1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : MultiVitamin Complex

REACH Registration Number : 01-2119968268-22 (nicotinamide)

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

Use of the Substance/Mixture : Ingredient for personal care products, For cosmetic products (skin and hair care)

1.3 Details of the supplier of the safety data sheet

Company : 146 Glasgow Road, Longcroft, Stirlingshire, FK4 1QL United Kingdom

Telephone : 01324 841353

2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Eye irritation, Category 2 — H319: Causes serious eye irritation.

Classification (67/548/EEC, 1999/45/EC)

Irritant — R36: Irritating to eyes.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Warning

Hazard statements : H319 Causes serious eye irritation.

Precautionary statements :

Prevention:

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/ eye protection/ face protection.

Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue

		rinsing.
	P337 + P313	If eye irritation persists: Get medical advice/ attention.

2.3 Other hazards

Risk of dust explosion.

3. Composition/information on ingredients

Brief description of the product : Mixture (preparation) containing active ingredients and auxiliary substances

3.2 Mixtures

Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
nicotinamide	98-92-0 202-713-4	Xi; R36	Eye Irrit. 2; H319	>= 25 - < 50

For the full text of the R-phrases mentioned in this Section, see Section 16.
For the full text of the H-Statements mentioned in this Section, see Section 16.

Further ingredients

Chemical Name	CAS-No. EC-No. Registration number	Classification	GHS Classification	Concentration [%]
calcium pantothenate , D-form	**137-08-6** **205-278-9**			>= 10 - < 25
pyridoxine hydrochloride	58-56-0 200-386-2			>= 1 - < 5

4. First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Clean mouth with water and drink afterwards plenty of water.

Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
Obtain medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : No specific symptoms known.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water
Foam

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : None known.

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Further information : Consider dust explosion hazard.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment.
Ensure adequate ventilation.
Avoid dust formation.
Avoid breathing dust.

6.2 Environmental precautions

Try to prevent the material from entering drains or water courses.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust.

6.4 Reference to other sections

For personal protection see section 8.
For disposal considerations see section 13.

7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Avoid contact with skin and eyes.
For personal protection see section 8.

Smoking, eating and drinking should be prohibited in the application area.

Advice on protection against fire and explosion : Avoid dust formation.
Provide appropriate exhaust ventilation at places where dust is formed.
Take precautionary measures against static discharges.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Protect against light.
Protect from humidity.

: Keep container tightly closed and dry.

Storage temperature : < 25 °C

7.3 Specific end use(s)

Specific use(s) : Not applicable

8. Exposure controls/personal protection

8.1 Control parameters

Components	CAS-No.	Value (Form of exposure)	Control parameters	Update	Basis
calcium pantothenate , D-form	137-08-6	TWA	10 mg/m3		DSM Internal Limit
pyridoxine hydrochloride	58-56-0	TWA	2 mg/m3		DSM Internal Limit

DNEL
nicotinamide : Inhalation, Workers, Industrial use: 43,75 mg/m3
Potential health effects: Long-term systemic effects

Inhalation, Workers, Professional use: 21,88 mg/m3
Potential health effects: Long-term systemic effects

Skin contact, Workers: 12,5 mg/kg bw/d
Potential health effects: Long-term systemic effects

Ingestion, Professional use: 12,5 mg/kg bw/d
Potential health effects: Long-term systemic effects

PNEC
nicotinamide : Fresh water: 1 mg/l

Marine water: 0,1 mg/l

Fresh water sediment: 1,1 mg/l

Marine sediment: 0,11 mg/l

Sewage treatment plant: 423,5 mg/l

Soil: 0,33 mg/l

8.2 Exposure controls

Personal protective equipment

Respiratory protection	:	In the case of dust or aerosol formation use respirator with an approved filter.
Hand protection	:	Glove material: for example nitrile rubber
	:	Consider the hazard characteristics of this product and any special workplace conditions when selecting the appropriate type of protective gloves.
Eye protection	:	Safety glasses with side-shields
Skin and body protection	:	Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	fine powder
Colour	:	white - off-white
Odour	:	No information available.
Odour Threshold	:	No information available.
pH	:	6 - 9 (5%) (as aqueous solution)
Melting point/range	:	not determined
Boiling point/boiling range	:	not determined
Flash point	:	Not applicable
Flammability (solid, gas)	:	May form combustible dust concentrations in air
Vapour pressure	:	Not applicable
Relative vapour density	:	Not applicable
Density	:	not determined
Water solubility	:	dispersible
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No data available
Thermal decomposition	:	Decomposes on heating. Potential for exothermic hazard
Explosive properties	:	Not explosive
Oxidizing properties	:	No data available

