Safety Data Sheet according to UK REACH Regulations SI 2020/1577



Revision date: 1/19/2022 Supercedes: 9/30/2021

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier:	
Product trade name: Company product number: UK REACH registration number: Substance name: Substance identification number: Other means of identification:	Kalama* Cinnamic Alcohol, FCC CNALCFCC DUIN Submitted Cinnamyl alcohol EC 203-212-3 Cinnamyl alcohol, 3-Phenyl-2-propen-1-ol, Styryl carbinol
1.2. Relevant identified uses of the substance of	r mixture and uses advised against:
Uses:	Flavor and fragrance ingredient/additive. See Annex for covered uses. Intermediate.
Uses advised against:	None identified
1.3. Details of the supplier of the safety data sh	eet:
Manufacturer/Supplier:	Emerald Kalama Chemical, LLC 1296 NW Third Street Kalama, WA 98625 United States Telephone: +1-360-673-2550
UK Only Representative:	1499 SE Tech Center Place, Suite 300 Vancouver, WA 98683 United States Telephone: +1-360-954-7100 Penman Consulting Ltd Medina House, 2 Station Avenue Bridlington, East Yorkshire England Y016 4LZ Telephone: +44 1367 718 474 email: pcltd09@penmanconsulting.com
For further information about this SDS:	Email: product.compliance@emeraldmaterials.com
1.4. Emergency telephone number:	

ChemTel (24 hours): 1-800-255-3924 (USA); +1-813-248-0585 (outside USA).

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture:

Product classification according to GB CLP as amended:

Skin Irritation, category 2, H315 Skin Sensitizer, category 1, H317

See Section 2.2 for full text of H (Hazard) statements.

2.2. Label elements:

Product labeling according to GB CLP as amended: Hazard pictogram(s):



Signal word: Warning Hazard statements: H315 Causes skin irritation. H317 May cause an allergic skin reaction. Precautionary statements:

P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P264 Wash skin thoroughly after handling. P280 Wear protective gloves. P302+P352 IF ON SKIN: Wash with plenty of soap and water. P333+P313 If skin irritation or rash occurs: Get medical advice/attention. P362+P364 Take off contaminated clothing and wash it before reuse.

Supplemental information:

No Additional Information Precautionary statements are listed according to the United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS) - Annex III and GB CLP Guidance on Labelling and Packaging. Regulations in individual countries/regions may determine which statements are required on the product label. See product label for specifics.

2.3. Other hazards:

PBT/vPvB criteria:

Other hazards:

This product does not meet the PBT and vPvB classification criteria. No Additional Information

See Section 11 for toxicological information.

SECTION 3: Composition/information on ingredients

3.1. Substance:

CAS-No.	Chemical Name	Weight%	Classification	H Statements
000104-54-1	Cinnamyl alcohol	99-100	Skin Irrit. 2- Skin Sens. 1	H315-317
000104-55-2	Cinnamaldehyde	0.1-<0.3	Acute Tox. 4 Dermal- Eye Irrit. 2- Skin Irrit. 2- Skin Sens. 1	H312-315-317-319
CAS-No.	Chemical Name	Weight%	UK REACH Registration No.	EC/List Number
000104-54-1	Cinnamyl alcohol	99-100	DUIN Submitted	203-212-3
000104-55-2	Cinnamaldehyde	0.1-<0.3	Impurity	203-213-9
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See Section 16 for full text of H (Hazard) statements.

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits.

SECTION 4: First aid measures

4.1. Description of first aid measures:

General: If irritation or other symptoms occur or persist from any route of exposure, remove the affected individual from the area: see a physician/get medical attention.

Eve contact: Any material that contacts the eve should be washed out immediately with water. Get medical attention if symptoms occur.

Skin contact: Immediately remove contaminated clothing and shoes. Wash the affected area with plenty of soap and water until no evidence of the chemical remains (at least 15-20 minutes). Launder clothing before reuse. If skin irritation occurs: Get medical advice/attention.

Inhalation: If affected, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a POISON CENTER or doctor/physician if you feel unwell.

Ingestion: Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse out the mouth with water. Get medical attention immediately.

Protection of first aid responders: Wear proper personal protective clothing and equipment.

4.2. Most important symptoms and effects, both acute and delayed:

Irritation. Pre-existing skin problems may be aggravated by prolonged or repeated contact. See section 11 for additional information.

4.3. Indication of any immediate medical attention and special treatment needed:

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media:

Suitable: Carbon dioxide, dry chemical, foam, water fog. Unsuitable: None known.

5.2. Special hazards arising from the substance or mixture:

Unusual fire/explosion hazards: Product is not considered a fire hazard, but will burn if ignited.

Hazardous combustion products: Irritating or toxic substances may be emitted upon burning, combustion or decomposition. See section 10 (10.6 Hazardous decomposition products) for additional information.

5.3. Advice for firefighters:

Wear self-contained breathing apparatus (SCBA) equipped with a full facepiece and operated in a pressure-demand mode (or other positive pressure mode) and approved protective clothing. Personnel without suitable respiratory protection must leave the area to prevent significant exposure to hazardous gases from combustion, burning or decomposition. In an enclosed or poorly ventilated area, wear SCBA during cleanup immediately after a fire as well as during the attack phase of firefighting operations.

See section 9 for additional information.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:

See Section 8 for recommendations on the use of personal protective equipment. If spilled in an enclosed area, ventilate. Personal Protective Equipment must be worn.

6.2. Environmental precautions:

Do not flush product into public sewer, water systems or surface waters.

6.3. Methods and material for containment and cleaning up:

Contain spill. Wear proper personal protective clothing and equipment. Sweep up carefully and place into container for reuse or disposal. Avoid causing dust. Place into labeled, closed container; store in safe location to await disposal. Change contaminated clothing and launder before reuse.

6.4. References to other sections:

See Section 8 for recommendations on the use of personal protection and Section 13 for waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling:

As with any chemical product, use good laboratory/workplace procedures. Wash thoroughly after handling this product. Always wash up before eating, smoking or using the facilities. Use under well-ventilated conditions. Avoid eye and skin contact. Avoid breathing dust. Avoid drinking, tasting, swallowing or ingesting this product. Wash contaminated clothing before reuse. Provide eyewash fountains and safety showers in the work area.

7.2. Conditions for safe storage, including any incompatibilities:

Store cool and dry, under well-ventilated conditions. Store this material away from incompatible substances (see section 10). Do not store in open, unlabeled or mislabeled containers. Keep container closed when not in use. Product can easily oxidize. It is recommended that opened containers be padded with nitrogen.

7.3. Specific end use(s):

Further information concerning special risk management measures: see annex of this safety data sheet (exposure scenarios).

SECTION 8: Exposure controls / personal protection

8.1. Control parameters:

Cinnamyl alcohol

Occupational exposure limits (OEL):

Chemical Name	ACGIH - TWA/Ceiling	ACGIH - STEL
Cinnamyl alcohol	N/E	N/E
Cinnamaldehyde	N/E	N/E
Chemical Name	UK WEL	
Cinnamyl alcohol	N/E	
Cinnamaldehyde	N/E	
N/E-Not ostablished (no ovnosuro li	mits astablished for the listed substances for listed country	(region/organization)

N/E=Not established (no exposure limits established for the listed substances for listed country/region/organization).

Derived No Effect Levels (DNELs):

<u>Cillianityi alconol</u>					
Population	Route	Acute (local)	Acute (systemic)	Long Term (local)	Long Term (systemic)
Workers	Inhalation	N/E	N/E	N/E	8,8 mg/m3
Workers	Dermal	N/E	N/E	N/E	2,5 mg/kg bw/day
General population	Inhalation	N/E	N/E	N/E	1,32 mg/m3
General population	Dermal	N/E	N/E	N/E	0,892 mg/kg bw/day
General population	Oral	N/E	N/E	N/E	0,892 mg/kg bw/day
Human via the environment	Inhalation	N/E	N/E	N/E	1,32 mg/m3
Human via the environment	Oral	N/E	N/E	N/E	0,892 mg/kg bw/day

Predicted No Effect Concentration (PNECs):

Cinnamyl alcohol	
Compartment	PNEC
Freshwater	7,7 μg/L
Freshwater sediment	0,118 mg/kg dw
Marine water	0,77 μg/L
Marine water sediment	11,8 µg/kg dw
Intermittent releases	77 μg/L
Soil	19 µg/kg dw
Oral	No potential for bioaccumulation

N/E=Not established; N/A=Not applicable (not required); bw=body weight; dw=dry weight; ww=wet weight.

8.2. Exposure controls:

Appropriate engineering controls: Always provide effective general and, when necessary, local exhaust ventilation to draw dust away from workers to prevent routine inhalation. Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the SDS.

Individual protection measures, such as personal protective equipment:

Eye/face protection: Wear eye protection.

Hand protection: Avoid skin contact when mixing or handling the material by wearing impervious and chemical resistant gloves. In case of prolonged immersion or frequently repeated contact, gloves with breakthrough times greater than 480 minutes (protection class 6) are recommended. For brief contact or splash applications, gloves with breakthrough times of 30 minutes or greater are recommended (protection class 2 or greater). The protective gloves to be used must comply with the specifications of the standard EN 374. Suitability and durability of a glove is dependent on usage (e.g. frequency and duration of contact, other chemicals which may be handled, chemical resistance of glove material and dexterity). Always seek advice of the glove supplier as to the most suitable glove material.

Skin and body protection: Use good laboratory/workplace procedures including personal protective clothing: labcoat, safety glasses and protective gloves.

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment. Wear an approved respirator (e.g., an organic vapor respirator, a full face air purifying respirator for organic vapors, or a self-contained breathing apparatus) whenever exposure to aerosol, mist, spray, fume or vapor exceed the applicable exposure limit(s) of any chemical substance listed in this SDS.

Further information: Eyewash fountains and safety showers are recommended in the work area.

Environmental exposure controls: See Sections 6 and 12.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties:

Appearance:	Crystalline mass (solid). White to slight yellow
Odour:	Floral
Odour threshold:	Not Available
pH:	4.7 (1% solution)
Melting point/Freezing point:	31 °C (88 °F) (solidification point)
Initial boiling point and boiling range °C:	234 °C
Initial boiling point and boiling range °F:	453 °F
Flash point:	>93.3 °C (>200 °F) Pensky-Marten Closed Cup
Evaporation rate:	<1
Flammability (solid, gas):	Not flammable
Upper/lower flammability or explosive limits:	LFL/LEL: Not Available
	UFL/UEL: Not Available
Vapour pressure:	0.358 Pa @ 25 °C
Vapour density:	4.6 (Air=1)
Relative density:	1.044 (25°C)
Solubility in water:	2542 mg/L @ 25°C
Partition coefficient (n-octanol/water):	1.452 (OECD 117)
Autoignition temperature:	Not Available
Decomposition temperature:	Not Available
Viscosity:	27.449 mm2/s @ 40°C; 14.482 mPa.s @ 40°C
Explosive properties:	Not explosive
Oxidising properties:	Not oxidizing
% Volatile By weight:	100%
VOC:	100%
Surface tension:	42.6 mN/m @ 20°C (calculated)

9.2. Other information:

Amounts specified are typical and do not represent a specification.

SECTION 10: Stability and reactivity

10.1. Reactivity:

Oxidizes when exposed to air.

10.2. Chemical stability:

This product is stable.

10.3. Possibility of hazardous reactions:

Hazardous polymerization will not occur.

10.4. Conditions to avoid:

Avoid exposure to air, moisture, ignition sources and elevated temperatures.

10.5. Incompatible materials:

Avoid contact with strong oxidizing agents.

10.6. Hazardous decomposition products:

Carbon dioxide and carbon monoxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects:

Information on likely routes of exposure:

General: Caution must be exercised through the prudent use of protective equipment and handling procedures to minimize exposure.

Eyes: Solid particles on the eye (powder/dust) may cause pain and be accompanied by irritation.

Skin: May cause allergic skin reaction. Causes skin irritation.

Inhalation: Dust inhalation may cause respiratory irritation. Chronic exposure may cause headache, dizziness, tiredness, nausea and vomiting.

Ingestion: May be harmful if swallowed. Ingestion may cause irritation.

Acute toxicity information: Not classified (based on available data, the classification criteria are not met).

<u>Chemical Name</u>	<u>Inhalation LC50</u>	<u>Species</u>	<u>Oral LD50</u>	<u>Species</u>	<u>Dermal LD50</u>	<u>Species</u>
Cinnamyl alcohol	N∕E	N/E	2675 mg/kg	Mouse	>5000 mg/kg	Rabbit∕ adult
Cinnamaldehyde	757 mg/L (4 hours, vapor, estimated)	Rat/ adult	2220 mg/kg	Rat/ adult	1160 mg/kg	Guinea Pig/ adult

Skin corrosion/irritation: Causes skin irritation - Category 2.

Chemical Name	Skin irritation	Species
Cinnamyl alcohol	Irritant	Guinea pig/ adult
Cinnamaldehyde	Moderate irritant	Rabbit/ adult

Serious eye damage/irritation: Not classified (based on available data, the classification criteria are not met).

Chemical Name	
Cinnamyl alcohol	
Cinnamaldehyde	

Eye irritation Non-irritant Moderate irritant Species Rabbit & Guinea Pig Rabbit/ adult

Respiratory or skin sensitization: Skin sensitization - Category 1.

Chemical Name	Skin sensitisation
Cinnamyl alcohol	Sensitizer
Cinnamaldehyde	Sensitizer

Species Guinea pig and Human Guinea Pig/ adult

Carcinogenicity: Not classified (no relevant information found).

Germ cell mutagenicity: Not classified (based on available data, the classification criteria are not met). CINNAMYL ALCOHOL: Negative results were observed in Ames tests with and without activation (in-vitro). Ames testing showed no mutagenic activity and mixed results both positive (at doses approaching cytotoxic levels) and negative were observed from other in-vitro genotoxicity assays. The weight of the evidence indicates this material is not mutagenic or clastogenic.

Reproductive toxicity: Not classified (based on available data, the classification criteria are not met). CINNAMYL ALCOHOL: Reproductive toxicity, oral study in rats: NOAEL (no-observed adverse-effect-level) = 535 mg/kg bw/day. Developmental

toxicity oral study, rats: NOAEL, developmental toxicity=53.5 mg/kg bw/day.

Specific target organ toxicity (STOT) - single exposure: Not classified (based on available data, the classification criteria are not met).

