Generic exposure scenarios for trizinc bis(orthophosphate)

Number	Sector	Uses	Code
0	Zinc ortho-phosphate production	Manufacture Substance	$GES_{Zn3(PO4)2}$ 0
1	Formulation step	Forrmulation general	$GES_{Zn3(PO4)2}$ 1
2	First tier applications	Manufacturing of other zinc compounds	$GES_{Zn3(PO4)2}$ 2
3		Laboratory reagent	$GES_{Zn3(PO4)2}$ 3
4		As component for solid blends & matrices	$GES_{Zn3(PO4)2}$ 4
5		As component for production of dispersions, pastes and other viscous matrices	$GES_{Zn3(PO4)2}$ 5
6	Second tier applications	DU of Zn3(PO4)2-containing solid preparations	$GES_{Zn3(PO4)2}$ 6
7		DU of Zn3(PO4)2-containing liquid & pasty preparations	$GES_{Zn3(PO4)2}$ 7

Numerous uses were identified for $Zn_3(PO4)_2$. These are listed in table below, with the indication of the Generic Exposure Scenario (GES) that is relevant to these identified uses.

Identified uses for $Zn_3(PO4)_2$ and corresponding Generic Exposure Scenario (GES)

IU number	Identified Use (IU) name	GES code
1	Zinc ortho-phosphate production -Wet	GESZn3(PO4)2 0
7	Component for production of inorganic zinc compounds	GESZn3(PO4)2 2
8	Electrogalvanizing	GESZn3(PO4)2 2
9	Electroplating	GESZn3(PO4)2 2
10	Laboratory reagent	GESZn3(PO4)2 3
11	Zinc production by pyrometallurgy	GESZn3(PO4)2 2
12	Component for production of organic zinc compounds	GESZn3(PO4)2 2
13	Component for production of Inorganic pigments	GESZn3(PO4)2 1, GESZn3(PO4)2 4
14	Component for production of Coatings / paints, inks, enamels, varnishes	GESZn3(PO4)2 1, GESZn3(PO4)2 4
15-16	Use of Zn3(PO4)2-containing paints & coatings	GESZn3(PO4)2 7, Generic consumer/environment*
17	Additive for the formulation of nutrition additives	GESZn3(PO4)2 1, GESZn3(PO4)2 4, GESZn3(PO4)2 5
18	Additive for the formulation of animal feedstuffs	GESZn3(PO4)2 1, GESZn3(PO4)2 4, GESZn3(PO4)2 5
19	Additive for the formulation of fertilizers	GESZn3(PO4)2 1, GESZn3(PO4)2 4, GESZn3(PO4)2 5
20	Use of Zn3(PO4)2-containing fertilizer's formulations	Generic consumer/environment*
21	Additive in dentistry products	GESZn3(PO4)2 1, GESZn3(PO4)2 4, GESZn3(PO4)2 5
22	Substrate preparation: sanding of surfaces between application of coatings	$GES_{Zn3(PO4)2}$ 6

* corresponds to “GES 8” in IUCLID

Uses by workers in industrial settings

IU number	Identified Use (IU) name	Substance supplied to that use	Use descriptors
1	Zinc ortho-phosphate production -Wet	as such (substance itself)	**Process category (PROC):** PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) 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 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting PROC 26: Handling of solid inorganic substances at ambient temperature **Market sector by type of chemical product:** PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents PC 19: Intermediate **Environmental release category (ERC):** ERC 1: Manufacture of substances **Sector of end use (SU):** SU 9: Manufacture of fine chemicals SU 8: Manufacture of bulk, large scale chemicals (including petroleum products) **Subsequent service life relevant for that use?:** yes
7	Component for production of inorganic zinc compounds	as such (substance itself) in a mixture	**Process category (PROC):** PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) 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)

