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Restriction of specific regulatory purposes

EU: BPD, EU: PPP, EU: REACH, CA: CEPA, CA: PCPA, JP: CSCL, OECD: HPVC, US: EPA HPVC, US: FIFRA, US: TSCA, other:

Confidentiality

CBI, IP, no PA

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Dossier creation comment	Created the dossier
Dossier template	R_JS_MBER
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Dossier: CaO Vincent Final

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Dossier UUID	IUC5-f68f921a-8763-4ddc-bc3b-0dfb6f7aa163
Author	Nathalie GORI / Pierre-Gaston VINCENT / TERNANT / France
Date	2010-11-09 10:33:10 CET
Remarks	Created the dossier

Dossier header

Dossier template

Name	REACH Registration member of a joint submission - general case
Version	2010-02-10
Name (given by user)	CaO Vincent Final

Dossier subject

Name	Calcium oxide / calcium oxide / Calcium oxide / Lime / 1305-78-8 / Pierre-Gaston VINCENT / TERNANT / France
Submitting legal entity	Pierre-Gaston VINCENT / TERNANT / France
Dossier creation date/time	2010-11-09 10:33:10 CET

Type of submission

Joint submission

Information provided by the lead on behalf of the member(s)

Chemical safety report

Guidance on safe use

Tonnage band	Over 1000 tonnes/year

Registration dossier specific information

Phase-in

Legal entity: Pierre-Gaston VINCENT

UUID ECHA-7ec16e4e-5215-43b0-a2c3-5364695338f9

Dossier UUID IUC5-f68f921a-8763-4ddc-bc3b-0dfb6f7aa163

Author REACH-IT

Date 2010-08-26 23:01:14 CEST

Remarks

General information

Legal entity name Pierre-Gaston VINCENT

Legal entity type company

Identifiers

Legal entity identifiers

Flags	Identifier type	ID
	DUNS	215-138-9

Contact information

Contact address

Address Hiry

Postal code 58250

Town TERNANT

Country France

Phone 0607501002

E-mail victorien_vincent@hotmail.fr

Contact persons

Title Mr

First name	Victorien
Last name	VINCENT
Phone	0607501002
E-mail	victorien_vincent@hotmail.fr
Address	Hiry
Postal code	58250
Town	TERNANT
Country	France

Sites

VINCENT

Site: VINCENT

UUID	IUC5-8f3848db-885e-4f0e-829c-0d806bc5c9f1
Dossier UUID	IUC5-f68f921a-8763-4ddc-bc3b-0dfb6f7aa163
Author	ksi / Pierre-Gaston VINCENT / TERNANT / France
Date	2010-09-23 11:59:18 CEST
Remarks	

Site flags

General information

Site name	VINCENT
Legal entity owner	Pierre-Gaston VINCENT / TERNANT / France

Contact address

Address	Hiry
Postal code	58250
Town	TERNANT
Country	France
Phone	+33 386308292
E-mail	victorien_vincent@hotmail.fr

Substance: Calcium oxide

UUID IUC5-4efa65bd-0aa6-4701-b5c5-e7ef617d80ec

Dossier UUID IUC5-f68f921a-8763-4ddc-bc3b-0dfb6f7aa163

Author N.GORI / Pierre-Gaston VINCENT / TERNANT / France

Date 2010-11-09 10:04:32 CET

Remarks

0 Related Information
0.1 Templates
0.2 Categories
0.3 Mixtures
1 General Information
1.1 Identification
Substance identification

Chemical name Calcium oxide

Public name Chaux vive

Legal entity Pierre-Gaston VINCENT / TERNANT / France

Role in the supply chain

Role: Manufacturer

Reference substance

calcium oxide / Calcium oxide / Lime / 1305-78-8

EC number	EC name
215-138-9	calcium oxide

CAS number	CAS name
1305-78-8	Lime

IUPAC name

Calcium oxide

Type of substance

Composition mono constituent substance

Origin inorganic

Trade names

Name CHAUX DE TERNANT

Contact person

First name Victorien

Last name VINCENT

Phone +33 386308292

Mobile +33 607501002

E-mail victorien_vincent@hotmail.fr

Address Hiry

Postal code 58250

Town TERNANT

Country France

1.2 Composition

Substance composition

Name Calcium oxide

Brief description the substance is obtained by calcined limestone

Degree of purity

> 80 % (w/w)

Constituents

Reference substance calcium oxide / Calcium oxide / Lime / 1305-78-8

EC number	**EC name**
215-138-9	calcium oxide
CAS number	**CAS name**
1305-78-8	Lime
IUPAC name	
Calcium oxide	
Typical concentration	ca. 85 % (w/w)
Concentration range	> 79— <= 86 % (w/w)

Impurities

Reference substance carbon dioxide / dioxomethane / Carbon dioxide / 124-38-9

EC number	**EC name**
204-696-9	carbon dioxide
CAS number	**CAS name**
124-38-9	Carbon dioxide
IUPAC name	
dioxomethane	
Typical concentration	ca. 5.6 % (w/w)
Concentration range	> 3— < 7 % (w/w)

Reference substance aluminium oxide / oxo(oxoalumanyloxy)alumane / Aluminum oxide, (Al2O3) / 1344-28-1

EC number	**EC name**
215-691-6	aluminium oxide
CAS number	**CAS name**
1344-28-1	Aluminum oxide, (Al2O3)

IUPAC name

oxo(oxoalumanyloxy)alumane

Typical concentration ca. 0.8 % (w/w)

Concentration range > 0.6— < 0.9 % (w/w)

Reference substance calcium carbonate / calcium carbonate / Carbonic acid calcium salt (1:1) / 471-34-1

EC number	EC name
207-439-9	calcium carbonate
CAS number	**CAS name**
471-34-1	Carbonic acid calcium salt (1:1)

IUPAC name

calcium carbonate

Typical concentration ca. 4 % (w/w)

Concentration range > 1— < 5 % (w/w)

Reference substance calcium dihydroxide / calcium dihydroxide / calcium hydroxide / 1305-62-0

EC number	EC name
215-137-3	calcium dihydroxide
CAS number	**CAS name**
1305-62-0	calcium hydroxide

IUPAC name

calcium dihydroxide

Typical concentration	ca. 1.5 % (w/w)
Concentration range	> 0.1— < 3 % (w/w)

Reference substance	sulphur trioxide / oxosulfane dioxide / Sulfur trioxide / 7446-11-9
EC number	**EC name**
231-197-3	sulphur trioxide
CAS number	**CAS name**
7446-11-9	Sulfur trioxide
IUPAC name	
oxosulfane dioxide	
Typical concentration	ca. 0.5 % (w/w)
Concentration range	> 0.2— < 0.8 % (w/w)

Reference substance	diphosphorus pentaoxide / 1,3-dioxodiphosphoxane 1,3-dioxide / Phosphorus oxide, (P2O5) / 1314-56-3
EC number	**EC name**
215-236-1	diphosphorus pentaoxide
CAS number	**CAS name**
1314-56-3	Phosphorus oxide, (P2O5)
IUPAC name	
1,3-dioxodiphosphoxane 1,3-dioxide	
Typical concentration	ca. 0.6 % (w/w)
Concentration range	> 0.3— < 0.8 % (w/w)

Reference substance	Diiron trioxide / diiron trioxide / Iron oxide, (Fe2O3) / 1309-37-1
	EC number **EC name** 215-168-2 diiron trioxide **CAS number** **CAS name** 1309-37-1 Iron oxide, (Fe2O3) **IUPAC name** diiron trioxide
Typical concentration	ca. 0.8 % (w/w)
Concentration range	> 0.6— < 1 % (w/w)