Specific target organ toxicity (STOT) - repeated exposure: Not classified (based on available data, the classification criteria are not met). CINNAMYL ALCOHOL: Repeated dose study, oral, 4 months, rat: NOAEL (no-observed-adverse-effect-level) = 53.5 mg/kg bw/day (no adverse effects observed). Additional animal study data: Repeated dose study, oral, 17 weeks, rat: LOAEL (Lowest-Observed-Adverse-Effect-Level) = 6366 mg/kg bw/day (blood (changes in serum composition) and biochemical (enzyme) effects were observed); READ-ACROSS (trans-cinnamaldehyde): Repeated dose study, oral, 14 weeks: NOAEL (rat) = 275-300 mg/kg bw/day, NOAEL (mouse) = 625-650 mg/kg bw/day.

Aspiration hazard: Not classified (based on available data, the classification criteria are not met).

Other toxicity information: No additional information available.

SECTION 12: Ecological information

12.1. Toxicity:

Chemical Name	Species	Acute	Acute	Chronic
Cinnamyl alcohol	Fish	LC50 9 mg/L (96 hours)	LC50 4.15 mg/L(96 hours)	N/E
Cinnamyl alcohol	Invertebrates	EC50 7.7 mg/L (48 hours)	N/E	N/E
Cinnamyl alcohol	Algae	EC50 19.7 mg/L (72 hours)	N/E	N/E
Cinnamyl alcohol	Micro-organisms	IC50 161.27 mg/L (48 hours) (population growth rate)		
Cinnamaldehyde	Fish	LC50 >3.5 mg/L (96 hours)	LC100 2.35-3.93 mg/L(24 hours)	N/E
Cinnamaldehyde	Invertebrates	EC50 1.20-7.05 mg/L (48 hours)	EC50 3.1 mg/L(24 hours)	N/E
Cinnamaldehyde	Algae	EC50 6.87 mg/L (72 hours)	EC50 7.55 mg/L(96 hours)	N/E
Cinnamaldehyde	Micro-organisms	EC50 71 mg/L (3 hours)		

12.2. Persistence and degradability:

Chemical Name	Biodegradation
Cinnamyl alcohol	Readily biodegradable (OECD 301C)
Cinnamaldehyde	Readily biodegradable (weight of evidence)

12.3. Bioaccumulative potential:

<u>Chemical Name</u> Cinnamyl alcohol Cinnamaldehyde

12.4. Mobility in soil:

Chemical Name Cinnamyl alcohol Cinnamaldehyde Mobility in soil (Koc/Kow) 116.9 (log KOC=2.068) 29.456 L/kg @ 20°C (estimated)

Bioconcentration Factor (BCF)

4.989 L/kg (calculated)

8.3 (estimated)

12.5. Results of PBT and vPvB assessment:

This product does not meet the PBT and vPvB classification criteria.

12.6. Other adverse effects:

No additional information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods:

Dispose of unused contents (incineration or landfill) in accordance with national and local regulations. Dispose of container in accordance with national and local regulations. Ensure the use of properly authorized waste management companies, where appropriate.

See Section 8 for recommendations on the use of personal protective equipment.

SECTION 14: Transport information

The information below is provided to assist in documentation. It may supplement the information on the package. The package in your possession may carry a different version of the label depending on the date of manufacture. Depending on inner packaging quantities and packaging instructions, it may be subject to specific regulatory exceptions.

14.1. UN number: N/A

14.2. UN proper shipping name:

Not regulated - See Bill of Lading for Details

14.3. Transport hazard class(es):

U.S. DOT hazard class: N/A

Log Kow 1.452 (OECD 117) 1.83 @ 27°C Canada TDG hazard class: N/A Europe ADR/RID hazard class: N/A IMDG Code (ocean) hazard class: N/A ICAO/IATA (air) hazard class: N/A

A "N/A" listing for the hazard class indicates the product is not regulated for transport by that regulation.

14.4. Packing group: N/A

14.5. Environmental hazards:

Marine pollutant: Not Applicable Hazardous substance (USA): Not Applicable

14.6. Special precautions for user:

Not Applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code: Not Applicable

SECTION 15: Regulatory information

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

STATUTORY INSTRUMENTS 2020 No. 1577, The REACH etc. (Amendment etc.) (EU Exit) Regulations 2020 [UK REACH]: Applicable components have been registered, are exempt or otherwise compliant. UK REACH is only relevant to substances either manufactured or imported into the UK. Emerald Kalama Chemical has met its obligations under the UK REACH regulation. UK REACH information regarding this product is provided for informational purposes only. Each Legal Entity may have differing UK REACH obligations, depending on their place in the supply chain. Emerald's compliance with UK REACH does not imply automatic coverage for Downstream Users located in the UK. For material manufactured outside of the UK, the importer of record must understand and meet their specific obligations under the regulation.

UK Authorizations and/or restrictions on use: Not Applicable

Other UK information: No Additional Information

Chemical inventories:

Regulation	<u>Status</u>
Australian Inventory of Industrial Chemicals (AIIC):	Y
Canadian Domestic Substances List (DSL):	Y
Canadian Non-Domestic Substances List (NDSL):	N
China Inventory of Existing Chemical Substances (IECSC):	Y
European EC Inventory (EINECS, ELINCS, NLP):	Y
Japan Existing and New Chemical Substances (ENCS):	Y
Japan Industrial Safety and Health Law (ISHL):	Y
Korean Existing and Evaluated Chemical Substances (KECL):	Y
New Zealand Inventory of Chemicals (NZIoC):	Y
Philippines Inventory of Chemicals and Chemical Substances (PICCS):	Y
Taiwan Inventory of Existing Chemicals:	Y
U.S. Toxic Substances Control Act (TSCA) (Active):	Y
A "Y" listing indicates all intentionally added components are either listed or are otherwise compliant with the regula	tion A "N" listing indicates that

"Y" listing indicates all intentionally added components are either listed or are otherwise compliant with the regulation. A "N" listing indicates that for one or more components: 1) there is no listing on the public inventory (or is not on the ACTIVE inventory for U.S. TSCA); 2) no information is available; or 3) the component has not been reviewed. A "Y" for New Zealand may mean that a qualified group standard may exist for the components in this product.

Europe REACH (EC) 1907/2006: Applicable components are registered, exempt or otherwise compliant. EU REACH is only relevant to substances either manufactured or imported into the EU. Emerald Kalama Chemical has met its obligations under the EU REACH regulation. EU REACH information regarding this product is provided for informational purposes only. Each Legal Entity may have differing EU REACH obligations, depending on their place in the supply chain. Emerald's compliance with EU REACH does not imply automatic coverage for Downstream Users located in the EU. For material manufactured outside of the EU, the importer of record must understand and meet their specific obligations under the regulation.

15.2. Chemical safety assessment:

A chemical safety assessment has been carried out for the substance or mixture consistent with the EU REACH regulation.

SECTION 16: Other information

Hazard (H) Statements in the Composition section (Section 3):

H312 Harmful in contact with skin. Causes skin irritation. H315 H317 May cause an allergic skin reaction. Causes serious eye irritation. H319

Reason for revision: Changes in Section(s): 1

Evaulation method For classification Of mixtures: Not Applicable (substance)

Legend:

*: Trademark owned by Emerald Kalama Chemical, LLC.
 ACGIH: American Conference of Governmental Industrial Hygienists
 ATE: Acute toxicity estimate
 N/A: Not Applicable
 N/E: None Established
 STEL: Short Term Exposure Limit
 TWA: Time Weighted Average (exposure for 8-hour workday)
 UK WEL: United Kingdom Workplace Exposure Limits

Users Responsibility/Disclaimer of Liability:

The information set forth herein is based on our current knowledge, and is intended to describe the product solely with respect to health, safety and the environment. As such, it must not be interpreted as a guarantee of any specific property of the product. As a result, the customer shall be solely responsible for deciding whether said information is suitable and beneficial.

Safety Data Sheet Preparer: Product Compliance Department Emerald Kalama Chemical, LLC 1499 SE Tech Center Place, Suite 300 Vancouver, WA 98683 United States

Annex

Exposure Scenarios

Substance information:

Name of substance: Cinnamyl alcohol. EC# 203-212-3 / CAS# 104-54-1. UK REACH Registration number: DUIN Submitted EU REACH Registration number: 01-2119934496-29-0003

List of exposure scenarios:

ES1: Use at industrial sites - Industrial end-use of washing and cleaning products

ES2: Use at industrial sites - Use in pharma application

ES3: Use at industrial sites - Use as a laboratory chemical

ES4: Use at industrial sites - Use as an intermediate

ES5: Formulation - Formulation of fragrance compounds ES6: Formulation - Formulation of fragrance products

ES7: Formulation - Formulation of fragranced end-products

ES8: Use by professional workers - Professional use of polishes and wax blends

ES9: Use by professional workers - Professional end-use of washing and cleaning products

ES10: Consumer use - Consumer end-use of biocides.

ES11: Consumer use - Consumer end-use of cosmetics

ES12: Consumer use - Consumer end-use of washing and cleaning products

ES13: Consumer use - Consumer end-use of fragrances

ES14: Consumer use - Consumer end-use of air care products

ES15: Consumer use - Consumer end-use of polishes and wax blends

General remarks:

The environmental exposure assessments have been performed using EUSES 2.1.2 which is part of Chemical Safety Assessment and Reporting tool (CHESAR v3.2).

The worker exposure assessments have been performed using TRA Worker v3 which is part of Chemical Safety Assessment and Reporting tool (CHESAR v3.2).

The Consumer TRA v3 (R15) tool has been used to estimate consumer exposures.

Exposure scenario (1): Use at industrial sites - Industrial end-use of washing and cleaning products

1. Exposure scenario (1)

Short title of the exposure scenario:

Use at industrial sites - Industrial end-use of washing and cleaning products

List of use descriptors:

Product category (PC): PC35

Process category (PROC): PROC2, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC10, PROC13.

Environmental release category (ERC): ERC4

List of names of contributing worker scenarios and corresponding PROCs:

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

PROC4 Chemical production where opportunity for exposure arises.

PROC5 Mixing or blending in batch processes. Covers mixing or blending of solid or liquid materials in the context of manufacturing or formulating sectors, as well as upon end use.

PROC7 Industrial spraying. Air dispersive techniques i.e. dispersion into air (= atomization) by e.g. pressurized air, hydraulic pressure or centrifugation, applicable for liquids and powders.

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities. Transfer includes loading, filling, dumping, bagging and weighing.

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities. Transfer includes loading, filling, dumping, bagging. PROC10 Roller application or brushing. This includes application of paints, coatings, removers, adhesives or cleaning agents to surfaces with potential exposure arising from splashes.

PROC13 Treatment of articles by dipping and pouring

Name of contributing environmental scenario and corresponding ERCs:

ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article).

Further explanations:

PC35 Washing and cleaning products.

For further information on standardized use descriptors see the European Chemical Agency (ECHA) Guidance on information requirements and chemical safety assessment, Chapter R.12: Use descriptor system (http://guidance.echa.europa.eu/docs/guidance_document/

information_requirements_r12_en.pdf).

2. Conditions of use affecting exposure

2.1 Control of workers exposure General:

Generally accepted standards of occupational hygiene are maintained. Smoking, eating and drinking are prohibited at the workplace. Spills are cleaned immediately.

Product characteristics: Concentration of substance: Up to 100%. Physical state: liquid. Vapour pressure: 0.358 Pa at 25 °C Amounts used: This information is not relevant for assessment of worker's exposure Frequency and duration of use/exposure: Duration: <=8 hours/day Other given operational conditions affecting workers exposure: Location: Indoor use. Domain: Industrial use. Process temperature: <= 40 °C Technical conditions and measures to control dispersion from source towards the worker: General ventilation: - PROC2, PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC13: Basic general ventilation (1-3 air changes per hour): 0%. PROC7: Good general ventilation (3-5 air changes per hour): 30%. Local exhaust ventilation: - PROC2, PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC13: Not required. PROC7: Yes (95% effectiveness). Occupational Health and Safety Management System: Advanced Conditions and measures related to personal protection, hygiene and health evaluation: Respiratory protection: PROC2, PROC4, PROC5, PROC8b: Yes (Respirator with APF of 10) (Effectiveness Inhalation: 90%). - PROC7, PROC8a, PROC10, PROC13: Yes (Respirator with APF of 20) (Effectiveness Inhalation: 95%). Dermal protection: - PROC2: No (Effectiveness Dermal: 0%). - PROC4: Yes (chemically resistant gloves conforming to EN374) (Effectiveness Dermal: 80%) - PROC5, PROC8a, PROC8b, PROC13: Yes (chemically resistant gloves conforming to EN374 with basic employee training) (Effectiveness Dermal: 90%). - PROC7, PROC10: Yes (chemically resistant gloves conforming to EN374 with specific activity training) (Effectiveness Dermal: 95%). Additional good practice advice: Generally accepted standards of occupational hygiene are maintained. Minimisation of manual phases/work tasks. Minimisation of splashes and spills. Avoidance of contact with contaminated tools and objects. Regular cleaning of equipment and work area. Training staff on good practice. Management/supervision in place to check that RMMs in place are being used correctly and OCs followed. 2.2 Control of environmental exposure General: All risk management measures utilised must also comply with all relevant local regulations. Product characteristics: Vapour pressure: 0.358 Pa at 25 °C Amounts used: Maximum daily use at a site: 0,02 ton/day. Maximum annual use at a site: 5 tons/year. Environmental factors not influenced by risk management: Flow rate of receiving surface water: >=18,000 m3/day (default) Other given operational conditions affecting environmental exposure: Indoor use. Industrial use Release fraction to air from process (initial release): 0,01; (final release): 0,01. Local release rate: 0,2 kg/day.

bagging and weighing.

Release fraction to wastewater from process (initial release): 0,01; (final release): 0,01. Local release rate: 0,2 kg/day. Release fraction to soil from process: 0,05.

