

## 2.1. Manufacture

**Table 1. Manufacture**

Identifiers	Use descriptors	Other information
M-1: Manufacture of boron orthophosphate	<p><b>Environmental release category (ERC):</b></p> <p>ERC 1: Manufacture of substances</p> <p><b>Process category (PROC):</b></p> <p>PROC 1: Use in closed process, no likelihood of exposure</p> <p>PROC 2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC 3: Use in closed batch process (synthesis or formulation)</p> <p>PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</p> <p>PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities</p> <p>PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</p> <p>PROC 26: Handling of solid inorganic substances at ambient temperature</p>	<p>Remarks: ECHA's CHEMical Safety Assessment and Reporting tool (CHESAR) is not applicable because life-cycle description and generation of exposure scenarios leads to risk assessment requiring the use of models such as MEASE to address the inorganic nature of the substance.</p>

## 2.2. Identified uses

**Table 2. Formulation**

Identifiers	Use descriptors	Other information
F-2: Formulation into preparations / materials	<p><b>Environmental release category (ERC):</b></p> <p>ERC 2: Formulation of preparations</p> <p>ERC 3: Formulation in materials</p> <p><b>Process category (PROC):</b></p> <p>PROC 1: Use in closed process, no likelihood of exposure</p> <p>PROC 2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC 3: Use in closed batch process (synthesis or formulation)</p> <p>PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises</p> <p>PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)</p> <p>PROC 6: Calendaring operations</p> <p>PROC 7: Industrial spraying</p> <p>PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</p> <p>PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities</p>	<p>Substance supplied to that use:</p> <p>As such</p> <p>In a mixture</p> <p>Remarks:</p> <p>ECHA's CHEMical Safety Assessment and Reporting tool (CHESAR) is not applicable because life-cycle description and generation of exposure scenarios leads to risk assessment requiring the use of models such as MEASE to address the inorganic nature of the substance.</p> <p>PC 19 has been removed in the latest version of the Use Descriptor guidance and therefore will not be available for selection in</p>

Identifiers	Use descriptors	Other information
	<p>PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</p> <p>PROC 10: Roller application or brushing</p> <p>PROC 13: Treatment of articles by dipping and pouring</p> <p>PROC 14: Production of preparations or articles by tableting, compression, extrusion, pelletisation</p> <p>PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting</p> <p>PROC 26: Handling of solid inorganic substances at ambient temperature</p> <p><b>Product Category formulated:</b></p> <p>PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents</p> <p>PC 19: Intermediate</p> <p><b>Technical function of the substance during formulation:</b></p> <p>Binding agents</p> <p>Corrosion inhibitors and anti-scaling agents</p> <p>Fillers</p> <p>Lubricants and lubricant additives</p> <p>pH-regulating agents</p> <p>Plating agents and metal surface treating agents</p> <p>Stabilisers</p> <p>Additive/pigment/auxiliary in plastics/resins/paints, coatings and inks. Additive in lubricants, metal working fluids and greases. Set retarder/accelerator in gypsum/cement. Binding agent in ceramic or refractory materials.</p>	IUCLID 6

**Table 3. Uses at industrial sites**

Identifiers	Use descriptors	Other information
IW-3: Use of the substance as an intermediate (for chemical reactions) and as a laboratory chemical (large scale laboratories)	<p><b>Environmental release category (ERC):</b></p> <p>ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles</p> <p>ERC 5: Industrial use resulting in inclusion into or onto a matrix</p> <p>ERC 6a: Industrial use resulting in manufacture of another substance (use of intermediates)</p> <p>ERC 6b: Industrial use of reactive processing aids</p> <p>ERC 6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers</p> <p><b>Process category (PROC):</b></p> <p>PROC 1: Use in closed process, no likelihood of exposure</p> <p>PROC 2: Use in closed, continuous process with occasional controlled exposure</p> <p>PROC 3: Use in closed batch process (synthesis or formulation)</p> <p>PROC 4: Use in batch and other process (synthesis)</p>	<p>Substance supplied to that use:</p> <p>In a mixture</p> <p>As such</p> <p>Subsequent service life relevant for that use: no</p> <p>Remarks:</p> <p>ECHA's CHEMical Safety Assessment and Reporting tool (CHESAR) is not applicable because life-cycle description and generation of exposure scenarios leads to risk assessment requiring the use of models such as MEASE to address the inorganic nature of the substance.</p>