9.2 Other information

Combustibility index for deposited dust	:	3 (25 °C)
Minimum ignition energy	:	30 - 100 mJ (Milled sample, Median value of the tested

		sample < 0,063 mm, EN 13821) The Minimum ignition energy (MIE) of a dust/air mix depends on the particle size the water content and the temperature of the dust. The finer and the dryer the dust the lower the MIE.
	:	General remark: The indicated dust explosion characteristics are only valid for this product and are sensitive to the sample's parameters.
Powder volume resistivity	:	ca. 3E+12 Ohmm (Product sample, Median value of the tested sample 0,071 mm) The material can accumulate static charge and can therefore cause electrical ignition.
Minimum ignition temperature of a dust/air mix	:	480 °C (Median value of the tested sample 0,071 mm) determined in the BAM oven

10. Stability and reactivity

10.1 Reactivity

No hazards to be specially mentioned.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Dust may form explosive mixture in air.

10.4 Conditions to avoid

Heat.

10.5 Incompatible materials

Strong acids and strong bases
Strong oxidizing agents

10.6 Hazardous decomposition products

No decomposition if used as directed.

11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity	:	Acute toxicity estimate : > 5 000 mg/kg (Calculation method)
Skin corrosion/irritation	:	May cause skin irritation in susceptible persons.
Eye irritation nicotinamide	:	Irritating to eyes.
Respiratory or skin sensitisation	:	No known indication for sensitizing effect.
Genotoxicity in vivo	:	No indication for mutagenicity known.

Carcinogenicity	:	This information is not available.
Teratogenicity	:	No indication for teratogenicity known.
STOT - repeated exposure	:	This information is not available.
Further information	:	No data is available on the product itself.
	:	May cause irritation of respiratory tract.

12. Ecological information

12.1 Toxicity

No data is available on the product itself.

12.2 Persistence and degradability

No data is available on the product itself.

12.3 Bioaccumulative potential

Bioaccumulation	:	No data available
Partition coefficient: n-octanol/water	:	Not applicable

12.4 Mobility in soil

Distribution among environmental compartments	:	No data available

12.5 Results of PBT and vPvB assessment

Assessment	:	not determined

12.6 Other adverse effects

Additional ecological information	:	There is no data available for this product.

13. Disposal considerations

13.1 Waste treatment methods

Product	:	Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging	:	Dispose of as unused product. Do not re-use empty containers.

14. Transport information

14.1 UN number

ADR
Not dangerous goods
RID
Not dangerous goods
IMDG
Not dangerous goods
IATA
Not dangerous goods

14.2 Proper shipping name

ADR
Not dangerous goods
RID
Not dangerous goods
IMDG
Not dangerous goods
IATA
Not dangerous goods

14.3 Transport hazard class

ADR
Not dangerous goods
RID
Not dangerous goods
IMDG
Not dangerous goods
IATA
Not dangerous goods

14.4 Packing group

ADR
Not dangerous goods
RID
Not dangerous goods
IMDG
Not dangerous goods
IATA
Not dangerous goods

14.5 Environmental hazards

ADR
Not dangerous goods
RID
Not dangerous goods
IMDG
Not dangerous goods
IATA
Not dangerous goods

14.6 Special precautions for user

Not classified as dangerous in the meaning of transport regulations.

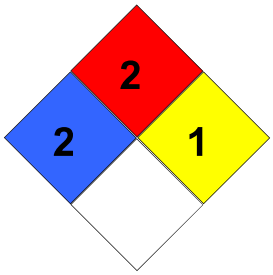
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

15. Regulatory information

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

NFPA Classification : Health hazard: 2
Fire Hazard: 2
Reactivity Hazard: 1



15.2 Chemical Safety Assessment

nicotinamide: A Chemical Safety Assessment has been carried out for this substance.

16. Other information

Full text of R-phrases referred to under sections 2 and 3

R36	Irritating to eyes.