Release fraction to so				
		educe or limit discharges, air	emissions and	releases to soil:
	n to agricultural soil: Yes (defa sures related to municipal			
	eatment Plant (STP): Yes (Ef			
		>=2000 m3/day (standard town)		
		eatment of waste for disposal omply with applicable local and/o		ations
	sures related to external re		or fractorial regula	10015.
		omply with applicable local and/c	or national regula	ations.
Additional good prace		comply with all relevant local reg	ulations	
-	on and reference to its sou			
Assessment method-I	Health: CHESAR v3.2-Worke	r TRA v3. Only highest figures a	are presented he	ere.
	Environment: EUSES 2.1.2.			
Health			BOD	Neter
Effect/Compartmen		Exposure estimate/PEC	RCR	<u>Notes</u>
Worker, long-term, s	•	2,143 mg/kg bw/day	0,857	PROC7
Worker, long-term, s	ystemic, innalation	2,795 mg/m3	0,318	PROC4, PROC5, PROC8a, PROC8b, PROC10, PROC13
	ystemic, Combined routes	N/A	0,968	PROC7
Environment				
Effect/Compartmen	<u>it</u>	Exposure estimate/PEC	<u>RCR</u>	<u>Notes</u>
Freshwater		0,00129 mg/L	0,168	
Freshwater sediment	t	0,02 mg/kg dw	0,167	
Marine water		0,000129 mg/L	0,167	
Marine water sedime	ent	0,00197 mg/kg dw	0,167	
Soil		0,00428 mg/kg dw	0,225	
Human via environm		0,0000383 mg/m3	<0,01	
Human via environm		0,000262 mg/kg bw/day	<0,01	
	ent, Combined routes	N/A	<0,01	
		<pre>kposure estimate/DNEL); PEC=</pre>		
Health:	Predicted exposures are Conditions outlined in Se are adopted, then users used. Duration: <=8 hou APF of 10) (Effectivenes (Effectiveness Inhalation resistant gloves conform (chemically resistant glo PROC10: Yes (chemica 95%). Concentration of	ection 2 are implemented. Wher should ensure that risks are ma urs/day. Respiratory protection: as Inhalation: 90%). PROC7, PF n: 95%). Dermal protection: PR ing to EN374) (Effectiveness D ves conforming to EN374 with b lly resistant gloves conforming t substance: Up to 100%.	I(M)EL when the re other Risk Ma anaged to at leas PROC2, PROC ROC8a, PROC10 OC2: No (Effecti ermal: 80%). PR basic employee t o EN374 with sp	 Risk Management Measures/Operational nagement Measures/Operational Conditions at equivalent levels. Indoor use, PROC7: LEV 4, PROC5, PROC8b: Yes (Respirator with 0, PROC13: Yes (Respirator with APF of 20) iveness Dermal: 0%). PROC4: Yes (chemically ROC5, PROC8a, PROC8b, PROC13: Yes raining) (Effectiveness Dermal: 90%). PROC7, pecific activity training) (Effectiveness Dermal:
Environment:	necessary to define app can be achieved using c unsafe use (i.e., RCRs >	ropriate site-specific risk manag nsite/offsite technologies, either > 1), additional RMMs or a site-s	ement measures r alone or in com specific chemical	applicable to all sites; thus, scaling may be s. Required removal efficiency for wastewater ibination. If scaling reveals a condition of I safety assessment is required.
Exposure scenario 1. Exposure scenario		s - Use in pharma application	on	
Short title of the exp	17			
Use at industrial sites	- Use in pharma application			
Product category (PC Process category (PR	y (SU): SU4, SU9, SU24): PC29	C3, PROC5, PROC8a, PROC8	b, PROC9	
PROC1 Chemical pro	duction or refinery in closed p duction or refinery in closed o			eses with equivalent containment conditions. Aposure or processes with equivalent
PROC3 Manufacture equivalent containment	or formulation in the chemica nt condition.	2		onal controlled exposure or processes with
formulating sectors, a	s well as upon end use.			ls in the context of manufacturing or ransfer includes loading, filling, dumping,
bagging and weighing				

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities. Transfer includes loading, filling, dumping, bagging. PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing). Filling lines specifically designed to both capture vapour and aerosol emissions and minimise spillage.

capture vapour and aerosol emissions and minimise spillage.
Name of contributing environmental scenario and corresponding ERCs: ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article).
Further explanations: PC29 Pharmaceuticals.
For further information on standardized use descriptors see the European Chemical Agency (ECHA) Guidance on information requirements and chemical safety assessment, Chapter R.12: Use descriptor system (http://guidance.echa.europa.eu/docs/guidance_document/ information requirements r12 en.pdf).
2. Conditions of use affecting exposure
2.1 Control of workers exposure
General:
Generally accepted standards of occupational hygiene are maintained. Smoking, eating and drinking are prohibited at the workplace. Spills are cleaned immediately.
Product characteristics:
Concentration of substance: Up to 100%. Physical state: liquid.
Vapour pressure: 0.358 Pa at 25 °C
Amounts used:
This information is not relevant for assessment of worker's exposure.
Frequency and duration of use/exposure: Duration: <=8 hours/day.
Other given operational conditions affecting workers exposure:
Location: Indoor use. Domain: Industrial use.
Process temperature: <= 40 °C.
Technical conditions and measures to control dispersion from source towards the worker:
General ventilation: Basic general ventilation (1-3 air changes per hour): 0%. Local exhaust ventilation: Not required.
Occupational Health and Safety Management System: Advanced.
Conditions and measures related to personal protection, hygiene and health evaluation:
Respiratory protection:
- PROC1: Not required.
- PROC2, PROC3, PROC5, PROC8b, PROC9: Yes (Respirator with APF of 10) (Effectiveness Inhalation: 90%).
- PROC8a: Yes (Respirator with APF of 20) (Effectiveness Inhalation: 95%).
Dermal protection: - PROC1, PROC2, PROC3: No (Effectiveness Dermal: 0%).
- PROC9: Yes (chemically resistant gloves conforming to EN374) (Effectiveness Dermal: 80%).
- PROC5, PROC8a, PROC8b: Yes (chemically resistant gloves conforming to EN374 with basic employee training) (Effectiveness Dermal: 90%).
Additional good practice advice:
Generally accepted standards of occupational hygiene are maintained.
Minimisation of manual phases/work tasks.
Minimisation of splashes and spills. Avoidance of contact with contaminated tools and objects.
Regular cleaning of equipment and work area.
Training staff on good practice.
Management/supervision in place to check that RMMs in place are being used correctly and OCs followed.
2.2 Control of environmental exposure
General:
All risk management measures utilised must also comply with all relevant local regulations.
Product characteristics: Vapour pressure: 0.358 Pa at 25 °C
Amounts used:
Maximum daily use at a site: 0,02 ton/day.
Maximum annual use at a site: 5 tons/year.
Environmental factors not influenced by risk management:
Flow rate of receiving surface water: >=18,000 m3/day (default).
Other given operational conditions affecting environmental exposure:
Indoor use.
Industrial use.
Release fraction to air from process (initial release): 0,01; (final release): 0,01. Local release rate: 0,2 kg/day. Release fraction to wastewater from process (initial release): 0,01; (final release): 0,01. Local release rate: 0,2 kg/day.
Release fraction to wastewater from process (initial release). 0,01, (inital release). 0,01. Local release rate. 0,2 kg/day. Release fraction to soil from process: 0,05.
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil:
Dry sludge application to agricultural soil: Yes (default).
Conditions and measures related to municipal sewage treatment plant:
Municipal Sewage Treatment Plant (STP): Yes (Efficiency=87,47%).
Size of municipal sewage system/treatment plant: >=2000 m3/day (standard town).
Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External recovery and recycling of waste should comply with applicable local and/or national regulations.

Additional good practice advice:

All risk management measures utilised must also comply with all relevant local regulations.

3. Exposure estimation and reference to its source

Assessment method-Health: CHESAR v3.2-Worker TRA v3. Only highest figures are presented here.

Assessment method-Environment: EUSES 2.1.2. Health

Effect/Compartment	Exposure estimate/PEC	<u>RCR</u>	<u>Notes</u>
Worker, long-term, systemic, Dermal	1,372 mg/kg bw/day	0,549	PROC9
Worker, long-term, systemic, Inhalation	2,795 mg/m3	0,318	PROC5, PROC8a, PROC8b, PROC9
Worker, long-term, systemic, Combined routes	N/A	0,867	PROC9
Environment			
Effect/Compartment	Exposure estimate/PEC	<u>RCR</u>	<u>Notes</u>
Freshwater	0,00129 mg/L	0,168	
Freshwater sediment	0,02 mg/kg dw	0,167	
Marine water	0,000129 mg/L	0,167	
Marine water sediment	0,00197 mg/kg dw	0,167	
Soil	0,00428 mg/kg dw	0,225	
Human via environment, Inhalation	0,0000383 mg/m3	<0,01	
Human via environment, Oral	0,000262 mg/kg bw/day	<0,01	
Human via environment, Combined routes	N/A	<0,01	

RCR=Risk characterization ratio (PEC/PNEC or Exposure estimate/DNEL); PEC=Predicted environmental concentration.

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

Health:	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Indoor use, without LEV. Duration: <=8 hours/day. Respiratory protection: PROC1: Not required. PROC2, PROC3, PROC5, PROC8b, PROC9: Yes (Respirator with APF of 10) (Effectiveness Inhalation: 90%). PROC8a: Yes (Respirator with APF of 20) (Effectiveness Inhalation: 95%). Dermal protection: PROC1, PROC2, PROC3: No (Effectiveness Dermal: 0%). PROC9: Yes (chemically resistant gloves conforming to EN374) (Effectiveness Dermal: 80%). PROC5, PROC8a, PROC8b: Yes (chemically resistant gloves conforming to EN374 with basic employee training) (Effectiveness Dermal: 90%). Concentration of substance: Up to 100%.		
Environment:	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.		
Exposure scenario	xposure scenario (3): Use at industrial sites - Use as a laboratory chemical		

1. Exposure scenario (3)

Short title of the exposure scenario:

Use at industrial sites - Use as a laboratory chemical

List of use descriptors:

Sector of use category (SU): SU9

Product category (PC): PC21

Process category (PROC): PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC15 Environmental release category (ERC): ERC6b

List of names of contributing worker scenarios and corresponding PROCs:

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition.

PROC4 Chemical production where opportunity for exposure arises.

PROC5 Mixing or blending in batch processes. Covers mixing or blending of solid or liquid materials in the context of manufacturing or formulating sectors, as well as upon end use.

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities. Transfer includes loading, filling, dumping, bagging and weighing.

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities. Transfer includes loading, filling, dumping, bagging. PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing). Filling lines specifically designed to both capture vapour and aerosol emissions and minimise spillage.

PROC15 Use as laboratory reagent. Use of substances at small scale in laboratories (less than or equal to 1 l or 1 kg present at workplace). Name of contributing environmental scenario and corresponding ERCs:

ERC6b Use of reactive processing aid at industrial site (no inclusion into or onto article).

Further explanations:

PC21 Laboratory chemicals.

For further information on standardized use descriptors see the European Chemical Agency (ECHA) Guidance on information requirements and chemical safety assessment, Chapter R.12: Use descriptor system (http://guidance.echa.europa.eu/docs/guidance_document/

information requirements r12 en.pdf).
2. Conditions of use affecting exposure
2.1 Control of workers exposure
General:
Generally accepted standards of occupational hygiene are maintained. Smoking, eating and drinking are prohibited at the workplace. Spills are
cleaned immediately. Product characteristics:
Concentration of substance: Up to 100%.
Physical state: liquid.
Vapour pressure: 0.358 Pa at 25 °C
Amounts used:
This information is not relevant for assessment of worker's exposure.
Frequency and duration of use/exposure:
Duration: <=8 hours/day.
Other given operational conditions affecting workers exposure: Location: Indoor use.
Location: Industrial use.
Process temperature: <= 40 °C.
Technical conditions and measures to control dispersion from source towards the worker:
General ventilation: Basic general ventilation (1-3 air changes per hour): 0%.
Local exhaust ventilation: Not required.
Occupational Health and Safety Management System: Advanced.
Conditions and measures related to personal protection, hygiene and health evaluation:
Respiratory protection: - PROC1: Not required.
- PROC1: Not required. - PROC2, PROC3, PROC4, PROC5, PROC8b, PROC9, PROC15: Yes (Respirator with APF of 10) (Effectiveness Inhalation: 90%).
- PROC8a: Yes (Respirator with APF of 20) (Effectiveness Inhalation: 95%).
Dermal protection:
- PROC1, PROC2, PROC3, PROC15: No (Effectiveness Dermal: 0%).
- PROC4, PROC9: Yes (chemically resistant gloves conforming to EN374) (Effectiveness Dermal: 80%).
- PROC5, PROC8a, PROC8b: Yes (chemically resistant gloves conforming to EN374 with basic employee training) (Effectiveness Dermal: 90%).
Additional good practice advice: Generally accepted standards of occupational hygiene are maintained.
Minimisation of manual phases/work tasks.
Minimisation of splashes and spills.
Avoidance of contact with contaminated tools and objects.
Regular cleaning of equipment and work area.
Training staff on good practice.
Management/supervision in place to check that RMMs in place are being used correctly and OCs followed. 2.2 Control of environmental exposure
General:
All risk management measures utilised must also comply with all relevant local regulations.
Product characteristics:
Vapour pressure: 0.358 Pa at 25 °C
Amounts used:
Maximum daily use at a site: 0,015 ton/day.
Maximum annual use at a site: 5 tons/year.
Environmental factors not influenced by risk management:
Flow rate of receiving surface water: >=18,000 m3/day (default).
Other given operational conditions affecting environmental exposure:
Indoor use. Industrial use.
Release fraction to air from process (initial release): 0,001; (final release): 0,001. Local release rate: 0,015 kg/day.
Release fraction to wastewater from process (initial release): 0,05; (final release): 0,05. Local release rate: 0,75 kg/day.
Release fraction to soil from process: 0,00025.
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil:
Dry sludge application to agricultural soil: Yes (default).
Conditions and measures related to municipal sewage treatment plant:
Municipal Sewage Treatment Plant (STP): Yes (Efficiency=87,47%).
Size of municipal sewage system/treatment plant: >=2000 m3/day (standard town).
Conditions and measures related to external treatment of waste for disposal: External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste:
External recovery and recycling of waste should comply with applicable local and/or national regulations.
Additional good practice advice:
All risk management measures utilised must also comply with all relevant local regulations.
3. Exposure estimation and reference to its source
Assessment method-Health: CHESAR v3.2-Worker TRA v3. Only highest figures are presented here.
Assessment method-Environment: ELISES 2.1.2

Assessment method-Environment: EUSES 2.1.2.