Reference substance	Manganese oxide / Manganese oxide / Manganese oxide / 11129-60-5
	EC number **EC name** 234-378-5 Manganese oxide **CAS number** **CAS name** 11129-60-5 Manganese oxide **IUPAC name** Manganese oxide
Typical concentration	ca. 0.4 % (w/w)
Concentration range	> 0.2— < 0.5 % (w/w)

Reference substance	Magnesium oxide / Magnesium oxide / Magnesium oxide / 1309-48-4
	EC number **EC name** 215-171-9 magnesium oxide

CAS number	CAS name
1309-48-4	Magnesium oxide

IUPAC name

Magnesium oxide

Typical concentration ca. 0.8 % (w/w)

Concentration range > 0.6— < 1.3 % (w/w)

1.3 Identifiers

Identifiers

Regulatory programme identifiers

Flags	Regulatory programme	ID	Remarks
	REACH preregistration number	05-2118798206-30-0000	

1.4 Analytical information

Analytical information

Analytical methods and spectral data The analytical methods and spectral data are detailed in the attached pdf document.

Analytical methods - Calcium oxide.pdf / 85.24 KB

Optical activity Calcium oxide is not optically active

Results of analysis

Analysis type Elemental composition and gravimetry (Identification and purity)

Tested substance Calcium oxide

Method used HCl-ICP

Results of chemical analysis.pdf / 1.17 MB

Analysis type Ultra-Violet/Visible spectrum

Tested substance	Calcium oxide
Method used	UV-Visible
Remarks	UV/Vis is not relevant to identify or analyse an inorganic substance such as calcium oxide because there are no absorption maxima between 200 and 750 nm.

Analysis type	Mass spectrometry
Tested substance	Calcium oxide
Method used	Mass spectrometry
Remarks	Mass spectroscopy is not relevant to identify or analyse an inorganic substance such as calcium oxide.

Analysis type	Nuclear Magnetic Resonance
Tested substance	Calcium oxide
Method used	Nuclear Magnetic Resonance
Remarks	NMR is not relevant to identify or analyse an inorganic substance such as calcium oxide.

Analysis type	High Pressure Liquid Chromatogram
Tested substance	Calcium Oxide
Method used	High Pressure Liquid Chromatogram
Remarks	HPLC is not relevant to identify or analyse an inorganic substance such as calcium oxide

Analysis type	Gas Chromatogram
Tested substance	Calcium oxide
Method used	Gas Chromatogram
Remarks	GC is not relevant to identify or analyse an inorganic substance such as

calcium oxide

1.5 Joint submission
1.6 Sponsors
1.7 Suppliers
1.8 Recipients
1.9 Product and process oriented research and development
2 Classification and Labelling
2.1 GHS
2.2 DSD - DPD
3 Manufacture, use and exposure
3.1 Technological process
Technological process

Methods of manufacture	"The process for Calcium Oxide (lime) manufacturing consists of the burning of limestone (i.e. calcium carbonates) at a temperature of between 900 and 1200 ºC, which is sufficiently high to liberate carbon dioxide, and to obtain the derived oxide CaCO3 + Heat -> CaO + CO2 The limestone is processed and charged into a kiln where it undergoes a thermal decomposition reaction with the resultant production of calcium oxide and carbon dioxide. This 'product', commonly called 'burned lime' or 'quicklime', is processed in size and is then stored in silo, transported or further processed. A large variety of techniques and kiln designs have been used over the years and around the world. "

3.2 Estimated quantities
Estimated quantities

Year 2009

Total tonnage

Manufactured 2649 tonnes/year

Year 2008

Total tonnage

Manufactured 2287 tonnes/year

Year 2007

Total tonnage

Manufactured 1832 tonnes/year

3.3 Sites

Sites

Site VINCENT / TERNANT / France

Legal entity owner Pierre-Gaston VINCENT / TERNANT / France

Production site

3.4 Form in the supply chain

Form in the supply chain

Available as substance

Available as substance

Substance in mixture

Substance in article

3.5 Identified uses

Identified uses

Information on uses

Uses by workers in industrial settings

IU number	1
Identified use name	Industrial uses of aqueous solutions of lime substances
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 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 18: Greasing at high energy conditions
	PROC 19: Hand-mixing with intimate contact and only PPE available.
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 6a: Industrial use resulting in manufacture of another substance (use of intermediates)
	ERC 6b: Industrial use of reactive processing aids
	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 7: Industrial use of substances in closed systems
	ERC 12a: Industrial processing of articles with abrasive techniques (low release)
	ERC 12b: Industrial processing of articles with abrasive techniques (high release)

	ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release
	ERC 10b: Wide dispersive outdoor use of long-life articles and materials with high or intended release (including abrasive processing)
	ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release
	ERC 11b: Wide dispersive indoor use of long-life articles and materials with high or intended release (including abrasive processing)
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 2: Adsorbents
	PC 3: Air care products
	PC 7: Base metals and alloys
	PC 8: Biocidal products (e.g. disinfectants, pest control)
	PC 9a: Coatings and paints, thinners, paint removes
	PC 9b: Fillers, putties, plasters, modelling clay
	PC 11: Explosives
	PC 12: Fertilisers
	PC 13: Fuels
	PC 14: Metal surface treatment products, including galvanic and electroplating products
	PC 15: Non-metal-surface treatment products
	PC 16: Heat transfer fluids
	PC 17: Hydraulic fluids
	PC 18: Ink and toners
	PC 19: Intermediate

	PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents
	PC 21: Laboratory chemicals
	PC 23: Leather tanning, dye, finishing, impregnation and care products
	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 27: Plant protection products
	PC 28: Perfumes, fragrances
	PC 29: Pharmaceuticals
	PC 30: Photo-chemicals
	PC 31: Polishes and wax blends
	PC 32: Polymer preparations and compounds
	PC 33: Semiconductors
	PC 34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids
	PC 35: Washing and cleaning products (including solvent based products)
	PC 36: Water softeners
	PC 37: Water treatment chemicals
	PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products
	PC 39: Cosmetics, personal care products
	PC 40: Extraction agents
Sector of end use	SU 1: Agriculture, forestry and fishing
	SU 2a: Mining (without offshore industries)
	SU 2b: Offshore industries

	SU 4: Manufacture of food products
	SU 5: Manufacture of textiles, leather, fur
	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 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
	SU 23: Electricity, steam, gas water supply and sewage treatment
	SU 24: Scientific research and development
Subsequent service life relevant for that use?	yes
Article category related to	

subsequent service life	AC 1: Vehicles AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 3: Electrical batteries and accumulators AC 4: Stone, plaster, cement, glass and ceramic articles AC 5: Fabrics, textiles and apparel AC 6: Leather articles AC 7: Metal articles AC 8: Paper articles AC 10: Rubber articles AC 11: Wood articles AC 13: Plastic articles
Exposure scenario reference in the CSR	9.1

IU number	2
Identified use name	Industrial uses of low dusty solids/powders of lime substances
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 17: Lubrication at high energy conditions and in partly open process

PROC 18: Greasing at high energy conditions

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

PROC 27a: Production of metal powders (hot processes)

PROC 27b: Production of metal powders (wet processes)