Full text of H-Statements referred to under sections 2 and 3.

H319	Causes serious eye irritation.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Abbreviations: 67/548/EEC= Dangerous Substances Directive. 1999/45/EC= Dangerous Preparations Directive. Regulation (EC) No. 1272/2008= Regulation on classification, labelling and packaging of substances and mixtures. DNEL= Derived No-Effect Level. PNEC= Predicted No-Effect Concentration. NFPA= National Fire Protection Association (USA). IATA= International Air Transport Association. IMDG= International Maritime Dangerous Goods. RID= International Rule for Transport of Dangerous Substances by Railway; ADR= European Agreement concerning the International Carriage of Dangerous Goods by Road. TWA= Time Weighted Average. STEL= Short term exposure limit. WEL = Workplace Exposure Limit.

Annex

	Title of Exposure Scenario
ES 1:	Formulation (nicotinamide - pure substance)
ES 2:	Used in personal care products / Professional use (nicotinamide - pure substance)
ES 3:	Private use of cosmetics and personal care products (nicotinamide - pure substance)

Abbreviations

ART = Advanced REACH Tool
ES = Exposure scenario
PEC = Predicted exposure concentration
RCR = Risk characterisation ratio: "Level of Exposure/DNEL" or "PEC/PNEC"

ES 1: Formulation (nicotinamide - pure substance)

1. Scenario description

Main User Groups	:	**SU 3:** Industrial uses: Uses of substances as such or in preparations at industrial sites
Process categories	:	**PROC1:** Use in closed process, no likelihood of exposure **PROC2:** Use in closed, continuous process with occasional controlled exposure **PROC3:** Use in closed batch process (synthesis or formulation) **PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises **PROC5:** Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) **PROC8a:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities **PROC8b:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities **PROC9:** Transfer of substance or preparation into small containers (dedicated filling line, including weighing) **PROC13:** Treatment of articles by dipping and pouring **PROC14:** Production of preparations or articles by tabletting, compression, extrusion, pelletisation **PROC15:** Use as laboratory reagent
Environmental Release Categories	:	**ERC2:** Formulation of preparations

2.1 Contributing scenario controlling environmental exposure for: ERC2

Amount used

Daily amount per site	:	<= 0,5 t
Annual amount per site	:	<= 100 t

Environment factors not influenced by risk management

Flow rate of receiving surface water	:	18 000 m3/d

Other given operational conditions affecting environmental exposure

Emission or Release Factor: Air	:	2,5 %
Emission or Release Factor: Water	:	2 %
Emission or Release Factor: Soil	:	0,01 %

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	:	Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent	:	2 000 m3/d
Effectiveness (of a measure)	:	87,4 %

Conditions and measures related to external treatment of waste for disposal

Disposal methods	:	Dispose of contents/container in accordance with local regulation.

2.2 Contributing scenario controlling worker exposure for: PROC1

Product characteristics

Concentration of the Substance in Mixture/Article	:	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	:	Solid substance

Frequency and duration of use

Frequency of use	:	<= 8 hours/day

Other operational conditions affecting workers exposure

Outdoor / Indoor	:	Indoor use

Technical conditions and measures

Handle substance within a closed system. Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

2.3 Contributing scenario controlling worker exposure for: PROC2, PROC3, PROC13, PROC15

Product characteristics

Concentration of the Substance in Mixture/Article	:	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	:	Solid substance

Frequency and duration of use

Frequency of use	:	<= 8 hours/day

Other operational conditions affecting workers exposure

Outdoor / Indoor	:	Indoor use

Technical conditions and measures

Provide adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

2.4 Contributing scenario controlling worker exposure for: PROC4

Product characteristics

Concentration of the Substance in Mixture/Article	:	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	:	Solid substance

Frequency and duration of use

Frequency of use	:	<= 8 hours/day

Other operational conditions affecting workers exposure

Outdoor / Indoor	:	Indoor use

Technical conditions and measures
Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. (Effectiveness (of a measure): 30 %)

Organisational measures to prevent /limit releases, dispersion and exposure
Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374.

2.5 Contributing scenario controlling worker exposure for: PROC5

Product characteristics

Concentration of the Substance in Mixture/Article	:	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	:	Solid substance

Frequency and duration of use

Frequency of use	:	<= 8 hours/day

Other operational conditions affecting workers exposure

Outdoor / Indoor	:	Indoor use

Technical conditions and measures
Ensure adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure
Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374.

