

2.1. Manufacture

Table 2.2. Manufacture

	Manufacture
M-1	<p>Manufacture of zinc ortho-phosphate</p> <p><u>Further description of manufacturing process:</u></p> <p>The manufacturing process includes:</p> <ul style="list-style-type: none"> •Reception of zinc-bearing materials, if applicable, Stockpiling and transfer to the reaction tank (phosphate media) •The leaching reaction with phosphoric acid solutions is kept at the proper pH and temperature. •The slurry is allowed to settle and is filtered on adapted filters, •The filter cake is further dried, in several steps in closed reactor(s) according the required specifications. •The dry material is then ground by various encapsulated milling equipment and transported through closed system to bulk storage silos and packaging stations. •Discharge and packaging of produced zinc phosphate powder. Workers have to place and adjust the bag or drum under the discharge pipe and to set the process in motion. Filled bags or drums are subsequently closed and carried to the storage area. •Exposure to dust can occur during packing of the powder. Solutions are packed in intermediate bulk containers (ca. 1 m3 capacity); solids are packed in bags or drums. •Maintenance activities <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Direct discharge to water after on-site treatment (ERC1) - Discharge via additional off-site sewage treatment plant (ERC1) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions (PROC 1) - Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC 2) - Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions (PROC 3) - Chemical production where opportunity for exposure arises (PROC 4) - Mixing or blending in batch processes (PROC 5) - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC 8a) - Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC 8b) - Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC 9)

	<ul style="list-style-type: none"> - Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting (PROC 22) - Handling of solid inorganic substances at ambient temperature (PROC 26)
	registration according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant
	Tonnage of substance for this use: <=9280 Tonnage (tonnes/year)
	<i>Related assessment: use assessed in a joint CSR</i>

2.2. Identified uses

Table 2.3. Formulation

	Formulation
F-1	<p>Formulation of zinc ortho-phosphate in solvent borne or water borne liquid coatings and inks</p> <p><u>Further description of the use:</u></p> <p>Formulation of solvent borne or water borne liquid coatings and inks, on large or small scale, where specific formulation is not known</p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Formulation of zinc ortho-phosphate in organic solvent and water borne coatings and inks (where specific formulation not known) - non volatiles (ERC2) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC 2) - Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions (PROC 3) - Mixing or blending in batch processes (PROC 5) - Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC 8b) - Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC 9) <p>Product Category formulated: PC 9a: Coatings and paints, thinners, paint removers ; PC 9b: Fillers, putties, plasters, modelling clay ; PC 9c: Finger paints ; PC 14: Metal surface treatment products ; PC 15: Non-metal-surface treatment products ; PC 18: Ink and toners</p> <p>Technical function of the substance: no specific technical function</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for this use: <=1000 Tonnage (tonnes/year)</p> <p>Substance supplied to that use:</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
F-2	<p>Formulation of fertilizer products</p>

	<p><u>Further description of the use:</u></p> <p>Industrial mixing, granulation, prilling, pelletisation, coating and transfers.</p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Direct discharge to water after on-site treatment (ERC2) - Discharge via additional off-site sewage treatment plant (ERC2) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Closed operations, no likelihood of exposure. (PROC 1) - Closed continuous process with occasional controlled exposure. (PROC 2) - Closed batch process with occasional controlled exposure. (PROC 3) - Production process where opportunity for exposure arises. (PROC 4) - Process in stages with significant contact, including payload work in bulk storages. (PROC 5) - Transfers, loading, unloading, sampling and cleaning without dedicated engineering controls in place. (PROC 8a) - Transfers, loading, unloading, sampling and cleaning with dedicated engineering controls in place. (PROC 8b) - Packing liquids and solids in a dedicated filling line, including weighing. (PROC 9) - Production of fertilizers by granulation or low-energy compression. (PROC 14) - Use in laboratory for quality control and other analyses. (PROC 15) - Manual maintenance of equipment during intentional pauses and blockages. (PROC28) <p>Product Category formulated: PC 12: Fertilisers</p> <p>Technical function of the substance: no specific technical function</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for this use: <=2500 Tonnage (tonnes/year)</p> <p>Substance supplied to that use:</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
F-3	<p>Formulation by incorporating fertilizers onto or into a matrix</p> <p><u>Further description of the use:</u></p> <p>Industrial treatment of growth substrates or seeds with fertilizers or fertilizer granules with a coating material resulting in a slow release matrix.</p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Direct discharge to water after on-site treatment (ERC3) - Discharge via additional off-site sewage treatment plant (ERC3) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Closed continuous process with occasional controlled exposure. (PROC 2) - Closed batch process with occasional controlled exposure. (PROC 3)