Identifiers	Use descriptors	Other information
	<p>where opportunity for exposure arises  PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)  PROC 6: Calendering operations  PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities  PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  PROC 15: Use as laboratory reagent  PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature.  Industrial setting  PROC 26: Handling of solid inorganic substances at ambient temperature</p> <p><b>Product Category used:</b>  PC 19: Intermediate  PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents  PC 21: Laboratory chemicals</p> <p><b>Sector of end use:</b>  SU 4: Manufacture of food products  SU 8: Manufacture of bulk, large scale chemicals (including petroleum products)  SU 9: Manufacture of fine chemicals  SU 24: Scientific research and development</p> <p><b>Technical function of the substance during formulation:</b>  Intermediates  Laboratory chemicals</p>	<p>PC 19 has been removed in the latest version of the Use Descriptor guidance and therefore will not be available for selection in IUCLID 6</p>
<p>IW-4: Industrial end uses</p>	<p><b>Environmental release category (ERC):</b>  ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles  ERC 5: Industrial use resulting in inclusion into or onto a matrix  ERC 6a: Industrial use resulting in manufacture of another substance (use of intermediates)  ERC 6b: Industrial use of reactive processing aids  ERC 7: Industrial use of substances in closed systems</p> <p><b>Process category (PROC):</b>  PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)  PROC 6: Calendering operations  PROC 7: Industrial spraying  PROC 8a: Transfer of substance or preparation</p>	<p>Substance supplied to that use:  As such  In a mixture</p> <p>Subsequent service life relevant for that use: yes</p> <p>Link to the subsequent service life:  A-1: Use in cements, plasters, glass and/or ceramic articles  A-2: Paper articles  A-3: Plastic articles  A-4: Electrical batteries and accumulators  A-5: Textiles  A-6: Use in rubber articles</p> <p>Remarks:</p>

Identifiers	Use descriptors	Other information
	<p>(charging/discharging) from/to vessels/large containers at non-dedicated facilities  PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  PROC 10: Roller application or brushing  PROC 13: Treatment of articles by dipping and pouring  PROC 14: Production of preparations or articles by tableting, compression, extrusion, pelletisation  PROC 17: Lubrication at high energy conditions and in partly open process  PROC 21: Low energy manipulation of substances bound in materials and/or articles  PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting  PROC 23: Open processing and transfer operations with minerals/metals at elevated temperature  PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles  PROC 26: Handling of solid inorganic substances at ambient temperature</p> <p><b>Product Category used:</b></p> <p>PC 2: Adsorbents  PC 9a: Coatings and paints, thinners, paint removes  PC 9b: Fillers, putties, plasters, modelling clay  PC 18: Ink and toners  PC 20: Products such as pH-regulators, flocculants, precipitants, neutralisation agents  PC 24: Lubricants, greases, release products  PC 25: Metal working fluids  PC 32: Polymer preparations and compounds  PC 0: Other: UCN Codes: H 15500, R 30200</p> <p><b>Sector of end use:</b></p> <p>SU 12: Manufacture of plastics products, including compounding and conversion  SU 13: Manufacture of other non-metallic mineral products, e.g. plasters, cement  SU 16: Manufacture of computer, electronic and optical products, electrical equipment  SU 19: Building and construction work</p> <p><b>Technical function of the substance during formulation:</b></p> <p>Binding agents  Corrosion inhibitors and anti-scaling agents  Fillers  Lubricants and lubricant additives  pH-regulating agents  Plating agents and metal surface treating agents  Stabilisers  Additive/pigment/auxiliary in plastics/resins/paints,</p>	<p>ECHA's CHEMical Safety Assessment and Reporting tool (CHESAR) is not applicable because life-cycle description and generation of exposure scenarios leads to risk assessment requiring the use of models such as MEASE to address the inorganic nature of the substance.</p>

Identifiers	Use descriptors	Other information
	coatings and inks. Additive in lubricants, metal working fluids and greases. Set retarder/accelerator in gypsum/cement. Binding agent in ceramic or refractory materials.	

