LB MINERALS, s.r.o.

Safety Data Sheet in compliance with Regulation (EC) 1907/2006, Regulation (EC) 1272/2008 and Regulation (EC) 453/2010
Name of the product: Kieselguhr soda ash flux calcined *(diatomite)*
Version **07.1**
Revision date: ***May 2015***

SECTION 1. Identification of the Substance / Mixture and the Company / Undertaking

1.1. Product identifier

Substance name: ***Kieselguhr soda ash flux calcined***

Trade names:

Filtrační křemelina F10	Kieselgur C 1200	Kieselgur Mittelfein
Filtrační křemelina F15	Kieselgur C 200	Kieselgur Fein
Filtrační křemelina F25		
Filtrační křemelina F50		
Filtrační křemelina F60		
Filtrační křemelina F70	Kieselgur C 3500	Kieselgur Mittel

INDEX No: Not applicable

Authorisation No: N/A

EC No: 272-489-0

REACH No: 01-2119488518-22-0003 Reference date: 25/10/2010 17:56

CAS No: 68855-54-9

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance / preparation:
Fillers, Processing aid, not otherwise listed, filtration material, Laboratory chemicals, pH-regulating agents, Plating agents and metal surface treating agents, Solvents, filter-aid, functional filler, functional additive

1.2.1. Relevant identified uses: Industrial use.

1.2.2. Uses advised against:
None

1.3. Details of the supplier of the safety data sheet

Supplier: manufacturer

E-Mail (competent person): MSDS@cz.lasselsberger.com

Information contact: minerals@cz.lasselsberger.com

1.4. Emergency telephone number:

Emergency telephone number:
Toxicology Information Centre (TIS) +420 224 919 293 (non-stop)
Na Bojišti 1, 128 08 Prague 2, ČR +420 224 915 402 (non-stop)
E-mail: tis@mbox.cesnet.cz

Available outside office hours? ☒ Yes ☐ *No*

SECTION 2. Hazards Identification

2.1. Classification of the substance

2.1.1. Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]:

Kieselguhr, soda ash flux-calcined (respirable cristobalite fraction < 1% w/w)
This substance is not classified as hazardous according to Regulation (EC) No 1272/2008

2.2. Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Kieselguhr, soda ash flux-calcined (respirable cristobalite fraction < 1% w/w)
No labelling required

2.3. Other hazards

No special remarkable hazards.
Please observe the information given in this safety data sheet.
Depending on the type of handling and use (eg grinding, drying), airborne respirable crystalline ilica may be generated.

SECTION 3. Composition / Information on Ingredients

3.1. Substance

Substance name: *Kieselguhr soda ash flux calcined*

CAS No: 68855-54-9

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Purity: 100%

Synonyms: *Diatomite*

Stabilisers: None.

Hazard impurities: None.

Additional information: None

SECTION 4. First aid measures

4.1. Description of first aid measures

General notes
No adverse effects are expected during normal use of the substance, however if any effects do appear the following recommendations apply.

Following inhalation:
Move patient from contaminated area to fresh air. In case of persistent problems consult a physician. If dust inhalation is severe move operator to fresh air.

Following skin contact:
Wash the skin with soap and water.

Following eye contact:
Wash immediately, abundantly and thoroughly with water. If irritation persists, consult a physician

Following ingestion:
Rinse mouth with plenty of water. Do not induce vomiting**.**

4.2. Most important symptoms and effects, both acute and delayed
Breathing dust containing crystalline silica over a prolonged period of time may cause lung damage. Crystalline silica (Cristobalite) is a known cause of silicosis, a progressive, sometimes fatal lung disease.

4.3. Indication of any immediate medical attention and special treatment needed
Not applicable.

SECTION 5. Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media:
The product is not flammable. Fire prevention measures should be chosen according to the environment.

Unsuitable extinguishing media: None.

5.2. Special hazards arising from the substance or mixture : None.

5.3. Advice for fire-fighters
In the event of a fire, wear self-contained breathing apparatus. The self contained breathing apparatus may be required due to other agents, but is not required due to potential Kieselguhr exposure.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment.
Avoid breathing dust. Ensure adequate ventilation.
Do not crush, avoid the formation and spread of dust in the air.

6.2 Environmental precautions
Avoid generating airbourne dust.
Prevent product from entering drains.

6.3 Methods and material for containment and cleaning up
Pick up and arrange disposal without creating dust.
Keep in suitable, closed containers for disposal.
Broken bags should be taped over or covered with recuperage (slipover) bags.

6.4. Reference to other sections: Refer to sections 8 and 13

SECTION 7. Handling and Storage

7.1. Precautions for safe handling
Protective measures
Avoid dust formation and dust accumulation in enclosed space.
Use personal protective equipment when handling the substance.

Advice on general occupational hygiene
Do not to eat, drink and smoke in work areas
Wash hands after use
Remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities
Store in a dry place protected from moisture. Inspect all shipments upon arrival. Powder spills should be removed by vacuum cleaning or wet sweeping. Avoid dry sweeping if possible.

7.3. Specific end Use(s)
Worse case exposure scenarios for humans and the environment are attached in Annex I of this safety data sheet.

SECTION 8. Exposure controls / Personal protection

8.1. Control parameters
8.1.1. Components with occupational exposure limits rsp. biological occupational exposure limits requiring monitoring:
8.1.1.1.Occupational exposure limits:

Substance: Quartz	**CAS No: 14808-60-7**
Country of origin	**Occuptational expsoure limit value**
Belgium, Denmark, US, France, Portugal, Italy, Sweden, Norway, Greece	0.10 (RD)
Netherlands	0.075 (RD)
Germany, Switzerland, Austria	0.15 (FD)
Finland	0.20 (FD)
Bulgaria	0.07
CIS	1.0
Czech	0.1
Slovakia	1
Ireland	0.40 (RD)
United Kingdom	0.30 (RD)

RD: Respirable dust FD: Fine dust

Substance: Cristobalite	**CAS No: 14464-46-1**
Country of origin	**Occuptational expsoure limit value**
Belgium, Denmark, US, France, Portugal, Italy, Sweden, Norway, Greece	0.05 (RD)
Netherlands	0.075 (RD)
Germany, Switzerland, Austria	0.15 (FD)
Finland	0.10 (FD)
Bulgaria	0.07
CIS	1.0
Czech	0.1
Slovakia	1
Ireland	0.40 (RD)
United Kingdom	0.30 (RD)

RD: Respirable dust FD: Fine dust

Biological limit values: None.

8.1.2. Recommended monitoring procedures: None

8.1.3. Occupational exposure limits and/or biological limits for air contaminants: Not applicable

8.1.4. Additional exposure limits under the conditions of use:

DNEL/DMEL

Exposure route	Exposure pattern	DNEL (workers)
Inhalation	Long term systemic	0.33 mg/m^3

Exposure route	Exposure pattern	DNEL (general population)
Inhalation	Long term systemic	0.08 mg/m^3
Oral	Long term systemic	3.5 mg/kg/bw/day

PNECS

Compartment	PNEC	Remarks
Aquatic (surface water)	n/a	LC50 values for fish, daphnia and algae study >100% v/v saturated solution (ie greater than the maximum solubility of the substance) .
STP micro-organisms	100	NOAEL value AF = 100
Terrestrial	n/a	Naturally occurring inert substance
Sediment	n/a	Naturally occurring inert substance

8.2. Exposure controls

Refer to exposure scenarios in Annex I and Section 7

8.2.1 Appropriate engineering controls

Refer to the engineering controls discussed in the exposure scenrios in Annex I

8.2.2 Indiviudal protection measures such as personal protective equipment

Respiratory protection: If dust is raised a respirator is recommended
Hand protection: Wear suitable hand protection depending on nature of the task.
Eye protection: Use safety goggles.
Skin and body protection: Wear suitable work clothing

8.2.3 Environmental exposure controls
Dispose of waste in accordance with local and national regualtions

9. SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Solid
Colour: White to beige
Odour: Odourless

	Value	Method	Remark
pH (20 °C):	7-9		
Melting point/range (°C):	> 450°C	EU Method A1	-
Boiling point/range (°C):	Not applicable based on melting point		
Flash point (°C):	Not applicable for inorganic substances		
Flammability (auto-ignition temperature):	Not flammable	Method N1 (flammability) Method N4 (autoflammability)	
Upper/ lower flammability or explosive limits:	Not applicable		-
Vapour pressure (Pa):	Not applicable based on melting point		
Relative density:	2.36	OECD 109	-
Water solubility (20°C in g/L):	Insoluble	EU Method A6	-
Partition coefficient n-Octanol/Water (log Po/w):	Not applicable		Inorganic
Viscosity (cps):	Not applicable for solids		-
Decomposition temperature:	Not applicable		-
Explosive properties:	No explosive properties predicted from the structure		Prediction
Oxidising properties:	No oxidising properties predicted from the structure		Prediction

9.2. Other information: None

SECTION 10. Stability and Reactivity

10.1. Reactivity: Stable under recommended storage conditions

10.2. Chemical stability: The product is chemically stable

10.3. Possibility of hazardous reactions: May react violently with Hydrofluoric acid.

10.4. Conditions to avoid: None

10.5. Incompatible materials: Hydrofluoric acid- products

10.6. Hazardous decomposition products: None

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Relevant hazard class	Effect dose	Species	Method	Remark
Acute oral toxicity	LD50 > 2000 mg/kg bw	Rat.	OECD 401	
Acute dermal toxicity	n/a			No dermal toxicity envisaged due to low potential for absorption
Acute inhalative toxicity	LC50 > 2.6 mg/L	Rat	OECD 403	Maximum attainable dose
Skin corrosion/irritation	n/a	Rabbit	OECD 404	Not irritating
Serious eye damage/irritation	n/a	Rabbit	OECD 405	Not irritating
Respiratory or skin sensitization	n/a	Guinea pig	OECD 429	Not a skin sensitizer
Germ cell mutagenicity	n/a	In vitro tests	OECD 471 OECD 473 OECD 476	Not mutagenic
Carcinogenicity	n/a			
Reproductive toxicity	n/a			No effect reported
STOT single exposure	n/a			No effect reported
STOT repeated exposure	n/a	n/a	n/a	STOT RE 1 (If RCS content >10%) STOT RE 2 (If RCS content >1 % - < 10 %.)
Aspiration hazard	n/a			No aspiration hazard envisaged

Specific symptoms in animal studies (likely route of exposure):

In case of ingestion:
No acute or long term effects were seen in animal studies following oral exposure.