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 6a: Industrial use resulting in manufacture of another substance (use of intermediates)
	ERC 6b: Industrial use of reactive processing aids
	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 7: Industrial use of substances in closed systems
	ERC 12a: Industrial processing of articles with abrasive techniques (low release)
	ERC 12b: Industrial processing of articles with abrasive techniques (high release)
	ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release
	ERC 10b: Wide dispersive outdoor use of long-life articles and materials with high or intended release (including abrasive processing)
	ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release
	ERC 11b: Wide dispersive indoor use of long-life articles and materials with high or intended release (including abrasive processing)
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 2: Adsorbents
	PC 3: Air care products
	PC 7: Base metals and alloys
	PC 8: Biocidal products (e.g. disinfectants, pest control)
	PC 9a: Coatings and paints, thinners, paint removes
	PC 9b: Fillers, putties, plasters, modelling clay
	PC 11: Explosives
	PC 12: Fertilisers
	PC 13: Fuels
	PC 14: Metal surface treatment products, including galvanic and electroplating products
	PC 15: Non-metal-surface treatment products
	PC 16: Heat transfer fluids
	PC 17: Hydraulic fluids
	PC 18: Ink and toners
	PC 19: Intermediate
	PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents
	PC 21: Laboratory chemicals
	PC 23: Leather tanning, dye, finishing, impregnation and care products
	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 27: Plant protection products
	PC 28: Perfumes, fragrances
	PC 29: Pharmaceuticals

	PC 30: Photo-chemicals
	PC 31: Polishes and wax blends
	PC 32: Polymer preparations and compounds
	PC 33: Semiconductors
	PC 34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids
	PC 35: Washing and cleaning products (including solvent based products)
	PC 36: Water softeners
	PC 37: Water treatment chemicals
	PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products
	PC 39: Cosmetics, personal care products
	PC 40: Extraction agents
Sector of end use	SU 1: Agriculture, forestry and fishing
	SU 2a: Mining (without offshore industries)
	SU 2b: Offshore industries
	SU 4: Manufacture of food products
	SU 5: Manufacture of textiles, leather, fur
	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 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
	SU 23: Electricity, steam, gas water supply and sewage treatment
	SU 24: Scientific research and development
Subsequent service life relevant for that use?	yes
Article category related to subsequent service life	AC 1: Vehicles
	AC 2: Machinery, mechanical appliances, electrical/electronic articles
	AC 3: Electrical batteries and accumulators
	AC 4: Stone, plaster, cement, glass and ceramic articles
	AC 5: Fabrics, textiles and apparel
	AC 6: Leather articles
	AC 7: Metal articles
	AC 8: Paper articles
	AC 10: Rubber articles
	AC 11: Wood articles
	AC 13: Plastic articles

Exposure scenario reference in the CSR	9.2
IU number	3
Identified use name	Industrial uses of medium dusty solids/powders of lime substances
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 18: Greasing at high energy conditions
	PROC 19: Hand-mixing with intimate contact and only PPE available.
	PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting
	PROC 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
	PROC 27a: Production of metal powders (hot processes)
	PROC 27b: Production of metal powders (wet processes)
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 6a: Industrial use resulting in manufacture of another substance (use of intermediates)
	ERC 6b: Industrial use of reactive processing aids
	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 7: Industrial use of substances in closed systems

	ERC 12a: Industrial processing of articles with abrasive techniques (low release)
	ERC 12b: Industrial processing of articles with abrasive techniques (high release)
	ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release
	ERC 10b: Wide dispersive outdoor use of long-life articles and materials with high or intended release (including abrasive processing)
	ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release
	ERC 11b: Wide dispersive indoor use of long-life articles and materials with high or intended release (including abrasive processing)
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 2: Adsorbents
	PC 3: Air care products
	PC 7: Base metals and alloys
	PC 8: Biocidal products (e.g. disinfectants, pest control)
	PC 9a: Coatings and paints, thinners, paint removes
	PC 9b: Fillers, putties, plasters, modelling clay
	PC 11: Explosives
	PC 12: Fertilisers
	PC 13: Fuels
	PC 14: Metal surface treatment products, including galvanic and electroplating products
	PC 15: Non-metal-surface treatment products
	PC 16: Heat transfer fluids

	PC 17: Hydraulic fluids
	PC 18: Ink and toners
	PC 19: Intermediate
	PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents
	PC 21: Laboratory chemicals
	PC 23: Leather tanning, dye, finishing, impregnation and care products
	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 27: Plant protection products
	PC 28: Perfumes, fragrances
	PC 29: Pharmaceuticals
	PC 30: Photo-chemicals
	PC 31: Polishes and wax blends
	PC 32: Polymer preparations and compounds
	PC 33: Semiconductors
	PC 34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids
	PC 35: Washing and cleaning products (including solvent based products)
	PC 36: Water softeners
	PC 37: Water treatment chemicals
	PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products
	PC 39: Cosmetics, personal care products
	PC 40: Extraction agents
Sector of end use	

SU 1: Agriculture, forestry and fishing

SU 2a: Mining (without offshore industries)

SU 2b: Offshore industries

SU 4: Manufacture of food products

SU 5: Manufacture of textiles, leather, fur

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 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

SU 23: Electricity, steam, gas water supply and sewage treatment

SU 24: Scientific research and development

Subsequent service life relevant for that use?	yes
Article category related to subsequent service life	AC 1: Vehicles AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 3: Electrical batteries and accumulators AC 4: Stone, plaster, cement, glass and ceramic articles AC 5: Fabrics, textiles and apparel AC 6: Leather articles AC 7: Metal articles AC 8: Paper articles AC 10: Rubber articles AC 11: Wood articles AC 13: Plastic articles
Exposure scenario reference in the CSR	9.3

IU number	4
Identified use name	Industrial uses of high dusty solids/powders of lime substances
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 18: Greasing at high energy conditions
	PROC 19: Hand-mixing with intimate contact and only PPE available.
	PROC 22: Potentially closed processing operations with minerals/metals at elevated temperature. Industrial setting
	PROC 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
	PROC 27a: Production of metal powders (hot processes)
	PROC 27b: Production of metal powders (wet processes)
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 6a: Industrial use resulting in manufacture of another substance (use of intermediates)
	ERC 6b: Industrial use of reactive processing aids
	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 7: Industrial use of substances in closed systems
	ERC 12a: Industrial processing of articles with abrasive techniques (low release)
	ERC 12b: Industrial processing of articles with abrasive techniques (high release)
	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 2: Adsorbents
	PC 3: Air care products
	PC 7: Base metals and alloys

PC 8: Biocidal products (e.g. disinfectants, pest control)

PC 9a: Coatings and paints, thinners, paint removes

PC 9b: Fillers, putties, plasters, modelling clay

PC 11: Explosives

PC 12: Fertilisers

PC 13: Fuels

PC 14: Metal surface treatment products, including galvanic and electroplating products

PC 15: Non-metal-surface treatment products

PC 16: Heat transfer fluids

PC 17: Hydraulic fluids

PC 18: Ink and toners

PC 19: Intermediate

PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents

PC 21: Laboratory chemicals

PC 23: Leather tanning, dye, finishing, impregnation and care products

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 27: Plant protection products