2.6 Contributing scenario controlling worker exposure for: PROC8a

Product characteristics

Concentration of the Substance in Mixture/Article	:	Covers the percentage of the substance in the product up to 100 % (unless stated differently).
Physical Form (at time of use)	:	Solid substance

Frequency and duration of use

Frequency of use	:	<= 8 hours/day

Other operational conditions affecting workers exposure

Outdoor / Indoor	:	Indoor use

Technical conditions and measures
Provide a good standard of general or controlled ventilation (5 to 15 air changes per hour). (Effectiveness (of a measure): 70 %)

Organisational measures to prevent /limit releases, dispersion and exposure
Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection, hygiene and health evaluation
Wear suitable gloves tested to EN374.

2.7 Contributing scenario controlling worker exposure for: PROC8b, PROC9

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).

Physical Form (at time of use) : Solid substance

Frequency and duration of use

Frequency of use : <= 8 hours/day

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor use

Technical conditions and measures

Ensure adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

2.8 Contributing scenario controlling worker exposure for: PROC14

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 100 % (unless stated differently).

Physical Form (at time of use) : Solid substance

Frequency and duration of use

Frequency of use : <= 8 hours/day

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor use

Technical conditions and measures

Ensure adequate ventilation.

Organisational measures to prevent /limit releases, dispersion and exposure

Ensure operatives are trained to minimise exposures.

Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure (PEC)	RCR
ERC2	EUSES		Fresh water		0,065 mg/l	0,065
			Fresh water sediment		0,332 mg/kg dry weight	0,3
			Marine water		0,007 mg/l	0,065
			Marine sediment		0,033 mg/kg dry weight	0,3

			Sewage treatment plant		0,632 mg/l	< 0,01
			Soil		0,027 mg/kg dry weight	0,081

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC1	ECETOC TRA	Worker (Industrial)	Inhalation: long-term, systemic	0,01 mg/m³	< 0,01
PROC1			Dermal: long-term, systemic	0,007 mg/kg bw/d	< 0,01
PROC2, PROC3, PROC13, PROC15	ECETOC TRA	Worker (Industrial)	Inhalation: long-term, systemic	5 mg/m³	0,114
PROC2, PROC3, PROC13, PROC15			Dermal: long-term, systemic	<= 2,7 mg/kg bw/d	<= 0,22
PROC4	ECETOC TRA	Worker (Industrial)	Inhalation: long-term, systemic	35 mg/m³	0,8
PROC4			Dermal: long-term, systemic	1,4 mg/kg bw/d	0,11
PROC5	ECETOC TRA	Worker (Industrial)	Inhalation: long-term, systemic	25 mg/m³	0,57
PROC5			Dermal: long-term, systemic	2,7 mg/kg bw/d	0,22
PROC8a	ECETOC TRA	Worker (Industrial)	Inhalation: long-term, systemic	15 mg/m³	0,34
PROC8a			Dermal: long-term, systemic	2,7 mg/kg bw/d	0,22
PROC8b, PROC9	ECETOC TRA	Worker (Industrial)	Inhalation: long-term, systemic	<= 25 mg/m³	<= 0,57
PROC8b, PROC9			Dermal: long-term, systemic	<= 2,7 mg/kg bw/d	<= 0,22
PROC14	ECETOC TRA	Worker (Industrial)	Inhalation: long-term, systemic	10 mg/m³	0,23
PROC14			Dermal: long-term, systemic	0,7 mg/kg bw/d	0,06

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

EUSES = EUSES version 2.1.2

ES 2: Used in personal care products / Professional use (nicotinamide - pure substance)

1. Scenario description

Main User Groups	:	**SU 22:** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	:	**PROC5:** Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) **PROC8a:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities **PROC8b:** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities **PROC9:** Transfer of substance or preparation into small containers (dedicated filling line, including weighing) **PROC13:** Treatment of articles by dipping and pouring **PROC14:** Production of preparations or articles by tabletting, compression, extrusion, pelletisation **PROC15:** Use as laboratory reagent
Environmental Release Categories	:	**ERC8a:** Wide dispersive indoor use of processing aids in open systems

2.1 Contributing scenario controlling environmental exposure for: ERC8a

Product characteristics

Annual amount per site (Msafe)	:	999 000 kg
Remarks	:	Msafe is the maximum amount of substance or product which may be used safely under the conditions defined in the environmental part of the exposure scenario.