In case of skin contact:
No acute effects were seen in an animal study following acute dermal exposure.
Kieselguhr soda ash flux calcined is not a skin irritant

In case of inhalation:
No acute effects were seen in an animal study following acute inhalation exposure.
A 90 day repeated dose inhalation study has been proposed

Calcined diatomaceous earth (Kieselgur) contains crystalline silica, which is a known cause of silicosis, a progressive, sometimes fatal lung disease. In a 1997 monograph (Volume 68, "Silica, Some Silicates, Coal Dust and Para-aramid Fibrils"), the International Agency for Research on cancer (IARC) has classified "inhaled crystalline silica from occupational sources" in Group 1 as a substance "carcinogenic to humans". In making the overall evaluation, the IARC Working Group noted that carcinogenicity in humans was not detected in all industrial circumstances studied. Crystalline silica has also been classified by the German MAK Commission as a human carcinogen (Category A1).

In case of eye contact:
Kieselguhr soda ash flux calcined is not an eye irritant

SECTION 12. Ecological information

12.1. Toxicity

Aquatic toxicity	Effect dose	Exposure time	Species	Method	Remark
Acute fish toxicity	>100% v/v saturated solution.	96 h	*Oncorhynchus mykiss*	OECD 203	Exceeds maximum solubility of substance
Acute daphnia toxicity	>100% v/v saturated solution.	48 h	*Daphnia magna*	OECD 202	Exceeds maximum solubility of substance
Acute algae toxicity	>100% v/v saturated solution.	72 h	*Desmodesmus subspicatus*	OECD 201	Exceeds maximum solubility of substance .
Toxicity to STP microoragnisms	> 1000 mg/L	3 h	Activated sludge	OECD 209	Harmless to STP microorganisms

12.2 Persistence and degradability

Abiotic Degradation
Not applicable. The substance is inorganic and does not undergo any abiotic degradation.

12.3 Bioaccumulative potential
Not applicable

12.4 Mobility in soil
Not applicable

12.5 Results of PBT and vPvB assessment:
This substance does not meet the criteria for classification as PBT or vPvB.

12.6 Other adverse effects
No specific adverse effects known

SECTION 13. Disposal considerations

13.1 Waste treatment methods

May be disposed of in a non-hazardous sanitary landfill when not mixed with a hazardous substance. Dispose of in accordance with local regulations.

SECTION 14. Transport information

Not classified as dangerous in terms of transport regulations

SECTION 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Classification in compliance with Regulation (EC) 1272/2008 [EU-GHS / CLP]
The substance is not classified as hazardous in accordance with Regulation (EC) 1272/2008.

The label elements in accordance with Regulation (EC) No. 1272/2008 [CLP]: There is no need for labeling

The following regulations / directives should be reviewed when handling products containing crystalline silica:
Great Britain: Control of Substances Hazardous to Health, Regulations 1988, No 1857.
Germany: UBG 119 – Quartz-protection against mineral dusts injurious to health.
UBG 100 – Rule G.1.1 – Legislation concerning medical care.
Gefstoff 8.86 – specifies labeling requirements.
France: Decree No. 50.1289 of October 16, 1950 modified by Decree No. 63.576 of June 11, 1963 establishes special medical preventive measures for occupational silicosis.
- Circular No. 11453 of July 19, 1982 establishes the levels accepted for concentrations in the air of work areas
- Decree No. 87-200 of March 25, 1987 safety data sheets for hazardous substances.
- Code of Labour Article L 231-6 – Decree of October 10, 1983 modified by Decree of November 28, 1984 lists hazardous substances and establishes packing and labeling requirements.

Spain: Royal Decree of November 27, 1985 relating to the classification and labeling of dangerous substances.
Italy: Law No. 256 of May 29, 1974 Decree No. 927 of November 24, 1981 and No. 141 of February 20, 1988 on classification and labeling for warning of hazardous materials.

15.2 Chemical Safety Assessment:
For this substance a chemical safety assessment is provided in Annex I.

SECTION 16. Other information

16.1 Indication of changes
Regulation (EC) 1272/2008 and Regulation (EC) 453/2010
Version 07.1 - Sec. 2.1.2 - removed section. Sec. 15.1.

16.2 Abbreviations and acronyms

AF =	Assessment factor
BCF =	Bioconcentration factor
CAS =	Chemical Abstracts Service
C & L	Classification and labelling
RCS =	Respirable crystalline silica
DNEL =	Derived no effect level
LC50 =	Median lethal concentration
LD50 =	Medial lethal dose
EC -	European Commission

NOAEL =	No observed adverse effect level
PBT	Persistent bioaccumulative toxic
PEC =	Predicted effect level
PNEC =	Predicted no effect level
SDS =	Safety data sheet
STOT =	Specific target organ toxicity
STP =	Sewage treatment plant
vPvB	Very persistent very bioaccumulative

16.3 Training advice

According to appropriate national legislation

Workers must be informed of the presence of crystalline silica and trained in the proper use and handling of this product as required under applicable regulations.

16.4 Additional information:

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

Third party material

Insofar as materials not manufactured or supplied by LB MINERALS, s.r.o., are used in conjunction with, or instead of LB MINERALS, s.r.o, materials, it is the responsibility of the customer himself to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of LB MINERALS, s.r.o, Kieselguhr soda-ash flux calcined in conjunction with materials from another supplier.

The end of the safety data sheet

Annex I
Exposure Scenario 1: Manufacture of Kieselguhr soda ash flux-calcined

1. Short title of exposure scenario 1	
Manufacture of Kieselguhr soda ash flux-calcined	
2. Description of activities and processes covered in the exposure scenario	
Sector of use (SU)	SU 3: Industrial uses: uses of substances as such or in preparations at industrial sites .
Product category (PC)	PC 0: (adsorbent, filling material) PC 14: Metal surface treatment products, including galvanic and electroplating products (This covers substances permanently binding with the metal surface)
Process category (PROC)	PROC 2: Use in closed, continuous process with occasional controlled exposure. PROC 3: Use in closed batch process PROC 4: Use in batch or other process where opportunity for exposure arises. Industrial setting 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).
Article category (AC)	Not applicable
Environmental release category (ERC)	ERC 1: Manufacture of substances
3. Operational conditions	
3. 1 Operational conditions related with frequency and quantities of use	
Duration of exposure at workplace:	8 hours per day
Frequency of exposure at workplace:	5 days/week for each worker
Annual amount used per site:	The actual tonnage handled per shift is not considered to influence the exposure as such for this scenario
3.2 Operational conditions related with substance/ product	
Physical state	Solid ranging from a fine powder with high dustiness to coarser granules with low dustiness
Concentration of substance in mixture	100% w/w
3.3 Other relevant operational conditions	
No information about frequency and duration of the various tasks is available.	
4. Risk Management Measures	
4.1 RMMs related to workers	
Organisational measures	Local exhaust ventilation is installed at manufacturing sites. The employer has also to ascertain that the required PPE is available and used according to instructions.