IU number	Identified Use (IU) name	Substance supplied to that use	Use descriptors
			PROC 15: Use as laboratory reagent **Market sector by type of chemical product:** PC 19: Intermediate PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents PC 21: Laboratory chemicals **Environmental release category (ERC):** ERC 1: Manufacture of substances ERC 2: Formulation of preparations ERC 6a: Industrial use resulting in manufacture of another substance (use of intermediates) **Sector of end use (SU):** 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) **Subsequent service life relevant for that use?:** yes
8	Electrogalvanizing	as such (substance itself)	**Process category (PROC):** PROC 13: Treatment of articles by dipping and pouring PROC 21: Low energy manipulation of substances bound in materials and/or articles **Market sector by type of chemical product:** PC 7: Base metals and alloys PC 14: Metal surface treatment products, including galvanic and electroplating products **Environmental release category (ERC):** ERC 2: Formulation of preparations ERC 5: Industrial use resulting in inclusion into or onto a matrix **Sector of end use (SU):** SU 15: Manufacture of fabricated metal products, except machinery and equipment

IU number	Identified Use (IU) name	Substance supplied to that use	Use descriptors
			SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment SU 0: Other: C25.6.1 - Treatment and coating of metals **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 7: Metal articles
9	Electroplating	as such (substance itself)	**Process category (PROC):** PROC 3: Use in closed batch process (synthesis or formulation) PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 21: Low energy manipulation of substances bound in materials and/or articles **Market sector by type of chemical product:** PC 7: Base metals and alloys PC 14: Metal surface treatment products, including galvanic and electroplating products **Environmental release category (ERC):** ERC 2: Formulation of preparations ERC 5: Industrial use resulting in inclusion into or onto a matrix **Sector of end use (SU):** SU 15: Manufacture of fabricated metal products, except machinery and equipment SU 0: Other: C25.6.1 - Treatment and coating of metals SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 7: Metal articles

IU number	Identified Use (IU) name	Substance supplied to that use	Use descriptors
10	Laboratory reagent	as such (substance itself)	**Process category (PROC):** PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) 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 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 **Market sector by type of chemical product:** PC 19: Intermediate PC 21: Laboratory chemicals PC 28: Perfumes, fragrances PC 39: Cosmetics, personal care products **Environmental release category (ERC):** ERC 1: Manufacture of substances ERC 2: Formulation of preparations ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles ERC 6a: Industrial use resulting in manufacture of another substance (use of intermediates) ERC 6b: Industrial use of reactive processing aids ERC 8a: Wide dispersive indoor use of processing aids in open systems ERC 8d: Wide dispersive outdoor use of processing aids in open systems **Sector of end use (SU):** SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 24: Scientific research and development

IU number	Identified Use (IU) name	Substance supplied to that use	Use descriptors
			Subsequent service life relevant for that use?: yes
11	Zinc production by pyrometallurgy	as such (substance itself)	**Process category (PROC):** PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 23: Open processing and transfer operations with minerals/metals at elevated temperature PROC 26: Handling of solid inorganic substances at ambient temperature **Market sector by type of chemical product:** PC 7: Base metals and alloys **Environmental release category (ERC):** ERC 1: Manufacture of substances **Sector of end use (SU):** SU 14: Manufacture of basic metals, including alloys SU 0: Other: Nace C24.4.3: Lead, zinc and tin production , E38.3: Materials recovery **Subsequent service life relevant for that use?:** yes
12	Component for production of organic zinc compounds	as such (substance itself) in a mixture	**Process category (PROC):** PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises 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

IU number	Identified Use (IU) name	Substance supplied to that use	Use descriptors
			Market sector by type of chemical product: PC 19: Intermediate PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents PC 21: Laboratory chemicals PC 24: Lubricants, greases, release products PC 29: Pharmaceuticals PC 39: Cosmetics, personal care products **Environmental release category (ERC):** ERC 1: Manufacture of substances ERC 2: Formulation of preparations ERC 6a: Industrial use resulting in manufacture of another substance (use of intermediates) **Sector of end use (SU):** 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) **Subsequent service life relevant for that use?:** yes
13	Component for production of Inorganic pigments	as such (substance itself) in a mixture	**Process category (PROC):** PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) 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 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 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting

IU number	Identified Use (IU) name	Substance supplied to that use	Use descriptors
			Market sector by type of chemical product: PC 9b: Fillers, putties, plasters, modelling clay PC 9a: Coatings and paints, thinners, paint removes PC 9c: Finger paints **Environmental release category (ERC):** ERC 1: Manufacture of substances ERC 2: Formulation of preparations ERC 5: Industrial use resulting in inclusion into or onto a matrix **Sector of end use (SU):** 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 13: Manufacture of other non-metallic mineral products, e.g. plasters, cement **Subsequent service life relevant for that use?:** yes
14	Component for production of Coatings / paints, inks, enamels, varnishes	as such (substance itself) in a mixture	**Process category (PROC):** PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) 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 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) **Market sector by type of chemical product:** PC 1: Adhesives, sealants PC 9a: Coatings and paints, thinners, paint removes PC 9b: Fillers, putties, plasters, modelling clay

IU number	Identified Use (IU) name	Substance supplied to that use	Use descriptors
			PC 9c: Finger paints PC 14: Metal surface treatment products, including galvanic and electroplating products PC 15: Non-metal-surface treatment products PC 18: Ink and toners PC 26: Paper and board dye, finishing and impregnation products: including bleaches and other processing aids PC 32: Polymer preparations and compounds **Environmental release category (ERC):** ERC 1: Manufacture of substances ERC 2: Formulation of preparations ERC 3: Formulation in materials 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 7: Industrial use of substances in closed systems **Sector of end use (SU):** SU 5: Manufacture of textiles, leather, fur 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 11: Manufacture of rubber 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 14: Manufacture of basic metals, including alloys SU 6b: Manufacture of pulp, paper and paper products SU 6a: Manufacture of wood and wood products SU 16: Manufacture of computer, electronic and optical products, electrical equipment **Subsequent service life relevant for that use?:** yes
15	Use of Zn3(PO4)2-containing paints & coatings	in a mixture	**Process category (PROC):** PROC 4: Use in batch and other process (synthesis) where opportunity for exposure

IU number	Identified Use (IU) name	Substance supplied to that use	Use descriptors
			arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 7: Industrial spraying 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 19: Hand-mixing with intimate contact and only PPE available. **Market sector by type of chemical product:** PC 1: Adhesives, sealants PC 9a: Coatings and paints, thinners, paint removes PC 9b: Fillers, putties, plasters, modelling clay PC 9c: Finger paints PC 14: Metal surface treatment products, including galvanic and electroplating products PC 15: Non-metal-surface treatment products PC 18: Ink and toners **Environmental release category (ERC):** ERC 8a: Wide dispersive indoor use of processing aids in open systems ERC 8d: Wide dispersive outdoor use of processing aids in open systems 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 **Sector of end use (SU):** 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 15: Manufacture of fabricated metal products, except machinery and equipment

IU number	Identified Use (IU) name	Substance supplied to that use	Use descriptors
			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 **Subsequent service life relevant for that use?:** yes **Article category related to subsequent service life (AC):** AC 0: Other: coatings for art and creative items
17	Additive for the formulation of nutrition additives	as such (substance itself) in a mixture	**Process category (PROC):** PROC 3: Use in closed batch process (synthesis or formulation) PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) 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) **Market sector by type of chemical product:** PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents PC 29: Pharmaceuticals **Environmental release category (ERC):** ERC 2: Formulation of preparations 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 **Sector of end use (SU):** SU 4: Manufacture of food products **Subsequent service life relevant for that use?:** yes

