SAFETY DATA SHEET

Issue Date: 10 November 2015 Version No: 1 Revision No: 4

1. Identification of the substance and company/undertaking

1.1 Product Identifier:

Product name: Fibrophos range

Substance name: Mixed Ashes

EU Registration Number: 931-597-4

CAS Number: 68131-74-8

REACH Registration Number 01-2119516041-58-0010

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

Use: EU Category SU1: Agriculture, forestry and fishing - Fertilisers derived mainly from incinerated poultry litter. Classified as compound fertilisers in Groups 5 and 6 of Schedule 1:Section B of the UK Fertilisers Regulations 1991.

Uses advised against: None determined

1.3 Details of the supplier of the substance or product:

Supplier: Fibrophos Ltd
6 Deben Mill Business Centre
Old Maltings Approach
Woodbridge
Suffolk
IP12 1BL

Contact numbers: Telephone: +44 (0) 7788 715011
Alternative Telephone: +44 (0) 8450 510510

E-mail contact: kevin.williams@eprl.co.uk

1.4 Emergency Telephone (out of office hours):

Emergency contact: Telephone: +44 (0) 7788 715011

E-mail: kevin.williams@eprl.co.uk

2. Hazards identification

The product is classified as “Dangerous” according to Directive 67/548/EEC and its amendments, and “Hazardous” according to Regulation (EC) No 1272/2008.

2.1.1 Classification according to EU Directive 67/548/EEC (including amendments):

Classification: Xi: IRRITANT

2.1.2 Label elements:

R37/38: Irritating to respiratory system and skin
R41: Risk of serious damage to eyes.

2.2.1 The substance is classified as hazardous according to Regulation (EC) No 1272/2008:

Signal word: Danger

Classification:

Skin irritation Category 2;	H315
Eye irritation Category 1;	H318
STOT Single Exposure 3;	H335

2.2.2 Label elements:

2.3 Other hazard information:

Health hazards:

Ingestion:	Not harmful by ingestion
Skin Contact:	Causes skin irritation
Eye Contact:	Causes serious eye damage
Inhalation:	May cause respiratory irritation

Environmental hazards: Not hazardous to the environment

See section 15 for the full text of the Hazard statement codes and classifications declared above.

3. Composition/information on ingredients

3.1 Substances

Name	EC Number	CAS Number	% composition by wt
Ashes (residues)	931-597-4	68131-74-8	100 %

3.2 Product / Mixture Details

The products are prepared by blending ashes produced from the incineration of poultry manure and associated bedding together with a proportion of timber and other biomass. Up to 15% of potassium chloride (muriate of potash) and/or Triple Super Phosphate and/or Agricultural Grade Chalk (50%NV) may be added to adjust the analysis and up to 15% unreacted lime may remain in certain products in the range.

4. First-aid measures

4.1 Description of first aid measures.

Ingestion Wash mouth with water and give copious quantities to drink. Do not induce vomiting. Obtain medical advice if more than small quantities have been swallowed.

Skin contact Remove contaminated clothing, wash the affected area with soap and running water.

Eye contact Immediately wash out with eye-wash bottle containing saline solution. Obtain medical advice if symptoms persist.

Inhalation Remove to fresh air. Irrigate nose and throat with water for 20 minutes. Obtain medical advice if symptoms persist.

4.2 Most important symptoms and effects, both acute and delayed

Ingestion No symptoms or effects known.

Skin contact The substance can cause skin irritation. This is expected to be minimal in man; however due caution should be exercised and medical advice sought if symptoms should persist.

Eye contact The substance is likely to cause eye irritation. Due caution should be exercised and medical advice sought if symptoms should persist.

Inhalation The substance can cause respiratory irritation. This is expected to be minimal in man; however due caution should be exercised and medical advice sought if symptoms should persist.

4.3 Indication of immediate medical attention and special treatment needed.

None. The following advice is recommended for facilities handling the substance:

First aid facilities Safety shower, hand and eye washing facilities are recommended for the workplace.

Medical treatment Show this safety data sheet to medical personnel. Give symptomatic treatment and supportive therapy.

5. Fire-fighting measures

5.1 Extinguishing media (small and large fires)

The product is not itself flammable. Water, Carbon dioxide, dry chemical, foam, and sand are compatible with the product.

5.2 Specific hazards

No specific hazards are anticipated with substance. The product is not flammable, explosive or oxidising and is unlikely to decompose to hazardous products if involved in a fire. Dusts may produce a physical explosion hazard, so avoid dust formation.

5.3 Protective equipment for fire fighters

Fire fighters should wear approved self-contained breathing apparatus and full protective clothing as standard.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency measures

Ensure full personal protection is worn (see Section 8). Keep unauthorised personnel from the spillage area. Clean-up as detailed in 6.3 below.

6.2 Environmental precautions

The substance is considered not hazardous to the environment and no special precautions are needed.

6.3 Methods and material for containment and cleaning up

Powder spills can be dampened with water and carefully swept up and place in suitable container for disposal. Wash contaminated surfaces with water, and collect washings for safe disposal. Follow in-house standard procedures for responding to large spills.

7. Handling and storage

7.1 Precautions for safe handling

Utilise appropriate industrial hygiene and Local Exhaust Ventilation (LEV), wherever possible. Avoid contact with skin and eyes, and inhalation of dust. Wear protective clothing and dust respirator as detailed in Section 8. Always wash hands after handling.

Wet down any dust with a little water to avoid formation of dust clouds, and dispose of as detailed in section 6.3 above.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated place, away from direct sunlight.

7.3 Specific end uses

End uses and associated exposures are addressed in the attached annex. Ensure that Local Exhaust Ventilation is in effect, whenever possible, in order to reduce the concentration of dust in the atmosphere.

8. Exposure controls/personal protection

8.1 Control parameters

There are no current published EU workplace exposure limits for this substance. In the absence of specific controls an 8h Workplace Exposure Limit of 10mg/m^3 should be applied.

