14034 (part 1 - 2004 & part 2 - 2006) / ASTM E1226-05##
Explosion severity analysis (20L sphere): Single series screening test	to EN 14034 (part 1 - 2004 & part 2 - 2006) / ASTM E1226-05##
Explosion severity analysis (20L sphere): Extension 2nd/3rd series	to EN 14034 (part 1 - 2004 & part 2 - 2006) / ASTM E1226-05##
Minimum Explosive Concentration (MEC) using 20 L sphere	to EN 14034-3 2006
Minimum Explosive Concentration (MEC): DustScreen Level 1 (xxx g/m3)	to EN 14034-3 2006
Minimum Explosive Concentration (MEC): DustScreen Level 2 (xxx g/m3)	to EN 14034-3 2006
Minimum Explosive Concentration (MEC): DustScreen Level 3 (xxx g/m3)	to EN 14034-3 2006
Explosion severity analysis and Limiting Oxygen for Combustion (LOC) using 20 L sphere	to EN 14034 (part 1 - 2004, part 2 - 2006 and part 4 - 2004)
Limiting Oxygen for Combustion (LOC) using 20 L sphere	to EN 14034(4):2004
Limiting Oxygen for Combustion (LOC) using 20 L sphere at elevated temperature	to EN 14034(4):2004
Limiting Oxygen for Combustion (LOC): DustScreen Level 1 (xx% v/v)	to EN 14034(4):2004
Limiting Oxygen for Combustion (LOC): DustScreen Level 2 (xx% v/v)	to EN 14034(4):2004
Limiting Oxygen for Combustion (LOC): DustScreen Level 3 (xx% v/v)	to EN 14034(4):2004
Minimum Ignition Energy (MIE): Detailed analysis for electrostatic spark sensitivity	to IEC 61241-2-3 (1994) or EN 13821:2002 or ASTM E2019-03##
Minimum Ignition Energy (MIE): Detailed analysis for mechanical spark sensitivity	to IEC 61241-2-3 (1994) or EN 13821:2002 or ASTM E2019-03##
Minimum Ignition Energy (MIE): Detailed analysis for mechanical and electrostatic spark sensitivity	to IEC 61241-2-3 (1994) or EN 13821:2002 or ASTM E2019-03##
Minimum Ignition Energy (MIE): Safety range analysis	to IEC 61241-2-3 (1994) or EN 13821:2002 or ASTM E2019-03##
Minimum Ignition Energy (MIE): Extension of CHARP	to IEC 61241-2-3 (1994) or EN 13821:2002 or ASTM E2019-03##
Minimum Ignition Energy (MIE): DustScreen Level 1 (xxx mJ)	to IEC 61241-2-3 (1994) or EN 13821:2002 or ASTM E2019-03##
Minimum Ignition Energy (MIE): DustScreen Level 2 (xxx mJ)	to IEC 61241-2-3 (1994) or EN 13821:2002 or ASTM E2019-03##
Minimum Ignition Energy (MIE): DustScreen Level 3 (xxx mJ)	to IEC 61241-2-3 (1994) or EN 13821:2002 or ASTM E2019-03##
Minimum Ignition Energy (MIE) at reduced oxygen concentrations	to IEC 61241-2-3 (1994) or EN 13821:2002 or ASTM E2019-03##
Minimum Ignition Energy (MIE) of a solid (layer or bulk)	
Minimum (Cloud) Ignition Temperature (MIT)	to IEC 61241-2-1 1994 or EN 50281-2-1:1999 or ASTM 1491-97(2002)##
Minimum Ignition Temperature (MIT): Extension of CHARP	to IEC 61241-2-1 1994 or EN 50281-2-1:1999 or ASTM 1491-97(2002)##
Minimum Ignition Temperature (MIT): DustScreen Level 1 (xxx°C)	to IEC 61241-2-1 1994 or EN 50281-2-1:1999 or ASTM 1491-97(2002)##
Minimum Ignition Temperature (MIT): DustScreen Level 2 (xxx°C)	to IEC 61241-2-1 1994 or EN 50281-2-1:1999 or ASTM 1491-97(2002)##
Minimum Ignition Temperature (MIT): DustScreen Level 3 (xxx°C)	to IEC 61241-2-1 1994 or EN 50281-2-1:1999 or ASTM 1491-97(2002)##
Layer (5 mm) Ignition Temperature (LIT)	to IEC 61241-2-1 1994 or EN 50281-2-1:1999 or ASTM E2021-01##
Layer Ignition Temperature (LIT): Extension of CHARP	to IEC 61241-2-1 1994 or EN 50281-2-1: 1999 or ASTM E2021-01##
Layer Ignition Temperature (LIT): DustScreen Level 1 (xxx°C)	to IEC 61241-2-1 1994 or EN 50281-2-1: 1999 or ASTM E2021-01##
Layer Ignition Temperature (LIT): DustScreen Level 2 (xxx°C)	to IEC 61241-2-1 1994 or EN 50281-2-1: 1999 or ASTM E2021-01##
Layer Ignition Temperature (LIT): DustScreen Level 3 (xxx°C)	to IEC 61241-2-1 1994 or EN 50281-2-1: 1999 or ASTM E2021-01##
Group A/B Dust Explosion Classification	
Chilworth Hazard and Risk Profile (CHARP) - Standard package of tests	