IU number	Identified Use (IU) name	Substance supplied to that use	Use descriptors
18	Additive for the formulation of animal feedstuffs	as such (substance itself) in a mixture	**Process category (PROC):** PROC 3: Use in closed batch process (synthesis or formulation) PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) 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) **Market sector by type of chemical product:** PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents PC 29: Pharmaceuticals **Environmental release category (ERC):** ERC 2: Formulation of preparations ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release **Sector of end use (SU):** SU 4: Manufacture of food products **Subsequent service life relevant for that use?:** yes
19	Additive for the formulation of fertilizers	as such (substance itself) in a mixture	**Process category (PROC):** PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) 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 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 13: Treatment of articles by dipping and pouring

IU number	Identified Use (IU) name	Substance supplied to that use	Use descriptors
			Market sector by type of chemical product: PC 9b: Fillers, putties, plasters, modelling clay PC 12: Fertilisers PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents PC 21: Laboratory chemicals **Environmental release category (ERC):** ERC 2: Formulation of preparations ERC 3: Formulation in materials 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 5: Industrial use resulting in inclusion into or onto a matrix **Sector of end use (SU):** SU 1: Agriculture, forestry and fishing SU 8: Manufacture of bulk, large scale chemicals (including petroleum products) SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) **Subsequent service life relevant for that use?:** yes
21	Additive in dentistry products	as such (substance itself) in a mixture	**Process category (PROC):** PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) 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 13: Treatment of articles by dipping and pouring PROC 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation

IU number	Identified Use (IU) name	Substance supplied to that use	Use descriptors
			PROC 15: Use as laboratory reagent **Market sector by type of chemical product:** PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents PC 21: Laboratory chemicals PC 29: Pharmaceuticals **Environmental release category (ERC):** ERC 2: Formulation of preparations ERC 3: Formulation in materials **Sector of end use (SU):** SU 9: Manufacture of fine chemicals SU 20: Health services SU 0: Other: Nace C32.5: Manufacture of medical and dental instruments and supplies **Subsequent service life relevant for that use?:** yes
22	Substrate preparation: sanding of surfaces between application of coatings	in a mixture	**Process category (PROC):** PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles **Environmental release category (ERC):** ERC 5: Industrial use resulting in inclusion into or onto a matrix **Market sector by type of chemical product:** PC 9a: Coatings and paints, thinners, paint removes PC 9b: Fillers, putties, plasters, modelling clay **Subsequent service life relevant for that use?: no**
23	Component for polymer-matrices, plastics and related preparations	as such (substance itself) in a mixture	**Process category (PROC):** PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

IU number	Identified Use (IU) name	Substance supplied to that use	Use descriptors
			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 10: Roller application or brushing PROC 12: Use of blowing agents in manufacture of foam PROC 13: Treatment of articles by dipping and pouring PROC 14: Production of preparations or articles by tabletting, 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 **Market sector by type of chemical product:** PC 32: Polymer preparations and compounds **Environmental release category (ERC):** ERC 1: Manufacture of substances ERC 3: Formulation in materials 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 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) **Sector of end use (SU):** SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 12: Manufacture of plastics products, including compounding and conversion

IU number	Identified Use (IU) name	Substance supplied to that use	Use descriptors
			Subsequent service life relevant for that use?: yes **Article category related to subsequent service life (AC):** AC 13: Plastic articles

Uses by professional workers

IU number	Identified Use (IU) name	Substance supplied to that use	Use descriptors
10	Laboratory reagent	as such (substance itself)	**Process category (PROC):** PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) 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 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 **Market sector by type of chemical product:** PC 19: Intermediate PC 21: Laboratory chemicals PC 28: Perfumes, fragrances PC 39: Cosmetics, personal care products **Environmental release category (ERC):** ERC 1: Manufacture of substances ERC 2: Formulation of preparations ERC 4: Industrial use of processing aids in processes and products, not becoming part

