Aluminium oxide (Al2O3) identified uses

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Aluminium oxide (Al_2O_3) identified uses

Uses by workers in industrial settings

EU: REACH	
Identified use name	Feedstock
Process category	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 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 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation PROC 15: Use as laboratory reagent 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 26: Handling of solid inorganic substances at ambient temperature
Environmental release category	ERC 1: Manufacture of substances ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 5: Industrial use resulting in inclusion into or onto a matrix
Substance supplied to that use in form of	As such
Market sector by type of chemical product	PC 19: Intermediate
Sector of end use	SU 8: Manufacture of bulk, large scale chemicals (including petroleum products) SU 9: Manufacture of fine chemicals SU 13: Manufacture of other non-metallic mineral products, e.g. plasters, cement
Subsequent service life relevant for that use?	yes

Aluminium oxide (Al_2O_3) identified uses

ALMATIS
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EU: REACH	
Identified use name	Ceramics
Process category	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 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 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation
	PROC 15: Use as laboratory reagent
	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
Environmental release category	ERC 1: Manufacture of substances
	ERC 2: Formulation of preparations
	ERC 3: Formulation in materials
	ERC 5: Industrial use resulting in inclusion into or onto a matrix
	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
Substance supplied to that use in form of	As such
	In a mixture
Market sector by type of chemical product	PC 19: Intermediate
Sector of end use	SU 8: Manufacture of bulk, large scale chemicals (including petroleum products)
	SU 9: Manufacture of fine chemicals

Aluminium oxide (Al2O3) identified uses

	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
	SU 16: Manufacture of computer, electronic and optical products, electrical equipment
	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 2: Machinery, mechanical appliances, electrical/electronic articles
	AC 4: Stone, plaster, cement, glass and ceramic articles

Aluminium oxide (Al_2O_3) identified uses

EU: REACH	
Identified use name	Refractories
Process category	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 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 13: Treatment of articles by dipping and pouring
	PROC 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation
	PROC 15: Use as laboratory reagent
	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
Environmental release category	ERC 1: Manufacture of substances
	ERC 2: Formulation of preparations
	ERC 3: Formulation in materials
	ERC 5: Industrial use resulting in inclusion into or onto a matrix
	ERC 7: Industrial use of substances in closed systems
	ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix
	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
Substance supplied to that use in form of	As such

Aluminium oxide (Al_2O_3) identified uses

	In a mixture
Market sector by type of chemical product	PC 7: Base metals and alloys
	PC 14: Metal surface treatment products, including galvanic and electroplating products
	PC 19: Intermediate
	PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products
Sector of end use	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
	SU 14: Manufacture of basic metals, including alloys
	SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment
	SU 19: Building and construction work
Subsequent service life relevant for that use?	yes
Article category related to subsequent service life	AC 4: Stone, plaster, cement, glass and ceramic articles

Aluminium oxide (Al2O3) identified uses

EU: REACH	
Identified use name	Glass
Process category	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 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 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 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
Environmental release category	ERC 1: Manufacture of substances ERC 2: Formulation of preparations 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)
Substance supplied to that use in form of	As such
Market sector by type of chemical product	PC 19: Intermediate
Sector of end use	SU 13: Manufacture of other non-metallic mineral products, e.g. plasters, cement
Subsequent service life relevant for that use?	yes
Article category related to subsequent service life	AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 4: Stone, plaster, cement, glass and ceramic articles

Aluminium oxide (Al2O3) identified uses

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EU: REACH	
Identified use name	Abrasives
Process category	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 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 13: Treatment of articles by dipping and pouring PROC 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation PROC 15: Use as laboratory reagent 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 PROC 26: Handling of solid inorganic substances at ambient temperature
Environmental release category	ERC 1: Manufacture of substances ERC 2: Formulation of preparations
Substance supplied to that use in form of	As such In a mixture
Market sector by type of chemical product	PC 14: Metal surface treatment products, including galvanic and electroplating products PC 15: Non-metal-surface treatment products PC 19: Intermediate PC 25: Metal working fluids PC 31: Polishes and wax blends PC 34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids PC 39: Cosmetics, personal care products
Sector of end use	SU 6b: Manufacture of pulp, paper and paper products SU 8: Manufacture of bulk, large scale chemicals (including petroleum products) SU 9: Manufacture of fine chemicals