	<ul style="list-style-type: none"> - Production process where opportunity for exposure arises. (PROC 4) - Process in stages with significant contact. (PROC 5) - Transfers, loading, unloading, sampling and cleaning without dedicated engineering controls in place. (PROC 8a) - Transfers, loading, unloading, sampling and cleaning with dedicated engineering controls in place. (PROC 8b) - Packing the treated materials with dedicated engineering controls in place, including weighing. (PROC 9) - Treatment of growth substrates or seeds by dipping and pouring. (PROC 13) - Use in laboratory for quality control and other analyses. (PROC 15) <p>Product Category formulated: PC 12: Fertilisers</p> <p>Technical function of the substance: no specific technical function</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for this use: <=2500 Tonnage (tonnes/year)</p> <p>Substance supplied to that use:</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
F-1	<p>Formulation of zinc ortho-phosphate in adhesives, sealants</p> <p><u>Further description of the use:</u></p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Formulation of solvent-borne and solvent-less adhesives / sealants and construction chemical products - non-volatile substances (ERC2) - Formulation of water-borne adhesives / sealants and construction chemical products – non-volatile substances (ERC2) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. (PROC 1) - Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC 2) - Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC 3) - Chemical production where opportunity for exposure arises (PROC 4) - Mixing or blending in batch processes (PROC 5) - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC 8a) - Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC 8b) - Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC 9) - Use as laboratory reagent (PROC 15) - Handling of solid inorganic substances at ambient temperature (PROC 26)

<p>Product Category formulated: PC 1: Adhesives, sealants</p> <p>Technical function of the substance: no specific technical function</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported ≥ 10 tonnes/year per registrant</p> <p>Tonnage of substance for this use: ≤ 50 Tonnage (tonnes/year)</p> <p>Substance supplied to that use:</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>

Table 2.4. Uses at industrial sites

	Uses at industrial sites
IW-1	<p>Industrial spray painting, exhaust ventilation</p> <p><u>Further description of the use:</u></p> <p>Paint application on indoor industrial line with no enclosure (only LEV)</p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Application; Industrial; Spraying; Indoor use; Solids (ERC5) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Industrial spray painting, exhaust ventilation (liquid) - drying/curing (PROC 4) - Industrial spray painting, exhaust ventilation (liquid) - loading, handling and waste management (PROC 8b) - Industrial spray painting, exhaust ventilation (liquid) - preparation and cleaning (PROC 5) - Industrial spray painting, exhaust ventilation (liquid) - spray application (PROC 7) - Industrial spray painting, exhaust ventilation (powder) - drying/curing (PROC 4) - Industrial spray painting, exhaust ventilation (powder) - loading, handling and waste management (PROC 8b) - Industrial spray painting, exhaust ventilation (powder) - preparation and cleaning (PROC 5) - Industrial spray painting, exhaust ventilation (powder) - spray application (PROC 7) <p>Product Category used: PC 9a: Coatings and paints, thinners, paint removers</p> <p>Sector of end use: SU 2b: Offshore industries ; SU 6a: Manufacture of wood and wood products ; SU 6b: Manufacture of pulp, paper and paper products ; SU 7: Printing and reproduction of recorded media ; SU 12: Manufacture of plastics products, including compounding and conversion ; SU 15: Manufacture of fabricated metal products, except machinery and equipment ; SU 16: Manufacture of computer, electronic and optical products, electrical equipment ; SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment ; SU 18: Manufacture of furniture ; SU 19: Building and construction work</p> <p>Technical function of the substance: antiscaling agent ; corrosion inhibitor ; durability agent ; dye ; filler ; pigment ; processing aid not otherwise specified ; waterproofing agent</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported ≥ 10 tonnes/year per registrant</p>