Frequency and duration of use

Continuous exposure	:	365 days/year

Environment factors not influenced by risk management

Flow rate of receiving surface water	:	18 000 m3/d

Other given operational conditions affecting environmental exposure

Emission or Release Factor: Air	:	0 %
Emission or Release Factor: Water	:	100 %
Emission or Release Factor: Soil	:	0 %

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	:	Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent	:	2 000 m3/d
Effectiveness (of a measure)	:	87,4 %

Conditions and measures related to external treatment of waste for disposal

Disposal methods	:	Dispose of contents/container in accordance with local regulation.

2.2 Contributing scenario controlling worker exposure for: PROC5, PROC8a, PROC8b, PROC9, PROC13, PROC14, PROC15

Product characteristics

Concentration of the Substance in Mixture/Article : Covers the percentage of the substance in the product up to 5%.

Physical Form (at time of use) : Solid mixture, Dustiness: Low

Frequency and duration of use

Frequency of use : <= 8 hours/day

Other operational conditions affecting workers exposure

Outdoor / Indoor : Indoor use

Technical conditions and measures

No specific risk management measures required.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure (PEC)	RCR
ERC8a	EUSES		Fresh water		0,005 mg/l	< 0,01
			Fresh water sediment		0,028 mg/kg dry weight	0,025
			Marine water		0,0005 mg/l	< 0,01
			Marine sediment		0,003 mg/kg dry weight	0,025
			Sewage treatment plant		0,035 mg/l	< 0,01
			Soil		0,007 mg/kg dry weight	0,02

Workers

Contributing Scenario	Exposure Assessment Method	Specific conditions	Value	Level of Exposure	RCR
PROC5, PROC8a, PROC8b, PROC9, PROC13, PROC14, PROC15	ART	Worker (Professional)	Inhalation: long-term, systemic	<= 5 mg/m³	<= 0,23
see above	ECETOC TRA		Dermal: long-term, systemic	<= 2,7 mg/kg bw/d	<= 0,22

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

EUSES = EUSES version 2.1.2

ES 3: Private use of cosmetics and personal care products (nicotinamide - pure substance)

1. Scenario description

Main User Groups : **SU 21:** Consumer uses: Private households (= general public = consumers)

Chemical product category : **PC39:** Cosmetics, personal care products

Environmental Release Categories : **ERC8a:** Wide dispersive indoor use of processing aids in open systems

2.1 Contributing scenario controlling environmental exposure for: ERC8a

Annual amount supplied into the consumer use(s) (Msafe) : 999 000 kg

Remarks : Msafe is the maximum amount of substance or product which may be used safely under the conditions defined in the environmental part of the exposure scenario.

Frequency and duration of use

Continuous exposure : 365 days/year

Environment factors not influenced by risk management

Flow rate : 18 000 m3/d

Other given operational conditions affecting environmental exposure

Emission or Release Factor: Air : 0 %

Emission or Release Factor: Water : 100 %

Emission or Release Factor: Soil : 0 %

Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant : Municipal sewage treatment plant

Flow rate of sewage treatment plant effluent : 2 000 m3/d

Effectiveness (of a measure) : 87,4 %

Conditions and measures related to external treatment of waste for disposal

Disposal methods : Dispose of contents/container in accordance with local regulation.

3. Exposure estimation and reference to its source

Environment

Contributing Scenario	Exposure Assessment Method	Specific conditions	Compartment	Value	Level of Exposure (PEC)	RCR
ERC8a	EUSES		Fresh water		0,005 mg/l	< 0,01
			Fresh water sediment		0,028 mg/kg dry weight	0,025
			Marine water		0,0005 mg/l	< 0,01
			Marine sediment		0,003 mg/kg dry weight	0,025
			Sewage treatment plant		0,035 mg/l	< 0,01
			Soil		0,007 mg/kg dry weight	0,02

Risk to consumers' health does not need to be assessed as this is already covered by the Cosmetic Directive 76/768/EEC.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

EUSES = EUSES version 2.1.2