Effoct/Compartmont	· · · · · · · · · · · · · · · · · · ·	Exposuro ostimato/PEC	RCR	Notos
Effect/Compartment		<u>Exposure estimate/PEC</u> 1,372 mg/kg bw/day	0.549	<u>Notes</u> PROC4, PROC9
Worker, long-term, sy		2,795 mg/m3	0,318	PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC15
Worker, long-term, sy	stemic, Combined routes	N/A	0,867	PROC4, PROC9
Environment				
Effect/Compartment		Exposure estimate/PEC	RCR	<u>Notes</u>
Freshwater		0,00474 mg/L	0,615	
Freshwater sediment		0,072 mg/kg dw	0,614	
Marine water		0,000474 mg/L	0,615	
Marine water sedimer	nt	0,00724 mg/kg dw	0,614	
Soil		0,016 mg/kg dw	0,827	
Human via environme	ent, Inhalation	0,000004 mg/m3	<0,01	
Human via environme		0,00024 mg/kg bw/day	<0,01	
Human via environme		N/A	<0,01	
	•	Exposure estimate/DNEL); PEC=F		
4. Guidance to the Do		ate whether he works inside the		t by the ES Risk Management Measures/Operational
	Duration: <=8 hours/d PROC9, PROC15: Ye APF of 20) (Effectiver (Effectiveness Derma Dermal: 80%). PROC	lay. Respiratory protection: PROC es (Respirator with APF of 10) (Effe ness Inhalation: 95%). Dermal prot II: 0%). PROC4, PROC9: Yes (che	1: Not required. activeness Inhal tection: PROC1 mically resistant cally resistant g	e gloves conforming to EN374) (Effectiveness loves conforming to EN374 with basic
Environment:	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.			
		tes - Use as an intermediate		
1. Exposure scenario Short title of the expo	· /			
List of use descriptor Product category (PC) Process category (PR Environmental release	: PC0 DC): PROC1, PROC2, PF category (ERC): ERC6a	ROC5, PROC8b, PROC15 os and corresponding PROCs:		
PROC1 Chemical proc PROC2 Chemical proc containment conditions PROC5 Mixing or blen formulating sectors, as PROC8b Transfer of s	duction or refinery in close duction or refinery in close s. ding in batch processes. (well as upon end use. ubstance or mixture (char	ed process without likelihood of exp ed continuous process with occasio Covers mixing or blending of solid o ging and discharging) at dedicated	nal controlled ex or liquid materia facilities. Trans	ses with equivalent containment conditions. xposure or processes with equivalent Is in the context of manufacturing or fer includes loading, filling, dumping, bagging.
	environmental scenario	stances at small scale in laboratori o and corresponding ERCs:	es (less than or	equal to 1 I or 1 kg present at workplace).
Further explanations PC0 Other.	:			
chemical safety asses information_requireme	sment, Chapter R.12: Use nts_r12_en.pdf).	criptors see the European Chemica e descriptor system (http://guidance		A) Guidance on information requirements and u/docs/guidance_document/
2. Conditions of use a 2.1 Control of worker				
General:	•	ygiene are maintained. Smoking, e	ating and drinkir	ng are prohibited at the workplace. Spills are
cleaned immediately. Product characteristi	cs:		-	
Concentration of subst Physical state: liquid. Vapour pressure: 0.35				
Amounts used: This information is not	relevant for assessment of	of worker's exposure.		
Frequency and durat Duration: <=8 hours/da	iy.			
Other given operation	nal conditions affecting	workers exposure:		

Location: Indoor use.				
Domain: Industrial use.				
Process temperature: <= 40 °C.				
Technical conditions and measures to control d General ventilation: Basic general ventilation (1-3 ai		as the worker:		
Local exhaust ventilation: Not required.	in changes per fical). eve			
Occupational Health and Safety Management Syste				
Conditions and measures related to personal pr	rotection, hygiene and health	evaluation:		
Respiratory protection: - PROC1: Not required.				
- PROC2, PROC5, PROC8b, PROC15: Yes (Respi	rator with APF of 10) (Effectiver	ness Inhalation:	90%).	
Dermal protection:				
- PROC1, PROC2, PROC15: No (Effectiveness De				
- PROC5, PROC8b: Yes (chemically resistant glove	es conforming to EN374 with bas	sic employee tra	lining) (Effectiveness Dermai: 90%).	
Additional good practice advice: Generally accepted standards of occupational hygic	ene are maintained			
Minimisation of manual phases/work tasks.				
Minimisation of splashes and spills.				
Avoidance of contact with contaminated tools and o	objects.			
Regular cleaning of equipment and work area. Training staff on good practice.				
Management/supervision in place to check that RM	IMs in place are being used corr	rectly and OCs for	ollowed.	
2.2 Control of environmental exposure		-		
General:				
All risk management measures utilised must also co	omply with all relevant local regu	ulations.		
Product characteristics: Vapour pressure: 0.358 Pa at 25 °C				
Amounts used:				
Maximum daily use at a site: 0,02 ton/day.				
Maximum annual use at a site: 5 tons/year.				
Environmental factors not influenced by risk ma				
Flow rate of receiving surface water: >=18,000 m3/o				
Other given operational conditions affecting environmental use.	vironmental exposure:			
Indoor use.				
Release fraction to air from process (initial release):				
Release fraction to wastewater from process (initial	release): 0,02; (final release): 0),02. Local relea	se rate: 0,4 kg/day.	
Release fraction to soil from process: 0,001.	duce or limit discharges, sin a	unionione end		
Technical onsite conditions and measures to re Dry sludge application to agricultural soil: Yes (defai		emissions and i	releases to soll:	
Conditions and measures related to municipal s				
Municipal Sewage Treatment Plant (STP): Yes (Eff				
Size of municipal sewage system/treatment plant: >				
Conditions and measures related to external tre				
External treatment and disposal of waste should con Conditions and measures related to external rec		or national regula	itions.	
External recovery and recycling of waste should cor		r national regula	tions	
Additional good practice advice:	mply with applicable local and/o	i national regula		
All risk management measures utilised must also co	omply with all relevant local regu	ulations.		
3. Exposure estimation and reference to its sour				
Assessment method-Health: CHESAR v3.2-Worker		are presented he	ere.	
Assessment method-Environment: EUSES 2.1.2.	, , , , , , , , , , , , , , , , , , , ,	•		
Health				
Effect/Compartment	Exposure estimate/PEC	RCR	<u>Notes</u>	
Worker, long-term, systemic, Dermal	1,371 mg/kg bw/day	0,548	PROC5, PROC8b	
Worker, long-term, systemic, Inhalation	2,795 mg/m3	0,318	PROC5, PROC8b, PROC15	
Worker, long-term, systemic, Combined routes	N/A	0,866	PROC5, PROC8b	
Environment		- ,		
Effect/Compartment	Exposure estimate/PEC	RCR	<u>Notes</u>	
Freshwater	0,00254 mg/L	0,33		
Freshwater sediment	0,039 mg/kg dw	0,33		
Marine water	0,000254 mg/L	0,33		
Marine water sediment	0,000254 mg/kg dw	0,33		
Soil	0,00369 mg/kg dw	0,33		
Human via environment, Inhalation	0,00002 mg/kg uw	0,449		
	$0.000101 ma/m^{2}$	~0.01		
Human via environment, Oral	0,000191 mg/m3 0,00115 mg/kg bw/day	<0,01 <0.01		

 Human via environment, Combined routes
 N/A
 <0,01</th>

 RCR=Risk characterization ratio (PEC/PNEC or Exposure estimate/DNEL); PEC=Predicted environmental concentration.

4. Guidance to the D	ownstream User to evaluate whether he works inside the boundaries set by the ES
Health:	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Indoor use, without LEV. Duration: <=8 hours/day. Respiratory protection: PROC1: Not required. PROC2, PROC5, PROC8b, PROC15: Yes (Respirator with APF of 10) (Effectiveness Inhalation: 90%). Dermal protection: PROC1, PROC2, PROC5, PROC15: No (Effectiveness Dermal: 0%). PROC5, PROC8b: Yes (chemically resistant gloves conforming to EN374 with basic employee training) (Effectiveness Dermal: 90%). Concentration of substance: Up to 100%.
Environment:	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.
•	(5): Formulation - Formulation of fragrance compounds
1. Exposure scenari	
Short title of the exp Formulation - Formula	ation of fragrance compounds
List of use descripte	
Product category (PC	
	ROC): PROC1, PROC2, PROC3, PROC5, PROC8a, PROC8b, PROC9, PROC15
	e category (ERC): ERC2 ntributing worker scenarios and corresponding PROCs:
PROC1 Chemical pro PROC2 Chemical pro containment condition	oduction or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. oduction or refinery in closed continuous process with occasional controlled exposure or processes with equivalent ns.
equivalent containme	
	nding in batch processes. Covers mixing or blending of solid or liquid materials in the context of manufacturing or as well as upon end use.
PROC8a Transfer of bagging and weighing	substance or mixture (charging and discharging) at non-dedicated facilities. Transfer includes loading, filling, dumping,
PROC8b Transfer of PROC9 Transfer of s capture vapour and a	substance or mixture (charging and discharging) at dedicated facilities. Transfer includes loading, filling, dumping, bagging. ubstance or mixture into small containers (dedicated filling line, including weighing). Filling lines specifically designed to both erosol emissions and minimise spillage.
	bratory reagent. Use of substances at small scale in laboratories (less than or equal to 1 l or 1 kg present at workplace). g environmental scenario and corresponding ERCs:
ERC2 Formulation in	to mixture.
Further explanation PC28 Perfumes, frag	
For further informatio chemical safety asse information_requirem	n on standardized use descriptors see the European Chemical Agency (ECHA) Guidance on information requirements and ssment, Chapter R.12: Use descriptor system (http://guidance.echa.europa.eu/docs/guidance_document/ ients_r12_en.pdf).
2. Conditions of use	
2.1 Control of worke	rs exposure
General: Generally accepted s cleaned immediately.	tandards of occupational hygiene are maintained. Smoking, eating and drinking are prohibited at the workplace. Spills are
Product characteris Concentration of sub	
Physical state: liquid. Vapour pressure: 0.3	58 Pa at 25 °C
Amounts used:	
	t relevant for assessment of worker's exposure.
	ation of use/exposure:
Duration: <=8 hours/c	,
Other given operation Location: Indoor use.	onal conditions affecting workers exposure:
Process temperature	: <= 40 °C.
	s and measures to control dispersion from source towards the worker:
Local exhaust ventila	
	and Safety Management System: Advanced. asures related to personal protection, hygiene and health evaluation:
Respiratory protection	
- PROC1: Not require	ad.
- PROC8a: Yes (Res	ROC5, PROC8b, PROC9, PROC15: Yes (Respirator with APF of 10) (Effectiveness Inhalation: 90%). pirator with APF of 20) (Effectiveness Inhalation: 95%).
Dermal protection:	POC3 PPOC15: No (Effectiveness Dermal: 0%)
- PROC9: Yes (chem	ROC3, PROC15: No (Effectiveness Dermal: 0%). ically resistant gloves conforming to EN374) (Effectiveness Dermal: 80%). PROC8b: Yes (chemically resistant gloves conforming to EN374 with basic employee training) (Effectiveness Dermal: 90%).
	1 10000 . The transmission of transmis

Additional good practice advice:

SDS Name. Raiama Cinnamic Alconol, FCC			
Generally accepted standards of occupational hygic	ene are maintained.		
Minimisation of manual phases/work tasks.			
Minimisation of splashes and spills.			
Avoidance of contact with contaminated tools and c Regular cleaning of equipment and work area.	objects.		
Training staff on good practice.			
Management/supervision in place to check that RM	1Ms in place are being used corr	ectly and OCs for	bllowed.
2.2 Control of environmental exposure	1 5	,	
General:			
All risk management measures utilised must also co	omply with all relevant local regu	ulations.	
Product characteristics:			
Vapour pressure: 0.358 Pa at 25 °C			
Amounts used: Maximum daily use at a site: 0.03 ton/day.			
Maximum annual use at a site: 10 tons/year.			
Environmental factors not influenced by risk ma	anagement:		
Flow rate of receiving surface water: >=18,000 m3/			
Other given operational conditions affecting en			
Indoor use.			
Release fraction to air from process (initial release)			
Release fraction to wastewater from process (initial Release fraction to soil from process: 0,0001.	I release): 0,02; (final release): 0	0,02. Local releas	se rate: 0,6 kg/day.
Technical onsite conditions and measures to re	duce or limit discharges, air a	missions and r	releases to soil:
Dry sludge application to agricultural soil: Yes (defa			eleases to soll.
Conditions and measures related to municipal s			
Municipal Sewage Treatment Plant (STP): Yes (Eff			
Size of municipal sewage system/treatment plant: >			
Conditions and measures related to external tre			
External treatment and disposal of waste should co		r national regula	tions.
Conditions and measures related to external rec External recovery and recycling of waste should co		r national regula	tiono
Additional good practice advice:	imply with applicable local and/o	r national regula	
All risk management measures utilised must also ca	omply with all relevant local requ	ulations.	
3. Exposure estimation and reference to its sour	· · ·		
Assessment method-Health: CHESAR v3.2-Worke		re presented he	re
Assessment method-Environment: EUSES 2.1.2.	in the two only highest lighted a		
Health			
Effect/Compartment	Exposure estimate/PEC	RCR	Notes
Worker, long-term, systemic, Dermal	1,372 mg/kg bw/day	0.549	PROC9
Worker, long-term, systemic, Inhalation	2,795 mg/m3	0,318	PROC5, PROC8a, PROC8b, PROC9,
Worker, long terri, systemie, initiation	2,700 mg/m0	0,010	PROC15
Worker, long-term, systemic, Combined routes	N/A	0.867	PROC9
Environment	-	- ,	
Effect/Compartment	Exposure estimate/PEC	RCR	<u>Notes</u>
Freshwater	0,0038 mg/L	0,493	
Freshwater sediment	0,058 mg/kg dw	0,492	
Marine water	0,00038 mg/L	0,493	
Marine water sediment	0,0058 mg/kg dw	0,492	
Soil	0,013 mg/kg dw	0,668	
Human via environment, Inhalation	0,000191 mg/m3	<0,01	
Human via environment, Oral Human via environment, Combined routes	0,00122 mg/kg bw/day N/A	<0,01 <0,01	

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

+. Ourdanoo to the	bowned can beer to evaluate whether he works moles the boundaries set by the Lo
Health:	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Indoor use, without LEV. Duration: <=8 hours/day. Respiratory protection: PROC1: Not required. PROC2, PROC3, PROC5, PROC8b, PROC9, PROC15: Yes (Respirator with APF of 10) (Effectiveness Inhalation: 90%). PROC8a: Yes (Respirator with APF of 20) (Effectiveness Inhalation: 95%). Dermal protection: PROC1, PROC2, PROC3, PROC15: No (Effectiveness Dermal: 0%). PROC9: Yes (chemically resistant gloves conforming to EN374) (Effectiveness Dermal: 80%). PROC8b: Yes (chemically resistant gloves conforming to EN374 with basic employee training) (Effectiveness Dermal: 90%). Concentration of substance: Up to 100%.
Environment:	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