	<p>Tonnage of substance for this use: <=1000 Tonnage for this use (tonnes/year)</p> <p>Substance supplied to that use:</p> <p>Subsequent service life relevant for that use: yes</p> <p>Link to the subsequent service life: Service life of painted and coated articles</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
IW-2	<p>Industrial non-spray painting, exhaust ventilation</p> <p><u>Further description of the use:</u></p> <p>Paint application on indoor industrial line by brush, roller, dipping, spreading, coil, fluidised bed or curtain coating (LEV only)</p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Application - industrial - non-spray - indoor use - solids (ERC5) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Industrial non-spray painting, exhaust ventilation (liquid) - drying/curing (PROC 4) - Industrial non-spray painting, exhaust ventilation (liquid) - loading, handling and waste management (PROC 8b) - Industrial non-spray painting, exhaust ventilation (liquid) - preparation and cleaning (PROC 5) - Industrial non-spray painting, exhaust ventilation (liquid) - application (PROC 10) - Industrial non-spray painting, exhaust ventilation (liquid) - application (PROC 13) - Industrial non-spray painting, exhaust ventilation (powder) - drying/curing (PROC 4) - Industrial non-spray painting, exhaust ventilation (powder) - loading, handling and waste management (PROC 8b) - Industrial non-spray painting, exhaust ventilation (powder) - preparation and cleaning (PROC 5) - Industrial non-spray painting, exhaust ventilation (powder) - application (PROC 13) <p>Product Category used: PC 9a: Coatings and paints, thinners, paint removers</p> <p>Sector of end use: SU 2b: Offshore industries ; SU 6a: Manufacture of wood and wood products ; SU 6b: Manufacture of pulp, paper and paper products ; SU 7: Printing and reproduction of recorded media ; SU 12: Manufacture of plastics products, including compounding and conversion ; SU 15: Manufacture of fabricated metal products, except machinery and equipment ; SU 16: Manufacture of computer, electronic and optical products, electrical equipment ; SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment ; SU 18: Manufacture of furniture ; SU 19: Building and construction work</p> <p>Technical function of the substance: antiscaling agent ; corrosion inhibitor ; durability agent ; dye ; filler ; pigment ; processing aid not otherwise specified ; waterproofing agent</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for this use: <=1000 Tonnage for this use (tonnes/year)</p> <p>Substance supplied to that use:</p> <p>Subsequent service life relevant for that use: yes</p>

	<p>Link to the subsequent service life: Service life of painted and coated articles</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
IW-3	<p>Zinc ortho-phosphate as laboratory reagent</p> <p><u>Further description of the use:</u></p> <p>Use of zinc ortho-phosphate as active laboratory reagent in aqueous or organic media, for analysis or synthesis</p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Discharge via either on-site or off-site sewage treatment plant (ERC6a) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Use as laboratory reagent (PROC 15) <p>Product Category used: PC 21: Laboratory chemicals</p> <p>Technical function of the substance: intermediate</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported ≥ 10 tonnes/year per registrant</p> <p>Tonnage of substance for this use: $\leq 0,05$ Tonnage for this use (tonnes/year)</p> <p>Substance supplied to that use:</p> <p>Subsequent service life relevant for that use: no</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
IW-4	<p>Industrial use of zinc ortho-phosphate for production of organic and inorganic zinc compounds (intermediate use)</p> <p><u>Further description of the use:</u></p> <p>Industrial use of Zinc ortho-phosphate or $\text{Zn}_3(\text{PO}_4)_2$-formulations in the manufacture of organic substances by mixing the starting materials in a organic-based matrix and other inorganic Zinc-substances in a water-based matrix, with potentially filtering and packaging.</p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Direct discharge to water after on-site treatment (ERC6a) - Discharge via additional off-site sewage treatment plant (ERC6a) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions (PROC 2) - Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions (PROC 3) - Mixing or blending in batch processes (PROC 5)