PC 28: Perfumes, fragrances

PC 29: Pharmaceuticals

PC 30: Photo-chemicals

PC 31: Polishes and wax blends

PC 32: Polymer preparations and compounds

PC 33: Semiconductors

	including bleaches and other processing aids
	PC 35: Washing and cleaning products (including solvent based products)
	PC 36: Water softeners
	PC 37: Water treatment chemicals
	PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products
	PC 39: Cosmetics, personal care products
	PC 40: Extraction agents
Sector of end use	SU 1: Agriculture, forestry and fishing
	SU 2a: Mining (without offshore industries)
	SU 2b: Offshore industries
	SU 4: Manufacture of food products
	SU 5: Manufacture of textiles, leather, fur
	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 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 SU 23: Electricity, steam, gas water supply and sewage treatment SU 24: Scientific research and development
Subsequent service life relevant for that use?	yes
Article category related to subsequent service life	AC 1: Vehicles AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 3: Electrical batteries and accumulators AC 4: Stone, plaster, cement, glass and ceramic articles AC 5: Fabrics, textiles and apparel AC 6: Leather articles AC 7: Metal articles AC 8: Paper articles AC 10: Rubber articles AC 11: Wood articles AC 13: Plastic articles
Exposure scenario reference in the CSR	9.4

IU number	5
Identified use name	Industrial uses of massive objects containing lime

	substances
Process category	PROC 6: Calendering operations
	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 25: Other hot work operations with metals
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 6a: Industrial use resulting in manufacture of another substance (use of intermediates)
	ERC 6b: Industrial use of reactive processing aids
	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 7: Industrial use of substances in closed systems
	ERC 12a: Industrial processing of articles with abrasive techniques (low release)

	ERC 12b: Industrial processing of articles with abrasive techniques (high release)
	ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release
	ERC 10b: Wide dispersive outdoor use of long-life articles and materials with high or intended release (including abrasive processing)
	ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release
	ERC 11b: Wide dispersive indoor use of long-life articles and materials with high or intended release (including abrasive processing)
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 2: Adsorbents
	PC 3: Air care products
	PC 7: Base metals and alloys
	PC 8: Biocidal products (e.g. disinfectants, pest control)
	PC 9a: Coatings and paints, thinners, paint removes
	PC 9b: Fillers, putties, plasters, modelling clay
	PC 11: Explosives
	PC 12: Fertilisers
	PC 13: Fuels
	PC 14: Metal surface treatment products, including galvanic and electroplating products
	PC 15: Non-metal-surface treatment products
	PC 16: Heat transfer fluids
	PC 17: Hydraulic fluids
	PC 18: Ink and toners

	PC 19: Intermediate
	PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents
	PC 21: Laboratory chemicals
	PC 23: Leather tanning, dye, finishing, impregnation and care products
	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 27: Plant protection products
	PC 28: Perfumes, fragrances
	PC 29: Pharmaceuticals
	PC 30: Photo-chemicals
	PC 31: Polishes and wax blends
	PC 32: Polymer preparations and compounds
	PC 33: Semiconductors
	PC 34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids
	PC 35: Washing and cleaning products (including solvent based products)
	PC 36: Water softeners
	PC 37: Water treatment chemicals
	PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products
	PC 39: Cosmetics, personal care products
	PC 40: Extraction agents
Sector of end use	SU 1: Agriculture, forestry and fishing
	SU 2a: Mining (without offshore industries)

	SU 2b: Offshore industries
	SU 4: Manufacture of food products
	SU 5: Manufacture of textiles, leather, fur
	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 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
	SU 23: Electricity, steam, gas water supply and sewage treatment
	SU 24: Scientific research and development
Subsequent service life relevant for that use?	yes

Article category related to subsequent service life	AC 1: Vehicles AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 3: Electrical batteries and accumulators AC 4: Stone, plaster, cement, glass and ceramic articles AC 5: Fabrics, textiles and apparel AC 6: Leather articles AC 7: Metal articles AC 8: Paper articles AC 10: Rubber articles AC 11: Wood articles AC 13: Plastic articles
Exposure scenario reference in the CSR	9.5

Uses by professional workers

IU number	6
Identified use name	Professional uses of aqueous solutions of lime substances
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 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 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 18: Greasing at high energy conditions
	PROC 19: Hand-mixing with intimate contact and only PPE available.
Environmental release category	ERC 2: Formulation of preparations
	ERC 8a: Wide dispersive indoor use of processing aids in open systems
	ERC 8b: Wide dispersive indoor use of reactive substances in open systems
	ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix
	ERC 8d: Wide dispersive outdoor use of processing aids in open systems
	ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix
	ERC 8e: Wide dispersive outdoor use of reactive substances in open systems
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 2: Adsorbents
	PC 3: Air care products
	PC 7: Base metals and alloys
	PC 8: Biocidal products (e.g. disinfectants, pest control)
	PC 9a: Coatings and paints, thinners, paint removes
	PC 9b: Fillers, putties, plasters, modelling clay
	PC 11: Explosives
	PC 12: Fertilisers
	PC 13: Fuels
	PC 14: Metal surface treatment products, including galvanic and electroplating products
	PC 15: Non-metal-surface treatment products
	PC 16: Heat transfer fluids
	PC 17: Hydraulic fluids
	PC 18: Ink and toners
	PC 19: Intermediate
	PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents
	PC 21: Laboratory chemicals
	PC 23: Leather tanning, dye, finishing, impregnation and care products
	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 27: Plant protection products
	PC 28: Perfumes, fragrances
	PC 29: Pharmaceuticals

	PC 30: Photo-chemicals
	PC 31: Polishes and wax blends
	PC 32: Polymer preparations and compounds
	PC 33: Semiconductors
	PC 34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids
	PC 35: Washing and cleaning products (including solvent based products)
	PC 36: Water softeners
	PC 37: Water treatment chemicals
	PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products
	PC 39: Cosmetics, personal care products
	PC 40: Extraction agents
Sector of end use	SU 1: Agriculture, forestry and fishing
	SU 5: Manufacture of textiles, leather, fur
	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 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 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 SU 23: Electricity, steam, gas water supply and sewage treatment SU 24: Scientific research and development
Subsequent service life relevant for that use?	yes
Article category related to subsequent service life	AC 1: Vehicles AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 3: Electrical batteries and accumulators AC 4: Stone, plaster, cement, glass and ceramic articles AC 5: Fabrics, textiles and apparel AC 6: Leather articles AC 7: Metal articles AC 8: Paper articles AC 10: Rubber articles AC 11: Wood articles AC 13: Plastic articles
Exposure scenario reference in the CSR	9.6

IU number	7
Identified use name	Professional uses of low dusty solids/powders of lime substances
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 10: Roller application or brushing
	PROC 13: Treatment of articles by dipping and pouring
	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 18: Greasing at high energy conditions
	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 25: Other hot work operations with metals
	PROC 26: Handling of solid inorganic substances at ambient temperature
Environmental release category	ERC 2: Formulation of preparations
	ERC 8a: Wide dispersive indoor use of processing aids in open systems

	ERC 8b: Wide dispersive indoor use of reactive substances in open systems
	ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix
	ERC 8d: Wide dispersive outdoor use of processing aids in open systems
	ERC 8e: Wide dispersive outdoor use of reactive substances in open systems
	ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix
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 2: Adsorbents
	PC 3: Air care products
	PC 7: Base metals and alloys
	PC 8: Biocidal products (e.g. disinfectants, pest control)
	PC 9a: Coatings and paints, thinners, paint removes
	PC 9b: Fillers, putties, plasters, modelling clay
	PC 11: Explosives
	PC 12: Fertilisers
	PC 13: Fuels
	PC 14: Metal surface treatment products, including galvanic and electroplating products
	PC 15: Non-metal-surface treatment products
	PC 16: Heat transfer fluids
	PC 17: Hydraulic fluids
	PC 18: Ink and toners
	PC 19: Intermediate

	PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents
	PC 21: Laboratory chemicals
	PC 23: Leather tanning, dye, finishing, impregnation and care products
	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 27: Plant protection products
	PC 28: Perfumes, fragrances
	PC 29: Pharmaceuticals
	PC 30: Photo-chemicals
	PC 31: Polishes and wax blends
	PC 32: Polymer preparations and compounds
	PC 33: Semiconductors
	PC 34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids
	PC 35: Washing and cleaning products (including solvent based products)
	PC 36: Water softeners
	PC 37: Water treatment chemicals
	PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products
	PC 39: Cosmetics, personal care products
	PC 40: Extraction agents
Sector of end use	SU 1: Agriculture, forestry and fishing
	SU 5: Manufacture of textiles, leather, fur
	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 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 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
	SU 24: Scientific research and development
	SU 23: Electricity, steam, gas water supply and sewage treatment
Subsequent service life relevant for that use?	yes
Article category related to subsequent service life	AC 1: Vehicles
	AC 2: Machinery, mechanical appliances, electrical/electronic articles
	AC 3: Electrical batteries and accumulators
	AC 4: Stone, plaster, cement, glass and ceramic articles
	AC 5: Fabrics, textiles and apparel
	AC 6: Leather articles
	AC 7: Metal articles
	AC 8: Paper articles

	AC 10: Rubber articles AC 11: Wood articles AC 13: Plastic articles
Exposure scenario reference in the CSR	9.7
IU number	8
Identified use name	Professional uses of medium dusty solids/powders of lime substances
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 10: Roller application or brushing PROC 13: Treatment of articles by dipping and pouring 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 18: Greasing at high energy conditions
	PROC 19: Hand-mixing with intimate contact and only PPE available.
	PROC 25: Other hot work operations with metals
	PROC 26: Handling of solid inorganic substances at ambient temperature
Environmental release category	ERC 2: Formulation of preparations
	ERC 8a: Wide dispersive indoor use of processing aids in open systems
	ERC 8b: Wide dispersive indoor use of reactive substances in open systems
	ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix
	ERC 8d: Wide dispersive outdoor use of processing aids in open systems
	ERC 8e: Wide dispersive outdoor use of reactive substances in open systems
	ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix
	ERC 9a: Wide dispersive indoor use of substances in closed systems
	ERC 9b: Wide dispersive outdoor use of substances in closed systems
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 2: Adsorbents
	PC 3: Air care products
	PC 7: Base metals and alloys

PC 8: Biocidal products (e.g. disinfectants, pest control)

PC 9a: Coatings and paints, thinners, paint removes

PC 9b: Fillers, putties, plasters, modelling clay

PC 11: Explosives

PC 12: Fertilisers

PC 13: Fuels

PC 14: Metal surface treatment products, including galvanic and electroplating products

PC 15: Non-metal-surface treatment products

PC 16: Heat transfer fluids

PC 18: Ink and toners

PC 17: Hydraulic fluids

PC 19: Intermediate

PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents

PC 21: Laboratory chemicals

PC 23: Leather tanning, dye, finishing, impregnation and care products

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 27: Plant protection products

PC 28: Perfumes, fragrances

PC 29: Pharmaceuticals

PC 30: Photo-chemicals

PC 31: Polishes and wax blends

PC 32: Polymer preparations and compounds

PC 33: Semiconductors

	including bleaches and other processing aids
	PC 35: Washing and cleaning products (including solvent based products)
	PC 36: Water softeners
	PC 37: Water treatment chemicals
	PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products
	PC 39: Cosmetics, personal care products
	PC 40: Extraction agents
Sector of end use	SU 1: Agriculture, forestry and fishing
	SU 5: Manufacture of textiles, leather, fur
	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 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 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
	SU 23: Electricity, steam, gas water supply and sewage treatment

	SU 24: Scientific research and development
Subsequent service life relevant for that use?	yes
Article category related to subsequent service life	AC 1: Vehicles AC 2: Machinery, mechanical appliances, electrical/electronic articles AC 3: Electrical batteries and accumulators AC 4: Stone, plaster, cement, glass and ceramic articles AC 5: Fabrics, textiles and apparel AC 6: Leather articles AC 7: Metal articles AC 8: Paper articles AC 10: Rubber articles AC 11: Wood articles AC 13: Plastic articles
Exposure scenario reference in the CSR	9.8

IU number	9
Identified use name	Professional uses of high dusty solids/powders of lime substances
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 10: Roller application or brushing
	PROC 13: Treatment of articles by dipping and pouring
	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 18: Greasing at high energy conditions
	PROC 19: Hand-mixing with intimate contact and only PPE available.
	PROC 25: Other hot work operations with metals
	PROC 26: Handling of solid inorganic substances at ambient temperature
Environmental release category	ERC 2: Formulation of preparations
	ERC 8a: Wide dispersive indoor use of processing aids in open systems
	ERC 8b: Wide dispersive indoor use of reactive substances in open systems
	ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix
	ERC 8d: Wide dispersive outdoor use of processing aids in open systems
	ERC 8e: Wide dispersive outdoor use of reactive substances in open systems

	ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix
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 2: Adsorbents
	PC 3: Air care products
	PC 7: Base metals and alloys
	PC 8: Biocidal products (e.g. disinfectants, pest control)
	PC 9a: Coatings and paints, thinners, paint removes
	PC 9b: Fillers, putties, plasters, modelling clay
	PC 11: Explosives
	PC 12: Fertilisers
	PC 13: Fuels
	PC 14: Metal surface treatment products, including galvanic and electroplating products
	PC 15: Non-metal-surface treatment products
	PC 16: Heat transfer fluids
	PC 17: Hydraulic fluids
	PC 18: Ink and toners
	PC 19: Intermediate
	PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents
	PC 21: Laboratory chemicals
	PC 23: Leather tanning, dye, finishing, impregnation and care products
	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 27: Plant protection products
	PC 28: Perfumes, fragrances
	PC 29: Pharmaceuticals
	PC 30: Photo-chemicals
	PC 31: Polishes and wax blends
	PC 32: Polymer preparations and compounds
	PC 33: Semiconductors
	PC 34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids
	PC 35: Washing and cleaning products (including solvent based products)
	PC 36: Water softeners
	PC 37: Water treatment chemicals
	PC 38: Welding and soldering products (with flux coatings or flux cores.), flux products
	PC 39: Cosmetics, personal care products
	PC 40: Extraction agents
Sector of end use	SU 1: Agriculture, forestry and fishing
	SU 5: Manufacture of textiles, leather, fur
	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 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 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
	SU 23: Electricity, steam, gas water supply and sewage treatment
	SU 24: Scientific research and development
Subsequent service life relevant for that use?	yes
Article category related to subsequent service life	AC 1: Vehicles
	AC 2: Machinery, mechanical appliances, electrical/electronic articles
	AC 3: Electrical batteries and accumulators
	AC 4: Stone, plaster, cement, glass and ceramic articles
	AC 5: Fabrics, textiles and apparel
	AC 6: Leather articles
	AC 7: Metal articles
	AC 8: Paper articles
	AC 10: Rubber articles
	AC 11: Wood articles
	AC 13: Plastic articles
Exposure scenario reference in the CSR	9.9
IU number	10