IU number	Identified Use (IU) name	Substance supplied to that use	Use descriptors
			of articles ERC 6a: Industrial use resulting in manufacture of another substance (use of intermediates) ERC 6b: Industrial use of reactive processing aids ERC 8a: Wide dispersive indoor use of processing aids in open systems ERC 8d: Wide dispersive outdoor use of processing aids in open systems **Sector of end use (SU):** SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 24: Scientific research and development **Subsequent service life relevant for that use?:** yes
16	Use of Zn3(PO4)2-containing paints & coatings	in a mixture	**Process category (PROC):** PROC 4: Use in batch and other process (synthesis) 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 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 19: Hand-mixing with intimate contact and only PPE available. **Market sector by type of chemical product:** PC 1: Adhesives, sealants PC 9a: Coatings and paints, thinners, paint removes PC 9b: Fillers, putties, plasters, modelling clay PC 9c: Finger paints PC 14: Metal surface treatment products, including galvanic and electroplating products PC 15: Non-metal-surface treatment products PC 18: Ink and toners

IU number	Identified Use (IU) name	Substance supplied to that use	Use descriptors
			Environmental release category (ERC): ERC 8a: Wide dispersive indoor use of processing aids in open systems ERC 8d: Wide dispersive outdoor use of processing aids in open systems 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 **Sector of end use (SU):** SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 19: Building and construction work SU 8: Manufacture of bulk, large scale chemicals (including petroleum products) SU 9: Manufacture of fine chemicals 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 **Subsequent service life relevant for that use?:** yes
20	Use of Zn3(PO4)2-containing fertilizer's formulations	in a mixture	**Process category (PROC):** PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 7: Industrial spraying 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 19: Hand-mixing with intimate contact and only PPE available. PROC 26: Handling of solid inorganic substances at ambient temperature

IU number	Identified Use (IU) name	Substance supplied to that use	Use descriptors
			Market sector by type of chemical product: PC 9b: Fillers, putties, plasters, modelling clay PC 12: Fertilisers PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents **Environmental release category (ERC):** 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 8d: Wide dispersive outdoor use of processing aids in open systems ERC 8e: Wide dispersive outdoor use of reactive substances in open systems ERC 9b: Wide dispersive outdoor use of substances in closed systems ERC 10b: Wide dispersive outdoor use of long-life articles and materials with high or intended release (including abrasive processing) **Sector of end use (SU):** SU 1: Agriculture, forestry and fishing SU 9: Manufacture of fine chemicals **Subsequent service life relevant for that use?:** yes
22	Substrate preparation: sanding of surfaces between application of coatings	in a mixture	**Process category (PROC):** PROC 24: High (mechanical) energy work-up of substances bound in materials and/or articles **Environmental release category (ERC):** ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix **Market sector by type of chemical product:** PC 9a: Coatings and paints, thinners, paint removes PC 9b: Fillers, putties, plasters, modelling clay **Subsequent service life relevant for that use?: no**

Uses by consumers

IU number	Identified Use (IU) name	Use descriptors
16	Use of Zn3(PO4)2-containing paints & coatings	**Chemical product category (PC):** PC 1: Adhesives, sealants PC 9a: Coatings and paints, thinners, paint removes PC 9b: Fillers, putties, plasters, modelling clay PC 9c: Finger paints PC 14: Metal surface treatment products, including galvanic and electroplating products PC 15: Non-metal-surface treatment products PC 18: Ink and toners **Environmental release category (ERC):** ERC 8a: Wide dispersive indoor use of processing aids in open systems ERC 8d: Wide dispersive outdoor use of processing aids in open systems 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 **Subsequent service life relevant for that use?:** yes
20	Use of Zn3(PO4)2-containing fertilizer's formulations	**Chemical product category (PC):** PC 9b: Fillers, putties, plasters, modelling clay PC 12: Fertilisers PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents **Environmental release category (ERC):** 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 8d: Wide dispersive outdoor use of processing aids in open systems ERC 8e: Wide dispersive outdoor use of reactive substances in open systems ERC 9b: Wide dispersive outdoor use of substances in closed systems ERC 10b: Wide dispersive outdoor use of long-life articles and materials with high or intended release (including abrasive processing) **Subsequent service life relevant for that use?:** yes