	<ul style="list-style-type: none"> - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC 8a) - Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC 8b) - Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC 9) - Manufacturing and processing of minerals and/or metals at substantially elevated temperature (PROC 22) - Handling of solid inorganic substances at ambient temperature (PROC 26) <p>Product Category used: PC 9a: Coatings and paints, thinners, paint removers ; PC 14: Metal surface treatment products ; PC 21: Laboratory chemicals ; PC 32: Polymer preparations and compounds ; PC 39: Cosmetics, personal care products</p> <p>Sector of end use: SU 8: Manufacture of bulk, large scale chemicals (including petroleum products) ; SU 9: Manufacture of fine chemicals</p> <p>Technical function of the substance: intermediate</p> <p>use as intermediate in a registration according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for this use: <=25 Tonnage for this use (tonnes/year)</p> <p>Substance supplied to that use:</p> <p>Subsequent service life relevant for that use: no</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
IW-5	<p>Industrial use of zinc ortho-phosphate for the manufacture of polymer-matrices, plastics and related preparations</p> <p><u>Further description of the use:</u></p> <p>Industrial use of Zinc ortho-phosphate or $Zn_3(PO_4)_2$-formulations as component for the manufacture of dispersions, pastes or other viscous or polymerized matrices.</p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Direct discharge to water after on-site treatment (ERC5) - Discharge via additional off-site sewage treatment plant (ERC5) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment conditions (PROC 3) - Chemical production where opportunity for exposure arises (PROC 4) - Mixing or blending in batch processes (PROC 5) - Calendering operations (PROC 6) - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC 8a) - Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC 8b)

	<ul style="list-style-type: none"> - Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC 9) - Roller application or brushing (PROC 10) - Use of blowing agents in manufacture of foam (PROC 12) - Treatment of articles by dipping and pouring (PROC 13) - Tableting, compression, extrusion, pelletisation, granulation (PROC 14) - Low energy manipulation and handling of substances bound in/on materials or articles (PROC 21) - High (mechanical) energy work-up of substances bound in materials and/or articles (PROC 24) <p>Product Category used: PC 32: Polymer preparations and compounds</p> <p>Sector of end use: SU 12: Manufacture of plastics products, including compounding and conversion</p> <p>Technical function of the substance: chemical reaction regulator ; flame retardant</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for this use: <=100 Tonnage for this use (tonnes/year)</p> <p>Substance supplied to that use:</p> <p>Subsequent service life relevant for that use: yes</p> <p>Link to the subsequent service life: Service life of plastic articles</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
IW-6	<p>Industrial use of zinc ortho-phosphate as an active component in the manufacturing of friction material, brake pads, brake lining</p> <p><u>Further description of the use:</u></p> <p>Industrial use of $Zn_3(PO_4)_2$ as an active component in the manufacturing of friction material</p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Direct discharge to water after on-site treatment (ERC5) - Discharge via additional off-site sewage treatment plant (ERC5) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Chemical production where opportunity for exposure arises (PROC 4) - Mixing or blending in batch processes (PROC 5) - Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC 8b) - Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC 9) - Tableting, compression, extrusion, pelletisation, granulation (PROC 14) <p>Product Category used: PC 14: Metal surface treatment products ; PC 0: Other:</p>

	<p>Sector of end use: SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment ; SU 0: Other:</p> <p>Technical function of the substance: abrasive ; antiscaling agent ; antislip/friction agent ; corrosion inhibitor</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for this use: <=2,5 Tonnage for this use (tonnes/year)</p> <p>Substance supplied to that use:</p> <p>Subsequent service life relevant for that use: yes Link to the subsequent service life: Service life of brake pads</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
IW-7	<p>Inclusion of zinc ortho-phosphate in respirator cartridges / filters</p> <p><u>Further description of the use:</u></p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - No emissions to water and air (ERC5) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Mixing or blending in batch processes (PROC 5) - Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC 8b) - Transfer of substance or mixture into small containers (dedicated filling line, including weighing) (PROC 9) <p>Product Category used: PC 0: Other:</p> <p>Technical function of the substance: absorbent ; catalyst ; reducing agent</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for this use: <=50 Tonnage for this use (tonnes/year)</p> <p>Substance supplied to that use:</p> <p>Subsequent service life relevant for that use: no</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
IW-1	<p>Industrial use of adhesives / sealants</p> <p><u>Further description of the use:</u></p> <p>In the first step, the containers are opened and placed under the feed pump. Empty containers are closed and either recycled or handled as waste according to local waste regulations. The contact time is short and exposure may occur only occasionally. The containers are either located in a dedicated place inside the ventilated cabin, or outside in a ventilated place for fast and easy exchange.</p>