**Table 4. Uses by professional workers**

Identifiers	Use descriptors	Other information
PW-5: Formulation and synthesis in professional settings	<p><b>Environmental release category (ERC):</b></p> <p>ERC 8a: Wide dispersive indoor use of processing aids in open systems  ERC 8b: Wide dispersive indoor use of reactive substances in open systems  ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix  ERC 8d: Wide dispersive outdoor use of processing aids in open systems  ERC 8e: Wide dispersive outdoor use of reactive substances in open systems  ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix</p> <p><b>Process category (PROC):</b></p> <p>PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)  PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities  PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities  PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  PROC 10: Roller application or brushing  PROC 11: Non industrial spraying  PROC 13: Treatment of articles by dipping and pouring  PROC 14: Production of preparations or articles by tableting, compression, extrusion, pelletisation  PROC 15: Use as laboratory reagent  PROC 19: Hand-mixing with intimate contact and only PPE available.  PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting  PROC 26: Handling of solid inorganic substances at ambient temperature</p> <p><b>Product Category used:</b></p> <p>PC 19: Intermediate  PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents  PC 21: Laboratory chemicals</p> <p><b>Sector of end use:</b></p> <p>SU 4: Manufacture of food products</p>	<p>Substance supplied to that use:</p> <p>In a mixture  As such</p> <p>Subsequent service life relevant for that use: no</p> <p>Remarks:</p> <p>ECHA's CHEMical Safety Assessment and Reporting tool (CHESAR) is not applicable because life-cycle description and generation of exposure scenarios leads to risk assessment requiring the use of models such as MEASE to address the inorganic nature of the substance.</p> <p>PC 19 has been removed in the latest version of the Use Descriptor guidance and therefore will not be available for selection in IUCLID 6</p> <p>SU 10 has been removed in the latest version of the Use Descriptor guidance and therefore will not be available for selection in IUCLID 6</p>

Identifiers	Use descriptors	Other information
	<p>SU 8: Manufacture of bulk, large scale chemicals (including petroleum products)            SU 9: Manufacture of fine chemicals            SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys)            SU 24: Scientific research and development</p> <p><b>Technical function of the substance during formulation:</b></p> <p>Intermediates            Laboratory chemicals            pH-regulating agents</p>	
PW-6: Professional end uses	<p><b>Environmental release category (ERC):</b></p> <p>ERC 8a: Wide dispersive indoor use of processing aids in open systems            ERC 8b: Wide dispersive indoor use of reactive substances in open systems            ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix            ERC 8d: Wide dispersive outdoor use of processing aids in open systems            ERC 8e: Wide dispersive outdoor use of reactive substances in open systems            ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix</p> <p><b>Process category (PROC):</b></p> <p>PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)            PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities            PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities            PROC 11: Non industrial spraying            PROC 13: Treatment of articles by dipping and pouring            PROC 14: Production of preparations or articles by tableting, compression, extrusion, pelletisation            PROC 17: Lubrication at high energy conditions and in partly open process            PROC 19: Hand-mixing with intimate contact and only PPE available.            PROC 21: Low energy manipulation of substances bound in materials and/or articles            PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting            PROC 23: Open processing and transfer operations with minerals/metals at elevated temperature            PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles            PROC 26: Handling of solid inorganic substances at ambient temperature</p>	<p>Substance supplied to that use:</p> <p>As such            In a mixture</p> <p>Subsequent service life relevant for that use: yes</p> <p>Link to the subsequent service life:</p> <p>A-1: Use in cements, plasters, glass and/or ceramic articles            A-2: Paper articles            A-3: Plastic articles            A-4: Electrical batteries and accumulators            A-5: Textiles            A-6: Use in rubber articles</p> <p>Remarks:</p> <p>ECHA's CHEMical Safety Assessment and Reporting tool (CHESAR) is not applicable because life-cycle description and generation of exposure scenarios leads to risk assessment requiring the use of models such as MEASE to address the inorganic nature of the substance.</p>