Chilworth Hazard and Risk Profile (CHARP) for Thermal Stability	- including the following tests MIT (450 and 300°C), LIT (375 and 275°C), Diffusion cell oxidation potential screening, DSC (decomposition potential), Burning behaviour and qualitative gas generation assessment.
Chilworth Hazard and Risk Profile (CHARP) for Electrostatic Properties	- including the following tests : MIE with inductance (10 and 100 mJ), MIE without inductance (10 and 100 mJ), charge relaxation time (low RH), powder volume resistivity (low RH) and powder chargeability (versus pleastic at low RH).
Chilworth Hazard and Risk Profile (CHARP) for Ignition Sensitivity	- including the following tests : MIE with inductance (10 and 100 mJ), MIE without inductance (10 and 100 mJ), MIT (450 and 300°C) and LIT (375 and 275°C).
Chilworth Hazard and Risk Profile (CHARP) for Explosive Properties	- including the following tests : DSC screening, BAM Fallhammer, BAM Friction, Koenen tube (2 mm only) and Time / pressure test (triplicate).
Chilworth Hazard and Risk Profile (CHARP) for Dust Explosion Properties	- including the following tests : MIE without inductance (10 and 100 mJ), MIT (450 and 300°C), LIT (375 and 275°C), 20L sphere explosion severity (single series), LOC (10 and 14% v/v) and MEC (30 and 125 g/m3).
Special Dust Explosion Testing	
Basket test series to extrapolate critical ignition temperatures for bulk solids (inc. screening)	
Basket test series to extrapolate critical ignition temperatures for bulk solids (no screening)	
Diffusion Cell Thermal Stability Screening Test	
Diffusion Cell Thermal Stability Isothermal Test (up to 48 hour duration)	
Aerated Cell Thermal Stability Screening Test	
Aerated Cell Thermal Stability Isothermal Test (up to 48 hour duration)	
Air Over Layer Thermal Stability Screening Test	
Air Over Layer Thermal Stability Isothermal Test (up to 48 hour duration)	
Extension of isothermal duration beyond 48 hours (surcharge per extra day)	
Thermal Stability Preliminary Screening Test (25 mm basket)	
Burning Behaviour Test (at ambient and 100°C) for Combustibility Class Determination	to VDI 2263 (part 1, section 1.2)
Burning Behaviour Test (at ambient temperature only) for Combustibility Class Determination	to VDI 2263 (part 1, section 1.2)
Calorific value (Bomb Calorimeter method)	
Special Thermal Stability Testing	
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Autoignition Temperature (AIT) Determination for a liquid	to ASTM E659 (2005)
Closed cup flash point determination - Pensky-Martens Method (10 to 300°C)	to ISO 2719 / ASTM D93##
Closed cup flash point determination - Abel Method (-30 to +80°C)	to ISO 13736
Closed cup flash point determination - Setaflash Method (for viscous liquids and solids)	
Determination of flammable range (LEL and UEL) at ambient pressure	to ASTM E681
Determination of Lower Explosive Limit (LEL) at ambient pressure	to ASTM E681
Determination of Upper Explosive Limit (UEL) at ambient pressure	to ASTM E681
Determination of flammable range (LEL and UEL) at elevated pressure (up to 5 barg starting pressure)	
Gas / Vapour explosion severity determination (for Kg and Pmax determination)	to EN 13673-1
Minimum Oxygen for Combustion (MOC) Determination for gases and vapours	to EN 14756
Minimum Igniting Current (MIC) determination for gas group classification	to IEC 79-3:1990 (part 11)
Maximum Experimental Safe Gap (MESG) Determination for gas group classification	to IEC 79-3:1990 (part 11A)
Minimum Ignition Energy (MIE) determination of a vapour / gas	
Special Vapour Flammability Testing	
Concentration of flammable gas determination (using Flammable Gas Detector)	
Single laser diffraction particle size screening	