<p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Industrial use of non-volatile substances in solvent-borne and solvent-less adhesives / sealants (ERC5) - Industrial use of non-volatile substances in water borne adhesives / sealants (ERC5) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Changing of containers, drums or buckets for industrial application equipment (PROC 8b) - Industrial automatic use of adhesives (PROC 10) - Industrial automatic spray application of adhesives (PROC 7) - Industrial manual spray application of adhesives with spray guns in a ventilated booth (PROC 7) - Industrial small scale use of adhesives, sealants and primers (PROC 10) - Industrial use of adhesives, sealants and primers, manual application without LEV (PROC 10) <p>Product Category used: PC 1: Adhesives, sealants ; PC 32: Polymer preparations and compounds</p> <p>Sector of end use: SU 6a: Manufacture of wood and wood products ; SU 6b: Manufacture of pulp, paper and paper products ; SU 15: Manufacture of fabricated metal products, except machinery and equipment ; SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment ; SU 18: Manufacture of furniture</p> <p>Technical function of the substance: chemical reaction regulator ; stabilising agent ; tackifier ; viscosity modifier</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for this use: <=50 Tonnage for this use (tonnes/year)</p> <p>Substance supplied to that use:</p> <p>Subsequent service life relevant for that use: yes</p> <p>Link to the subsequent service life: Service life of adhesives / sealants / mastics</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
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Table 2.5. Uses by professional workers

	Uses by professional workers
PW-1	<p>Professional spray painting of paint and coatings containing zinc ortho-phosphate, indoor/outdoor</p> <p><u>Further description of the use:</u></p> <p>Spray painting by professionals for general applications (e.g. decorative)</p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Professional spray painting of zinc ortho-phosphate, Indoor use (ERC8c) - Professional spray painting of zinc ortho-phosphate, Outdoor use (ERC8f) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Professional spray painting - drying/curing (PROC 4)

	<ul style="list-style-type: none"> - Professional spray painting - loading, handling and waste management (PROC 8a) - Professional spray painting - preparation and cleaning (PROC 5) - Professional spray painting - spray application (PROC 11) <p>Product Category used: PC 9a: Coatings and paints, thinners, paint removers</p> <p>Sector of end use: SU 2b: Offshore industries ; SU 6a: Manufacture of wood and wood products ; SU 6b: Manufacture of pulp, paper and paper products ; SU 7: Printing and reproduction of recorded media ; SU 12: Manufacture of plastics products, including compounding and conversion ; SU 15: Manufacture of fabricated metal products, except machinery and equipment ; SU 16: Manufacture of computer, electronic and optical products, electrical equipment ; SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment ; SU 18: Manufacture of furniture ; SU 19: Building and construction work</p> <p>Technical function of the substance: antiscaling agent ; corrosion inhibitor ; durability agent ; dye ; filler ; pigment ; processing aid not otherwise specified ; waterproofing agent</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for this use: <=1000 Tonnage (tonnes/year)</p> <p>Subsequent service life relevant for that use: yes</p> <p>Link to the subsequent service life: Service life of painted and coated articles</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
PW-2	<p>Professional painting of paint and coatings containing zinc ortho-phosphate, indoor/outdoor brush/roller</p> <p><u>Further description of the use:</u></p> <p>Painting by professionals with brush or roller</p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Professional painting of zinc ortho-phosphate, indoor brush/roller (ERC8c) - Professional painting of zinc ortho-phosphate, outdoor brush/roller (ERC8f) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Professional painting - drying/curing (PROC 4) - Professional painting - loading, handling and waste management (PROC 8a) - Professional painting - preparation and cleaning (PROC 5) - Professional painting - application brush/roller (PROC 10) <p>Product Category used: PC 9a: Coatings and paints, thinners, paint removers</p> <p>Sector of end use: SU 2b: Offshore industries ; SU 6a: Manufacture of wood and wood products ; SU 6b: Manufacture of pulp, paper and paper products ; SU 7: Printing and reproduction of recorded media ; SU 12: Manufacture of plastics products, including compounding and conversion ; SU 15: Manufacture of fabricated metal products, except machinery and equipment ; SU 16: Manufacture of computer, electronic and optical products, electrical equipment ; SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment ; SU 18: Manufacture of furniture ; SU 19: Building and construction work</p> <p>Technical function of the substance: antiscaling agent ; corrosion inhibitor ; durability agent ; dye ; filler ; pigment ; processing aid not otherwise specified ; waterproofing agent</p>