Technical measures	Safe conditions were defined by taking into account local exhaust ventilation in the present scenario
Respiratory protection	Workers may use half-face masks (P2 or P3) with an efficiency of at least 90% in situations with elevated dust concentrations in the air.
Hand protection	Workers use gloves during the handling of the pure, solid substance
Eye protection	Workers use safety glasses during the handling of the pure, solid substance
Skin and body protection	Wearing of suitable protective clothing.
Hygiene measures	Standard occupational hygiene measures should be adopted.
4.2 RMMs related to the environment	
Organisational measures	Waste gases are cleaned by passage through cyclones or scrubber units or by filtration with bag filters. Solid and liquid wastes are disposed of in landfills or may be incinerated
Abatement measures related with wastewater	The wastewater resulting from manufacturing of the substance can be treated by sedimentation to remove the solid parts of the substance. The sedimentation is very efficient with a reduction efficacy of 99% or more.
Abatement measures waste air and solid waste	It is recommended to pass waste gas through bag filters, scrubbers or cyclones to reduce the amount of solid substance in the waste gas.
4.3 Waste related measures	
Type of waste	Solid and liquid waste
Disposal technique	Solid and liquid wastes are disposed of in landfills or may be incinerated.
Fraction released to environment during waste treatment	Any wastewater relreased from the sedimentation step is expected not to contain more than 3.87 mg/L (saturated solution).
5. Prediction of exposure resulting from the conditions described above and the substance properties.	
5.1. Human exposure	
Workers (oral)	Good hygiene practice will minimise oral exposure
Workers (inhalation) *DNEL: Worker, long-term, systemic, inhalation: 0.33 mg/m^3*	The workers' inhalation exposure to kieselguhr soda ash flux-calcined is estimated with the ECETOC TRA tool (ECETOC 2010). The assessment of exposure concentrations was performed with the three grades of dustiness that can be selected in the TRA tool: low, medium and high. The modelled long-term exposure concentrations are compared to the DNEL for chronic inhalation exposure to obtain risk characterisation ratios. RCRs above 1 indicate that the potential risk is not adequately controlled. Safe conditions of use are described in the table for all activities. It is concluded that the manufacture of solid kieselguhr soda ash flux-calcined exhibiting different grades of dustiness is safe for workers under the specified conditions of exposure. This applies also to storage, repackaging and distribution of the substance. Safe conditions were defined by taking into account local exhaust ventilation in the present scenario. To achieve acceptable airborne concentrations of kieselguhr soda ash flux-calcined the efficiency of LEV and the duration of exposure were modified. Safe conditions can also be

achieved by the use of personal respiratory equipment in addition or as an alternative to LEV. Consequently, the presentation of safe conditions is not exhaustive in the present ES.

Process Category	LEV	Duration	PRE	Content (%)	Inhalation exposure (mg/m3)	RCR
INDUSTRIAL USE WITH SUBSTANCE EXIHIBITING HIGH DUSTINESS						
1 – Use in closed process, no likelihood of exposure	No	4 to 8	No	100	0.01	0.028
2 – Use in closed, continuous process with occasional controlled exposure	90%	4 to 8	No	100	0.1	0.278
3 – Use in closed batch process (synthesis or formulation)	90%	4 to 8	No	100	0.1	0.278
4 – Use in batch and other process (synthesis) where opportunity for exposure arises	95%	Up to 1	No	100	0.25	0.694
5 – Mixing or blending in batch processes (multistage and/or significant contact)	95%	Up to 1	No	100	0.25	0.694
8a – Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	95%	Up to 1	No	100	0.25	0.694
8b – Transfer of chemicals from/to vessels/ large containers at dedicated facilities	95%	Up to 1	No	100	0.25	0.694
9 – Transfer of chemicals into small containers (dedicated filling line)	95%	Up to 1	No	100	0.2	0.556
15 – Use of laboratory reagents in small scale laboratories	95%	4 to 8	No	100	0.25	0.694
19 – Hand-mixing with intimate contact (only PPE available	95%	Up to 1	No	100	0.25	0.694
INDUSTRIAL USE WITH SUBSTANCE EXIHIBITING MEDIUM DUSTINESS						
1 – Use in closed process, no likelihood of exposure	No	4 to 8	No	100	0.01	0.028
2 – Use in closed, continuous process with occasional controlled exposure	90%	4 to 8	No	100	0.1	0.278
3 – Use in closed batch process (synthesis or formulation)	80%	4 to 8	No	100	0.2	0.556
4 – Use in batch and other process (synthesis) where opportunity for exposure arises	95%	4 to 8	No	100	0.25	0.694
5 – Mixing or blending in batch processes (multistage and/or significant contact)	95%	4 to 8	No	100	0.25	0.694
8a – Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	95%	4 to 8	No	100	0.25	0.694
8b – Transfer of chemicals from/to vessels/ large containers at dedicated facilities	95%	4 to 8	No	100	0.25	0.694
9 – Transfer of chemicals into small containers (dedicated filling line)	95%	4 to 8	No	100	0.25	0.694
15 – Use of laboratory reagents in small scale laboratories	50%	4 to 8	No	100	0.25	0.694
19 – Hand-mixing with intimate contact (only PPE available	95%	4 to 8	No	100	0.25	0.694
INDUSTRIAL USE WITH SUBSTANCE EXIHIBITING LOW DUSTINESS						
1 – Use in closed process, no likelihood of exposure	No	4 to 8	No	100	0.01	0.028
2 – Use in closed, continuous process with occasional controlled exposure	No	4 to 8	No	100	0.01	0.028
3 – Use in closed batch process (synthesis or formulation)	No	4 to 8	No	100	0.1	0.278
4 – Use in batch and other process (synthesis) where opportunity for exposure arises	50%	4 to 8	No	100	0.25	0.694
5 – Mixing or blending in batch processes (multistage and/or significant contact)	50%	4 to 8	No	100	0.25	0.694
8a – Transfer of chemicals from/to	50%	4 to 8	No	100	0.25	0.694

	vessels/ large containers at non dedicated facilities						
	8b – Transfer of chemicals from/to vessels/ large containers at dedicated facilities	No	4 to 8	No	100	0.1	0.278
	9 – Transfer of chemicals into small containers (dedicated filling line)	No	4 to 8	No	100	0.1	0.278
	15 – Use of laboratory reagents in small scale laboratories	No	4 to 8	No	100	0.1	0.278
	19 – Hand-mixing with intimate contact (only PPE available	50%	4 to 8	No	100	0.25	0.694

Workers (dermal)	Dermal exposure was not assessed, as no risks are anticipated with dermal exposure.
Indirect exposure via the environment	It is expected that emissions of kieselguhr soda ash flux-calcined from its identified uses will not significantly increase the naturally occurring concentrations of kieselguhr or other compounds in the environment. The potential of kieselguhr soda ash flux-calcined for bioaccumulation is low. The substance has a low solubility in water and thus is essentially unavailable to organisms.
Consumer exposure	No direct consumer exposure is resulting from the manufacture of kieselguhr soda ash flux-calcined.
5.2. Environmental exposure (qualitative assessment)	
Waste water treatment plants (WWTP)	According to unpublished monitoring data, wastewater released at manufacturing sites may contain up to 100 mg kieselguhr soda ash flux-calcined per litre. This is exceeding the amount that can be dissolved in one litre of water at saturation (3.87 mg/L at 20°C), indicating that suspended particles of kieselguhr soda ash flux-calcined may be present in the wastewater. Before entering the local sewage treatment plant (STP), the wastewater resulting from manufacturing of the substance can be treated by sedimentation to remove the solid parts of kieselguhr soda ash flux-calcined. The sedimentation is very efficient with a reduction efficacy of 99% or more. Any wastewater released from the sedimentation step is expected to contain not more than 3.87 mg kieselguhr soda ash flux-calcined per litre wastewater (saturated solution). No further degradation of the substance in the course of wastewater treatment is taken into account in the present assessment and the reasonable worst-case concentration of kieselguhr soda ash flux-calcined in the effluent of a local STP is 3.87 mg/L.
Aquatic pelagic compartment	To calculate the reasonable worst-case concentration of kieselguhr soda ash flux-calcined in surface water that may be due to emissions from the manufacture of the substance, the concentration of 3.87 mg/L in the effluent of the local STP is taken and a dilution factor of 10 is taken into account at the point of mixing of the wastewater with surface water (default EUSES). This leads to a surface water concentration of 0.387 mg/L. For releases of the wastewater to coastal sites, a dilution factor of 100 (EUSES default) is taken into account which leads to a concentration of 0.0387 mg/L in marine waters

Sediments	The wastewater released to the environment may contain suspended particles of kieselguhr soda ash flux-calcined. These solid parts will settle down at the bottom of the receiving water. As kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms and is naturally formed in water bodies this not considered to cause a potential hazard to the receiving water. Kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms which is formed in water bodies and is therefore considered a natural part of the ecosystem. Therefore, no risk is anticipated with kieselguhr soda ash flux-calcined in sediments and no exposure assessment for sediment is carried out.
Soil and groundwater	Kieselguhr soda ash flux-calcined may be released to soil via atmospheric deposition and via sewage sludge brought to agricultural fields and grassland. Kieselguhr is a naturally occurring sedimentary rock which is essentially a mineral fraction of soil already. Only the accidental release of a significant quantity kieselguhr soda ash flux-calcined is expected to alter the physical and chemical characteristics of a soil. As atmospheric deposition to soil is regarded as minor and the deposition of sewage sludge to fields takes place under controlled conditions no risk is anticipated with the release of kieselguhr soda ash flux-calcined to soil from the use described in this scenario and thus, no further assessment of the exposure

	concentrations in soil is undertaken
Atmospheric compartment	Emissions of kieselguhr soda ash flux-calcined into the atmosphere are low during the manufacture of the substance and waste air is expected to be filtered before released to the environment. ed WAS. The atmospheric concentrations of the substance are expected to be low. It is recommended to pass waste gas from manufacturing processes through bag filters, scrubbers or cyclones to reduce the amount of solid substance in the waste gas. No further assessment of the exposure concentrations in the atmosphere is undertaken.
Secondary poisoning	The potential of kieselguhr soda ash flux-calcined for bioaccumulation is low. The substance has a low solubility in water and thus is essentially unavailable to organisms.