Identified use name	Professional use of lime substances in soil stabilisation
Process category	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 11: Non industrial spraying PROC 26: Handling of solid inorganic substances at ambient temperature
Environmental release category	ERC 2: Formulation of preparations ERC 8b: Wide dispersive indoor use of reactive substances in open systems ERC 8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC 8d: Wide dispersive outdoor use of processing aids in open systems ERC 8e: Wide dispersive outdoor use of reactive substances in open systems ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix ERC 8a: Wide dispersive indoor use of processing aids in open systems
Substance supplied to that use in form of	As such In a mixture
Market sector by type of chemical product	PC 9b: Fillers, putties, plasters, modelling clay
Subsequent service life relevant for that use?	no
Exposure scenario reference in the CSR	9.10

IU number	11
Identified use name	Professional uses of articles/containers containing lime substances
Process category	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 PROC 25: Other hot work operations with metals PROC 0: Other: Use of containers containing calcium dihydroxide/preparations as CO2 absorbents (e.g. breathing apparatus)
Environmental release category	ERC 10a: Wide dispersive outdoor use of long-life articles and materials with low release ERC 11a: Wide dispersive indoor use of long-life articles and materials with low release ERC 11b: Wide dispersive indoor use of long-life articles and materials with high or intended release (including abrasive processing) ERC 12a: Industrial processing of articles with abrasive techniques (low release) ERC 12b: Industrial processing of articles with abrasive techniques (high release)
Substance supplied to that use in form of	In a mixture
Sector of end use	SU 5: Manufacture of textiles, leather, fur SU 6a: Manufacture of wood and wood products SU 1: Agriculture, forestry and fishing SU 6b: Manufacture of pulp, paper and paper products SU 7: Printing and reproduction of recorded media 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 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
	SU 23: Electricity, steam, gas water supply and sewage treatment
	SU 24: Scientific research and development
Subsequent service life relevant for that use?	yes
Article category related to subsequent service life	AC 1: Vehicles
	AC 2: Machinery, mechanical appliances, electrical/electronic articles
	AC 3: Electrical batteries and accumulators
	AC 4: Stone, plaster, cement, glass and ceramic articles
	AC 5: Fabrics, textiles and apparel
	AC 6: Leather articles
	AC 7: Metal articles
	AC 8: Paper articles
	AC 10: Rubber articles
	AC 11: Wood articles
	AC 13: Plastic articles
Exposure scenario	9.11

reference in the CSR	

Uses by consumers

IU number	12
Identified use name	Consumer use of building and construction material (DIY)
Chemical product category	PC 9a: Coatings and paints, thinners, paint removes PC 9b: Fillers, putties, plasters, modelling clay
Environmental release category	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
Subsequent service life relevant for that use?	no
Exposure scenario reference in the CSR	9.12

IU number	13
Identified use name	Consumer use of CO2 absorbent in breathing apparatuses
Chemical product category	PC 2: Adsorbents
Environmental release category	ERC 8b: Wide dispersive indoor use of reactive substances in open systems
Subsequent service life relevant for that use?	no
Exposure scenario reference in	9.13

the CSR	
IU number	14
Identified use name	Consumer use of garden lime/fertilizer
Chemical product category	PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents PC 12: Fertilisers
Environmental release category	ERC 8e: Wide dispersive outdoor use of reactive substances in open systems
Subsequent service life relevant for that use?	no
Exposure scenario reference in the CSR	9.14
IU number	15
Identified use name	Consumer use of lime substances as water treatment chemicals in aquaria
Chemical product category	PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents PC 37: Water treatment chemicals
Environmental release category	ERC 8b: Wide dispersive indoor use of reactive substances in open systems
Subsequent service life relevant for that use?	no
Exposure scenario reference in the CSR	9.15
IU number	16
Identified use name	Consumer use of cosmetics containing lime substances
Chemical product category	

	PC 39: Cosmetics, personal care products
Environmental release category	ERC 8a: Wide dispersive indoor use of processing aids in open systems
Subsequent service life relevant for that use?	no
Exposure scenario reference in the CSR	9.16

Most common technical functions of the substance

Technical function of substance (what it does)	Agents adsorbing and absorbing gases or liquids; Binding agents; Colouring agents, pigments; Laboratory chemicals; pH-regulating agents; Biocide substances; Bleaching agents; Fertilisers; Fillers; Flame retardants; Flotation agents; Food/feedstuff additives; Intermediates; Lubricants and lubricant additives; Pharmaceutical substance; Tanning agents

Significant routes of exposure

Human exposure

Dermal; By inhalation

Environmental exposure

Water; Air; Soil

Pattern of exposure

Occasional

3.6 Uses advised against

3.7 Waste from production and use

Waste from production and use

Remarks Waste from production:

The calcination of limestone or dolomitc stone can incur process losses, produce by-products and solid wastes at three main stages of the production process (see Section 3.1). These comprise:

1. Materials created as a result of out-of-specification treatment following kiln start up, shut down or kiln malfunction
2. Materials found to be unsuitable either prior to or following processing, spilled materials that have fallen from the processing plant, conveyors, mobile plant or otherwise accumulated in and around the processing or loading areas
3. Materials from bag filters, electrostatic precipitators and other abatement systems serving the lime calcination process

While subject to considerable variability, these sources account collectively for 1 to 5% of the total annual production (BREF, 2010).

There exist extensive possibilities for reduction of solid wastes occurring in the several steps during the lime manufacturing processes. Dust collected while loading, unloading, conveying, mechanically handling and processing raw materials can normally be re-used as raw material. Dust collected from fabric filters as well as off specification quicklime and hydrated lime typically can be used in different kinds of commercial products. Dust originating from a flue-gas cleaning system can be re-used only under certain circumstances, because this dust can contain pollutants, such as high concentrations of sulphur, fluorine and metals, especially when waste is co-incinerated. In most cases, the collected dust is principally calcium carbonate, with varying amounts of calcium oxide, fuel ash and clay. Where suitable, the collected dust may be incorporated into commercial products. Materials which cannot be recycled internally leave the plant to be used in other industries or to be supplied to external waste recycling or waste disposal facilities.

Process waste water with high pH and suspended solids may be generated in some lime production facilities. Techniques for treating industrial waste water include flow and load equalisation with pH adjustment; sedimentation for suspended solids reduction using settling basins and clarifiers; mulitimedia filtration for reduction in non-settleable suspended solids. Management of effluent from production facilities is described in Section 9.0 of the Chemical Safety Report.

Waste from use:
Lime substances are used in a diverse range of applications (see Technical Dossier Section 3.5), where they are transformed into other substances, in which they can remain as impurities.
Wastes from these applications mainly consist of lime substance dust or aqueous solution collected during their loading, unloading, conveying,

mechanically handling and processing.
These wastes are either recycled, or recovered in the waste water of the plant or landfilled.