Reaction Calorimetry Analysis - single reaction step (with evolved gas quantification)
Reaction Calorimetry Analysis of additional sequential steps of a reaction (with gas measurement)

Reaction Calorimetry Analysis - single reaction step (at elevated pressure or suppressed reflux)
Reaction Calorimetry Analysis - single reaction step (at reflux)
Reaction studies for investigation, optimisation or process development (no calorimetry)
Adiabatic calorimetry for runaway reaction simulation (batch process)
Adiabatic calorimetry for runaway reaction simulation (semi-batch process)
Adiabatic calorimetry for runaway reaction simulation: Tempering test for pressure characterisation

Adiabatic calorimetry for runaway reaction simulation: Blowdown test for vent flow characterisation

Adiabatic calorimetry for process accumulation runaway: Heat flow method
Adiabatic calorimetry using VSP2 (batch process / thermal stability analysis)
Adiabatic calorimetry using VSP2 (semi-batch process)
Adiabatic calorimetry using VSP2 (tempering trials)
Dewar Adiabatic calorimetry for advanced thermal stability analysis (Isothermal / heat-wait-search)

ARC Adiabatic calorimetry for advanced thermal stability analysis (Isothermal / heat-wait-search)
Carius (10 g) tube thermal stability screening
Carius tube thermal stability test (isothermal)
Carius tube thermal stability test (with end gas analysis by mass spectrometer)
Differential Scanning Calorimetry (DSC): High pressure (ramped test)
Differential Scanning Calorimetry (DSC): High pressure (isothermal test)
Differential Scanning Calorimetry (DSC): Open crucibles (ramped test)
Differential Scanning Calorimetry (DSC): Open crucibles (isothermal test)
Differential Scanning Calorimetry (DSC): from sub-ambient temperature
CHETAH Thermochemical evaluation of reactions
Instability assessment of materials and mixtures
Chemical analysis
Gas generation rate and quantity analysis (without calorimetry)
Mass Spectrometry Analysis of evolved gases

Test A.1: Melting point (Capillary method) to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.2: Boiling point (Siwoloboff method) to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.3: Relative density (pycnometer method) to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.4: Vapour pressure (isoteniscope method) to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.4: Vapour pressure (static method) to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.4: Vapour pressure (vapour balance method) to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.5: Surface tension (ring method for water soluble compounds) to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.5: Surface tension (ring method for water insoluble compounds) to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.6: Water solubility (column elution or flask method) to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.8: Partition coefficient (HPLC method) to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.8: Partition coefficient (Shake Flask method) to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.9: Flash point to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)

Test A.10: Flammability of solids	to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.11: Flammability of gases	to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.12: Flammability in contact with water	to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.13: Flammability in contact with air	to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.14: Explosivity testing (of solids)	to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.14: Explosivity testing (of liquids)	to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.14: Preparation of exemption statement (without DSC)	to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.14: Preparation of exemption statement (with DSC screening)	to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.15: Autoflammability of liquids	to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.16: Autoflammability of solids (relative self-ignition temperature)	to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.17: Oxidising properties (solids)	to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.17: Preparation of exemption statement	to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Test A.21: Oxidising properties (liquids)	to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
UV / Vis Spectral Analysis	to OECD 101
Dissociation Constant Determination	to OECD 112
B-series toxicity testing	to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
C-series ecotoxicity testing	to EC Dangerous Substances Classification (Annex V to Directive 67/548/EC)
Particle size analysis (mechanical sieve method to GLP)	
Particle size analysis (Laser Diffraction method to GLP)	
Chemical analysis to support NONS testing program	
Preparation of Material Safety Data Sheet (MSDS)	