	<p>registration according to REACH Article 10; total tonnage manufactured/imported ≥ 10 tonnes/year per registrant</p> <p>Tonnage of substance for this use: ≤ 1000 Tonnage (tonnes/year)</p> <p>Subsequent service life relevant for that use: yes</p> <p>Link to the subsequent service life: Service life of painted and coated articles</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
PW-3	<p>Professional use of fertilizers</p> <p><u>Further description of the use:</u></p> <p>Mixing and loading of fertilizers into the equipment and applying with different techniques (spreading, fertigation etc.) for the crop by farmers, growers and contractors.</p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Outdoor use - direct application of solid fertilizers to soil; surface spreading (ERC8e) - Outdoor use - direct application of solid or liquid fertilizers to soil; incorporation, placement, mixing, seed treatment, drip irrigation (ERC8e) - Outdoor use - application of fertilizers by helicopter (ERC8e) - Outdoor use - spray application of fertilizers in liquid form; soil surface spreading, sprinkler, pivot, foliar spray, slurry (ERC8e) - Indoor use of fertilizer (nutrient). (ERC8b) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Handling of fertilizer in stages with significant contact (without additional RMMs). (PROC 5) - Unloading and loading of fertilizer in non-dedicated facilities, including sampling and cleaning fertilizer residues from the equipment (without additional RMMs). (PROC 8a) - Unloading and loading of fertilizer in dedicated facilities (e.g. in greenhouses where dedicated engineering controls are in place), including sampling (without additional RMMs). (PROC 8b) - Packing fertilizers in a dedicated filling line, including weighing (without additional RMMs). (PROC 9) - Air-dispersive application of fertilizers (without additional RMMs). (PROC 11) - Chemical analyses of fertilizers (without additional RMMs). (PROC 15) <p>Product Category used: PC 12: Fertilisers</p> <p>Sector of end use: SU 1: Agriculture, forestry and fishing</p> <p>Technical function of the substance: soil amendments (including fertilisers)</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported ≥ 10 tonnes/year per registrant</p> <p>Tonnage of substance for this use: ≤ 2500 Tonnage (tonnes/year)</p> <p>Subsequent service life relevant for that use: no</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
PW-1	<p>Professional use of adhesives / sealants</p>

<p><u>Further description of the use:</u></p> <p>Exposure when bonding with non-reactive adhesives or primers starts with the opening of the cans or collapsible tubes. The adhesive or primer is directly applied from the tube or the can on a small bonding area of the substrate (e.g. PVC pipe) with the help of a brush. After the required flash-off time, the parts are put together. Some adhesives have to be applied onto both substrates (e.g. contact adhesives), which are then put together. During the drying time, the parts must not be moved and the next segment for the bonding area can be prepared. The overall time for the adhesive application is less than 1 hour per shift. The adhesive is normally applied in low volumes (ca. 1 kg/d). The adhesive container must be kept closed when not in use.</p> <p>Contributing activity/technique for the environment :</p> <ul style="list-style-type: none"> - Widespread use of non-volatile substances in adhesives / sealants - indoor (ERC8c) - Widespread use of non-volatile substances in adhesives / sealants and construction chemical products - outdoor (ERC8f) <p>Contributing activity/technique for the workers :</p> <ul style="list-style-type: none"> - Professional small scale indoor use of adhesives, sealants or primers by low energy spreading (PROC 10) - Professional small scale outdoor use of adhesives, sealants or primers by low energy spreading (PROC 10) <p>Product Category used: PC 1: Adhesives, sealants ; PC 9b: Fillers, putties, plasters, modelling clay ; PC 24: Lubricants, greases, release products</p> <p>Sector of end use: SU 6a: Manufacture of wood and wood products ; SU 6b: Manufacture of pulp, paper and paper products ; SU 15: Manufacture of fabricated metal products, except machinery and equipment ; SU 16: Manufacture of computer, electronic and optical products, electrical equipment ; SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment</p> <p>Technical function of the substance: impregnation agent ; lubricating agent ; stabilising agent</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for this use: <=50 Tonnage (tonnes/year)</p> <p>Subsequent service life relevant for that use: yes Link to the subsequent service life: Service life of adhesives / sealants / mastics</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>