No acute Derived No Effect Level (DNEL) derived due to an absence of effects

Oral Systemic Derived No Effect Level (DNEL)(Long term): Not determined

Dermal Systemic Derived No Effect Level (DNEL)(Long term): 7 mg/kg/day

Inhalation Systemic Derived No Effect Level (DNEL)(Long term): 1.4 mg/m^3

The aquatic PNEC derived from the available study data and the default assessment factor (100) is 0.213 mg/l.

8.2 Exposure controls

Wherever the substance is available for exposure the following PPE should be utilised

Powder dust mask:	EN149 as minimum standard
Gloves:	EN374 as minimum standard
Eye protection:	EN166 as minimum standard, eye protection should be safety goggles providing side splash protection.
Protective clothing:	EN368 as minimum standard.

Ensure that Local Exhaust Ventilation is in effect, whenever possible, in order to reduce the concentration of dust in the atmosphere, whenever possible. The rate of air exchange should be a minimum of 15 air changes per hour.

8.3 Environmental exposure controls

The substance is not classified as hazardous to the environment. No special controls are required for the substance.

For further details see the appended exposure scenario.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Fine grey powder
Odour	Slight odour of residual ammonia
Melting point	>300 °C
Boiling point	>300 °C
Density	750 kg/m^3
Vapour pressure	No data, but expected to be not volatile
Surface tension	No data
Water solubility	<1mg/l at 20^oC
Partition coefficient	No data available
Flash point	No data available
Flammability	Non flammable
Auto flammability	No self-ignition
Explosive properties	Not explosive based on structure and experience in use.
Oxidising properties	Not oxidising
pH	Principally alkaline, up to 12.8
Particle size	Mass Median Diameter was 35.873 µm
	Volume weighted mean was 90.301 µm

9.2 Other information

None

10. Stability and reactivity

10.1 Reactivity

Stable under recommended storage and handling conditions.

10.2 Chemical stability

Stable.

10.3 Possibility of hazardous reactions

Alkaline in nature (a 10% aqueous extract has a pH up to 12.8) and reacts with strong acids and can attack aluminium, lead and brass if exposed to moisture. It reacts with ammonium salts such as ammonium nitrate and ammonium sulphate to release ammonia

10.4 Conditions to Avoid

Avoid exposure to strong acids and exposure to metals (e.g. aluminium, lead and brass) in the presence of moisture.

Avoid exposure to ammonium salts such as ammonium nitrate and ammonium sulphate.

10.5 Incompatible materials

Ammonium salts such as ammonium nitrate and ammonium sulphate.

10.6 Hazardous decomposition products

Ammonia

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity	Not classified as harmful
Oral :	>2000 mg/kg (based on 28-day oral toxicity data)
Dermal:	No data
Inhalation:	No data
Skin corrosion/irritation:	Moderately irritating (OECD Method 431)
Serious eye damage/ irritation:	Corrosive (fertile chicken eggs (Isa Brown))
Respiratory or skin sensitisation:	Non-sensitising (based on expert assessment of metal content analysis)
Mutagenicity:	Non Mutagenic
In vitro Ames test (OECD Method 471; Salmonella typhimurium, Escherichia coli)	Non-mutagenic
In vitro chromosome aberration (OECD Method 473; human lymphocytes)	Non-clastogenic
In vitro mouse lymphoma assay (OECD Method 476; L5178Y cells)	Not mutagenic
In vivo mutagenicity	No data available
Carcinogenicity:	No data available. Anticipated to represent no hazard based on mutagenicity and experience of use

Reproductive toxicity: No data available. Anticipated to represent no hazard based on mutagenicity and repeated dose non human toxicity data

STOT-single exposure: No specific data available. Considered likely to cause a hazard of respiratory irritation based on known irritation/ corrosivity potential and high pH.

STOT-repeated exposure: NOAEL (oral, 28 d, rat) 500 mg/kg/day; Not classified as Harmful. No serious toxic effects and no target organs could be defined

Aspiration hazard: No hazard anticipated. Substance is not a low viscosity inorganic substance.

12. Ecological information

12.1 Toxicity

Fish: LC_{50} (96 h; fish; OECD Method 203): Inadequate data

Daphnia magna: NOEC 3.2 mg/L based on reproduction study.

Algal growth inhibition: EC_{50} (72 h; algae; OECD Method 201): 21.3 mg/L

Activated sludge Respiration Inhibition: NOEC (3 h): 100 mg/L test material (nominal)

Predicted No Effect (PNEC) Concentrations:

PNEC	Assessment factor	Remarks/Justification
PNEC aqua (freshwater): 0.213 mg/L	100	Extrapolation method: assessment factor Data from short-term toxicity tests from three trophic levels- lowest EC50 (EC50 = 21.3 mg/L)
PNEC aqua (marine water): 0.0213 mg/L	1000	Extrapolation method: assessment factor Data from short-term toxicity tests from three trophic levels- lowest EC50 (EC50 = 21.3 mg/L)
PNEC aqua (intermittent releases): 0.0213 mg/L	100	Extrapolation method: assessment factor Data from short-term toxicity tests from three trophic levels- lowest EC50 (EC50 = 21.3 mg/L)

PNEC sediment (freshwater): 4593 mg/kg sediment dw		Extrapolation method: partition coefficient
PNEC sediment (marine water): 459 mg/kg sediment dw		Extrapolation method: partition coefficient
PNEC STP: 1 mg/L	100	Extrapolation method: assessment factor Activated sludge growth inhibition test (EC50 > 100 mg/L)

12.2 Persistence and degradability

As the registered substance is an inorganic mixed ash with various trace metal oxides it was not technically possible, or necessary to perform testing on persistence.

Hydrolysis — Not determined due to physical nature. No mode of hydrolysis for inorganic substance.

Biodegradation — Not determined due to physical nature. No mode of biodegradation for an inorganic substance.

12.3 Bioaccumulative potential

LogBCF ≤ 107. Mixed ashes is considered to be not bioaccumulative.

12.4. Mobility in soil

PNEC	Assessment factor	Remarks/Justification
		No data for estimating PNECsoil

12.5. Results of PBT and vPvB assessment

Ash does not fulfill the criteria of PBT or vPvB and therefore does not require classification as PBT compound.