SDS Name: Kalama* Cinnamic Alcohol, FCC Exposure scenario (6): Formulation - Formulation of fragrance products 1. Exposure scenario (6) Short title of the exposure scenario: Formulation - Formulation of fragrance products List of use descriptors: Product category (PC): PC28 Process category (PROC); PROC2, PROC4, PROC5, PROC8b, PROC15 Environmental release category (ERC): ERC2 List of names of contributing worker scenarios and corresponding PROCs: PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions. PROC4 Chemical production where opportunity for exposure arises. PROC5 Mixing or blending in batch processes. Covers mixing or blending of solid or liquid materials in the context of manufacturing or formulating sectors, as well as upon end use. PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities. Transfer includes loading, filling, dumping, bagging. PROC15 Use as laboratory reagent. Use of substances at small scale in laboratories (less than or equal to 1 l or 1 kg present at workplace). Further explanations: PC28 Perfumes, fragrances For further information on standardized use descriptors see the European Chemical Agency (ECHA) Guidance on information requirements and chemical safety assessment, Chapter R.12: Use descriptor system (http://guidance.echa.europa.eu/docs/guidance_document/ information requirements r12 en.pdf) 2. Conditions of use affecting exposure 2.1 Control of workers exposure General: Generally accepted standards of occupational hygiene are maintained. Smoking, eating and drinking are prohibited at the workplace. Spills are cleaned immediately Product characteristics: Concentration of substance: Up to 100%. Physical state: liquid. Vapour pressure: 0.358 Pa at 25 °C Amounts used: This information is not relevant for assessment of worker's exposure Frequency and duration of use/exposure: Duration: <=8 hours/day. Other given operational conditions affecting workers exposure: Location: Indoor use. Process temperature: <= 40 °C Technical conditions and measures to control dispersion from source towards the worker: General ventilation: Basic general ventilation (1-3 air changes per hour): 0%. Local exhaust ventilation: Not required. Occupational Health and Safety Management System: Advanced Conditions and measures related to personal protection, hygiene and health evaluation: Respiratory protection: Yes (Respirator with APF of 10) (Effectiveness Inhalation: 90%). Dermal protection: - PROC2, PROC15: No (Effectiveness Dermal: 0%). PROC4: Yes (chemically resistant gloves conforming to EN374) (Effectiveness Dermal: 80%). - PROC5, PROC8b: Yes (chemically resistant gloves conforming to EN374 with basic employee training) (Effectiveness Dermal: 90%). Additional good practice advice: Generally accepted standards of occupational hygiene are maintained. Minimisation of manual phases/work tasks. Minimisation of splashes and spills. Avoidance of contact with contaminated tools and objects. Regular cleaning of equipment and work area. Training staff on good practice. Management/supervision in place to check that RMMs in place are being used correctly and OCs followed. 2.2 Control of environmental exposure General: All risk management measures utilised must also comply with all relevant local regulations. Product characteristics: Vapour pressure: 0.358 Pa at 25 °C Amounts used: Maximum daily use at a site: 0,92 ton/day. Maximum annual use at a site: 10 tons/year. Environmental factors not influenced by risk management: Flow rate of receiving surface water: >=18,000 m3/day (default) Other given operational conditions affecting environmental exposure: Indoor use. Release fraction to air from process (initial release): 0,025; (final release): 0,025. Local release rate: 0,75 kg/day.

Release fraction to wastewater from process (initial release): 0,023, (initial release): 0,023, Local release rate: 0,75 kg/day.

Release fraction to soil from process: 0,0001.

Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil:

Dry sludge application to agricultural soil: Yes (default).

Conditions and measures related to municipal sewage treatment plant:

Municipal Sewage Treatment Plant (STP): Yes (Efficiency=87,47%).

Size of municipal sewage system/treatment plant: >=2000 m3/day (standard town).

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External recovery and recycling of waste should comply with applicable local and/or national regulations.

Additional good practice advice:

All risk management measures utilised must also comply with all relevant local regulations.

3. Exposure estimation and reference to its source

Assessment method-Health: CHESAR v3.2-Worker TRA v3. Only highest figures are presented here.

Assessment method-Environment: EUSES 2.1.2.

Health

Effect/Compartment	Exposure estimate/PEC	<u>RCR</u>	<u>Notes</u>
Worker, long-term, systemic, Dermal	1,372 mg/kg bw/day	0,549	PROC4
Worker, long-term, systemic, Inhalation	2,795 mg/m3	0,318	PROC4, PROC5, PROC8b, PROC15
Worker, long-term, systemic, Combined routes	N/A	0,867	PROC4
Environment			
Effect/Compartment	Exposure estimate/PEC	<u>RCR</u>	<u>Notes</u>
Freshwater	0,0038 mg/L	0,493	
Freshwater sediment	0,058 mg/kg dw	0,492	
Marine water	0,00038 mg/L	0,493	
Marine water sediment	0,0058 mg/kg dw	0,492	
Soil	0,013 mg/kg dw	0,668	
Human via environment, Inhalation	0,000191 mg/m3	<0,01	
Human via environment, Oral	0,00122 mg/kg bw/day	<0,01	
Human via environment, Combined routes	N/A	<0,01	

RCR=Risk characterization ratio (PEC/PNEC or Exposure estimate/DNEL); PEC=Predicted environmental concentration.

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

Health:	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Indoor use, without LEV. Duration: <=8 hours/day. Respiratory protection: Yes (Respirator with APF of 10) (Effectiveness Inhalation: 90%). Dermal protection: PROC2, PROC15: No (Effectiveness Dermal: 0%). PROC4: Yes (chemically resistant gloves conforming to EN374) (Effectiveness Dermal: 80%). PROC5, PROC8b: Yes (chemically resistant gloves conforming to EN374 with basic employee training) (Effectiveness Dermal: 90%).
Environment:	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.

Exposure scenario (7): Formulation - Formulation of fragranced end-products

1. Exposure scenario (7)

Short title of the exposure scenario:

Formulation - Formulation of fragranced end-products

List of use descriptors:

Product category (PC): PC28 Process category (PROC): PROC1, PROC2, PROC3, PROC5, PROC8a, PROC8b, PROC9, PROC14, PROC15

Environmental release category (ERC): ERC2

List of names of contributing worker scenarios and corresponding PROCs:

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions. PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions.

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition.

PROC5 Mixing or blending in batch processes. Covers mixing or blending of solid or liquid materials in the context of manufacturing or formulating sectors, as well as upon end use.

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities. Transfer includes loading, filling, dumping, bagging and weighing.

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities. Transfer includes loading, filling, dumping, bagging. PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing). Filling lines specifically designed to both capture vapour and aerosol emissions and minimise spillage.

PROC14 Tabletting, compression, extrusion, pelletisation, granulation. This covers processing of mixtures and/or substances into a defined shape for further use.

PROC15 Use as laboratory reagent. Use of substances at small scale in laboratories (less than or equal to 1 l or 1 kg present at workplace). Name of contributing environmental scenario and corresponding ERCs:

ERC2 Formulation into mixture.

Further explanations:

 PC28 Perfumes, fragrances.

 For further information on standardized use descriptors see the European Chemical Agency (ECHA) Guidance on information requirements and chemical safety assessment, Chapter R.12: Use descriptor system (http://guidance.echa.europa.eu/docs/guidance_document/ information_requirements_r12_en.pdf).

 2. Conditions of use affecting exposure

 2.1 Control of workers exposure

 General:

 Generally accepted standards of occupational hygiene are maintained. Smoking, eating and drinking are prohibited at the workplace. Spills are cleaned immediately.

 Product characteristics:

 Concentration of substance: Up to 100%.

 Physical state: liquid.

 Vapour pressure: 0.358 Pa at 25 °C

 Amounts used:

 This information is not relevant for assessment of worker's exposure.

Frequency and duration of use/exposure:

Duration: <=8 hours/day.

Other given operational conditions affecting workers exposure:

Location: Indoor use.

Process temperature: <= 40 °C.

Technical conditions and measures to control dispersion from source towards the worker:

General ventilation: Basic general ventilation (1-3 air changes per hour): 0%.

Local exhaust ventilation: Not required.

Occupational Health and Safety Management System: Advanced.

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

Respiratory protection:

- PROC1: Not required.

- PROC2, PROC3, PROC5, PROC8b, PROC9, PROC14, PROC15: Yes (Respirator with APF of 10) (Effectiveness Inhalation: 90%).

- PROC8a: Yes (Respirator with APF of 20) (Effectiveness Inhalation: 95%).

- Dermal protection:
- PROC1, PROC2, PROC3, PROC15: No (Effectiveness Dermal: 0%).
- PROC9, PROC14: Yes (chemically resistant gloves conforming to EN374) (Effectiveness Dermal: 80%).
- PROC5, PROC8a, PROC8b: Yes (chemically resistant gloves conforming to EN374 with basic employee training) (Effectiveness Dermal: 90%).

Additional good practice advice:

Generally accepted standards of occupational hygiene are maintained.

Minimisation of manual phases/work tasks.

Minimisation of splashes and spills.

Avoidance of contact with contaminated tools and objects.

Regular cleaning of equipment and work area.

Training staff on good practice.

Management/supervision in place to check that RMMs in place are being used correctly and OCs followed.

2.2 Control of environmental exposure

General:

All risk management measures utilised must also comply with all relevant local regulations.

Product characteristics:

Vapour pressure: 0.358 Pa at 25 °C

Amounts used:

Maximum daily use at a site: 0,03 ton/day.

Maximum annual use at a site: 10 tons/year.

Environmental factors not influenced by risk management:

Flow rate of receiving surface water: >=18,000 m3/day (default).

Other given operational conditions affecting environmental exposure: Indoor use.

Release fraction to air from process (initial release): 0,025; (final release): 0,025. Local release rate: 0,75 kg/day.

Release fraction to wastewater from process (initial release): 0,02; (final release): 0,02. Local release rate: 0,6 kg/day. Release fraction to soil from process: 0,0001.

Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil:

Dry sludge application to agricultural soil: Yes (default).

Conditions and measures related to municipal sewage treatment plant: Municipal Sewage Treatment Plant (STP): Yes (Efficiency=87,47%).

Size of municipal sewage system/treatment plant: >=2000 m3/day (standard town).

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External recovery and recycling of waste should comply with applicable local and/or national regulations.

Additional good practice advice:

All risk management measures utilised must also comply with all relevant local regulations.

3. Exposure estimation and reference to its source

Assessment method-Health: CHESAR v3.2-Worker TRA v3. Only highest figures are presented here.

Assessment method-Environment: EUSES 2.1.2.

Health Effect/Compartment **Exposure estimate/PEC** RCR Notes Worker, long-term, systemic, Dermal 1,372 mg/kg bw/day 0,549 PROC9 2,795 mg/m3 0,318 PROC5, PROC8a, PROC8b, PROC9, Worker, long-term, systemic, Inhalation PROC14, PROC15 Worker, long-term, systemic, Combined routes N/A 0,867 PROC9 Environment Notes Effect/Compartment **Exposure estimate/PEC** RCR Freshwater 0,0038 mg/L 0,493 Freshwater sediment 0,058 mg/kg dw 0.492 Marine water 0,00038 mg/L 0,493 Marine water sediment 0,492 0,0058 mg/kg dw 0,013 mg/kg dw 0,668 Soil Human via environment, Inhalation 0,000191 mg/m3 <0,01 0,00122 mg/kg bw/day <0,01 Human via environment, Oral <0,01 Human via environment, Combined routes N/A RCR=Risk characterization ratio (PEC/PNEC or Exposure estimate/DNEL); PEC=Predicted environmental concentration. 4. Guidance to the Downstream User to evaluate whether he works inside the boundaries set by the ES Health: Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Indoor use, without LEV. Duration: <=8 hours/day. Respiratory protection: PROC1: Not required. PROC2, PROC3, PROC5, PROC8b, PROC9, PROC14, PROC15: Yes (Respirator with APF of 10) (Effectiveness Inhalation: 90%). PROC8a: Yes (Respirator with APF of 20) (Effectiveness Inhalation: 95%). Dermal protection: PROC1, PROC2, PROC3, PROC15: No (Effectiveness Dermal: 0%). PROC9, PROC14: Yes (chemically resistant gloves conforming to EN374) (Effectiveness Dermal: 80%). PROC5, PROC8a, PROC8b: Yes (chemically resistant gloves conforming to EN374 with basic employee training) (Effectiveness Dermal: 90%). Concentration of substance: Up to 100% Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be Environment: necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Exposure scenario (8): Use by professional workers - Professional use of polishes and wax blends 1. Exposure scenario (8) Short title of the exposure scenario: Use by professional workers - Professional use of polishes and wax blends List of use descriptors: Product category (PC): PC31 Process category (PROC): PROC2, PROC8a, PROC9, PROC10. Environmental release category (ERC): ERC8a List of names of contributing worker scenarios and corresponding PROCs: PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions. PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities. Transfer includes loading, filling, dumping, bagging and weighing. PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing). Filling lines specifically designed to both capture vapour and aerosol emissions and minimise spillage. PROC10 Roller application or brushing. This includes application of paints, coatings, removers, adhesives or cleaning agents to surfaces with potential exposure arising from splashes. Name of contributing environmental scenario and corresponding ERCs: ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) Further explanations: PC31 Polishes and wax blends. For further information on standardized use descriptors see the European Chemical Agency (ECHA) Guidance on information requirements and chemical safety assessment, Chapter R.12: Use descriptor system (http://guidance.echa.europa.eu/docs/guidance document/ information requirements r12 en.pdf) 2. Conditions of use affecting exposure 2.1 Control of workers exposure General: Generally accepted standards of occupational hygiene are maintained. Smoking, eating and drinking are prohibited at the workplace. Spills are cleaned immediately. Product characteristics: Concentration of substance: - PROC2, PROC8a, PROC9: Up to 100%. - PROC10: <=10%.

Physical state: liquid.