Aluminium oxide (Al2O3) identified uses

	SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 11: Manufacture of rubber products SU 13: Manufacture of other non-metallic mineral products, e.g. plasters, cement 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 SU 23: Electricity, steam, gas water supply and sewage treatment
Subsequent service life relevant for that use?	yes

Aluminium oxide (Al2O3) identified uses

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EU: REACH

Identified use name	Fillers
Process category	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 6: Calendering operations
	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 13: Treatment of articles by dipping and pouring
	PROC 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation
	PROC 15: Use as laboratory reagent
	PROC 16: Using material as fuel sources, limited exposure to unburned product to be expected
	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 25: Other hot work operations with metals
	PROC 26: Handling of solid inorganic substances at ambient temperature
Environmental release category	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 6b: Industrial use of reactive processing aids

Aluminium oxide (Al_2O_3) identified uses

	ERC 6c: Industrial use of monomers for manufacture of thermoplastics
	ERC 6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers
	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
Substance supplied to that use in form of	As such
	In a mixture
Market sector by type of chemical product	PC 1: Adhesives, sealants
	PC 7: Base metals and alloys
	PC 9a: Coatings and paints, thinners, paint removes
	PC 9b: Fillers, putties, plasters, modelling clay
	PC 18: Ink and toners
	PC 19: Intermediate
	PC 26: Paper and board dye, finishing and impregnation products: including bleaches and other processing aids
	PC 32: Polymer preparations and compounds
	PC 35: Washing and cleaning products (including solvent based products)
	PC 39: Cosmetics, personal care products
Sector of end use	SU 5: Manufacture of textiles, leather, fur
	SU 6b: Manufacture of pulp, paper and paper products
	SU 7: Printing and reproduction of recorded media
	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 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
	SU 20: Health services
Subsequent service life relevant for that use?	yes

Aluminium oxide (Al2O3) identified uses

Article category related to subsequent service life	AC 1: Vehicles AC 5: Fabrics, textiles and apparel AC 7: Metal articles AC 8: Paper articles AC 10: Rubber articles AC 13: Plastic articles

Aluminium oxide (Al2O3) identified uses

EU: REACH	
Identified use name	Water treatment
Process category	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
Environmental release category	ERC 7: Industrial 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)
Substance supplied to that use in form of	As such In a mixture
Market sector by type of chemical product	PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents PC 37: Water treatment chemicals
Sector of end use	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

Aluminium oxide (Al2O3) identified uses

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EU: REACH	
Identified use name	Industrial applications
Process category	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 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 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 15: Use as laboratory reagent
	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
Environmental release category	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 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 6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers
	ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release
Substance supplied to that use in form of	As such
	In a mixture
Market sector by type of chemical product	PC 2: Adsorbents
	PC 3: Air care products
	PC 19: Intermediate

Aluminium oxide (Al2O3) identified uses

	PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents
	PC 21: Laboratory chemicals
	PC 24: Lubricants, greases, release products
	PC 25: Metal working fluids
	PC 26: Paper and board dye, finishing and impregnation products: including bleaches and other processing aids
	PC 32: Polymer preparations and compounds
	PC 34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids
Sector of end use	SU 8: Manufacture of bulk, large scale chemicals (including petroleum products)
	SU 9: Manufacture of fine chemicals
	SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment
Subsequent service life relevant for that use?	yes