Criterion	Method	Result of the test	Ash
P	Not applicable	Not biodegradable	P
B	BCFs from literature	LogBCF ≤ 107	Not B
T	Daphnia magna reproduction test (OECD No 211)	NOEC 3.2 mg/l	Not T

12.6. Other adverse effects

None known at the time of issuance

13. Disposal considerations

13.1 Waste treatment methods

All disposals must be in accordance with current EU, national and/or local regulations.

14. Transport information

Not classified as hazardous for transport.

14.1	***UN Number*** **:**	Not applicable
14.2	***Proper shipping name:***	Not applicable
14.3	***Transport hazard class****:*	Not applicable
14.4	***Packing group:***	Not applicable
14.5	***Environmental Hazards:***	Not applicable
14.6	***Special Precautions for user:***	Not applicable
14.7	***Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code:***	Not applicable

15. Regulatory information

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

EU Regulations

EU Directive 67/548/EEC (including amendments)

Classification and labeling have been determined according to EU Directives 67/548/EEC (including amendments) and take into account the intended product use.

Classification Xi: Irritant

Hazard Symbol

Risk phrases:	R37/38:	Irritating to respiratory system and skin
	R41:	Risk of serious damage to eyes.
Safety phrases:	S22:	Do not breathe dust
	S24/25:	Avoid contact with skin and eyes

S27/28:	After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water
S36/37/39:	Wear suitable protective clothing, gloves and eye/face protection

Contains: No declarable substances

Product use: Appilications as a fertiliser

Regulation (EC) No 1272/2008 (including amendments)

Classification and labeling has been determined according to EU Regulation No 1272/2008 (including amendments) and take into account the intended product use.

Classification:

Skin irritation Category 2
Eye irritation Category 1
STOT Single Exposure 3

GHS Pictograms

Signal Word Danger

Hazard Statement

H315: Causes skin irritation
H318: Causes serious eye damage
H335: May cause respiratory irritation

Precautionary Statement

Prevention:

P264: Wash thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
P271: Use only outdoors or in a well-ventilated area.

Response:

P302+P352: IF ON SKIN: Wash with plenty of soap and water.
P321: Specific treatment (see any precautions on the product label).

	P332+P313: If skin irritation occurs: Get medical advice/attention.
	P362: Take off contaminated clothing and wash before reuse.
	P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P310: Immediately call a POISON CENTRE or doctor/physician.
	P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Storage:	P405: Store locked up
Disposal:	P501: Dispose of contents in accordance with local/regional/national/international regulation
Contains:	No declarable substances
Product use:	Industrial applications.

15.2 Chemical Safety Assessment

A full Chemical safety Assessment and Chemical Safety Report has been conducted on this substance by the Ash Consortium. Suitable exposure scenarios, relevent to the recommended use(s) are appended to this Safety Data Sheet. The Chemical Safety Report is an industry standard document and uses full industry details that are not specific to Fibrophos Limited. Any appendices from the Chemical Safety Report are not attached to this Safety Data Sheet. Please contact the supplier should any additional information from the Chemical Safety Report be required.

16. Other information

Revisions: None

References

Proprietary test data, including data available from the Ash Consortium lead registration dossier.

EU Directive 1907/2006 (REACH).

EU Directives 67/548/EEC (including amendments)

Regulation (EC) No 1272/2008 (including amendments)

Annex VI of Regulation 1272/2008 on *Harmonised Classification and Labeling for Certain Hazardous Substances*.

Personal protective equipment (PPE): 89/686/EEC.

European occupational exposure limits: 2000/39/EC.

Protection of health and safety of workers: 98/24/EC.

RTECS (Registry of Toxic Effects of Chemical Substances), 2004.

The information contained herein is carefully presented, based on the data available. However, all precautions described herein are for normal handling, not for special handling. Please establish the safe usage in accordance with your handling procedures by reference to this SDS and applicable laws and guidance. In addition, the description, composition, and physical/chemical properties are typical values and not guaranteed for this product.

Appendix 1: Relevant Exposure Scenarios taken from the Chemical Safety Report for this substance

9.1. Production of Ash

Ash is by-product from gasification and combustion of carbonaceous materials, like biomass, biofuels, peat and sludge with coal, solid recovered fuel (SRF) and supplementary fuels as needed. The following elements may be present as oxides: aluminium, calcium, iron, magnesium, phosphorous, potassium, sodium and silicon. The combustion technologies could be grid firing, fluidized bed (bubbling or circulated) firing or pulverized firing. The burning temperature is typically above 800◦C.

This use covers production in closed process with or without a dedicated sampling point. Ash is transferred as bulk material in open or closed systems.

The production itself occurs in a closed system. Typically, ash is collected and transferred in closed or partially closed systems with or without a dedicated sampling point. Ash is stored indoors or outdoors typically e.g. in silos or as open bulk material. Contact with ash is occasional and mainly in maintenance. Minor amounts of ash may end up directly or indirectly to waterways via drainage.

9.1.1. Exposure scenario

Section 1	**Exposure Scenario Title**
Title	**Production of Ash**
Use Descriptor	Sector of Use: Industrial (SU6b, SU8, SU23)
	Process Categories: PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15, PROC19
	Environmental Release Categories: ERC 1
Processes, tasks, activities covered	Burning of combination of carbonaceous materials in closed process with or without sampling, bulk transfers, maintenance, associated laboratory activities and storage.
Section 2	**Operational conditions and risk management measures**
Section 2.1	**Control of worker exposure**
Product characteristics	
Physical form of product	Solid, not explosive or flammable, particle size distribution 0.2 - 2000 µm. Irritates skin and eyes.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) [G13]
Amounts used	*Not applicable*
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) [G2]
Human factors not influenced by risk management	*Not applicable*