Vapour pressure: 0.358 Pa at 25 °C

Amounts used: This information is not relevant for assessment of worker's exposure Frequency and duration of use/exposure: Duration: <=8 hours/day Other given operational conditions affecting workers exposure: Location: Indoor use Domain: Professional use. Process temperature: <= 40 °C. Technical conditions and measures to control dispersion from source towards the worker: General ventilation: Basic general ventilation (1-3 air changes per hour): 0%. Local exhaust ventilation: - PROC2, PROC9: Not required. - PROC8a, PROC10: Yes (80% effectiveness). Occupational Health and Safety Management System: Basic. Conditions and measures related to personal protection, hygiene and health evaluation: Respiratory protection: - PROC2: Yes (Respirator with APF of 10) (Effectiveness Inhalation: 90%). - PROC8a, PROC9, PROC10: Yes (Respirator with APF of 20) (Effectiveness Inhalation: 95%). Dermal protection: PROC2: No (Effectiveness Dermal: 0%). - PROC8a, PROC9, PROC10: Yes (chemically resistant gloves conforming to EN374 with basic employee training) (Effectiveness Dermal: 90%). Additional good practice advice: Generally accepted standards of occupational hygiene are maintained. Minimisation of manual phases/work tasks. Minimisation of splashes and spills. Avoidance of contact with contaminated tools and objects. Regular cleaning of equipment and work area. Training staff on good practice. Management/supervision in place to check that RMMs in place are being used correctly and OCs followed 2.2 Control of environmental exposure General: All risk management measures utilised must also comply with all relevant local regulations. Product characteristics: Vapour pressure: 0.358 Pa at 25 °C Amounts used: Daily wide dispersive use: 0.0000027 tons/day. Amounts used in the EU: 5 tons/year. Frequency and duration of use: Wide dispersive use. Environmental factors not influenced by risk management: Flow rate of receiving surface water: >=18,000 m3/day (default) Other given operational conditions affecting environmental exposure: Professional use. Indoor use. Release fraction to air from process (initial release): 1,00; (final release): 1,00. Release fraction to wastewater from process (initial release): 1,00; (final release): 1,00. Local release rate: 0,00275 kg/day. Release fraction to soil from process: 0,0. Conditions and measures related to municipal sewage treatment plant: Municipal Sewage Treatment Plant (STP): Yes (Efficiency=87,47%). Size of municipal sewage system/treatment plant: >=2000 m3/day (standard town) Conditions and measures related to external treatment of waste for disposal: External treatment and disposal of waste should comply with applicable local and/or national regulations Conditions and measures related to external recovery of waste: External recovery and recycling of waste should comply with applicable local and/or national regulations. Additional good practice advice: All risk management measures utilised must also comply with all relevant local regulations. 3. Exposure estimation and reference to its source Assessment method-Health: CHESAR v3.2-Worker TRA v3. Only highest figures are presented here. Assessment method-Environment: EUSES 2.1.2. Health Exposure estimate/PEC Effect/Compartment RCR Notes Worker, long-term, systemic, Dermal 1,646 mg/kg bw/day 0,658 PROC10 2,795 mg/m3 0,318 PROC2, PROC9 Worker, long-term, systemic, Inhalation Worker, long-term, systemic, Combined routes N/A 0,866 PROC2

Environment				
Effect/Compartment	Exposure estimate/PEC	<u>RCR</u>	<u>Notes</u>	
Freshwater	0,0000555 mg/L	<0,01		
Freshwater sediment	0,000849 mg/kg dw	<0,01		

Effect/Compartment	Exposure estimate/PEC	RCR	<u>Notes</u>
Marine water	0,0000053 mg/L	<0,01	
Marine water sediment	0,000081 mg/kg dw	<0,01	
Soil	0,000155 mg/kg dw	<0,01	
Human via environment, Inhalation	0,00000019 mg/m3	<0,01	
Human via environment, Oral	0,00000395 mg/kg bw/day	<0,01	
Human via environment, Combined routes	N/A	<0,01	
RCR=Risk characterization ratio (PEC/PNE	C or Exposure estimate/DNEL); PEC=P	redicted enviro	onmental concentration.
I. Guidance to the Downstream User to e	valuate whether he works inside the	boundaries se	et by the ES
Conditions outline are adopted, ther PROC10: LEV us (Effectiveness In Inhalation: 95%). (chemically resist Concentration of	ed in Section 2 are implemented. Where n users should ensure that risks are mar sed. Duration: <=8 hours/day. Respirat halation: 90%). PROC8a, PROC9, PRO Dermal protection: PROC2: No (Effecti ant gloves conforming to EN374 with ba substance: PROC2, PROC8a, PROC9:	other Risk Ma naged to at lea ory protection: C10: Yes (Res veness Derma asic employee Up to 100%. F	al: 0%). PROC8a, PROC9, PROC10: Yes training) (Effectiveness Dermal: 90%). PROC10: <=10%.
necessary to defi can be achieved unsafe use (i.e., l	ne appropriate site-specific risk manage using onsite/offsite technologies, either RCRs > 1), additional RMMs or a site-sp	ement measure alone or in con pecific chemica	
Exposure scenario (9): Use by profess 1. Exposure scenario (9)	ional workers - Professional end-	use of washi	ing and cleaning products
Short title of the exposure scenario:			
Use by professional workers - Professional	end-use of washing and cleaning produ	cts	
List of use descriptors:			
Product category (PC): PC35		•	
Process category (PROC): PROC2, PROC4 Environmental release category (ERC): ER		3	
List of names of contributing worker sce			
PROC2 Chemical production or refinery in c		nal controlled e	exposure or processes with equivalent
containment conditions.	·····		· +
PROC4 Chemical production where opportu			
PROC5 Mixing or blending in batch process formulating sectors, as well as upon end us		r liquid materia	als in the context of manufacturing or
PROC8a Transfer of substance or mixture (ated facilities.	Fransfer includes loading filling dumping
bagging and weighing.			······································
PROC13 Treatment of articles by dipping ar	nd pouring.	facilities. Trans	sfer includes loading, filling, dumping, bagging
Name of contributing environmental sce			
ERC8a Widespread use of non-reactive pro			
ERC8d Widespread use of non-reactive pro	cessing aid (no inclusion into or onto ar	ticle, outdoor).	
Further explanations: PC35 Washing and cleaning products.			
For further information on standardized use chemical safety assessment, Chapter R.12: information_requirements_r12_en.pdf).			IA) Guidance on information requirements and eu/docs/guidance_document/
2. Conditions of use affecting exposure			
2.1 Control of workers exposure			
General: Generally accepted standards of occupatior cleaned immediately.	nal hygiene are maintained. Smoking, ea	ating and drinki	ng are prohibited at the workplace. Spills are
Product characteristics:			
Concentration of substance: Up to 100%. Physical state: liquid.			
Vapour pressure: 0.358 Pa at 25 °C			
Amounts used: This information is not relevant for assessm	ent of worker's exposure		
Frequency and duration of use/exposure			
Duration: <=8 hours/day.			
Other given operational conditions affect Location: Indoor use.	ung workers exposure:		
Domain: Professional use.			
Process temperature: <= 40 °C.			
Technical conditions and measures to co		s the worker:	
General ventilation: Basic general ventilation Local exhaust ventilation: Not required.	n (1-3 air changes per hour): 0%.		
Occupational Health and Safety Manageme			

Occupational Health and Safety Management System: Basic. Conditions and measures related to personal protection, hygiene and health evaluation:

Respiratory protection:

PROC2, PROC4, PROC5, PROC8b: Yes (Respirator with APF of 10) (Effectiveness Inhalation: 90%).
 PROC8a, PROC13: Yes (Respirator with APF of 20) (Effectiveness Inhalation: 95%).

Dermal protection:

- PROC2: No (Effectiveness Dermal: 0%).

PROC4: Yes (chemically resistant gloves conforming to EN374) (Effectiveness Dermal: 80%).
 PROC5, PROC8a, PROC8b, PROC13: Yes (chemically resistant gloves conforming to EN374 with basic employee training) (Effectiveness Dermal: 90%).

Dermal: 90%).	, 3	5	
Additional good practice advice:			
Generally accepted standards of occupational hygic	ene are maintained.		
Minimisation of manual phases/work tasks.			
Minimisation of splashes and spills. Avoidance of contact with contaminated tools and c	hierts		
Regular cleaning of equipment and work area.	bjects.		
Training staff on good practice.			
Management/supervision in place to check that RM	Ms in place are being used corr	ectly and OCs f	ollowed.
2.2 Control of environmental exposure	·		
General:			
All risk management measures utilised must also co	omply with all relevant local regu	lations.	
Product characteristics: Vapour pressure: 0.358 Pa at 25 °C			
Amounts used:			
Daily wide dispersive use: 0.0000027 tons/day.			
Amounts used in the EU: 5 tons/year.			
Frequency and duration of use: Wide dispersive use.			
Environmental factors not influenced by risk ma Flow rate of receiving surface water: >=18,000 m3/			
Other given operational conditions affecting env			
Professional use.	-		
Indoor/Outdoor use.			
Release fraction to air from process (initial release) Release fraction to wastewater from process (initial			no rato: 0.00275 kg/day
Release fraction to soil from process:	release). 1,00, (intai release). 1	,00. Local felea	se fale. 0,00275 kg/day.
- ERC8a: 0,00.			
- ERC8d: 0,20.			
Conditions and measures related to municipal s			
Municipal Sewage Treatment Plant (STP): Yes (Eff	iciency=87,47%).		
Size of municipal sewage system/treatment plant: >			
Conditions and measures related to external tree External treatment and disposal of waste should co			ations.
Conditions and measures related to external red	overy of waste:		
External recovery and recycling of waste should con	mply with applicable local and/or	^r national regula	ations.
Additional good practice advice:			
All risk management measures utilised must also co	omply with all relevant local regu	llations.	
3. Exposure estimation and reference to its sour			
Assessment method-Health: CHESAR v3.2-Worker	⁻ TRA v3. Only highest figures a	re presented he	ere.
Assessment method-Environment: EUSES 2.1.2.			
Health			
Effect/Compartment	Exposure estimate/PEC	<u>RCR</u>	<u>Notes</u>
Worker, long-term, systemic, Dermal	1,372 mg/kg bw/day	0,549	PROC4
Worker, long-term, systemic, Inhalation	2,795 mg/m3	0,318	PROC4, PROC5, PROC8a, PROC8b, PROC13
Worker, long-term, systemic, Combined routes	N/A	0,867	PROC4
Environment			
Effect/Compartment	Exposure estimate/PEC	<u>RCR</u>	Notes
Freshwater	0,0000555 mg/L	<0,01	
Freshwater sediment	0,000849 mg/kg dw	<0,01	
Marine water	0,0000053 mg/L	<0,01	
Marine water sediment	0,000081 mg/kg dw	<0,01	
Soil	0,000155 mg/kg dw	<0,01	
Human via environment, Inhalation	0,00000019 mg/m3	<0,01	
Human via environment, Oral	0,00000395 mg/kg bw/day	<0,01	
Human via environment, Combined routes	N/A	<0,01	
RCR=Risk characterization ratio (PEC/PNEC or Ex		,	nmantal concentration

RCR=Risk characterization ratio (PEC/PNEC or Exposure estimate/DNEL); PEC=Predicted environmental concentration.

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

Health:	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Indoor use, without LEV. Duration: <=8 hours/day. Respiratory protection: PROC2, PROC4, PROC5, PROC8b: Yes (Respirator with APF of 10) (Effectiveness Inhalation: 90%). PROC8a, PROC13: Yes (Respirator with APF of 20) (Effectiveness Inhalation: 90%). Dermal protection: PROC2: No (Effectiveness Dermal: 0%). PROC4: Yes (chemically resistant gloves conforming to EN374) (Effectiveness Dermal: 80%). PROC5, PROC8a, PROC13: Yes (chemically resistant gloves conforming to EN374 with basic employee training) (Effectiveness Dermal: 90%). Concentration of substance: Up to 100%.
Environment:	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.
	(10): Consumer use - Consumer end-use of biocides
1. Exposure scenario	
Short title of the exp	posure scenario: Isumer end-use of biocides
List of use descripto	
Product category (PC	
Environmental release	é category (ERC): ERC8a, ERC8d
	g environmental scenario and corresponding ERCs:
	use of non-reactive processing aid (no inclusion into or onto article, indoor). use of non-reactive processing aid (no inclusion into or onto article, outdoor).
Further explanation	
PC8 Biocidal products	
	n on standardized use descriptors see the European Chemical Agency (ECHA) Guidance on information requirements and
	ssment, Chapter R.12: Use descriptor system (http://guidance.echa.europa.eu/docs/guidance_document/
information_requirem 2. Conditions of use	
2.1 Control of consu	
Product characteris	
	stance in product: Up to 0,01%.
Physical state: liquid.	
Oral contact foreseen Spray: No.	n: No.
Amounts used:	
Applied amounts for e	each use event: 50 g.
	tion of use/exposure:
	sure up to: 8 hours/event.
	se frequency: up to 1 time/day. nfluenced by risk management:
	vexposed: Whole body.
Inhalation factor = 1.	
Dermal transfer factor	
Other given operation Location: Indoor use.	onal conditions affecting consumers exposure:
Body weight: 60 kg.	
2.2 Control of enviro	nmental exposure
General:	
	measures utilised must also comply with all relevant local regulations.
Product characteris Vapour pressure: 0.3	
Amounts used:	
	use: 0.0000027 tons/day.
Amounts used in the	
Frequency and dura	tion of use:
Wide dispersive use.	ors not influenced by risk management:
	surface water: >=18,000 m3/day (default).
	onal conditions affecting environmental exposure:
Indoor/Outdoor use.	
Consumer use.	r from process (initial release): 1.00: (final release): 1.00
	r from process (initial release): 1,00; (final release): 1,00. astewater from process (initial release): 1,00; (final release): 1,00. Local release rate: 0,00275 kg/day.
Release fraction to so	
- ERC8a: 0,00.	
- ERC8d: 0,20.	
	isures related to municipal sewage treatment plant: eatment Plant (STP): Yes (Efficiency=87,47%).
	/age system/treatment plant: >=2000 m3/day (standard town).
I	

Oral transfer factor = 1.

Volume of product swallowed: <= 10.0 cm3.