Aluminium oxide (Al2O3) identified uses

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EU: REACH	
Identified use name	Others: e.g. lubricants and greases, chemical reagents...
Process category	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 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 13: Treatment of articles by dipping and pouring
	PROC 14: Production of preparations or articles by tabletting, compression, extrusion, pelletisation
	PROC 15: Use as laboratory reagent
	PROC 16: Using material as fuel sources, limited exposure to unburned product to be expected
	PROC 17: Lubrication at high energy conditions and in partly open process
	PROC 19: Hand-mixing with intimate contact and only PPE available.
	PROC 20: Heat and pressure transfer fluids in dispersive, professional use but closed systems
	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 26: Handling of solid inorganic substances at ambient temperature
Environmental release category	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 6c: Industrial use of monomers for manufacture of thermoplastics

Aluminium oxide (Al2O3) identified uses

	ERC 6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers
	ERC 7: Industrial use of substances in closed systems
	ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release
Substance supplied to that use in form of	As such
	In a mixture
Market sector by type of chemical product	PC 1: Adhesives, sealants
	PC 7: Base metals and alloys
	PC 12: Fertilisers
	PC 14: Metal surface treatment products, including galvanic and electroplating products
	PC 16: Heat transfer fluids
	PC 17: Hydraulic fluids
	PC 19: Intermediate
	PC 21: Laboratory chemicals
	PC 24: Lubricants, greases, release products
	PC 25: Metal working fluids
	PC 27: Plant protection products
	PC 29: Pharmaceuticals
	PC 30: Photo-chemicals
	PC 31: Polishes and wax blends
	PC 32: Polymer preparations and compounds
	PC 33: Semiconductors
	PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products
Sector of end use	SU 1: Agriculture, forestry and fishing
	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 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 15: Manufacture of fabricated metal products, except machinery and equipment
	SU 17: General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment
	SU 19: Building and construction work
	SU 23: Electricity, steam, gas water supply and sewage treatment
Subsequent service life relevant for that use?	yes

Aluminium oxide (Al2O3) identified uses

Article category related to subsequent service life	AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 8: Paper articles AC 10: Rubber articles

Aluminium oxide (Al_2O_3) identified uses

Uses by professional workers

EU: REACH

Identified use name	Fillers
Process category	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 tabletting, compression, extrusion, pelletisation PROC 15: Use as laboratory reagent PROC 16: Using material as fuel sources, limited exposure to unburned product to be expected 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 26: Handling of solid inorganic substances at ambient temperature
Environmental release category	ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 8a: Wide dispersive indoor use of processing aids 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 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
Substance supplied to that use in form of	As such In a mixture
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 18: Ink and toners PC 26: Paper and board dye, finishing and impregnation products: including bleaches and other processing aids PC 35: Washing and cleaning products (including solvent based products)
Sector of end use	SU 5: Manufacture of textiles, leather, fur

Aluminium oxide (Al2O3) identified uses

	SU 7: Printing and reproduction of recorded media SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 18: Manufacture of furniture SU 19: Building and construction work SU 20: Health services
Subsequent service life relevant for that use?	yes
Article category related to subsequent service life	AC 1: Vehicles AC 5: Fabrics, textiles and apparel AC 7: Metal articles AC 8: Paper articles AC 10: Rubber articles AC 13: Plastic articles

Aluminium oxide (Al2O3) identified uses

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EU: REACH	
Identified use name	Others: e.g. lubricants and greases, chemical reagents...
Process category	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 tabletting, compression, extrusion, pelletisation
	PROC 15: Use as laboratory reagent
	PROC 19: Hand-mixing with intimate contact and only PPE available.
	PROC 20: Heat and pressure transfer fluids in dispersive, professional use but closed systems
	PROC 21: Low energy manipulation of substances bound in materials and/or articles
	PROC 26: Handling of solid inorganic substances at ambient temperature
Environmental release category	ERC 2: Formulation of preparations
	ERC 3: Formulation in materials
	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 9a: Wide dispersive indoor use of substances in closed systems
	ERC 9b: Wide dispersive outdoor use of substances in closed systems
	ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release
Substance supplied to that use in form of	As such
	In a mixture
Market sector by type of chemical product	PC 1: Adhesives, sealants
	PC 8: Biocidal products (e.g. disinfectants, pest control)
	PC 12: Fertilisers
	PC 14: Metal surface treatment products, including galvanic and electroplating products
	PC 16: Heat transfer fluids
	PC 17: Hydraulic fluids
	PC 21: Laboratory chemicals
	PC 24: Lubricants, greases, release products
	PC 25: Metal working fluids
	PC 29: Pharmaceuticals
	PC 31: Polishes and wax blends
	PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products
Sector of end use	SU 1: Agriculture, forestry and fishing