Other Operational Conditions affecting worker exposure	Assumes activities are at ambient temperature (unless stated differently) [G17]
	Assumes a good basic standard of occupational hygiene is implemented [G1]
	Solid, high dustiness [OC6]
Contributing Scenarios	**Risk Management Measures**
General exposures (closed systems) [CS15]. Boiler	Handle substance within a closed system [E47]. Operation is carried out at elevated temperature (> 20°C above ambient temperature) [OC7].
General exposures (closed systems) [CS15]. Temporary storage silo	Handle substance within a closed system [E47]. Ensure material transfers are under containment or extract ventilation [E66]. Operation is carried out at elevated temperature (> 20°C above ambient temperature) [OC7].
Process sampling [CS2] Non-dedicated facility [CS81]	Wear suitable gloves (tested to EN374) and eye protection [PPE19]. Avoid carrying out operation for more than 1 hour [OC11]. If this time is exceeded or dust is formed, wear a respirator conforming to EN140 with Type P1 filter or better. Outdoor [OC9].
Process sampling [CS2] Dedicated facility [CS82]	Wear suitable gloves (tested to EN374) and eye protection [PPE19]. Avoid carrying out operation for more than 1 hour [OC11]. If this time is exceeded or dust is formed, wear a respirator conforming to EN140 with Type P1 filter or better.
Laboratory activities [CS36].	Handle in a fume cupboard or under extract ventilation [E83]. Wear suitable gloves tested to EN374 [PPE15].
Bulk transfers [CS14] Use in contained systems [CS38].	Transfer via enclosed lines [E52].
Bulk transfers [CS14] (open systems) [CS108]	Wear suitable gloves tested to EN374 [PPE15]. Avoid carrying out operation for more than 1 hour [OC11]. If this time is exceeded or dust is formed, wear a respirator conforming to EN140 with Type P1 filter or better.
Equipment cleaning and maintenance [CS39] Cleaning of solids filtering equipment [CS120]	Wear suitable gloves (tested to EN374), coverall and eye protection [PPE23]. Wear a respirator conforming to EN140 with Type **P1** filter or better.
Mixing operations (open systems) [CS30]	Wear suitable gloves (tested to EN374) and eye protection [PPE19]. Avoid carrying out operation for more than 1 hour [OC11]. If above technical/organisational control measures are not feasible, then adopt following PPE [PPE30]: Wear a respirator conforming to EN140 with Type **P1** filter or better.

Bulk product storage [CS85] (closed systems) [CS107]	Store substance within a closed system [E84].
Bulk product storage [CS85] (open systems) [CS108]	Wear suitable gloves tested to EN374 [PPE15].
Section 2.2	**Control of environmental exposure**
Assessment method	EUSES
Product characteristics	Ash is composed of minerals, oxides and soluble salts of metals. Water solubility of ash is negligible but the constituents of Ash may become water soluble in a long run under changing environmental conditions. Hazardous to aquatic environment.
Amounts used	EU production: 34100 ktonnes per year
	Regional production: 34100 ktonnes per year
	Site production: 300 ktonnes per year
Frequency and duration of use	Emission days per year: 300
Environmental factors not influenced by risk management	Local freshwater dilution fraction: 10
	Local marine dilution fraction: 100
Other Operational Conditions of use affecting environmental exposure	Release fraction to air from process: 1.0E10-5
	Release fraction to (waste)water from process: 3.0E10-3
	Release fraction to soil from process (regional): 0.0001 (ERC)
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Air emission controls to be added.
Organisation measures to prevent/limit release from site	Dispose of waste in accordance with environmental legislation.
Conditions and measures related to municipal sewage treatment plant	Not applicable
Conditions and measures related to external treatment of waste for disposal	Not applicable
Conditions and measures related to external recovery of waste	Not applicable

Other environmental control measures additional to above	Do not discharge directly in waterways.
Section 3	**Exposure Estimation**
3.1. Health	*When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted DNELs and the resulting risk characterisation ratios are expected to be less than 1 as indicated in Appendix A.1.*
3.2. Environment	*When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1.*
Section 4	**Guidance to check compliance with the Exposure Scenario**
4.1. Health	*Confirm that RMMs and OCs are as described or of equivalent efficiency. See Appendix A.1 for details of efficiencies and OC.*
4.2. Environment	*Confirm that RMMs and OCs are as described or of equivalent efficiency. The required efficiency removal from water is 92.5% which would be typically found in waste-water treatment plant.*

9.3. Formulation and repacking of Ash

Includes uses corresponding to formulation and granulation. Material can be stored in closed containers or as bulk material indoors or outdoors. Use includes sampling, laboratory analysis and occasional intimate contact with the material, e.g. hand-mixing. Some ash can enter soil and waterways.

9.3.1. Exposure scenario

Section 1	**Exposure Scenario Title**
Title	**Formulation and repacking of Ash**
Use Descriptor	Sector of Use: Industrial and professional (SU10, SU13)
	Process Categories:PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC15, PROC19
	Product Categories: PC0 (Building and construction materials), PC9b, PC12
	Environmental Release Categories: ERC 2
Processes, tasks, activities covered	Formulation and granulation of Ash and its mixtures and its mixtures in continuous or batch processes, including repacking, material transfers, storage and associated laboratory activities.
Section 2.1	**Control of worker exposure**
Product characteristics	
Physical form of product	Solid, not explosive or flammable, particle size distribution 0.2 - 2000 µm. Irritates skin and eyes.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) [G13]
Amounts used	*Not applicable*
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) [G2]
Human factors not influenced by risk management	*Not applicable*
Other Operational Conditions affecting worker exposure	Assumes activities are at ambient temperature (unless stated differently) [G17]
	Assumes a good basic standard of occupational hygiene is implemented [G1]
Risk Management Measures	
Mixing operations (closed systems) [CS29] Closed batch process	Formulate in enclosed or ventilated mixing vessels [E46].
Mixing operations (open systems) [CS30] Batch process	Formulate in enclosed or ventilated mixing vessels [E46].
Mixing operations (open systems) [CS30] Open mixing process	Formulate in enclosed or ventilated mixing vessels [E46].