Conditions and measures related to external treatment of waste for disposal: External treatment and disposal of waste should comply with applicable local and/or national regulations. Conditions and measures related to external recovery of waste: External recovery and recycling of waste should comply with applicable local and/or national regulations. Additional good practice advice: All risk management measures utilised must also comply with all relevant local regulations. 3. Exposure estimation and reference to its source Assessment method-Health: TRA Consumer v3.1 (R15). Assessment method-Environment: EUSES 2.1.2. Health Effect/Compartment **Exposure estimate/PEC** RCR Notes Consumer, long-term, systemic, Dermal 0,292 mg/kg bw/day 0,327 0,000431 mg/m3 <0,01 Consumer, long-term, systemic, Inhalation 0 mg/kg bw/day <0,01 Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Combined routes N/A 0,327 Environment Effect/Compartment **Exposure estimate/PEC** RCR Notes Freshwater 0,0000555 mg/L <0,01 Freshwater sediment 0,000849 mg/kg dw <0,01 0,0000053 mg/L < 0,01 Marine water Marine water sediment 0,000081 mg/kg dw < 0,01 Soil 0,000155 mg/kg dw <0,01 <0,01 Human via environment, Inhalation 0,00000019 mg/m3 Human via environment, Oral 0,00000395 mg/kg bw/day < 0,01 Human via environment, Combined routes N/A <0,01 RCR=Risk characterization ratio (PEC/PNEC or Exposure estimate/DNEL); PEC=Predicted environmental concentration. 4. Guidance to the Downstream User to evaluate whether he works inside the boundaries set by the ES Health: Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Environment: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Exposure scenario (11): Consumer use - Consumer end-use of cosmetics 1. Exposure scenario (11) Short title of the exposure scenario: Consumer use - Consumer end-use of cosmetics List of use descriptors: Product category (PC): PC39 Environmental release category (ERC): ERC8a Name of contributing environmental scenario and corresponding ERCs: ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor). Further explanations: PC39 Cosmetics, personal care products. For further information on standardized use descriptors see the European Chemical Agency (ECHA) Guidance on information requirements and chemical safety assessment, Chapter R.12: Use descriptor system (http://guidance.echa.europa.eu/docs/guidance_document/ information_requirements_r12_en.pdf) 2. Conditions of use affecting exposure 2.1 Control of consumer exposure Product characteristics: Concentration of substance in product: Up to 0,01%. Physical state: liquid. Oral contact foreseen: Yes. Spray: No. Amounts used: Applied amounts for each use event: 50 g. Frequency and duration of use/exposure: Duration covers exposure up to: 8 hours/event. Frequency - covers use frequency: up to 1 time/day. Human factors not influenced by risk management: Body parts potentially exposed: Whole body. Inhalation factor = 1. Dermal transfer factor = 1.

Other given operational conditions affecting con Location: Indoor use. Body weight: 60 kg.	nsumers exposure:		
2.2 Control of environmental exposure			
General: All risk management measures utilised must also co	omply with all relevant local regu	lations.	
Product characteristics: Vapour pressure: 0.358 Pa at 25 °C			
Amounts used: Daily wide dispersive use: 0.0000027 tons/day.			
Amounts used in the EU: 5 tons/year.			
Frequency and duration of use: Wide dispersive use.			
Environmental factors not influenced by risk ma Flow rate of receiving surface water: >=18000 m3/d			
Other given operational conditions affecting env			
Indoor use. Consumer use. Release fraction to air from process (initial release). Release fraction to wastewater from process (initial Release fraction to soil from process: 0,0.		00. Local relea	se rate: 0,00275 kg/day.
Conditions and measures related to municipal s	ewage treatment plant:		
Municipal Sewage Treatment Plant (STP): Yes (Eff			
Size of municipal sewage system/treatment plant: > Conditions and measures related to external tre			
External treatment and disposal of waste should con	mply with applicable local and/or	national regula	ations.
Conditions and measures related to external rec External recovery and recycling of waste should cor	covery of waste: mply with applicable local and/or	national regula	itions.
Additional good practice advice: All risk management measures utilised must also co	omply with all relevant local requ	lations.	
3. Exposure estimation and reference to its sour	Ce		
Assessment method-Health: TRA Consumer v3.1 (I			
Assessment method-Environment: EUSES 2.1.2.			
-			
Health			
Effect/Compartment	Exposure estimate/PEC	RCR	<u>Notes</u>
	Exposure estimate/PEC 0,292 mg/kg bw/day	<u>RCR</u> 0,327	<u>Notes</u>
Effect/Compartment			<u>Notes</u>
Effect/Compartment Consumer, long-term, systemic, Dermal	0,292 mg/kg bw/day	0,327	<u>Notes</u>
Effect/Compartment Consumer, long-term, systemic, Dermal Consumer, long-term, systemic, Inhalation Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Combined routes	0,292 mg/kg bw/day 0,000431 mg/m3	0,327 <0,01	<u>Notes</u>
Effect/Compartment Consumer, long-term, systemic, Dermal Consumer, long-term, systemic, Inhalation Consumer, long-term, systemic, Oral	0,292 mg/kg bw/day 0,000431 mg/m3 0,017 mg/kg bw/day	0,327 <0,01 0,019	<u>Notes</u>
Effect/Compartment Consumer, long-term, systemic, Dermal Consumer, long-term, systemic, Inhalation Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Combined routes	0,292 mg/kg bw/day 0,000431 mg/m3 0,017 mg/kg bw/day	0,327 <0,01 0,019	<u>Notes</u>
Effect/Compartment Consumer, long-term, systemic, Dermal Consumer, long-term, systemic, Inhalation Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Combined routes Environment	0,292 mg/kg bw/day 0,000431 mg/m3 0,017 mg/kg bw/day N/A <u>Exposure estimate/PEC</u> 0,0000555 mg/L	0,327 <0,01 0,019 0,346 <u>RCR</u> <0,01	
Effect/Compartment Consumer, long-term, systemic, Dermal Consumer, long-term, systemic, Inhalation Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Combined routes Environment Effect/Compartment	0,292 mg/kg bw/day 0,000431 mg/m3 0,017 mg/kg bw/day N/A Exposure estimate/PEC	0,327 <0,01 0,019 0,346 RCR	
Effect/Compartment Consumer, long-term, systemic, Dermal Consumer, long-term, systemic, Inhalation Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Combined routes Environment Effect/Compartment Freshwater	0,292 mg/kg bw/day 0,000431 mg/m3 0,017 mg/kg bw/day N/A <u>Exposure estimate/PEC</u> 0,0000555 mg/L	0,327 <0,01 0,019 0,346 <u>RCR</u> <0,01	
Effect/Compartment Consumer, long-term, systemic, Dermal Consumer, long-term, systemic, Inhalation Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Combined routes Environment Effect/Compartment Freshwater Freshwater sediment	0,292 mg/kg bw/day 0,000431 mg/m3 0,017 mg/kg bw/day N/A Exposure estimate/PEC 0,0000555 mg/L 0,000053 mg/L 0,000053 mg/L 0,000081 mg/kg dw	0,327 <0,01 0,019 0,346 RCR <0,01 <0,01	
Effect/Compartment Consumer, long-term, systemic, Dermal Consumer, long-term, systemic, Inhalation Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Combined routes Environment Effect/Compartment Freshwater Freshwater sediment Marine water	0,292 mg/kg bw/day 0,000431 mg/m3 0,017 mg/kg bw/day N/A Exposure estimate/PEC 0,0000555 mg/L 0,000053 mg/L 0,000053 mg/L 0,000081 mg/kg dw 0,000155 mg/kg dw	0,327 <0,01 0,019 0,346 RCR <0,01 <0,01 <0,01	
Effect/Compartment Consumer, long-term, systemic, Dermal Consumer, long-term, systemic, Inhalation Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Combined routes Environment Effect/Compartment Freshwater Freshwater sediment Marine water sediment Soil Human via environment, Inhalation	0,292 mg/kg bw/day 0,000431 mg/m3 0,017 mg/kg bw/day N/A Exposure estimate/PEC 0,0000555 mg/L 0,0000555 mg/kg dw 0,0000053 mg/L 0,000081 mg/kg dw 0,000155 mg/kg dw 0,0000019 mg/m3	0,327 <0,01 0,019 0,346 <u>RCR</u> <0,01 <0,01 <0,01 <0,01	
Effect/Compartment Consumer, long-term, systemic, Dermal Consumer, long-term, systemic, Inhalation Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Combined routes Environment Effect/Compartment Freshwater Freshwater sediment Marine water sediment Soil Human via environment, Inhalation Human via environment, Oral	0,292 mg/kg bw/day 0,000431 mg/m3 0,017 mg/kg bw/day N/A Exposure estimate/PEC 0,0000555 mg/L 0,000849 mg/kg dw 0,0000053 mg/L 0,000081 mg/kg dw 0,0000155 mg/kg dw 0,0000019 mg/m3 0,00000395 mg/kg bw/day	0,327 <0,01	
Effect/Compartment Consumer, long-term, systemic, Dermal Consumer, long-term, systemic, Inhalation Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Combined routes Environment Effect/Compartment Freshwater Freshwater sediment Marine water Marine water sediment Soil Human via environment, Inhalation Human via environment, Oral Human via environment, Combined routes	0,292 mg/kg bw/day 0,000431 mg/m3 0,017 mg/kg bw/day N/A Exposure estimate/PEC 0,0000555 mg/L 0,0000555 mg/L 0,0000849 mg/kg dw 0,0000053 mg/L 0,000081 mg/kg dw 0,0000155 mg/kg dw 0,0000019 mg/m3 0,00000395 mg/kg bw/day N/A	0,327 <0,01	Notes
Effect/Compartment Consumer, long-term, systemic, Dermal Consumer, long-term, systemic, Inhalation Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Combined routes Environment Effect/Compartment Freshwater Freshwater sediment Marine water sediment Soil Human via environment, Inhalation Human via environment, Oral	0,292 mg/kg bw/day 0,000431 mg/m3 0,017 mg/kg bw/day N/A Exposure estimate/PEC 0,0000555 mg/L 0,0000555 mg/L 0,0000849 mg/kg dw 0,0000053 mg/L 0,000081 mg/kg dw 0,0000155 mg/kg dw 0,0000019 mg/m3 0,00000395 mg/kg bw/day N/A	0,327 <0,01	Notes
Effect/Compartment Consumer, long-term, systemic, Dermal Consumer, long-term, systemic, Inhalation Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Combined routes Environment Effect/Compartment Freshwater Freshwater sediment Marine water Marine water sediment Soil Human via environment, Inhalation Human via environment, Oral Human via environment, Combined routes RCR=Risk characterization ratio (PEC/PNEC or Ex 4. Guidance to the Downstream User to evaluate	0,292 mg/kg bw/day 0,000431 mg/m3 0,017 mg/kg bw/day N/A Exposure estimate/PEC 0,0000555 mg/L 0,0000535 mg/L 0,0000849 mg/kg dw 0,0000053 mg/L 0,000081 mg/kg dw 0,0000055 mg/kg dw 0,0000019 mg/m3 0,00000019 mg/m3 0,00000395 mg/kg bw/day N/A posure estimate/DNEL); PEC=P	0,327 <0,01 0,019 0,346 RCR <0,01 <0,01 <0,01 <0,01 <0,01 <0,01 <0,01 <0,01 <0,01 <0,01 eredicted enviro boundaries se	Notes Notes nmental concentration. t by the ES
Effect/Compartment Consumer, long-term, systemic, Dermal Consumer, long-term, systemic, Inhalation Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Combined routes Environment Effect/Compartment Freshwater Freshwater sediment Marine water sediment Soil Human via environment, Inhalation Human via environment, Oral Human via environment, Combined routes RCR=Risk characterization ratio (PEC/PNEC or Ex 4. Guidance to the Downstream User to evaluate Health: Predicted exposures are Conditions outlined in Se	0,292 mg/kg bw/day 0,000431 mg/m3 0,017 mg/kg bw/day N/A Exposure estimate/PEC 0,0000555 mg/L 0,000849 mg/kg dw 0,000053 mg/L 0,000081 mg/kg dw 0,0000055 mg/kg dw 0,00000155 mg/kg dw 0,0000019 mg/m3 0,00000019 mg/m3 0,00000395 mg/kg bw/day N/A posure estimate/DNEL); PEC=F whether he works inside the not expected to exceed the DN(0,327 <0,01	Notes Notes Notes nmental concentration. t by the ES Risk Management Measures/Operational nagement Measures/Operational nagement Measures/Operational nagement Measures/Operational
Effect/Compartment Consumer, long-term, systemic, Dermal Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Combined routes Environment Effect/Compartment Freshwater Freshwater sediment Marine water Marine water sediment Soil Human via environment, Inhalation Human via environment, Oral Human via environment, Combined routes RCR=Risk characterization ratio (PEC/PNEC or Ex 4. Guidance to the Downstream User to evaluate Health: Predicted exposures are Conditions outlined in Se are adopted, then users of Environment: Guidance is based on as necessary to define appr can be achieved using or unsafe use (i.e., RCRs >	0,292 mg/kg bw/day 0,000431 mg/m3 0,017 mg/kg bw/day N/A Exposure estimate/PEC 0,0000555 mg/L 0,000849 mg/kg dw 0,000053 mg/L 0,000081 mg/kg dw 0,0000053 mg/L 0,000081 mg/kg dw 0,00000155 mg/kg dw 0,00000395 mg/kg bw/day N/A posure estimate/DNEL); PEC=F whether he works inside the not expected to exceed the DN(ction 2 are implemented. Where should ensure that risks are mar sumed operating conditions whi opriate site-specific risk manage nsite/offsite technologies, either 1), additional RMMs or a site-sp	0,327 <0,01	Notes
Effect/Compartment Consumer, long-term, systemic, Dermal Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Combined routes Environment Effect/Compartment Freshwater Freshwater sediment Marine water Marine water sediment Soil Human via environment, Inhalation Human via environment, Oral Human via environment, Combined routes RCR=Risk characterization ratio (PEC/PNEC or Ex 4. Guidance to the Downstream User to evaluate Health: Predicted exposures are Conditions outlined in Se are adopted, then users are aconditions outlined in Se are adopted, then users are con be achieved using or unsafe use (i.e., RCRs > Exposure scenario (12): Consumer use - Conditions	0,292 mg/kg bw/day 0,000431 mg/m3 0,017 mg/kg bw/day N/A Exposure estimate/PEC 0,0000555 mg/L 0,000849 mg/kg dw 0,000053 mg/L 0,000081 mg/kg dw 0,0000053 mg/L 0,000081 mg/kg dw 0,00000155 mg/kg dw 0,00000395 mg/kg bw/day N/A posure estimate/DNEL); PEC=F whether he works inside the not expected to exceed the DN(ction 2 are implemented. Where should ensure that risks are mar sumed operating conditions whi opriate site-specific risk manage nsite/offsite technologies, either 1), additional RMMs or a site-sp	0,327 <0,01	Notes
Effect/Compartment Consumer, long-term, systemic, Dermal Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Combined routes Environment Effect/Compartment Freshwater Freshwater sediment Marine water Marine water sediment Soil Human via environment, Inhalation Human via environment, Oral Human via environment, Combined routes RCR=Risk characterization ratio (PEC/PNEC or Ex 4. Guidance to the Downstream User to evaluate Health: Predicted exposures are Conditions outlined in Se are adopted, then users are are adopted, then users are conditions outlined in Se are adopted, then users are can be achieved using or unsafe use (i.e., RCRs > Exposure scenario (12): Consumer use - Con	0,292 mg/kg bw/day 0,000431 mg/m3 0,017 mg/kg bw/day N/A Exposure estimate/PEC 0,0000555 mg/L 0,000849 mg/kg dw 0,000053 mg/L 0,000081 mg/kg dw 0,0000053 mg/L 0,000081 mg/kg dw 0,00000155 mg/kg dw 0,00000395 mg/kg bw/day N/A posure estimate/DNEL); PEC=F whether he works inside the not expected to exceed the DN(ction 2 are implemented. Where should ensure that risks are mar sumed operating conditions whi opriate site-specific risk manage nsite/offsite technologies, either 1), additional RMMs or a site-sp	0,327 <0,01	Notes
Effect/Compartment Consumer, long-term, systemic, Dermal Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Combined routes Environment Effect/Compartment Freshwater Freshwater sediment Marine water sediment Soil Human via environment, Inhalation Human via environment, Oral Human via environment, Combined routes RCR=Risk characterization ratio (PEC/PNEC or Ex 4. Guidance to the Downstream User to evaluate Health: Predicted exposures are conditions outlined in Se are adopted, then users are adopted, then users are accessary to define apprican be achieved using or unsafe use (i.e., RCRs >	0,292 mg/kg bw/day 0,000431 mg/m3 0,017 mg/kg bw/day N/A Exposure estimate/PEC 0,0000555 mg/L 0,000849 mg/kg dw 0,000053 mg/L 0,000081 mg/kg dw 0,0000055 mg/kg dw 0,00000155 mg/kg dw 0,0000019 mg/m3 0,00000395 mg/kg bw/day N/A posure estimate/DNEL); PEC=P whether he works inside the not expected to exceed the DN(oction 2 are implemented. Where should ensure that risks are mar sumed operating conditions whi opriate site-specific risk manage nsite/offsite technologies, either 1), additional RMMs or a site-sp isumer end-use of washing	0,327 <0,01	Notes
Effect/Compartment Consumer, long-term, systemic, Dermal Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Oral Consumer, long-term, systemic, Combined routes Environment Effect/Compartment Freshwater Freshwater sediment Marine water sediment Soil Human via environment, Inhalation Human via environment, Oral Human via environment, Combined routes RCR=Risk characterization ratio (PEC/PNEC or Ex 4. Guidance to the Downstream User to evaluate Health: Predicted exposures are Conditions outlined in Se are adopted, then users are are adopted, then users are conditions outlined in Se are adopted, then users are conditions outlined in Se are adopted, then users are con be achieved using or unsafe use (i.e., RCRs > Exposure scenario (12): Consumer use - Cond Short title of the exposure scenario:	0,292 mg/kg bw/day 0,000431 mg/m3 0,017 mg/kg bw/day N/A Exposure estimate/PEC 0,0000555 mg/L 0,000849 mg/kg dw 0,000053 mg/L 0,000081 mg/kg dw 0,0000055 mg/kg dw 0,00000155 mg/kg dw 0,0000019 mg/m3 0,00000395 mg/kg bw/day N/A posure estimate/DNEL); PEC=P whether he works inside the not expected to exceed the DN(oction 2 are implemented. Where should ensure that risks are mar sumed operating conditions whi opriate site-specific risk manage nsite/offsite technologies, either 1), additional RMMs or a site-sp isumer end-use of washing	0,327 <0,01	Notes