Aluminium oxide (Al2O3) identified uses

	SU 10: Formulation [mixing] of preparations and/or re-packaging (excluding alloys) SU 19: Building and construction work
Subsequent service life relevant for that use?	yes
Article category related to subsequent service life	AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 8: Paper articles AC 10: Rubber articles

Aluminium oxide (Al2O3) identified uses

Uses by consumers

EU: REACH	
Identified use name	Ceramics
Chemical product category	PC 0: Other: UCN Codes: AO5200, EO7400, EO7900,P15500,R30200
Environmental release category	ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix 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
Article category related to subsequent service life	AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 4: Stone, plaster, cement, glass and ceramic articles

Aluminium oxide (Al2O3) identified uses

EU: REACH	
Identified use name	Abrasives
Chemical product category	PC 14: Metal surface treatment products, including galvanic and electroplating products PC 15: Non-metal-surface treatment products PC 31: Polishes and wax blends PC 34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids PC 39: Cosmetics, personal care products
Environmental release category	ERC 2: Formulation of preparations ERC 8a: Wide dispersive indoor use of processing aids in open systems ERC 8d: Wide dispersive outdoor use of processing aids in open systems
Subsequent service life relevant for that use?	yes

Aluminium oxide (Al_2O_3) identified uses

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EU: REACH

Identified use name	Fillers
Chemical product category	PC 1: Adhesives, sealants PC 9a: Coatings and paints, thinners, paint removes PC 9b: Fillers, putties, plasters, modelling clay PC 9c: Finger paints PC 18: Ink and toners PC 26: Paper and board dye, finishing and impregnation products: including bleaches and other processing aids PC 35: Washing and cleaning products (including solvent based products) PC 39: Cosmetics, personal care products
Environmental release category	ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 8a: Wide dispersive indoor use of processing aids 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 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
Article category related to subsequent service life	AC 1: Vehicles AC 5: Fabrics, textiles and apparel AC 7: Metal articles AC 8: Paper articles AC 10: Rubber articles AC 13: Plastic articles

Aluminium oxide (Al2O3) identified uses

EU: REACH	
Identified use name	Personal care
Chemical product category	PC 39: Cosmetics, personal care products
Environmental release category	ERC 2: Formulation of preparations
Subsequent service life relevant for that use?	yes

Aluminium oxide (Al2O3) identified uses

EU: REACH	
Identified use name	Others: e.g. lubricants and greases, chemical reagents....
Chemical product category	PC 1: Adhesives, sealants
	PC 8: Biocidal products (e.g. disinfectants, pest control)
	PC 12: Fertilisers
	PC 14: Metal surface treatment products, including galvanic and electroplating products
	PC 16: Heat transfer fluids
	PC 17: Hydraulic fluids
	PC 24: Lubricants, greases, release products
	PC 25: Metal working fluids
	PC 29: Pharmaceuticals
	PC 31: Polishes and wax blends
	PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products
Environmental release category	ERC 2: Formulation of preparations
	ERC 3: Formulation in materials
	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 9a: Wide dispersive indoor use of substances in closed systems
	ERC 9b: Wide dispersive outdoor use of substances in closed systems
	ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release
Subsequent service life relevant for that use?	yes
Article category related to subsequent service life	AC 2: Machinery, mechanical appliances, electrical/electronic articles
	AC 8: Paper articles
	AC 10: Rubber articles

Aluminium oxide (Al2O3) identified uses

Most common technical functions of the substance

Technical function of substance (what it does) other: refractories, ceramics

Significant routes of exposure

Human exposure

Oral; By inhalation

Pattern of exposure

Occasional