Exposure Scenario 2: Use as filter aid in industrial settings

1. Short title of exposure scenario 2	
Use as a filter aid in industrial settings	
2. Description of activities and processes covered in the exposure scenario	
Sector of use (SU)	SU 3: Industrial uses: uses of substances as such or in preparations at industrial sites SU 4: Manufacture of food products SU 6: Manufacture of pulp, paper and paper products SU 8: Manufacture of bulk, large scale chemicals SU 10: Formulation mixing) of preparations and/or re-packaging SU 14: Manufacture of basic metals SU 17: General manufacturing, eg machner, equipment, vehicles, other transport equipment .
Product category (PC)	PC 2: Adsorbents PC 14: Metal surface treatment products, including galvanic and electroplating products PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents PC 25: Metal working fluids PC 35: Washing and cleaning products (including solvent based products) PC 0: Other: Filtration material
Process category (PROC)	PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC 15: Use as laboratory reagent PROC 19: Hand-mixing with intimate contact and only PPE available.
Article category (AC)	Not applicable
Environmental release category (ERC)	ERC 1: Manufacture of substances ERC 2: Formulation of preparations ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles ERC 6b: Industrial use of reactive processing aids ERC 7: Industrial use of substances in closed systems
3. Operational conditions	

3. 1 Operational conditions related with frequency and quantities of use	
Duration of exposure at workplace:	4-8 hours per day
Frequency of exposure at workplace:	5 days/week for each worker
Annual amount used per site:	The daily and annual amount/emission per site is not considered to be the main determinant for environmental exposure.
3.2 Operational conditions related with substance/ product	
Physical state	Solid and liquid
Concentration of substance in mixture	A concentration of 100% w/w was used to assess exposure to the solid substance. The exposure concentrations due to contact with liquid mixtures were calculated by taking into account a concentration of the substance in the liquid phase ranging from 5% to 25%.
3.3 Other relevant operational conditions	
No information about frequency and duration of the various tasks is available.	
4. Risk Management Measures	
4.1 RMMs related to workers	
Organisational measures	Solid substance: Local exhaust ventilation is installed at the manufacturing sites. The employer has also to ascertain that the required PPE is available and used according to instructions.
Technical measures	Solid substance: Safe conditions were defined by taking into account local exhaust ventilation in the present scenario Liquid substance: Outdoor activity – natural ventilation
Respiratory protection	In addition, workers may use half-face masks (P2 or P3) with an efficiency of at least 90% in situations with elevated dust concentrations in the air. Liquid substance: N/A
Hand protection	Skin protection may be used.
Eye protection	Eye protection may be used.
Skin and body protection	Wearing of suitable protective clothing.
Hygiene measures	Standard occupational hygiene measures should be adopted.

4.2 RMMs related to the environment	
Organisational measures	Waste gases are cleaned by passage through cyclones or scrubber units or by filtration with bag filters. Solid and liquid wastes are disposed of in landfills or may be incinerated
Abatement measures related with wastewater	The wastewater can be treated by sedimentation to remove the solid parts of the substance. The sedimentation is very efficient with a reduction efficacy of 99% or more.
Abatement measures waste air and solid waste	Waste air may be filtered eg by bag filters or scrubber units.

4.3 Waste related measures	
Type of waste	Solid and liquid waste.
Disposal technique	Solid and liquid waste may be incinerated or disposed of in landfills.
Fraction released to environment during waste treatment	Any wastewater released from the sedimentation step is expected not to contain more than 3.87 mg/L (saturated solution).
5. Prediction of exposure resulting from the conditions described above and the substance properties.	
5.1. Human exposure	
Workers (oral)	Good hygiene practice will minimise oral exposure
Workers (inhalation) *DNEL: Worker, long-term, systemic, inhalation: 0.33 mg/m^3*	Safe conditions for the handling of solid kieselguhr soda ash flux-calcined are given in for the manufacture of the substance. These apply also to the use of the substance as filter aid covered in exposure scenario 2. The modelled long-term exposure concentrations resulting from the handling of liquid mixtures containing the substance are compared to the DNEL for chronic inhalation exposure to obtain risk characterisation ratios. RCRs above 1 indicate that the potential risk is not adequately controlled. Safe conditions of use are described in **Chyba! Nenalezen zdroj odkazů.** for all activities described in exposure scenario 1. It is concluded that the manufacture of solid kieselguhr soda ash flux-calcined exhibiting different grades of dustiness is safe for workers under the specified conditions of exposure.

Process Category	LEV	Duration	PRE	Content (%)	Inhalation exposure (mg/m3)	RCR
INDUSTRIAL USE OF LIQUID MATERIAL						
2 – Use in closed, continuous process with occasional controlled exposure	No	4 to 8	No	5 to 25	0.147	0.408
3 – Use in closed batch process (synthesis or formulation)	No	4 to 8	No	5 to 25	0.147	0.408
4 – Use in batch and other process (synthesis) where opportunity for exposure arises	No	4 to 8	No	5 to 25	0.147	0.408
5 – Mixing or blending in batch processes (multistage and/or significant contact)	No	4 to 8	No	5 to 25	0.147	0.408
8a – Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	No	4 to 8	No	5 to 25	0.147	0.408
8b – Transfer of chemicals from/to vessels/ large containers at dedicated facilities	No	4 to 8	No	5 to 25	0.147	0.408
9 – Transfer of chemicals into small containers (dedicated filling line)	No	4 to 8	No	5 to 25	0.147	0.408
15 – Use of laboratory reagents in small scale laboratories	No	4 to 8	No	5 to 25	0.147	0.408
19 – Hand-mixing with intimate contact (only PPE available): modelled with ConsExpo	No	8	No	10	0.0002	0.001

Workers (dermal)	Dermal exposure was not assessed, as no risks are anticipated with dermal exposure.
Indirect exposure via the environment	It is expected that emissions of kieselguhr soda ash flux-calcined from its identified uses will not significantly increase the naturally occurring concentrations of kieselguhr or other compounds in the environment. The potential of kieselguhr soda ash flux-

	calcined for bioaccumulation is low. The substance has a low solubility in water and thus is essentially unavailable to organisms.
Consumer exposure	No direct consumer exposure is resulting from the manufacture of kieselguhr soda ash flux-calcined.
5.2. Environmental exposure (qualitative assessment)	
Waste water treatment plants (WWTP)	The amount of kieselguhr soda ash flux-calcined present in the wastewater may exceed the amount that can be dissolved at saturation (3.87 mg/L at 20°C), indicating that suspended particles of kieselguhr soda ash flux-calcined may be present in the wastewater. Before entering a sewage treatment plant (STP), the wastewater should be treated by sedimentation to remove the greatest portion of solids. Sedimentation is very efficient with a reduction efficacy of 99% or more. Any wastewater released from the sedimentation step is expected to contain not more than 3.87 mg kieselguhr soda ash flux-calcined per litre wastewater (saturated solution). No further degradation of the substance in the course of wastewater treatment is taken into account in the present assessment and the reasonable worst-case concentration of kieselguhr soda ash flux-calcined in the effluent of a local STP is 3.87 mg/L.
Aquatic pelagic compartment	To calculate the reasonable worst-case concentration of kieselguhr soda ash flux-calcined in surface water that may be due to emissions from the manufacture of the substance, the concentration of 3.87 mg/L in the effluent of the local STP is taken and a dilution factor of 10 is taken into account at the point of mixing of the wastewater with surface water (default EUSES). This leads to a surface water concentration of 0.387 mg/L. For releases of the wastewater to coastal sites, a dilution factor of 100 (EUSES default) is taken into account which leads to a concentration of 0.0387 mg/L in marine waters
Sediments	The wastewater released to the environment may contain suspended particles of kieselguhr soda ash flux-calcined. These solid parts will settle down at the bottom of the receiving water. As kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms and is naturally formed in water bodies this not considered to cause a potential hazard to the receiving water. Kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms which is formed in water bodies and is therefore considered a natural part of the ecosystem. Therefore, no risk is anticipated with kieselguhr soda ash flux-calcined in sediments and no exposure assessment for sediment is carried out
Soil and groundwater	Kieselguhr soda ash flux-calcined may be released to soil via atmospheric deposition and via sewage sludge brought to agricultural fields and grassland. Kieselguhr is a naturally occurring sedimentary rock which is essentially a mineral fraction of soil already. Only the accidental release of a significant quantity kieselguhr soda ash flux calcined is expected to alter the physical and chemical characteristics of a soil. As atmospheric deposition to soil is regarded as minor and the deposition of sewage sludge to fields takes place under controlled conditions no risk is anticipated with the release of kieselguhr soda ash flux-calcined to soil from the use described in this scenario and thus, no further assessment of the exposure concentrations in soil is undertaken
Atmospheric compartment	Emissions of kieselguhr soda ash flux-calcined into the atmosphere are low during the use of kieselguhr soda ash flux-calcined as a filter aid in industrial settings. The atmospheric concentrations of the substance are expected to be low. No further assessment of the exposure concentrations in the atmosphere is undertaken
Secondary poisoning	The potential of kieselguhr soda ash flux-calcined for bioaccumulation is low. The substance has a low solubility in water and thus is essentially unavailable to organisms.