Mixing operations (open systems) [CS30] Hand mixing	Wear suitable gloves (tested to EN374) and eye protection [PPE19]. Avoid carrying out operation for more than 1 hour [OC11]. If this time is exceeded or dust is formed, wear a respirator conforming to EN140 with Type P1 filter or better.
Process sampling [CS2] Non-dedicated facility [CS81]	Wear suitable gloves (tested to EN374) and eye protection [PPE19]. Avoid carrying out operation for more than 1 hour [OC11]. If this time is exceeded or dust is formed, wear a respirator conforming to EN140 with Type P1 filter or better.
Process sampling [CS2] Dedicated facility [CS82]	Wear suitable gloves (tested to EN374) and eye protection [PPE19]. Avoid carrying out operation for more than 1 hour [OC11]. If this time is exceeded or dust is formed, wear a respirator conforming to EN140 with Type P1 filter or better.
Laboratory activities [CS36]	Handle in a fume cupboard or under extract ventilation [E83]. Wear suitable gloves tested to EN374 [PPE15].
Drum and small package filling [CS6] Small scale weighing [CS90]	Solid, low dustiness [OC1]: No specific measures identified [EI18]. Wear suitable gloves tested to EN374 [PPE15]. If dust is formed, wear a respirator conforming to EN140 with Type P1 filter or better.
Bulk transfers [CS14] (closed systems) [CS107] Bulk weighing [CS91]	Solid, high dustiness [OC6]: Transfer via enclosed lines [E52].
Bulk transfers [CS14] (closed systems) [CS107] Bulk weighing [CS91]	Solid, low dustiness [OC1]: Ensure material transfers are under containment or extract ventilation [E66].
Equipment cleaning and maintenance [CS39]	Wear suitable gloves (tested to EN374) and eye protection [PPE19]. Wear a respirator conforming to EN140 with Type P1filter or better [PPE29].
Storage [CS67] (closed systems) [CS107]	Store substance within a closed system [E84].
Storage [CS67] (open systems) [CS108]	Wear suitable gloves tested to EN374 [PPE15].
Section 2.2	**Control of environmental exposure**
Assessment method	EUSES
Product characteristics	Ash is composed of minerals, oxides and soluble salts of metals. Water solubility of ash is negligible but the constituents of Ash may become water soluble in a long run under changing environmental conditions. Hazardous to aquatic environment.
Amounts used blend, bitumiliuos	EU production: *10230* ktonnes per year
	Regional production: *10230* ktonnes per year
	Site production: ktonnes per year

	Fraction of main source: 0.6
Frequency and duration of use	Emission days per year: 300
Environmental factors not influenced by risk management	Local freshwater dilution fraction: 10
	Local marine dilution fraction: 100
Other Operational Conditions of use affecting environmental exposure	Release fraction to air from process: 2.5E10-3
	Release fraction to surfacewater from process: 1.0E10-3
	Release fraction to soil from process (regional): 0.0001 (ERC)
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Air emission controls to be added.
Organisation measures to prevent/limit release from site	Dispose of waste in accordance with environmental legislation.
Conditions and measures related to municipal sewage treatment plant	Not applicable
Conditions and measures related to external treatment of waste for disposal	Not applicable
Conditions and measures related to external recovery of waste	Not applicable
Other environmental control measures additional to above	Do not discharge directly in waterways.
Section 3	**Exposure Estimation**
3.1. Health	*When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted DNELs and the resulting risk characterisation ratios are expected to be less than 1 as indicated in Appendix A.3.*
3.2. Environment	*When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1.*
Section 4	**Guidance to check compliance with the Exposure Scenario**
4.1. Health	*Confirm that RMMs and OCs are as described or of equivalent efficiency. See Appendix A.3 for details of efficiencies and OC.*

4.2. Environment	*Confirm that RMMs and OCs are as described or of equivalent efficiency. The required efficiency removal from water is 92.5% which would be typically found in waste-water treatment plant.*

9.2. Distribution of Ash

Loading/unloading of Ash with dedicated or non-dedicated systems. Direct short-time contact with ash is typical. Some Ash ends up to waterways and to soil.

9.2.1. Exposure scenario

Section 1	**Exposure Scenario Title**
Title	**Distribution of Ash**
Use Descriptor	Sector of Use: Industrial and professional (SU6b, SU8, SU23)
	Process Categories: PROC2, PROC4, PROC8a, PROC8b, PROC15, PROC19
	Environmental Release Categories: ERC 1
Processes, tasks, activities covered	Loading/unloading of Ash, including its distribution and storage.
Section 2	**Operational conditions and risk management measures**
Section 2.1	**Control of worker exposure**
Product characteristics	
Physical form of product	Solid, not explosive or flammable, particle size distribution 0.2 - 2000 µm. Irritates skin and eyes.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) [G13]
Amounts used	*Not applicable*
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) [G2]
Human factors not influenced by risk management	*Not applicable*
Other Operational Conditions affecting worker exposure	Assumes activities are at ambient temperature (unless stated differently) [G17]
	Assumes a good basic standard of occupational hygiene is implemented [G1]
	Solid, high dustiness [OC6]
Risk Management Measures	
Process sampling [CS2] Non-dedicated facility [CS81]	Wear suitable gloves (tested to EN374) and eye protection [PPE19]. Avoid carrying out operation for more than 1 hour [OC11]. If this time is exceeded or dust is formed, wear a respirator conforming to EN140 with Type P1 filter or better. Outdoor [OC9].
Laboratory activities [CS36]	Handle in a fume cupboard or under extract ventilation [E83]. Wear suitable gloves tested to EN374 [PPE15].