Identifiers	Use descriptors	Other information
	<p><b>Product Category used:</b></p> <p>PC 2: Adsorbents  PC 9a: Coatings and paints, thinners, paint removes  PC 9b: Fillers, putties, plasters, modelling clay  PC 18: Ink and toners  PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents  PC 24: Lubricants, greases, release products  PC 25: Metal working fluids  PC 32: Polymer preparations and compounds</p> <p><b>Sector of end use:</b></p> <p>SU 6b: Manufacture of pulp, paper and paper products  SU 12: Manufacture of plastics products, including compounding and conversion  SU 13: Manufacture of other non-metallic mineral products, e.g. plasters, cement  SU 16: Manufacture of computer, electronic and optical products, electrical equipment  SU 19: Building and construction work</p> <p><b>Technical function of the substance during formulation:</b></p> <p>Binding agents  Corrosion inhibitors and anti-scaling agents  Fillers  pH-regulating agents  Plating agents and metal surface treating agents  Stabilisers  Additive/pigment/auxiliary in plastics/resins/paints, coatings and inks. Additive in lubricants, metal working fluids and greases. Set retarder/accelerator in gypsum/cement. Binding agent in ceramic or refractory materials.</p>	

**Table 5. Consumer uses**

Identifiers	Use descriptors	Other information
C-7: Consumer end uses in products and materials	<p><b>Product Category used:</b></p> <p>PC 9a: Coatings and paints, thinners, paint removes  PC 9b: Fillers, putties, plasters, modelling clay  PC 18: Ink and toners</p> <p><b>Technical function of the substance during formulation:</b></p> <p>Binding agents  Corrosion inhibitors and anti-scaling agents  Fillers  Lubricants and lubricant additives  pH-regulating agents  Plating agents and metal surface treating agents  Stabilisers  Additive/pigment/auxiliary in plastics/resins/paints, coatings and inks. Additive in lubricants, metal working fluids and greases. Set retarder/accelerator in gypsum/cement. Binding agent in ceramic or</p>	<p>Substance supplied to that use:</p> <p>In a mixture</p> <p>Subsequent service life relevant for that use: yes</p> <p>Link to the subsequent service life:</p> <p>A-1: Use in cements, plasters, glass and/or ceramic articles  A-2: Paper articles  A-3: Plastic articles  A-4: Electrical batteries and accumulators</p> <p>Remarks:  ECHA's CHEMical Safety</p>

Identifiers	Use descriptors	Other information
	refractory materials.	Assessment and Reporting tool (CHESAR) is not applicable because life-cycle description and generation of exposure scenarios leads to risk assessment requiring the use of models such as MEASE to address the inorganic nature of the substance.