Exposure Scenario 3: Use as additive in formulation of liquid, viscous or solid mixtures

1. Short title of exposure scenario 3
Use as an additive in formulation of liquids, viscous or solid mixtures
2. Description of activities and processes covered in the exposure scenario

Sector of use (SU)	SU 3: Industrial uses: uses of substances as such or in preparations at industrial sites SU 10: Formulation mixing) of preparations and/or re-packaging SU 11: Manufacture of rubber products SU 13: Manufacture of other non-metallic mineral products, eg plasters, cement.
Product category (PC)	PC 2: Adsorbents PC 9: Coatings and paints, fillers, putties, thinners PC 21: Laboratory chemicals PC 29: Pharmaceuticals PC 35: Washing and cleaning products (including solvent based products)
Process category (PROC)	PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 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 19: Hand-mixing with intimate contact and only PPE available.
Article category (AC)	AC 10: Rubber products AC 13: Plastic products
Environmental release category (ERC)	ERC 2: Formulation of preparations ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles ERC 7: Industrial use of substances in closed systems ERC 8b: Wide dispersive indoor use of reactive substances in open systems
3. Operational conditions	
3. 1 Operational conditions related with frequency and quantities of use	
Duration of exposure at workplace:	8 hours per day
Frequency of exposure at workplace:	5 days/week for each worker
Annual amount used per site:	The daily and annual amount/emission per site is not considered to be the main determinant for environmental exposure.
3.2 Operational conditions related with substance/ product	
Physical state	Solid and liquid
Concentration of substance in mixture	The concentration of the substance in the final mixtures may range from <1 % (liquid) to 60 % (dental fillings).
3.3 Other relevant operational conditions	
No information about frequency and duration of the various tasks is available.	
4. Risk Management Measures	

4.1 RMMs related to workers	
Organisational measures	The employer has also to ascertain that the required PPE is available and used according to instructions.
Technical measures	LEV may be present and/or respiratory masks (P3) may be used in situations with elevated dust concentrations in the air. Skin protection and eye protection may be used
Respiratory protection	LEV may be present and/or respiratory masks (P3) may be used in situations with elevated dust concentrations in the air.
Hand protection	Skin protection may be used.
Eye protection	Eye protection may be used.
Skin and body protection	Wearing of suitable protective clothing.
Hygiene measures	Standard occupational hygiene measures should be adopted.
4.2 RMMs related to the environment	
Organisational measures	Waste gases are cleaned by passage through cyclones or scrubber units or by filtration with bag filters. Solid and liquid wastes are disposed of in landfills or may be incinerated
Abatement measures related with wastewater	The wastewater resulting from manufacturing of the substance can be treated by sedimentation to remove the solid parts of the substance. The sedimentation is very efficient with a reduction efficacy of 99% or more.
Abatement measures waste air and solid waste	It is recommended to pass waste gas through bag filters, scrubbers or cyclones to reduce the amount of solid substance in the waste gas.
4.3 Waste related measures	
Type of waste	Solid and liquid waste.
Disposal technique	Solid and liquid waste may be incinerated or disposed of in landfills.

Fraction released to environment during waste treatment	Any wastewater released from the sedimentation step is expected not to contain more than 3.87 mg/L (saturated solution).
5. Prediction of exposure resulting from the conditions described above and the substance properties.	
5.1. Human exposure	
Workers (oral)	Good hygiene practice will minimise oral exposure
Workers (inhalation) *DNEL: Worker, long-term, systemic, inhalation: 0.36mg/m^3*	The workers' inhalation exposure to kieselguhr soda ash flux-calcined that may occur during the formulation of liquid, viscous or solid preparations described in the present exposure scenario ES 3 is covered by the exposure concentrations calculated in the exposure scenarios ES 1 and ES 2.
Workers	Dermal exposure was not assessed, as no risks are anticipated with dermal exposure.

(dermal)	
Indirect exposure via the environment	It is expected that emissions of kieselguhr soda ash flux-calcined from its identified uses will not significantly increase the naturally occurring concentrations of kieselguhr or other compounds in the environment. The potential of kieselguhr soda ash flux-calcined for bioaccumulation is low. The substance has a low solubility in water and thus is essentially unavailable to organisms.
Consumer exposure	No direct consumer exposure is resulting from the use of kieselguhr soda-ash flux calcined as an additive in the formulation of liquid, viscous or solid mixtures.
5.2. Environmental exposure (qualitative assessment)	
Waste water treatment plants (WWTP)	The amount of kieselguhr soda ash flux-calcined present in the wastewater may exceed the amount that can be dissolved at saturation (3.87 mg/L at 20°C), indicating that suspended particles of kieselguhr soda ash flux-calcined may be present in the wastewater. Before entering a sewage treatment plant (STP), the wastewater should be treated by sedimentation to remove the greatest portion of solids. Sedimentation is very efficient with a reduction efficacy of 99% or more. Any wastewater released from the sedimentation step is expected to contain not more than 3.87 mg kieselguhr soda ash flux-calcined per litre wastewater (saturated solution). No further degradation of the substance in the course of wastewater treatment is taken into account in the present assessment and the reasonable worst-case concentration of kieselguhr soda ash flux-calcined in the effluent of a local STP is 3.87 mg/L.
Aquatic pelagic compartment	To calculate the reasonable worst-case concentration of kieselguhr soda ash flux-calcined in surface water that may be due to emissions from the manufacture of the substance, the concentration of 3.87 mg/L in the effluent of the local STP is taken and a dilution factor of 10 is taken into account at the point of mixing of the wastewater with surface water (default EUSES). This leads to a surface water concentration of 0.387 mg/L. For releases of the wastewater to coastal sites, a dilution factor of 100 (EUSES default) is taken into account which leads to a concentration of 0.0387 mg/L in marine waters
Sediments	The wastewater released to the environment may contain suspended particles of kieselguhr soda ash flux-calcined. These solid parts will settle down at the bottom of the receiving water. As kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms and is naturally formed in water bodies this not considered to cause a potential hazard to the receiving water. Kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms which is formed in water bodies and is therefore considered a natural part of the ecosystem. Therefore, no risk is anticipated with kieselguhr soda ash flux-calcined in sediments and no exposure assessment for sediment is carried out
Soil and groundwater	Kieselguhr soda ash flux-calcined may be released to soil via atmospheric deposition and via sewage sludge brought to agricultural fields and grassland. Kieselguhr is a naturally occurring sedimentary rock which is essentially a mineral fraction of soil already. Only the accidental release of a significant quantity kieselguhr soda ash flux calcined is expected to alter the physical and chemical characteristics of a soil. As atmospheric deposition to soil is regarded as minor and the deposition of sewage sludge to fields takes place under controlled conditions no risk is anticipated with the release of kieselguhr soda ash flux-calcined to soil from the use described in this scenario and thus, no further assessment of the exposure concentrations in soil is undertaken
Atmospheric compartment	Emissions of kieselguhr soda ash flux-calcined into the atmosphere are low during the use of kieselguhr soda ash flux-calcined as a filter aid in industrial settings. The atmospheric concentrations of the substance are expected to be low. No further assessment of the exposure concentrations in the atmosphere is undertaken
Secondary poisoning	The potential of kieselguhr soda ash flux-calcined for bioaccumulation is low. The substance has a low solubility in water and thus is essentially unavailable to organisms.

Exposure Scenario 4: Use as process aid in manufacture of chemicals, resins, rubbers and plastics

1. Short title of exposure scenario 4

Use as an additive in formulation of liquids, viscous or solid mixtures	
2. Description of activities and processes covered in the exposure scenario	
Sector of use (SU)	SU 3: Industrial uses: uses of substances as such or in preparations at industrial sites SU 8: Manufacture of bulk, large scale chemicals SU 9: Manufacture of fine chemicals SU 11: Manufacture of rubber products SU 12: Manufacture of plastics products, including compound and conversion .
Product category (PC)	PC 16: Heat transfer fluids PC 17: Hydraulic fluids PC 20: Products such as ph-regulators, flocculants, precipitants, neutralisation agents PC 24: Lubricants, greases, release products PC 25: Metal working fluids PC 32: Polymer preparations and compounds
Process category (PROC)	PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 15: Use as laboratory reagent PROC 19: Hand-mixing with intimate contact and only PPE available.
Article category (AC)	Not applicable
Environmental release category (ERC)	ERC 1: Manufacture of substances ERC 2: Formulation of preparations ERC 4: Industrial use of processing aids in processes and products, not becoming part of articles
3. Operational conditions	
3. 1 Operational conditions related with frequency and quantities of use	
Duration of exposure at workplace:	8 hours per day
Frequency of exposure at workplace:	360 days/year for each worker
Annual amount used per site:	The daily and annual amount/emission per site is not considered to be the main determinant for environmental exposure.
3.2 Operational conditions related with substance/ product	
Physical state	Solid and liquid
Concentration of substance in mixture	100% w/w
3.3 Other relevant operational conditions	
No information about frequency and duration of the various tasks is available.	
4. Risk Management Measures	
4.1 RMMs related to workers	