Table 2.6. Consumer uses

	Consumer uses
C-1	<p>Consumer use of zinc ortho-phosphate-containing paints & coatings</p> <p><u>Further description of the use:</u></p> <p>Contributing activity/technique for the environment:</p> <ul style="list-style-type: none"> - Consumer use of zinc ortho-phosphate-containing paints & coatings indoor (ERC8c) - Consumer use of zinc ortho-phosphate-containing paints & coatings outdoor (ERC8f) <p>Contributing activity/technique for consumers:</p>

	<ul style="list-style-type: none"> - Wall paints – roller/brush (PC 9a) - Finger paints (PC 9c) - Ink and toners (PC 18) <p>Technical function of the substance: antiscaling agent ; corrosion inhibitor ; durability agent ; dye ; filler ; pigment ; processing aid not otherwise specified ; waterproofing agent</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for this use: <=1000 Tonnage (tonnes/year)</p> <p>Subsequent service life relevant for that use: yes</p> <p>Link to the subsequent service life: Service life of painted and coated articles</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
C-2	<p>Consumer use of fertilizer products</p> <p><u>Further description of the use:</u></p> <p>Mixing and application of solid or liquid fertilizers at home for indoor and outdoor plants.</p> <p>Contributing activity/technique for the environment:</p> <ul style="list-style-type: none"> - Outdoor use - direct application of solid fertilizers to soil; surface spreading (ERC8e) - Outdoor use - direct application of solid or liquid fertilizers to soil; incorporation, placement, mixing, seed treatment, drip irrigation (ERC8e) - Outdoor use - spray application of liquid fertilizers; soil surface spreading, sprinkler, pivot, foliar spray, slurry (ERC8e) - Indoor use of fertilizer (nutrient). (ERC8b) <p>Contributing activity/technique for consumers:</p> <ul style="list-style-type: none"> - Consumer use of solid fertilizers (indoor). (PC 12) - Consumer use of solid fertilizers (outdoor). (PC 12) - Consumer use of liquid fertilizers (indoor). (PC 12) - Consumer use of liquid fertilizers (outdoor). (PC 12) <p>Technical function of the substance: soil amendments (including fertilisers)</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for this use: <=2500 Tonnage (tonnes/year)</p> <p>Subsequent service life relevant for that use: no</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
C-1	<p>Consumer use of adhesives / sealants</p> <p><u>Further description of the use:</u></p> <p>Contributing activity/technique for the environment:</p> <ul style="list-style-type: none"> - Widespread use of non-volatile substances in adhesives / sealants - indoor (ERC8c)

	<p>- Widespread use of non-volatile substances in adhesives / sealants and construction chemical products - outdoor (ERC8f)</p> <p>Contributing activity/technique for consumers:</p> <p>- Extruding and spreading sealants and smoothing with a spatula. Widespread consumer use. (PC 1)</p> <p>- Fillers, putties, plasters, modelling clay (PC 9b)</p> <p>Technical function of the substance: impregnation agent ; processing aid not otherwise specified ; stabilising agent ; UV blocker</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for this use: <=50 Tonnage (tonnes/year)</p> <p>Subsequent service life relevant for that use: yes</p> <p>Link to the subsequent service life: Service life of adhesives / sealants / mastics</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
C-1	<p>Consumer use of zinc ortho-phosphate -containing cosmetics</p> <p><u>Further description of the use:</u></p> <p>Contributing activity/technique for the environment:</p> <p>- Consumer use of zinc ortho-phosphate -containing cosmetics (ERC8a)</p> <p>Contributing activity/technique for consumers:</p> <p>- Use of cosmetics (PC 39)</p> <p>Technical function of the substance: deodoriser ; pigment ; stabilising agent ; UV blocker, skin care</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Regulatory status: use in cosmetics products within the scope of Directive 76/768/EEC (REACH Art. 14(5), 56(5)(a) and 67(2)).</p> <p>Tonnage of substance for this use: <=100 Tonnage (tonnes/year)</p> <p>Subsequent service life relevant for that use: no</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>

Table 2.7. Article service life

	Article service life
SL-1	<p>Service life of painted and coated articles</p> <p><u>Further description of the use:</u></p> <p>Article used by: consumers</p> <p>Substance intended to be released from article: no</p> <p>Article category related to subsequent service life (AC):</p>