Bulk transfers [CS14] (closed systems) [CS107]	Transfer via enclosed lines [E52].
Bulk transfers [CS14] (open systems) [CS108]	Wear suitable gloves tested to EN374 [PPE15]. Avoid carrying out operation for more than 1 hour [OC11]. If this time is exceeded or dust is formed, wear a respirator conforming to EN140 with Type P1 filter or better.
Equipment cleaning and maintenance [CS39]	Wear suitable gloves (tested to EN374) and eye protection [PPE19]. Wear a respirator conforming to EN140 with Type **P1** filter or better.
Mixing operations (open systems) [CS30]	Wear suitable gloves (tested to EN374) and eye protection [PPE19]. Avoid carrying out operation for more than 1 hour [OC11]. If above technical/organisational control measures are not feasible, then adopt following PPE [PPE30]: Wear a respirator conforming to EN140 with Type **P1** filter or better.
Storage [CS67] (closed systems) [CS107]	Store substance within a closed system [E84].
Storage [CS67] (open systems) [CS108]	Wear suitable gloves tested to EN374 [PPE15].
Section 2.2	**Control of environmental exposure**
Assessment method	EUSES
Product characteristics	Ash is composed of minerals, oxides and soluble salts of metals. Water solubility of ash is negligible but the constituents of Ash may become water soluble in a long run under changing environmental conditions. Hazardous to aquatic environment.
Amounts used	EU production: 34100 ktonnes per year
	Regional production: 34100 ktonnes per year
	Site production: 300 ktonnes per year
Frequency and duration of use	Emission days per year: 300
Environmental factors not influenced by risk management	Local freshwater dilution fraction: 10
	Local marine dilution fraction: 100
Other Operational Conditions of use affecting environmental exposure	Release fraction to air from process: 1.0E10-5
	Release fraction to (waste)water from process: 3.0E10-3
	Release fraction to soil from process (regional): 0.0001 (ERC)
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Air emission controls to be added.
Organisation measures to prevent/limit release from site	Dispose of waste in accordance with environmental legislation.
Conditions and measures related to	Not applicable

municipal sewage treatment plant	
Conditions and measures related to external treatment of waste for disposal	Not applicable
Conditions and measures related to external recovery of waste	Not applicable
Other environmental control measures additional to above	Do not discharge directly in waterways.
Section 3	**Exposure Estimation**
3.1. Health	*When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted DNELs and the resulting risk characterisation ratios are expected to be less than 1 as indicated in Appendix A.2.*
3.2. Environment	*When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1.*
Section 4	**Guidance to check compliance with the Exposure Scenario**
4.1. Health	*Confirm that RMMs and OCs are as described or of equivalent efficiency. See Appendix A.2 for details of efficiencies and OC.*
4.2. Environment	*Confirm that RMMs and OCs are as described or of equivalent efficiency. The required efficiency removal from water is 92.5% which would be typically found in waste-water treatment plant.*

9.7. Use of Ash as fertilizer

Wide dispersive professional use of substance and its mixtures.

9.7.1. Exposure scenario

Section 1	**Exposure Scenario Title**
Title	**Use of Ash as fertilizer**
Use Descriptor	Sector of Use: Professional (SU1)
	Process Categories: PROC1, PROC8a, PROC8b, PROC11
	Product Categories: PC12
	Environmental Release Categories: ERC 8E
Processes, tasks, activities covered	Spreading of Ash as such or as formulation with a dedicated equipment including repackaging, material transfers and storage.
Section 2	**Operational conditions and risk management measures**
Section 2.1	**Control of worker exposure**
Product characteristics	
Physical form of product	Solid, not explosive or flammable, particle size distribution 0.2 - 2000 µm. Irritates skin and eyes.
Concentration of substance in product	Covers percentage substance in the product up to 100 % (unless stated differently) [G13]
Amounts used	*Not applicable*
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently) [G2]
Human factors not influenced by risk management	*Not applicable*
Other Operational Conditions affecting worker exposure	Assumes activities are at ambient temperature (unless stated differently) [G17]
	Assumes a good basic standard of occupational hygiene is implemented [G1]
	Solid, low dustiness [OC1]
Risk Management Measures	
Bulk transfers [CS14]	No specific measures identified [EI18]. Outdoor [OC9]. If in contact with material, wear suitable gloves tested to EN374.
Spraying/fogging by machine application [CS25]	If in contact with material, wear suitable gloves tested to EN374. Outdoor [OC9].

Equipment cleaning and maintenance [CS39]	Wear suitable gloves tested to EN374 [PPE15].
Vessel / container cleaning [CS103]	Wear suitable gloves tested to EN374 [PPE15].
Storage [CS67]	Store finished products in closed containers (e.g. bulk tanks, drums, cans) [A5].
Section 2.2	**Control of environmental exposure**
Assessment method	EUSES
Product characteristics	Ash is composed of minerals, oxides and soluble salts of metals. Water solubility of ash is negligible but the constituents of Ash may become water soluble in a long run under changing environmental conditions. Hazardous to aquatic environment.
Amounts used	EU tonnage: 10230 ktonnes per year
	Regional tonnage: 10230 ktonnes per year
	Fraction of main source:
Frequency and duration of use	Intermittent release? Emission days per year:
Environmental factors not influenced by risk management	Local freshwater dilution fraction: 10
	Local marine dilution fraction: 100
Other Operational Conditions of use affecting environmental exposure	Release fraction to air from process (regional): 0.011
	Release fraction to freshwater from process: 0.05
	Release fraction to soil from process (regional): 0.01 (ERC)
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	
Organisation measures to prevent/limit release from site	Dispose of waste in accordance with environmental legislation.
Conditions and measures related to municipal sewage treatment plant	Not applicable
Conditions and measures related to external treatment of waste for disposal	Not applicable
Conditions and measures related to external recovery of waste	Not applicable
Other environmental control measures additional to above	Do not discharge directly in waterways.
Section 3	**Exposure Estimation**

3.1. Health	*When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted DNELs and the resulting risk characterisation ratios are expected to be less than 1 as indicated in Appendix A.9.*
3.2. Environment	*When the recommended risk management measures (RMMs) and operational conditions (OCs) are observed, exposures are not expected to exceed the predicted PNECs and the resulting risk characterisation ratios are expected to be less than 1.*
Section 4	**Guidance to check compliance with the Exposure Scenario**
4.1. Health	*Confirm that RMMs and OCs are as described or of equivalent efficiency. See Appendix A.9 for details of efficiencies and OC.*
4.2. Environment	*Confirm that RMMs and OCs are as described or of equivalent efficiency. The required efficiency removal from water is 92.5% which would be typically found in waste-water treatment plant.*

Appendix 2: Risk Characterisation

10.1. Production of Ash

10.1.1. Human health

10.1.1.1. Workers

Table 42. Substance specific RCRs

Contributing Scenarios	RCR (inhalation)	RCR (dermal)	RCR (all routes)
General exposures (closed systems) [CS15]	0.0100	0.0200	0.0300
General exposures (closed systems) [CS15]	0.0100	0.0043	0.0143
Process sampling [CS2] Non-dedicated facility [CS81]	0.7000	0.0004	0.7004
Process sampling [CS2] Dedicated facility [CS82]	0.5000	0.0196	0.5196
Laboratory activities [CS36]	0.0500	0.0043	0.0543
Bulk transfers [CS14] Use in contained systems [CS38]	0.0000	0.0986	0.0986
Bulk transfers [CS14] (open systems) [CS108]	0.0000	0.0200	0.0200
Equipment cleaning and maintenance [CS39] Cleaning of solids filtering equipment [CS120]	0.5000	0.1959	0.6959
Mixing operations (open systems) [CS30]	0.3500	0.0404	0.3904
Bulk product storage [CS85] (closed systems) [CS107]	0.0100	0.0200	0.0300
Bulk product storage [CS85] (open systems) [CS108]	0.0070	0.0020	0.0090

10.1.1.2. Consumers

Not relevant.