Organisational measures	The employer has also to ascertain that the required PPE is available and used according to instructions.
Technical measures	LEV may be present and/or respiratory masks (P3) may be used in situations with elevated dust concentrations in the air. Skin protection and eye protection may be used
Respiratory protection	LEV may be present and/or respiratory masks (P3) may be used in situations with elevated dust concentrations in the air.
Hand protection	Skin protection may be used.
Eye protection	Eye protection may be used.
Skin and body protection	Wearing of suitable protective clothing.
Hygiene measures	Standard occupational hygiene measures should be adopted.
4.2 RMMs related to the environment	
Organisational measures	Not applicable
Abatement measures related with wastewater	The wastewater resulting from manufacturing of the substance can be treated by sedimentation to remove the solid parts of the substance. The sedimentation is very efficient with a reduction efficacy of 99% or more.
Abatement measures waste air and solid waste	It is recommended to pass waste gas through bag filters, scrubbers or cyclones to reduce the amount of solid substance in the waste gas.
4.3 Waste related measures	
Type of waste	Solid and liquid waste.
Disposal technique	Solid and liquid waste may be incinerated or disposed of in landfills.
Fraction released to environment during waste treatment	Any wastewater released from the sedimentation step is expected not to contain more than 3.87 mg/L (saturated solution).
5. Prediction of exposure resulting from the conditions described above and the substance properties.	
5.1. Human exposure	

Workers (oral)	Good hygiene practice will minimise oral exposure
Workers (inhalation) *DNEL: Worker, long-term, systemic, inhalation: 0.36mg/m^3*	The workers' inhalation exposure to kieselguhr soda ash flux-calcined that may occur during the formulation of liquid, viscous or solid preparations described in the present exposure scenario ES 4 is covered by the exposure concentrations calculated in the exposure scenarios ES 1 and ES 2.
Workers (dermal)	Dermal exposure was not assessed, as no risks are anticipated with dermal exposure.
Indirect exposure via the environment	It is expected that emissions of kieselguhr soda ash flux-calcined from its identified uses will not significantly increase the naturally occurring concentrations of kieselguhr or other compounds in the environment. The potential of kieselguhr soda ash flux-calcined for bioaccumulation is low. The substance has a low solubility in water and thus is essentially

	unavailable to organisms.
Consumer exposure	No direct consumer exposure is resulting from the use of kieselguhr soda ash flux-calcined as a process aid in the manufacture of chemicals, resins, rubbers and plastics
5.2. Environmental exposure (qualitative assessment)	
Waste water treatment plants (WWTP)	The amount of kieselguhr soda ash flux-calcined present in the wastewater may exceed the amount that can be dissolved at saturation (3.87 mg/L at 20°C), indicating that suspended particles of kieselguhr soda ash flux-calcined may be present in the wastewater. Before entering a sewage treatment plant (STP), the wastewater should be treated by sedimentation to remove the greatest portion of solids. Sedimentation is very efficient with a reduction efficacy of 99% or more. Any wastewater released from the sedimentation step is expected to contain not more than 3.87 mg kieselguhr soda ash flux-calcined per litre wastewater (saturated solution). No further degradation of the substance in the course of wastewater treatment is taken into account in the present assessment and the reasonable worst-case concentration of kieselguhr soda ash flux-calcined in the effluent of a local STP is 3.87 mg/L.
Aquatic pelagic compartment	To calculate the reasonable worst-case concentration of kieselguhr soda ash flux-calcined in surface water that may be due to emissions from the manufacture of the substance, the concentration of 3.87 mg/L in the effluent of the local STP is taken and a dilution factor of 10 is taken into account at the point of mixing of the wastewater with surface water (default EUSES). This leads to a surface water concentration of 0.387 mg/L. For releases of the wastewater to coastal sites, a dilution factor of 100 (EUSES default) is taken into account which leads to a concentration of 0.0387 mg/L in marine waters
Sediments	The wastewater released to the environment may contain suspended particles of kieselguhr soda ash flux-calcined. These solid parts will settle down at the bottom of the receiving water. As kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms and is naturally formed in water bodies this not considered to cause a potential hazard to the receiving water. Kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms which is formed in water bodies and is therefore considered a natural part of the ecosystem. Therefore, no risk is anticipated with kieselguhr soda ash flux-calcined in sediments and no exposure assessment for sediment is carried out
Soil and groundwater	Kieselguhr soda ash flux-calcined may be released to soil via atmospheric deposition and via sewage sludge brought to agricultural fields and grassland. Kieselguhr is a naturally occurring sedimentary rock which is essentially a mineral fraction of soil already. Only the accidental release of a significant quantity kieselguhr soda ash flux calcined is expected to alter the physical and chemical characteristics of a soil. As atmospheric deposition to soil is regarded as minor and the deposition of sewage sludge to fields takes place under controlled conditions no risk is anticipated with the release of kieselguhr soda ash flux-calcined to soil from the use described in this scenario and thus, no further assessment of the exposure concentrations in soil is undertaken
Atmospheric compartment	Emissions of kieselguhr soda ash flux-calcined into the atmosphere are low during the use of the substance as a process aid in the manufacture of chemicals, resins, rubbers and plastics. The atmospheric concentrations of the substance are expected to be low. It is recommended to pass waste gas through bag filters, scrubbers or cyclones to reduce the amount of solid substance in the waste gas. No further assessment of the exposure concentrations in the atmosphere is undertaken
Secondary poisoning	The potential of kieselguhr soda ash flux-calcined for bioaccumulation is low. The substance has a low solubility in water and thus is essentially unavailable to organisms.

Exposure Scenario 5: Professional use by dental technicians and dentists

1. Short title of exposure scenario 4	
Use as an additive in formulation of liquids, viscous or solid mixtures	
2. Description of activities and processes covered in the exposure scenario	
Sector of use (SU)	SU 9: Manufacture of fine chemicals SU 10: Formulation mixing) of preparations and/or re-packaging

	SU 12: Manufacture of plastics products, including compound and conversion SU 20: Health surfaces.
Product category (PC)	PC 32: Polymer preparations and compounds
Process category (PROC)	PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 19: Hand-mixing with intimate contact and only PPE available.
Article category (AC)	Not applicable
Environmental release category (ERC)	ERC 2: Formulation of preparations ERC 3: Formulation in materials ERC 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix
3. Operational conditions	
3. 1 Operational conditions related with frequency and quantities of use	
Duration of exposure at workplace:	Up to 1 h/day
Frequency of exposure at workplace:	Performed on up to 220 days/year
Annual amount used per site:	The daily and annual amount emission per site is not considered to be the main determinant for environmental exposure.
3.2 Operational conditions related with substance/ product	
Physical state	Solid and liquid
Concentration of substance in mixture	Such materials can contain the substance at levels up to 60% w/w
3.3 Other relevant operational conditions	
No information about frequency and duration of the various tasks is available.	
4. Risk Management Measures	
4.1 RMMs related to workers	
Organisational measures	The employer has also to ascertain that the required PPE is available and used according to instructions.

Technical measures	Professionals normally do the mixing in the absence of LEV.
Respiratory protection	N/A
Hand protection	Skin protection may be used.
Eye protection	Eye protection may be used.
Skin and body protection	Wearing of suitable protective clothing.
Hygiene measures	Standard occupational hygiene measures should be adopted.

4.2 RMMs related to the environment	
Organisational measures	Any liquid waste that results from cleaning of equipment will be disposed of via the public sewer. Solid waste may be incinerated or deposited in landfills
Abatement measures related with wastewater	Any liquid waste that results from cleaning of equipment will be disposed of via the public sewer
Abatement measures waste air and solid waste	Solid waste may be incinerated or deposited in landfills. Emissions of kieselguhr soda ash flux-calcined into the atmosphere are low during the use of the substance in dental practices. The atmospheric concentrations of the substance are expected to be low. No further assessment of the exposure concentrations in the atmosphere is undertaken.
4.3 Waste related measures	
Type of waste	Solid and liquid waste.
Disposal technique	Solid waste may be incinerated or deposited in landfills. Any liquid waste that results from cleaning of equipment will be disposed of via the public sewer.
Fraction released to environment during waste treatment	Emissions from filling and alginate impression material may occur on 260 days per year. About 300 tonnes kieselguhr soda ash flux-calcined are used per year for dental filling and impression material in the EU. A fraction of 10%, i.e. 30 t/year, is considered for regional use. For the local use, 0.2% of the regional tonnage is considered, i.e. 60 kg/year. Part of the substance may be release to the wastewater when cleaning materials which were in contact with preparations containing kieselguhr soda ash flux-calcined. It is expected that at most 10% of the filling and impression materials are released to the sewer, i.e. 6 kg per year on the local scale. This results in a reasonable worst-case emission of substance into the wastewater of 0.023 kg/day. Emissions of the substance into the atmosphere or the soil compartment are negligible

Parameter	**Value**
Tonnage in EU per year	300 t
Regional tonnage per year	30 t
Local tonnage per year	60 kg
Fraction of main local source	0.002
Number of days	260 d
Fraction of tonnage released to air	0
Fraction of tonnage released to waste water	0.1
Fraction of tonnage released to soil	0
Local emissions to wastewater	0.023 kg/day