UN Test 1(a) and 2(a): UN Gap test for detonation propagation	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test 1(b) / 2(b): Koenen tube test of effect of heating under confinement	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test 1(c)(i) / 2(c)(i): Time / Pressure test for deflagration propagation	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test 3(a)(ii): BAM Fallhammer test for impact sensitivity analysis	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test 3(b)(i): BAM Friction sensitivity test	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test 3(c): Instrumented thermal stability test at 75°C	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN test 3(d): Small scale burning test	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
Heat of combustion determination for aerosols	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
Ignition distance test for spray aerosols (FEA method 607E)	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
Enclosed space ignition test (FEA method 610E)	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
Assessment of flammability for Aerosol Mousse Products (FEA method 608E)	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
Flash point determination (closed cup)	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
Boiling point determination (Siwoloboff method)	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
Viscosity test (expressed as flow time)	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test L.1: Solvent separation test	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test L.2: Sustained combustibility test	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test N.1: Flammability of solids (burning rate) test	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
DSC testing to evaluate heat of decomposition for UN Class 4.1 (self-reactive solids)	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test A.5: UN Gap test for self-reactive substance classification	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test C.1: Time / Pressure test for self-reactive substance classification	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test C.2: Deflagration rate test for self-reactive substance classification	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test E.1: Koenen Tube test for self-reactive substance classification	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test E.2: Dutch Pressure Vessel test for self-reactive substance classification	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test F.3: Explosive power test using Ballistic Mortar Mk III test (for UN 4.1 Classification)	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)

UN Test H.2: Adiabatic Storage Test (with SADT calculations)	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test H.2: Adiabatic Storage Test (without SADT calculations)	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test H.4: Heat Accumulation Storage test (first test)	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test H.4: Heat accumulation storage test (subsequent tests)	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test N.2: Pyrophoric solids test	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test N.3: Pyrophoric liquids test	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Self-heating solids - Basket Test (first basket)	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Self-heating solids - Basket Test (subsequent baskets)	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test N.5: Flammable gas generation in contact with water	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test O.1: Oxidising solids test	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test O.2: Oxidising liquids test	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Tests for toxicity and ecotoxicity transport classification assignment	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
UN Test for corrosivity towards metals (steel and aluminium)	to UN Transportation of Dangerous Goods, Manual of Tests and Criteria (4th revised edition)
Provision of DGSA services for hazardous goods transportation	
Chemical analysis services	

SAPH (Static Analysis for Problems and Hazards): Full determination	Incorporates charge relaxation time, volume resistivity and chargeability against 3 media
SAPH (Static Analysis for Problems and Hazards): Limited determination	Incorporates charge relaxation time, volume resistivity and chargeability against a single media
Electrostatic Properties Testing	
Electrostatic Properties Testing	
Electrostatic Properties Testing	
Powder volume resistivity (at two relative humidities - 15 and 50% RH)	to BS 5958 Part 1
Powder volume resistivity (at a single relative humidity)	to BS 5958 Part 1
Powder charge relaxation time (at two relative humidities - 15 and 50% RH)	to BS 5958 Part 1
Powder charge relaxation time (at a single relative humidity)	to BS 5958 Part 1
Powder chargeability (at two relative humidities) against 3 test materials	
Powder chargeability (at two relative humidities) against a single test material	
Powder chargeability (at a single relative humidity) against 3 test materials	
Powder chargeability (at a single relative humidity) against a single test material	
Surface resistivity determination (at two relative humidities)	
Surface resistivity determination (at a single relative humidity)	
Volume resistivity determination (at two relative humidities)	
Volume resistivity determination (at a single relative humidity)	
Charge relaxation determination for film materials (at two relative humidities)	
Charge relaxation determination for film materials (at a single relative humidity)	
Liquid conductivity / resistivity determination	
Dielectric constant determination	
Electrostatic testing on FIBC's: Surface resistivity determination	
Electrostatic testing on FIBC's: Resistance to earth determination	
Electrostatic testing on FIBC's: Breakdown strength determination	
Electrostatic testing on FIBC's: Gas probe incendivity using propane	
Electrostatic testing on FIBC's: Gas probe incendivity using ethylene	
Complete package of electrostatic testing on FIBC's	
Electrostatic properties testing	