10.1.1.3. Indirect exposure of humans via the environment

Table 43. Indirect exposure of humans via the environment

Compartment	Daily dose (local)	DNEL	Daily dose/DNEL
Daily dose through intake of drinking water (mg/kg/d)	2.09E-03	7	2.99E-04
Daily dose through intake of fish (mg/kg/d)	1.7E-04	7	2.43E-05
Daily dose through intake of leaf crops (mg/kg/d)	0.0199	7	2.84E-03
Daily dose through intake of root crops (mg/kg/d)	8.81E-05	7	1.26E-05
Daily dose through intake of meat (mg/kg/d)	2.68E-06	7	3.83E-07
Daily dose through intake of milk (mg/kg/d)	4.99E-05	7	7.13E-06
Daily dose through intake of air (mg/kg/d)	7.6E-03	7	1.09E-03

10.1.2. Environment

10.1.2.1. Aquatic compartment (incl. sediment)

Table 44. Local PECs of aquatic compartment including sediment

Compartment	Local PEC	PNEC	PEC/PNEC (RCR)
Freshwater, dissolved (mg/l)	0.0795	0.213	0.3732
Marine water, dissolved (mg/l)	0.0106	0.0213	0.4977
Freshwater sediment (mg/kg wwt)	1.73E+03	4593	0.3767
Marine water sediment (mg/kg wwt)	231	459	0.5033

10.1.2.2. Terrestrial compartment

Table 45. Local PECs of terrestrial compartment

Compartment	Local PEC	PNEC	PEC/PNEC (RCR)
Agricultural soil (total) - 30 days (mg/kg wwt)	1.5E+03	18762	0.0799
Agricultural soil (groundwater) (mg/kg wwt)	0.017	not quantifiable	not quantifiable

10.1.2.3. Atmospheric compartment

Table 46. Local PECs of atmospheric compartment

Compartment	Local PEC	PNEC	PEC/PNEC (RCR)
Air (annual average) (mg/m3)	0.0266	not quantifiable	not quantifiable

10.1.2.4. Microbiological activity in sewage treatment systems

Table 47. Regional PECs of sewage treatment systems

Compartment	Regional PEC	PNEC	PEC/PNEC (RCR)
Sewage treatment plant (mg/l)		1	

10.3. Formulation and repacking of Ash

10.3.1. Human health

10.3.1.1. Workers

Table 53. Substance specific RCRs

Contributing Scenarios	RCR (inhalation)	RCR (dermal)	RCR (all routes)
Mixing operations (closed systems) [CS29]	0.0100	0.0043	0.0143
Mixing operations (open systems) [CS30]	0.0050	0.0986	0.1036
Mixing operations (open systems) [CS30]	0.0050	0.0100	0.0150
Mixing operations (open systems) [CS30]	0.0100	0.4041	0.4141
Process sampling [CS2] Non-dedicated facility [CS81]	0.0500	0.1959	0.2459
Process sampling [CS2] Dedicated facility [CS82]	0.0100	0.0980	0.1080
Laboratory activities [CS36]	0.0500	0.0043	0.0543
Drum and small package filling [CS6] Small scale weighing [CS90]	0.0010	0.0986	0.0996
Bulk transfers [CS14] (closed systems) [CS107] Bulk weighing [CS91]	0.0005	0.0986	0.0991
Bulk transfers [CS14] (closed systems) [CS107] Bulk weighing [CS91]	0.5000	0.0200	0.5200
Equipment cleaning and maintenance [CS39]	0.5000	0.1959	0.6959
Storage [CS67] (closed systems) [CS107]	0.0100	0.0200	0.0300
Storage [CS67] (open systems) [CS108]	0.0350	0.0099	0.0449

10.3.1.2. Consumers

Not relevant.

10.3.1.3. Indirect exposure of humans via the environment

Table 54. Indirect exposure of humans via the environment

Compartment	Daily dose (local)	DNEL	Daily dose/DNEL
Daily dose through intake of drinking water (mg/kg/d)	1.27E-03	7	1.81E-04
Daily dose through intake of fish (mg/kg/d)	1.03E-04	7	1.47E-05
Daily dose through intake of leaf crops (mg/kg/d)	2.24E-03	7	3.2E-04
Daily dose through intake of root crops (mg/kg/d)	8.81E-05	7	1.26E-05
Daily dose through intake of meat (mg/kg/d)	2.42E-06	7	3.46E-07
Daily dose through intake of milk (mg/kg/d)	9.82E-03	7	1.40E-03
Daily dose through intake of air (mg/kg/d)	0.185	7	0.026

10.3.2. Environment

10.3.2.1. Aquatic compartment (incl. sediment)

Table 55. Local PECs of aquatic compartment including sediment

Compartment	Local PEC	PNEC	PEC/PNEC (RCR)
Freshwater, dissolved (mg/l)	0.0445	0.213	0.2089
Marine water, dissolved (mg/l)	7.11E-03	0.0213	0.3338
Freshwater sediment (mg/kg wwt)	967	4593	0.2105
Marine water sediment (mg/kg wwt)	155	459	0.3377

10.3.2.2. Terrestrial compartment

Table 56. Local PECs of terrestrial compartment

Compartment	Local PEC	PNEC	PEC/PNEC (RCR)
Agricultural soil (total) - 30	1.5E+03	18762	0.0799