5. Prediction of exposure resulting from the conditions described above and the substance properties.	
5.1. Human exposure	
Workers (oral)	Good hygiene practice will minimise oral exposure
Workers (inhalation) *DNEL: Worker, long-term,*	The modelled reasonable worst-case long-term exposure concentrations resulting from the handling of small amounts of dental filling or impression materials (about 50 g/application) is 0.024 mg/m^3. The RCR obtained by comparing this concentration of the long-term inhalation DNEL of 0.36 mg/m^3 is 0.067 showing that the potential health risk for workers is controlled for the professional use of kieselguhr soda ash flux-calcined as dental filling and

systemic, inhalation:0.36 mg/m^3	impression material by dental technicians and dentists.
Workers (dermal)	Dermal exposure was not assessed, as no risks are anticipated with dermal exposure.
Indirect exposure via the environment	It is expected that emissions of kieselguhr soda ash flux-calcined from its identified uses will not significantly increase the naturally occurring concentrations of kieselguhr or other compounds in the environment. The potential of kieselguhr soda ash flux-calcined for bioaccumulation is low. The substance has a low solubility in water and thus is essentially unavailable to organisms. It is concluded that indirect human exposure to kieselguhr soda ash flux-calcined via the environment is not relevant
Consumer exposure	Patients may ingest small amounts of substance during dental treatment. In general exposure is expected to be negligibe as the dental treatment is performed under professional surveillance.
5.2. Environmental exposure (qualitative assessment)	
Waste water treatment plants (WWTP)	In the present assessment, the wastewater passes through a sewage treatment plant (STP) which has a capacity of 2000000 L/day. No removal of kieselguhr soda ash flux-calcined during wastewater treatment is taken into account for the present exposure scenario. The resulting reasonable worst-case concentration of the substance in the effluent of a local STP is 23000/2000000=0.012 mg/L
Aquatic pelagic compartment	A dilution factor of 10 is taken into account at the point of mixing of the wastewater with surface water, leading to a surface water concentration of 0.0012 mg/L. For coastal areas a dilution factor of 100 is taken into account, leading to a concentration of 0.00012 mg/L in marine waters
Sediments	The wastewater released to the environment may contain suspended particles of kieselguhr soda ash flux-calcined. These solid parts will settle down at the bottom of the receiving water. As kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms and is naturally formed in water bodies this not considered to cause a potential hazard to the receiving water. Kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms which is formed in water bodies and is therefore considered a natural part of the ecosystem. Therefore, no risk is anticipated with kieselguhr soda ash flux-calcined in sediments and no exposure assessment for sediment is carried out.
Soil and groundwater	Kieselguhr soda ash flux-calcined may be released to soil via atmospheric deposition and via sewage sludge brought to agricultural fields and grassland. Kieselguhr is a naturally occurring sedimentary rock which is essentially a mineral fraction of soil already. Only the accidental release of a significant quantity kieselguhr soda ash flux-calcined is expected to alter the physical and chemical characteristics of a soil. As atmospheric deposition to soil is regarded as minor and the deposition of sewage sludge to fields takes place under controlled conditions no risk is anticipated with the release of kieselguhr soda ash flux-calcined to soil from the use described in this scenario and thus, no further assessment of the exposure concentrations in soil is undertaken
Atmospheric compartment	Emissions of kieselguhr soda ash flux-calcined into the atmosphere are low during the use of the substance in dental practices. The atmospheric concentrations of the substance are expected to be low. No further assessment of the exposure concentrations in the atmosphere is undertaken
Secondary poisoning	The potential of kieselguhr soda ash flux-calcined for bioaccumulation is low. The substance has a low solubility in water and thus is essentially unavailable to organisms.

Exposure Scenario 6: Industrial, professional and private use of substance or mixtures containing the substance

1. Short title of exposure scenario 6
Use as an additive in formulation of liquids, viscous or solid mixtures
2. Description of activities and processes covered in the exposure scenario

Sector of use (SU)	SU 3: Industrial uses: uses of substances as such or in preparations at industrial sites SU 21: Consumer uses: Private households (= general public = consumers) SU22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Product category (PC)	PC 35: Washing and cleaning products (including solvent based products) PC 37: Water treatment chemicals
Process category (PROC)	PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 7: Industrial spraying PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 10: Roller application or brushing PROC 11: Non industrial spraying PROC 13: Treatment of articles by dipping and pouring PROC 19: Hand-mixing with intimate contact and only
Article category (AC)	AC 10: Rubber products AC 13: Plastic products
Environmental release category (ERC)	ERC 1: Manufacture of substances ERC 2: Formulation of preparations 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 8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix ERC 10b: Wide dispersive outdoor use of long-life articles and materials with high or intended release (including abrasive processing)
3. Operational conditions	
3. 1 Operational conditions related with frequency and quantities of use	
Duration of exposure at workplace:	Use of coatings and paints containing kieselguhr soda ash flux-calcined: 4-8 hours Use of kieselguhr soda ash flux calcined for filtering water: Approximately 1 hour per day. Use of cleaners containing kieselguhr soda-ash flux calcined: Professionals up to 60 minutes per use, consumers up to 20 minutes per day.
Frequency of exposure at workplace:	Use of coatings and paints containing kieselguhr soda ash flux-calcined: Up to 225 days per year Use of kieselguhr soda ash flux calcined for filtering water: Weekly for professional use and monthly consumer use Use of cleaners containing kieselguhr soda-ash flux calcined: Professionals up to 8 times a day.
Annual amount used per site:	The daily and annual amount emission per site is not considered to be the main determinant for environmental exposure.
3.2 Operational conditions related with substance/ product	
Physical state	Solid and liquid
Concentration of substance in mixture	A variety of articles made from rubbers or plastics contain the substance. The average weight fraction of kieselguhr soda ash flux-calcined in such articles is about 7% w/w and the maximum weight fraction is approximately 15% w/w.
3.3 Other relevant operational conditions	
No information about frequency and duration of the various tasks is available.	

4. Risk Management Measures	
4.1 RMMs related to workers	
Organisational measures	The employer has also to ascertain that the required PPE is available and used according to instructions.
Technical measures	Safe conditions were defined by considering that workers use respiratory equipment during industrial spraying to protect themselves against elevated airbourne concentrations of coatings or paints. Alternatively safe conditions may also be achieved by ensuring very good ventilation in the workplace. The use of articles made from rubbers or plastics containing the substance is considered safe as no release of kieselguhr is expected.
Respiratory protection	If elevated exposure is to be expected LEV may be present and industrial and professional users may wear breathing masks reducing the amount of inhaled aerosols
Hand protection	Skin protection may be used.
Eye protection	Eye protection may be used.
Skin and body protection	Wearing of suitable protective clothing.
Hygiene measures	Standard occupational hygiene measures should be adopted.
4.2 RMMs related to the environment	
Organisational measures	Kieselguhr soda ash flux-calcined used for the filtering of drinking and swimming pool water and kieselguhr soda ash flux-calcined present in surface cleaners may be released to the sewer and subsequently pass a municipal sewage treatment plant (STP).
Abatement measures related with wastewater	Any liquid waste that results will be disposed of via the public sewer
Abatement measures waste air and solid waste	Solid waste may be disposed of as industrial, commercial or common household waste and may be incinerated or disposed of in landfills Waste air at industrial and professional sites may be filtered before released to the atmosphere.
4.3 Waste related measures	
Type of waste	Liquid/solid waste.
Disposal technique	Wastewater that is generated during cleaning operations may be treated in an onsite treatment plant or be released to the public sewer system and treated in a municipal STP. Solid waste may be disposed of as industrial, commercial or common household waste and may be incinerated or disposed of in landfills.
Fraction released to environment during waste treatment	A worst-case is considered in the present assessment in that 10% of the total tonnage placed on the EU market ends up in municipal STPs
5. Prediction of exposure resulting from the conditions described above and the substance properties.	
5.1. Human exposure	
Workers (oral)	Good hygiene practice will minimise oral exposure
Workers (inhalation)	The modelled long-term exposure concentrations are compared to the DNEL for chronic inhalation exposure to obtain risk characterisation ratios. RCRs above 1 indicate that the potential risk is not adequately controlled. Safe conditions of use are described in exposure

DNEL: Worker, long-term, systemic, inhalation 0.36: mg/m³

Process Category	LEV	Duration	PRE	Content (%)	Inhalation exposure (mg/m3)	RCR
INDUSTRIAL USE OF LIQUID MATERIAL						
7 – Industrial spraying based on TNsG (European Commission 2002)	No	Up to 6	95%	10	0.325	0.903
10 – Roller application or brushing	No	4 to 8	No	5 to 25	0.125	0.347
13 – Treatment of articles by dipping and pouring	No	4 to 8	No	5 to 25	0.147	0.408

scenario 5. Safe conditions for additional activities are shown in the table below Safe conditions were defined by considering that workers use personal respiratory equipment during industrial spraying to protect themselves against elevated airborne concentrations of coatings or paints. Alternatively, safe conditions may also be achieved by ensuring very good ventilation of the workplace. The use of articles made from rubbers or plastics containing the substance is considered safe as no release of kieselguhr soda ash flux-calcined is anticipated. It is concluded that the industrial use of mixtures containing kieselguhr soda ash flux-calcined is safe for workers under the specified conditions of exposure.