(BREF: Reference document on Best Available Techniques in the Cement, Lime and Magnesium Oxide Manufacturing Industries. European Commission May, 2010)

3.8 Exposure estimates
3.9 Biocidal information
3.10 Application for authorisation of uses
11 Guidance on safe use
Additional information: Guidance on safe use.001

UUID	IUC5-fe9b351c-af2d-45db-82b0-6d56255e863a
Dossier UUID	IUC5-f68f921a-8763-4ddc-bc3b-0dfb6f7aa163
Author	ksi / Pierre-Gaston VINCENT / TERNANT / France
Date	2010-09-23 14:16:01 CEST
Remarks	

Administrative Data

13 Assessment Reports
Additional information: Own partial CSR part A - B

UUID IUC5-118011b4-86f3-49c7-a7bd-8f3efc049f45
Dossier UUID IUC5-f68f921a-8763-4ddc-bc3b-0dfb6f7aa163
Author ksi / Pierre-Gaston VINCENT / TERNANT / France
Date 2010-10-29 11:14:07 CEST
Remarks

Administrative Data

Type of report

REACH Chemical safety report (CSR)

Remarks

This is the own partial CSR part A and part B (sections 2, 9 and 10). Details of the exposure scenarios and the risk characterisation are provided in a separate document (Addendum to Own partial CSR -exposure scenarios).
The Joint CSR containing the part B (sections 1,3-8) is submitted by the lead registrant in the assessment report named "Joint CSR"

Document

Own partial CSR - part A - B-Vincent.pdf / 205.56 KB (application/pdf)

Additional information: Addendum to Own partial CSR - exposure scenarios

UUID	IUC5-79275dac-109e-4734-96e8-a97a8c727ab7
Dossier UUID	IUC5-f68f921a-8763-4ddc-bc3b-0dfb6f7aa163
Author	ksi / Pierre-Gaston VINCENT / TERNANT / France
Date	2010-10-29 11:16:43 CEST
Remarks	

Administrative Data

Type of report

other: Addendum to CSR - exposure scenarios

Remarks

Exposure scenarios and risk characterisation for all identified uses are provided in a separate document - addendum to the CSR.

Document

CaO - ES Addendum to CSR.pdf / 1.19 MB (application/pdf)

Reference substance: sulphur trioxide

UUID ECB5-973fa584-bb9f-4829-975d-ddd64df7b54a

Dossier UUID IUC5-f68f921a-8763-4ddc-bc3b-0dfb6f7aa163

Author Roger / IMA-Europe aisbl / Brussels / Belgium

Date 2010-09-07 17:11:25 CEST

Remarks

General information

Reference substance name sulphur trioxide

EC inventory

EC number 231-197-3 **CAS number** 7446-11-9

EC name sulphur trioxide

Molecular formula O3S

Reference substance information

CAS information

CAS number 7446-11-9

CAS name Sulfur trioxide

IUPAC name

oxosulfane dioxide

Synonyms

Name Sulfur trioxide

Name Sulfur trioxide

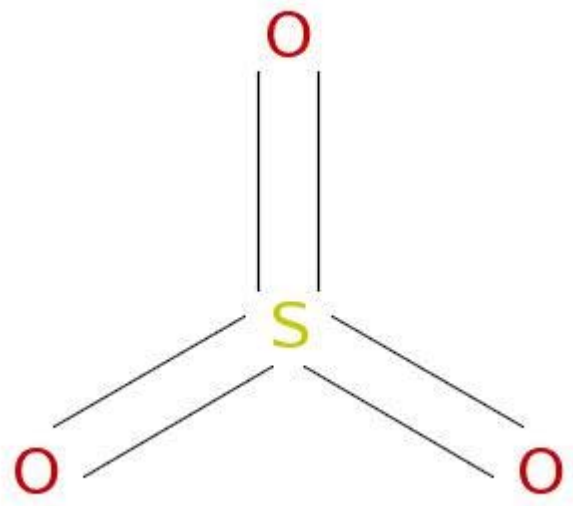
Group / category information

DSL Category: Inorganics

Molecular and structural information

Molecular formula O3S

Molecular weight range	80.0632
SMILES notation	O=S(=O)=O
InChI	InChI=1/O3S/c1-4(2)3
Structural formula	



Reference substance: Diiron trioxide

UUID ECB5-16d1616d-21e5-4712-98d6-739bde588e80

Dossier UUID IUC5-f68f921a-8763-4ddc-bc3b-0dfb6f7aa163

Author Roger / IMA-Europe aisbl / Brussels / Belgium

Date 2010-09-07 16:06:02 CEST

Remarks

General information

Reference substance name Diiron trioxide

EC inventory

EC number 215-168-2 **CAS number** 1309-37-1

EC name diiron trioxide

Molecular formula Fe2O3

Reference substance information

CAS information

CAS number 1309-37-1

CAS name Iron oxide, (Fe2O3)

IUPAC name

diiron trioxide

Synonyms

Name Iron oxide (Fe2O3)

Group / category information

DSL Category: Inorganics

Molecular and structural information

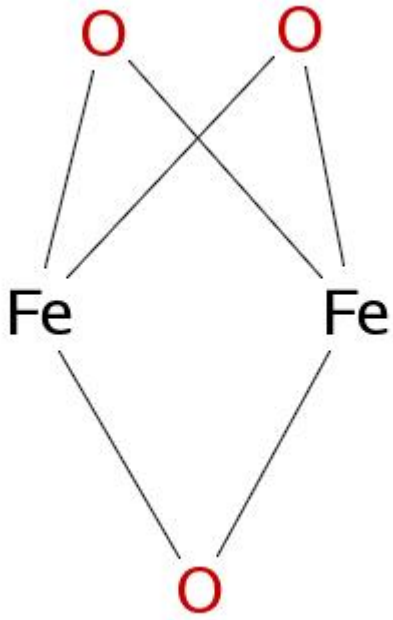
Molecular formula Fe2O3

Molecular weight range 159.6882

SMILES notation O1[Fe]2O[Fe]1O2

InChI InChI=1/2Fe.3O/rFe2O3/c3-1-4-2(3)5-1

Structural formula



Reference substance: Manganese oxide

UUID IUC5-68ae1e7f-127e-4338-8b48-a56928542264

Dossier UUID IUC5-f68f921a-8763-4ddc-bc3b-0dfb6f7aa163

Author Roger / IMA-Europe aisbl / Brussels / Belgium

Date 2010-09-07 17:10:38 CEST

Remarks

General information

Reference substance name Manganese oxide

EC inventory

EC number 234-378-5 **CAS number** 11129-60-5

EC name Manganese oxide

Reference substance information

CAS information

CAS number 11129-60-5

CAS name Manganese oxide

IUPAC name

Manganese oxide

Group / category information

DSL category: inorganics

Molecular and structural information

Molecular formula MnO

Molecular weight range 70.94

SMILES notation [Mn+2].[OH2-2]

InChI InChI=1/Mn.O/q+2;-2

Structural formula

Reference substance: calcium dihydroxide

UUID ECB5-175c930c-fe7c-4297-bc6b-ba19b079f7f8

Dossier UUID IUC5-f68f921a-8763-4ddc-bc3b-0dfb6f7aa163

Author Roger / IMA-Europe aisbl / Brussels / Belgium

Date 2010-09-07 17:05:16 CEST

Remarks

General information

Reference substance name calcium dihydroxide

EC inventory

EC number 215-137-3 **CAS number** 1305-62-0

EC name calcium dihydroxide

Molecular formula CaH2O2

Reference substance information

CAS information

CAS number 1305-62-0

CAS name calcium hydroxide

IUPAC name

calcium dihydroxide

Synonyms

Name Calcium hydroxide (Ca(OH)2)

Name Hydrated lime

Name Slaked lime

Name Air slaked lime

Name Building lime

Name Fat lime

Name Chemical lime

Name Finishing lime

Name Mason's lime

Name Calcium hydrate

Name Lime

Name Calcium (II) hydroxide

Name Pickling lime

Group / category information

DSL Category: Inorganics

Molecular and structural information

Molecular formula	CaH2O2
Molecular weight range	74.0927
SMILES notation	[OH-].[OH-].[Ca+2]
InChI	InChI=1/Ca.2H2O/h;2*1H2/q+2;;/p-2
Structural formula	