Compartment	Local PEC	PNEC	PEC/PNEC (RCR)
days (mg/kg wwt)			
Agricultural soil (groundwater) (mg/kg wwt)	0.017	not quantifiable	not quantifiable

10.3.2.3. Atmospheric compartment

Table 57. Local PECs of atmospheric compartment

Compartment	Local PEC	PNEC	PEC/PNEC (RCR)
Air (annual average) (mg/m3)	2.98E-03	not quantifiable	not quantifiable

10.3.2.4. Microbiological activity in sewage treatment systems

Table 58. Regional PECs of sewage treatment systems

Compartment	Regional PEC	PNEC	PEC/PNEC (RCR)
Sewage treatment plant (mg/l)	[not relevant]	1	[not relevant]

10.2. Distribution of Ash

10.2.1. Human health

10.2.1.1. Workers

Table 48. Substance specific RCRs

Contributing Scenarios	RCR (inhalation)	RCR (dermal)	RCR (all routes)
Process sampling [CS2] Non-dedicated facility [CS81]	0.7000	0.0004	0.7004
Process sampling [CS2] Dedicated facility [CS82]	0.5000	0.0196	0.5196
Laboratory activities [CS36]	0.0500	0.0043	0.0543
Bulk transfers [CS14] (closed systems) [CS107]	0.0875	0.0986	0.1861
Bulk transfers [CS14] (open systems) [CS108]	0.7000	0.0020	0.7020
Equipment cleaning and maintenance [CS39]	0.5000	0.1959	0.6959
Mixing operations (open systems) [CS30]	0.1500	0.4041	0.5541
Storage [CS67] (closed systems) [CS107]	0.0100	0.0200	0.0300
Storage [CS67] (open systems) [CS108]	0.3500	0.0020	0.3520

10.2.1.2. Consumers

Not relevant.

10.2.2. Environment

10.2.2.1. Aquatic compartment (incl. sediment)

Table 49. Local PECs of aquatic compartment including sediment

Compartment	Local PEC	PNEC	PEC/PNEC (RCR)
Freshwater, dissolved (mg/l)		0.213	
Marine water, dissolved (mg/l)		0.0213	
Freshwater sediment		4593	

Compartment	Local PEC	PNEC	PEC/PNEC (RCR)
(mg/kg wwt)			
Marine water sediment (mg/kg wwt)		459	

10.2.2.2. Terrestrial compartment

Table 50. Local PECs of terrestrial compartment

Compartment	Local PEC	PNEC	PEC/PNEC (RCR)
Agricultural soil (total) - 30 days (mg/kg wwt)		18762	
Agricultural soil (groundwater) (mg/kg wwt)		not quantifiable	not quantifiable

10.2.2.3. Atmospheric compartment

Table 51. Local PECs of atmospheric compartment

Compartment	Local PEC	PNEC	PEC/PNEC (RCR)
Air (annual average) (mg/m3)		not quantifiable	not quantifiable

10.2.2.4. Microbiological activity in sewage treatment systems

Table 52. Regional PECs of sewage treatment systems

Compartment	Regional PEC	PNEC	PEC/PNEC (RCR)
Sewage treatment plant (mg/l)		1	

10.7. Use of Ash as fertilizer

10.7.1. Human health

10.7.1.1. Workers

Table 77. Substance specific RCRs

Contributing Scenarios	RCR (inhalation)	RCR (dermal)	RCR (all routes)
Bulk transfers [CS14]	0.0350	0.0986	0.1336
Spraying/fogging by machine application [CS25]	0.0700	0.0306	0.1006
Equipment cleaning and maintenance [CS39]	0.0500	0.1959	0.2459
Vessel / container cleaning [CS103]	0.0500	0.1959	0.2459
Storage [CS67]	0.0002	0.0043	0.0045

10.7.1.2. Consumers

Not relevant.

10.7.1.3. Indirect exposure of humans via the environment

Table 78. Indirect exposure of humans via the environment

Compartment	Daily dose (local)	DNEL	Daily dose/DNEL
Daily dose through intake of drinking water (mg/kg/d)	1.27E-03	7	1.81E-04
Daily dose through intake of fish (mg/kg/d)	1.03E-04	7	1.47E-05
Daily dose through intake of leaf crops (mg/kg/d)	25.2	7	3.6
Daily dose through intake of root crops (mg/kg/d)	1.21E-04	7	1.73E-05
Daily dose through intake of meat (mg/kg/d)	3.57E-04	7	5.1E-05
Daily dose through intake of milk (mg/kg/d)	6.66E-03	7	9.51E-04
Daily dose through intake of air (mg/kg/d)	9.6	7	1.371

10.7.2. Environment

10.7.2.1. Aquatic compartment (incl. sediment)

Table 79. Local PECs of aquatic compartment including sediment

Compartment	Local PEC	PNEC	PEC/PNEC (RCR)
Freshwater, dissolved (mg/l)	0.0445	0.213	0.2089
Marine water, dissolved (mg/l)	7.11E-03	0.0213	0.3338
Freshwater sediment (mg/kg wwt)	967	4593	0.2105
Marine water sediment (mg/kg wwt)	155	459	0.3376

10.7.2.2. Terrestrial compartment

Table 80. Local PECs of terrestrial compartment

Compartment	Local PEC	PNEC	PEC/PNEC (RCR)
Agricultural soil (total) - 30 days (mg/kg wwt)	2.05E+03	18762	0.1093
Agricultural soil (groundwater) (mg/kg wwt)	0.0234	not quantifiable	not quantifiable

10.7.2.3. Atmospheric compartment

Table 81. Local PECs of atmospheric compartment

Compartment	Local PEC	PNEC	PEC/PNEC (RCR)
Air (annual average) (mg/m3)	33.6	not quantifiable	not quantifiable

10.7.2.4. Microbiological activity in sewage treatment systems

Table 82. Regional PECs of sewage treatment systems

Compartment	Regional PEC	PNEC	PEC/PNEC (RCR)
Sewage treatment plant (mg/l)	[not relevant]	1	[not relevant]