Safe conditions for industrial activities performed during the use of mixtures containing kieselguhr soda ash flux-calcined

The modelled long-term exposure concentrations are compared to the DNEL for chronic inhalation exposure to obtain risk characterisation ratios. RCRs above 1 indicate that the potential risk is not adequately controlled. Safe conditions of use are described in the table above.Safe conditions were defined by considering that workers use personal respiratory equipment during non-industrial spraying to protect themselves against elevated airborne concentrations of coatings or paints. Alternatively, safe conditions may also be achieved by ensuring very good ventilation of the workplace. The reasonable worst-case airborne concentration of the substance resulting from professional cleaning was 1.86E-05 mg/m^3. The RCR obtained by comparing this concentration of the long-term inhalation DNEL of 0.36 mg/m^3 is 5.2E-05 showing that the potential health risk for workers is controlled for the professional use of cleaners. The use of articles made from rubbers or plastics containing the substance is considered safe as no release of kieselguhr soda ash flux-calcined is anticipated. It is concluded that the professional use of mixtures containing kieselguhr soda ash flux-calcined is safe for workers under the specified conditions of exposur

Process Category	LEV	Duration	PRE	Content (%)	Inhalation exposure (mg/m3)	RCR
PROFESSIONAL USE OF SOLID MATERIAL WITH MEDIUM DUSTINESS						
2 – Use in closed, continuous process with occasional controlled exposure	75%	4 to 8	No	100	0.25	0.694
3 – Use in closed batch process (synthesis or formulation)	75%	4 to 8	No	100	0.25	0.694
4 – Use in batch and other process (synthesis) where opportunity for exposure arises	95%	4 to 8	No	100	0.25	0.694
5 – Mixing or blending in batch processes (multistage and/or significant contact)	95%	4 to 8	No	100	0.25	0.694
8a – Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	95%	4 to 8	No	100	0.25	0.694
8b – Transfer of chemicals from/to vessels/ large containers at dedicated facilities	95%	4 to 8	No	100	0.25	0.694

	9 – Transfer of chemicals into small containers (dedicated filling line)	95%	4 to 8	No	100	0.25	0.694
	19 – Hand-mixing with intimate contact (only PPE available)	95%	4 to 8	No	100	0.25	0.694
	PROFESSIONAL USE OF LIQUID MATERIAL						
	2 – Use in closed, continuous process with occasional controlled exposure	No	4 to 8	No	5 to 25	0.15	0.417
	3 – Use in closed batch process (synthesis or formulation)	No	4 to 8	No	5 to 25	0.15	0.417
	4 – Use in batch and other process (synthesis) where opportunity for exposure arises	No	4 to 8	No	5 to 25	0.15	0.417
	5 – Mixing or blending in batch processes (multistage and/or significant contact)	No	4 to 8	No	5 to 25	0.15	0.417
	8a – Transfer of chemicals from/to vessels/ large containers at non dedicated facilities	No	4 to 8	No	5 to 25	0.15	0.417
	8b – Transfer of chemicals from/to vessels/ large containers at dedicated facilities	No	4 to 8	No	5 to 25	0.15	0.417
	9 – Transfer of chemicals into small containers (dedicated filling line)	No	4 to 8	No	5 to 25	0.15	0.417
	10 – Roller application or brushing	No	4 to 8	No	5 to 25	0.125	0.347
	11 – Non industrial spraying based on TNsG (European Commission 2002)	No	Up to 6	95%	10	0.325	0.903
	13 – Treatment of articles by dipping and pouring	No	4 to 8	No	5 to 25	0.15	0.417
	15 – Use of laboratory reagents in small scale laboratories	No	4 to 8	No	5 to 25	0.15	0.417
	19 – Hand-mixing with intimate contact (only PPE available): modelled with ConsExpo	No	8	No	10	0.0002	0.001

Workers (dermal)	Dermal exposure was not assessed, as no risks are anticipated with dermal exposure.
Indirect exposure via the environment	No indirect exposure of humans to kieselguhr soda ash flux-calcined is anticipated.
Consumer exposure (inhalation) *DNEL: Consumerr, long-term, systemic, inhalation 0.08: mg/m^3*	Consumer exposure to kieselguhr soda ash flux-calcined resulting from the use of mixtures was described as long-term exposure in the case of use of paints and cleaning products and as short-term exposure in the case of spray painting and use of filtration materials. The long-term and acute airborne concentrations of the substance for the different uses are given in the table below. The RCRs for all consumer uses resulting in long-term exposure to the substance are well below 1 indicating that potential health risks for consumers are adequately controlled. Spray painting may result in relatively high acute exposure to kieselguhr soda ash flux-calcined and should be performed only in well-ventilated areas. It is recommended that particles of the substance used in spray paints available to consumers exhibit diameters greater than 0.015 mm. As particles with larger diameters generally are not inhaled this helps to avoid elevated consumer exposure to particles of kieselguhr soda ash flux-calcined during spray painting. The use of articles made from rubbers or plastics containing the substance is considered safe as no release of kieselguhr soda ash flux-calcined is anticipated. It is concluded that the potential health risks for consumers are adequately for the uses of the substance described in the present exposure scenario.

Consumer use	**Mean inhalation concentration (long-term) in mg/m^3**	**Mean inhalation concentration (acute) in mg/m^3**	**RCR**

Use of high-solid paints	0.000122		0.0015
Use of water-based paints	0.000186		0.0023
Use of solvent-based paints	0.000864		0.011
Use of water-based wall paints	0.00044		0.0055
Spray painting (trigger cans)	Not applicable	37.5	Not applicable
Spray painting (pneumatic sprayer)	Not applicable	0.676	Not applicable
Filtration material	Not applicable	0.14	Not applicable
Cleaning products	0.00002		0.00025

5.2. Environmental exposure (qualitative assessment)

Waste water treatment plants (WWTP)

Kieselguhr soda ash flux-calcined used for the filtering of drinking and swimming pool water and kieselguhr soda ash flux-calcined present in surface cleaners may be released to the sewer and subsequently pass a municipal sewage treatment plant (STP). As the tonnages of kieselguhr soda ash flux-calcined for these uses are not known, a worst-case is considered in the present assessment in that 10% of the total tonnage placed on the EU market ends up in municipal STPs due to industrial, professional and private use of mixtures containing the substance and not covered by other exposure scenarios. The total EU tonnage is 120,000 tonnes per year resulting in 12,000 tonnes of kieselguhr soda ash flux-calcined released to municipal STPs in the present scenario. This amount is evenly distributed over the EU as dispersive use of mixtures containing the substance can be assumed. The EU has approximately 500 millions inhabitants. The average volume of wastewater per inhabitant equivalent is 200 L per day (EUSES default). The concentration in a municipal STP can then be calculated as:

$$C_{STP} = \frac{AMOUNT_{STP}}{DAYS \cdot INHAB \cdot WASTEW_{inhab}}$$, where

$AMOUNT_{STP}$: amount of kieselguhr soda ash flux-calcined released to municipal STPs in the EU per year (1.2E13 mg/year),
$DAYS$: number of release days (365 days/year),
$INHAB$: number of inhabitants in EU (500 millions inhabitants),
$WASTEW_{inhab}$: wastewater per inhabitant (200 L/d) ,
C_{STP} : concentration of kieselguhr soda ash flux-calcined in municipal STP (mg/L).

The predicted concentration of kieselguhr soda ash flux-calcined in municipal sewage treatment plants is then:

$$C_{STP} = \frac{1.2E13}{365 \cdot 500000000 \cdot 200} = 0.329 \frac{mg}{L}.$$

Aquatic pelagic compartment

A dilution factor of 10 is taken into account at the point of mixing of the waste water with surface water, leading to a surface water concentration of 0.033 mg/L. For coastal areas a dilution factor of 100 is taken into account, leading to a concentration of 0.00033 mg/L in marine waters

Sediments

Kieselguhr is a naturally occurring sedimentary rock consisting of the shells of diatoms which is formed in water bodies and is therefore considered a natural part of the ecosystem. Therefore, no risk is anticipated with kieselguhr soda ash flux-calcined in sediments and no exposure assessment for sediment is carried out

Soil and

If paints containing soda ash flux-calcined are used outdoors small amounts of kieselguhr

groundwater	soda ash flux-calcined may leach to the soil. Further, kieselguhr soda ash flux-calcined may be released to soil via atmospheric deposition and via sewage sludge brought to agricultural fields and grassland. Kieselguhr is a naturally occurring sedimentary rock which is essentially a mineral fraction of soil already. Only the accidental release of a significant quantity kieselguhr soda ash flux-calcined is expected to alter the physical and chemical characteristics of a soil. As leaching from paints and atmospheric deposition to soil is regarded as minor and the deposition of sewage sludge to fields takes place under controlled conditions no risk is anticipated with the release of kieselguhr soda ash flux-calcined to soil from the use described in this scenario and thus, no further assessment of the exposure concentrations in soil is undertaken
Atmospheric compartment	Emissions of kieselguhr soda ash flux-calcined into the atmosphere are low during the use of mixtures containing the substances by industrial workers, professionals or consumers. The atmospheric concentrations of the substance are expected to be low. No further assessment of the exposure concentrations in the atmosphere is undertaken.
Secondary poisoning	It is expected that emissions of the substance resulting from the industrial, professional or private use of the substance or mixtures containing the substance will not significantly increase the naturally occurring concentrations of kieselguhr or other compounds in the environment. The potential of kieselguhr soda ash flux-calcined for bioaccumulation is low. The substance has a low solubility in water and thus is essentially unavailable to organisms. Therefore, it is not necessary to assess secondary poisoning via the food chain