Reference substance: Magnesium oxide

UUID	IUC5-852cf5db-63a8-4ce9-afd0-bb1135037c97
Dossier UUID	IUC5-f68f921a-8763-4ddc-bc3b-0dfb6f7aa163
Author	Roger / IMA-Europe aisbl / Brussels / Belgium
Date	2010-09-07 17:12:42 CEST
Remarks	

General information

Reference substance name Magnesium oxide

EC inventory

EC number	215-171-9	**CAS number**	1309-48-4
EC name	magnesium oxide		
Molecular formula	MgO		

Reference substance information

CAS information

CAS number	1309-48-4
CAS name	Magnesium oxide

IUPAC name

Magnesium oxide

Group / category information

DSL category: inorganics

Molecular and structural information

Molecular formula	MgO
Molecular weight range	40
SMILES notation	O=[Mg]
InChI	InChI=1S/Mg.O

Structural formula

Reference substance: calcium oxide

UUID ECB5-5dcb6cc9-0359-42ba-808e-94795cc081ad

Dossier UUID IUC5-f68f921a-8763-4ddc-bc3b-0dfb6f7aa163

Author Roger / IMA-Europe aisbl / Brussels / Belgium

Date 2010-09-07 17:07:28 CEST

Remarks

General information

Reference substance name calcium oxide

EC inventory

EC number 215-138-9 **CAS number** 1305-78-8

EC name calcium oxide

Molecular formula CaO

Reference substance information

CAS information

CAS number 1305-78-8

CAS name Lime

IUPAC name

Calcium oxide

Synonyms

Name Quicklime

Name Burnt lime

Name LIme

Name Unslaked lime

Name Building lime

Name Calcia

Name Fat lime

Name Chemical lime

Name Fluxing lime

Name Hard burnt lime

Name Soft burnt lime

Name Pebble lime

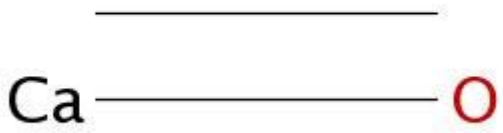
Name Calcium monoxide

Group / category information

DSL category: inorganics

Molecular and structural information

Molecular formula	CaO
Molecular weight range	ca. 56.0774
SMILES notation	[Ca]=O
InChI	InChI=1/Ca.O/rCaO/c1-2
Structural formula	



Reference substance: aluminium oxide

UUID	IUC5-9142b3e3-db3f-42e9-9369-4f6b26291f64
Dossier UUID	IUC5-f68f921a-8763-4ddc-bc3b-0dfb6f7aa163
Author	Roger / IMA-Europe aisbl / Brussels / Belgium
Date	2010-09-07 17:09:05 CEST
Remarks	

General information

Reference substance name aluminium oxide

EC inventory

EC number 215-691-6 **CAS number** 1344-28-1

EC name aluminium oxide

Molecular formula Al2O3

Reference substance information

CAS information

CAS number 1344-28-1

CAS name Aluminum oxide, (Al2O3)

IUPAC name

oxo(oxoalumanyloxy)alumane

Group / category information

DSL category: inorganics

Molecular and structural information

Molecular formula	Al2O3
Molecular weight range	ca. 101.96
SMILES notation	[Al+3].[Al+3].[O-2].[O-2].[O-2]
InChI	1/2Al.3O/q2*+3;3*-2

Structural formula

Reference substance: diphosphorus pentaoxide

UUID ECB5-1e70397d-3313-4908-8c0a-b534230c47f1

Dossier UUID IUC5-f68f921a-8763-4ddc-bc3b-0dfb6f7aa163

Author Roger / IMA-Europe aisbl / Brussels / Belgium

Date 2010-09-07 17:13:42 CEST

Remarks

General information

Reference substance name diphosphorus pentaoxide

EC inventory

EC number 215-236-1 **CAS number** 1314-56-3

EC name diphosphorus pentaoxide

Molecular formula O5P2

Reference substance information

CAS information

CAS number 1314-56-3

CAS name Phosphorus oxide, (P2O5)

IUPAC name

1,3-dioxodiphosphoxane 1,3-dioxide

Synonyms

Name Phosphorus oxide (P2O5)

Group / category information

DSL Category: Inorganics

Molecular and structural information

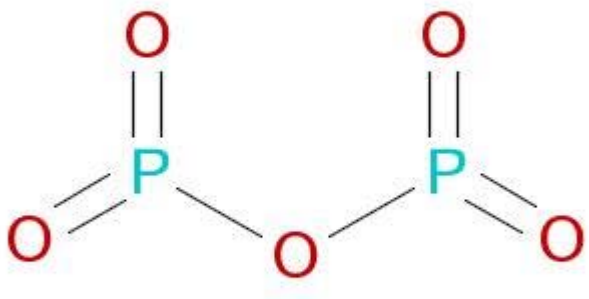
Molecular formula O5P2

Molecular weight range 141.9445

SMILES notation O=P(=O)OP(=O)=O

InChI InChI=1/O5P2/c1-6(2)5-7(3)4

Structural formula



Reference substance: carbon dioxide

UUID ECB5-c8ca7437-5718-47a9-bf3f-fe53b0a632a3

Dossier UUID IUC5-f68f921a-8763-4ddc-bc3b-0dfb6f7aa163

Author Roger / IMA-Europe aisbl / Brussels / Belgium

Date 2010-09-07 17:17:03 CEST

Remarks

General information

Reference substance name carbon dioxide

EC inventory

EC number 204-696-9 **CAS number** 124-38-9

EC name carbon dioxide

Molecular formula CO2

Reference substance information

CAS information

CAS number 124-38-9

CAS name Carbon dioxide

IUPAC name

dioxomethane

Group / category information

DSL Category: Inorganics

Molecular and structural information

Molecular formula CO2

Molecular weight range 44.0095

SMILES notation O=C=O

InChI InChI=1/CO2/c2-1-3

Structural formula

Reference substance: calcium carbonate

UUID ECB5-73d5e90c-ec6a-447c-b5bc-182b3508e301

Dossier UUID IUC5-f68f921a-8763-4ddc-bc3b-0dfb6f7aa163

Author Roger / IMA-Europe aisbl / Brussels / Belgium

Date 2010-09-07 15:50:08 CEST

Remarks

General information

Reference substance name calcium carbonate

EC inventory

EC number 207-439-9 **CAS number** 471-34-1

EC name calcium carbonate

Molecular formula CH2O3.Ca

Reference substance information

CAS information

CAS number 471-34-1

CAS name Carbonic acid calcium salt (1:1)

IUPAC name

calcium carbonate

Synonyms

Name Polymorphs: Aragonite; Calcite; Vaterite

Name Lime mud

Name Sugar factory Lime (SFL)

Name Precipitated Calcium Carbonate (PCC)

Name Ground Calcium Carbonate (GCC)

Related CAS information

CAS name	CAS number	Justification
Calcite, (CaCO3)	13397-26-7	other: Polymorph
Aragonite, (CaCO3)	14791-73-2	other: Polymorph

Group / category information

DSL Category: Inorganics

Molecular and structural information

Molecular formula	CH2O3.Ca
Molecular weight range	100.0869
SMILES notation	[Ca+2].[O-]C(=O)[O-]
InChI	InChI=1/CH2O3.Ca/c2-1(3)4;/h(H2,2,3,4);/q;+2/p-2
Structural formula