	<p>Contributing activity/technique for the environment:</p> <ul style="list-style-type: none"> - Service life of painted and coated articles (ERC10a ; ERC11a) <p>Contributing activity/technique for consumers:</p> <ul style="list-style-type: none"> - Vehicles (AC 1) - Machinery, mechanical appliances, electrical/electronic articles (AC 2) - Fabrics, textiles and apparel (AC 5) - Leather articles (AC 6) - Metal articles (AC 7) - Paper articles (AC 8) - Wood articles (AC 11) <p>Contributing activity/technique for the workers:</p> <p>Technical function of the substance: antiscaling agent ; corrosion inhibitor ; deodoriser ; photochemical ; pigment ; plating agent ; reducing agent</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for this use: <=1000 Tonnage (tonnes/year)</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
SL-2	<p>Service life of plastic articles</p> <p><u>Further description of the use:</u></p> <p>Article used by: consumers</p> <p>Substance intended to be released from article: no</p> <p>Article category related to subsequent service life (AC):</p> <p>Contributing activity/technique for the environment:</p> <ul style="list-style-type: none"> - Service life of plastic articles (ERC10a ; ERC11a) <p>Contributing activity/technique for consumers:</p> <ul style="list-style-type: none"> - Plastic articles (AC 13) <p>Contributing activity/technique for the workers:</p> <p>Technical function of the substance: antistatic agent ; chemical reaction regulator ; heat transferring agent ; pigment ; UV blocker, anti-aging</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for this use: <=100 Tonnage (tonnes/year)</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
SL-3	<p>Service life of brake pads</p> <p><u>Further description of the use:</u></p> <p>Article used by: consumers</p>

	<p>Substance intended to be released from article: no</p> <p>Article category related to subsequent service life (AC):</p> <p>Contributing activity/technique for the environment:</p> <ul style="list-style-type: none"> - Service life of brake pads (ERC10a ; ERC11a) <p>Contributing activity/technique for consumers:</p> <ul style="list-style-type: none"> - Vehicles (AC 1) - Brake pads (AC 0) <p>Contributing activity/technique for the workers:</p> <p>Technical function of the substance: antiscaling agent ; corrosion inhibitor ; heat transferring agent</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for this use: <=100 Tonnage (tonnes/year)</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
SL-4	<p>Use of sealed respirator cartridge</p> <p><u>Further description of the use:</u></p> <p>Article used by: consumers</p> <p>Substance intended to be released from article: no</p> <p>Article category related to subsequent service life (AC):</p> <p>Contributing activity/technique for the environment:</p> <ul style="list-style-type: none"> - Use of sealed respirator cartridge (ERC10a ; ERC11a) <p>Contributing activity/technique for consumers:</p> <ul style="list-style-type: none"> - Service life of sealed respirator cartridges (AC8g) <p>Contributing activity/technique for the workers:</p> <p>Technical function of the substance: absorbent ; catalyst ; reducing agent</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for this use: <=50 Tonnage (tonnes/year)</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
SL-1	<p>Service life of adhesives / sealants / mastics</p> <p><u>Further description of the use:</u></p> <p>Article used by: consumers</p> <p>Substance intended to be released from article: no</p> <p>Article category related to subsequent service life (AC):</p>

<p>Contributing activity/technique for the environment:</p> <ul style="list-style-type: none"> - Service life of adhesives / sealants / mastics (ERC10a ; ERC11a) <p>Contributing activity/technique for consumers:</p> <ul style="list-style-type: none"> - Vehicles (AC 1) - Machinery, mechanical appliances, electrical/electronic articles (AC 2) - Stone, plaster, cement, glass and ceramic articles (AC 4) - Leather articles (AC 6) - Metal articles (AC 7) - Paper articles (AC 8) - Rubber articles (AC 10) - Wood articles (AC 11) - Plastic articles (AC 13) <p>Contributing activity/technique for the workers:</p> <p>Technical function of the substance: binder ; impregnation agent ; stabilising agent</p> <p>registration according to REACH Article 10; total tonnage manufactured/imported >=10tonnes/year per registrant</p> <p>Tonnage of substance for this use: <=50 Tonnage (tonnes/year)</p> <p><i>Related assessment: use assessed in a joint CSR</i></p>