**Table 6. Article service life**

Identifiers	Use descriptors	Other information
SL-1: Use in cements, plasters, glass and/or ceramic articles	<p><b>Article category related to subsequent service life (AC):</b> AC 4: Stone, plaster, cement, glass and ceramic articles</p> <p><b>Exposure related description of article:</b> Articles with foreseeable impact on indoor exposure due to large indoor surface, e.g. flooring</p> <p><b>Environmental release category (ERC):</b> ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 10b: Wide dispersive outdoor use of long-life articles and materials with high or intended release (including abrasive processing) ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release ERC 11b: Wide dispersive indoor use of long-life articles and materials with high or intended release (including abrasive processing)</p> <p><b>Process category (PROC):</b> PROC 21: Low energy manipulation of substances bound in materials and/or articles PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles</p>	<p>Article used by: workers consumers</p> <p>Remarks: ECHA's CHEMical Safety Assessment and Reporting tool (CHESAR) is not applicable because life-cycle description and generation of exposure scenarios leads to risk assessment requiring the use of models such as MEASE to address the inorganic nature of the substance.</p>
SL-2: Paper articles	<p><b>Article category related to subsequent service life (AC):</b> AC 8: Paper articles</p> <p><b>Environmental release category (ERC):</b> ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release</p> <p><b>Process category (PROC):</b> PROC 21: Low energy manipulation of substances bound in materials and/or articles</p>	<p>Article used by: workers consumers</p> <p>Remarks: ECHA's CHEMical Safety Assessment and Reporting tool (CHESAR) is not applicable because life-cycle description and generation of exposure scenarios leads to risk assessment requiring the use of models such as MEASE to address the</p>



Identifiers	Use descriptors	Other information
		inorganic nature of the substance.
SL-3: Plastic articles	<p><b>Article category related to subsequent service life (AC):</b> AC 13: Plastic articles</p> <p><b>Exposure related description of article:</b> Articles with foreseeable exposure to dust and fumes during maintenance and recycling processes, e.g. abrasive surface cleaning, dismantling and milling Article with intended or foreseeable mouth contact, e.g. toys</p> <p><b>Environmental release category (ERC):</b> ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release ERC 12a: Industrial processing of articles with abrasive techniques (low release) ERC 12b: Industrial processing of articles with abrasive techniques (high release)</p> <p><b>Process category (PROC):</b> PROC 14: Production of preparations or articles by tableting, compression, extrusion, pelletisation PROC 21: Low energy manipulation of substances bound in materials and/or articles PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles</p>	<p>Article used by: workers consumers</p> <p>Remarks: ECHA's CHEMical Safety Assessment and Reporting tool (CHESAR) is not applicable because life-cycle description and generation of exposure scenarios leads to risk assessment requiring the use of models such as MEASE to address the inorganic nature of the substance.</p>
SL-4: Electrical batteries and accumulators	<p><b>Article category related to subsequent service life (AC):</b> AC 3: Electrical batteries and accumulators</p> <p><b>Exposure related description of article:</b> Articles with foreseeable impact on indoor exposure due to elevated operating temperature, e.g. computers Articles with particular waste collection and treatment schemes, e.g. electronic equipment</p> <p><b>Environmental release category (ERC):</b> ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release ERC 12a: Industrial processing of articles with abrasive techniques (low release)</p> <p><b>Process category (PROC):</b> PROC 14: Production of preparations or articles by tableting, compression, extrusion, pelletisation PROC 21: Low energy manipulation of substances bound in materials and/or articles PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting</p>	<p>Article used by: workers consumers</p> <p>Remarks: ECHA's CHEMical Safety Assessment and Reporting tool (CHESAR) is not applicable because life-cycle description and generation of exposure scenarios leads to risk assessment requiring the use of models such as MEASE to address the inorganic nature of the substance.</p>

Identifiers	Use descriptors	Other information
	PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles	
SL-5: Textiles	<p><b>Article category related to subsequent service life (AC):</b> AC 5: Fabrics, textiles and apparel</p> <p><b>Exposure related description of article:</b> Articles with intended or foreseeable skin contact, e.g. clothing or shoe ware</p> <p><b>Environmental release category (ERC):</b> ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release</p> <p><b>Process category (PROC):</b> PROC 21: Low energy manipulation of substances bound in materials and/or articles</p>	Article used by: workers consumers
SL-6: Use in rubber articles	<p><b>Article category related to subsequent service life (AC):</b> AC 10: Rubber articles</p> <p><b>Environmental release category (ERC):</b> ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release</p> <p><b>Process category (PROC):</b> PROC 14: Production of preparations or articles by tableting, compression, extrusion, pelletisation PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting PROC 23: Open processing and transfer operations with minerals/metals at elevated temperature</p>	Article used by: workers consumers