Environmental release category (ERC): ERC8d

Name of contributing environmental scenario and corresponding ERCs: ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor).

Further explanations:

Marine water

PC35 Washing and cleaning products.

PC35 Washing and cleaning products.			
For further information on standardized use descripted	ors see the European Chemica	I Agency (ECHA	A) Guidance on information requirements and
chemical safety assessment, Chapter R.12: Use des	scriptor system (http://guidance	.echa.europa.eu	i/docs/guidance_document/
information_requirements_r12_en.pdf).			
2. Conditions of use affecting exposure			
2.1 Control of consumer exposure			
Product characteristics:			
Concentration of substance in product: Up to 0,01%. Physical state: liquid.			
Oral contact foreseen: No.			
Spray: No.			
Amounts used:			
Applied amounts for each use event: 50 g.			
Frequency and duration of use/exposure:			
Duration covers exposure up to: 8 hours/event.			
Frequency - covers use frequency: up to 1 time/day.			
Human factors not influenced by risk manageme	nt:		
Body parts potentially exposed: Whole body. Inhalation factor = 1.			
Dermal transfer factor = 1.			
Other given operational conditions affecting con	sumers exposure:		
Location: Indoor use.			
Body weight: 60 kg.			
2.2 Control of environmental exposure			
General:			
All risk management measures utilised must also co	mply with all relevant local regu	lations.	
Product characteristics:			
Vapour pressure: 0.358 Pa at 25 °C			
Amounts used:			
Daily wide dispersive use: 0.0000027 tons/day. Amounts used in the EU: 5 tons/year.			
Frequency and duration of use:			
Wide dispersive use.			
Environmental factors not influenced by risk mar	nagement:		
Flow rate of receiving surface water: >=18000 m3/da			
Other given operational conditions affecting envi	ironmental exposure:		
Outdoor use.			
Consumer use.			
Release fraction to air from process (initial release):		00	
Release fraction to wastewater from process (initial r Release fraction to soil from process: 0,20.	elease): 1,00; (final release): 1	,00. Local releas	se rate: 0,00275 kg/day.
Conditions and measures related to municipal se	wage treatment plant:		
Municipal Sewage Treatment Plant (STP): Yes (Efficiency of the second s			
Size of municipal sewage system/treatment plant: >=			
Conditions and measures related to external trea			
External treatment and disposal of waste should com	nply with applicable local and/o	r national regula	tions.
Conditions and measures related to external reco			
External recovery and recycling of waste should com	ply with applicable local and/or	national regulat	tions.
Additional good practice advice:			
All risk management measures utilised must also co		liations.	
3. Exposure estimation and reference to its source			
Assessment method-Health: TRA Consumer v3.1 (R	(15).		
Assessment method-Environment: EUSES 2.1.2.			
Health			
Effect/Compartment	Exposure estimate/PEC	<u>RCR</u>	<u>Notes</u>
Consumer, long-term, systemic, Dermal	0,292 mg/kg bw/day	0,327	
Consumer, long-term, systemic, Inhalation	0,000431 mg/m3	<0,01	
Consumer, long-term, systemic, Oral	0 mg/kg bw/day	<0,01	
Consumer, long-term, systemic, Combined routes	N/A	0,327	
Environment			
Effect/Compartment	Exposure estimate/PEC	RCR	Notes
Freshwater	0,0000555 mg/L	<0.01	
I ICOLIWALCI		50.01	
Freshwater sediment	0,000849 mg/kg dw	<0,01	

<0,01

0,0000053 mg/L

Effect/Compartment		Exposure estimate/PEC	RCR	Notes
Marine water sediment		0,000081 mg/kg dw	<0,01	
Soil		0,000155 mg/kg dw	<0,01	
Human via environment,	Inhalation	0,00000019 mg/m3	<0,01	
Human via environment,	Oral	0,00000395 mg/kg bw/day	<0,01	
Human via environment,	Combined routes	N/A	<0,01	
RCR=Risk characterization	on ratio (PEC/PNEC o	or Exposure estimate/DNEL); PEC=P	redicted envir	onmental concentration.
4. Guidance to the Dowr		uate whether he works inside the I		
Health:	Conditions outlined		other Risk Ma	e Risk Management Measures/Operational anagement Measures/Operational Conditions st equivalent levels.
Environment:	necessary to define can be achieved usi	appropriate site-specific risk manage	ment measure alone or in cor	applicable to all sites; thus, scaling may be es. Required removal efficiency for wastewate nbination. If scaling reveals a condition of al safety assessment is required
Exposure scenario (13)	,	Consumer end-use of fragrance		
1. Exposure scenario (13		Consumer end-use of magranet	.5	
Short title of the exposu	/			
Consumer use - Consum		ces		
List of use descriptors:	<u></u>			
Product category (PC): Pe Environmental release ca		3		
		a io and corresponding ERCs:		
ERC8a Widespread use		ssing aid (no inclusion into or onto art	icle, indoor).	
Further explanations:				
PC28 Perfumes, fragrand		scriptors soo the European Chemical	Agoney (ECL	IA) Guidance on information requirements an
		se descriptor system (http://guidance.		
information_requirements			1	
2. Conditions of use affe	ecting exposure			
2.1 Control of consumer				
Product characteristics		049/		
Concentration of substand Physical state: liquid.	ce in product: Up to 0	,01%.		
Oral contact foreseen: No).			
Spray: Yes.				
Amounts used:	. 50			
Applied amounts for each Frequency and duration	0			
Duration covers exposure		t		
Frequency - covers use fr				
Human factors not influ		gement:		
Body parts potentially exp	osed: Whole body.			
Inhalation factor = 1. Dermal transfer factor = 1				
Other given operational		q consumers exposure:		
Location: Indoor use.		· · · · · · · · · · · · · · · · · · ·		
Body weight: 60 kg.				
2.2 Control of environme	ental exposure			
General: All risk management mea	sures utilised must a	so comply with all relevant local regu	ations	
Product characteristics		ee comply with an relevant local regu		
Vapour pressure: 0.358 P				
Amounts used:				
Daily wide dispersive use				
Amounts used in the EU: Frequency and duration				
Wide dispersive use.	01 USC.			
Environmental factors n	ot influenced by ris	k management:		
Flow rate of receiving sur	face water: >=18000	m3/day (default).		
	conditions affecting	g environmental exposure:		
Indoor use.				
Consumer use. Release fraction to air fro	m process (initial rele	ase): 1,00; (final release): 1,00.		
		nitial release): 1,00; (final release): 1,	00. Local rele	ase rate: 0,00275 kg/day.
Release fraction to soil from	om process: 0,0.			
		pal sewage treatment plant:		

Municipal Sewage Treatment Plant (STP): Yes (Efficiency=87,47%).

Size of municipal sewage system/treatment plant: >=			
Conditions and measures related to external trea			-41
External treatment and disposal of waste should con Conditions and measures related to external reco		national regula	allons.
External recovery and recycling of waste should con		national regula	ations.
Additional good practice advice: All risk management measures utilised must also co			
3. Exposure estimation and reference to its source			
Assessment method-Health: TRA Consumer v3.1 (F			
Assessment method-Environment: EUSES 2.1.2.	- ,		
Health			
Effect/Compartment	Exposure estimate/PEC	RCR	<u>Notes</u>
Consumer, long-term, systemic, Dermal	0,292 mg/kg bw/day	0,327	
Consumer, long-term, systemic, Inhalation	0,043 mg/m3	0,033	
Consumer, long-term, systemic, Oral	0 mg/kg bw/day	<0,01	
Consumer, long-term, systemic, Combined routes	N/A	0.36	
Environment	-	-,	
Effect/Compartment	Exposure estimate/PEC	RCR	Notes
Freshwater	0,0000555 mg/L	<0,01	
Freshwater sediment	0,000849 mg/kg dw	<0,01	
Marine water	0,0000053 mg/L	<0,01	
Marine water sediment	0,000081 mg/kg dw	<0,01	
Soil	0,000155 mg/kg dw	<0,01	
Human via environment. Inhalation	0,00000019 mg/m3	<0,01	
Human via environment, Oral	0,00000395 mg/kg bw/day	<0,01	
Human via environment, Combined routes	N/A	<0,01	
RCR=Risk characterization ratio (PEC/PNEC or Exp			nmental concentration
Conditions outlined in Sec	not expected to exceed the DN(M)EL when the other Risk Ma	Risk Management Measures/Operational nagement Measures/Operational Conditions
necessary to define appro can be achieved using on unsafe use (i.e., RCRs >	priate site-specific risk manage site/offsite technologies, either 1), additional RMMs or a site-sp	ement measure alone or in com pecific chemica	applicable to all sites; thus, scaling may be s. Required removal efficiency for wastewater abination. If scaling reveals a condition of I safety assessment is required.
Exposure scenario (14): Consumer use - Cons	sumer end-use of air care p	products	
1. Exposure scenario (14)			
Short title of the exposure scenario: Consumer use - Consumer end-use of air care produced	icts		
List of use descriptors: Product category (PC): PC3 Environmental release category (ERC): ERC8a			
Name of contributing environmental scenario an ERC8a Widespread use of non-reactive processing		ticle indeer)	
Further explanations: PC3 Air care products.			
For further information on standardized use descript chemical safety assessment, Chapter R.12: Use des			
information_requirements_r12_en.pdf).			a accorganaanoo_doodmono
2. Conditions of use affecting exposure			
2.1 Control of consumer exposure			
Product characteristics:			
Concentration of substance in product: Up to 0,01%. Physical state: liquid. Oral contact foreseen: No.			
Spray: Yes.			
Amounts used:			
Applied amounts for each use event: 50 g.			
Frequency and duration of use/exposure:			
Duration covers exposure up to: 8 hours/event.			
Frequency - covers use frequency: up to 1 time/day.	nt		
Human factors not influenced by risk manageme Body parts potentially exposed: Whole body. Inhalation factor = 1.	nt:		
Dermal transfer factor = 1.			

Body weight: 60 kg.			
2.2 Control of environmental exposure			
General:			
All risk management measures utilised must also cor	mply with all relevant local regu	lations.	
Product characteristics: Vapour pressure: 0.358 Pa at 25 °C			
Amounts used:			
Daily wide dispersive use: 0.0000027 tons/day.			
Amounts used in the EU: 5 tons/year.			
Frequency and duration of use:			
Wide dispersive use.			
Environmental factors not influenced by risk mar Flow rate of receiving surface water: >=18000 m3/da			
Other given operational conditions affecting envi			
Indoor use.			
Consumer use.			
Release fraction to air from process (initial release):			
Release fraction to wastewater from process (initial n Release fraction to soil from process: 0,0.	elease): 1,00; (final release): 1,	00. Local relea	se rate: 0,00275 kg/day.
Conditions and measures related to municipal se	wage treatment plant:		
Municipal Sewage Treatment Plant (STP): Yes (Efficience)			
Size of municipal sewage system/treatment plant: >=	2000 m3/day (standard town).		
Conditions and measures related to external trea			
External treatment and disposal of waste should com		national regula	ations.
Conditions and measures related to external recore External recovery and recycling of waste should com		national regula	tions
Additional good practice advice:		Tialional regula	
All risk management measures utilised must also cor	mply with all relevant local requ	lations.	
. Exposure estimation and reference to its sourc	:e		
Assessment method-Health: TRA Consumer v3.1 (R			
Assessment method-Environment: EUSES 2.1.2.	- /		
lealth			
Effect/Compartment	Exposure estimate/PEC	RCR	<u>Notes</u>
Consumer, long-term, systemic, Dermal	0,292 mg/kg bw/day	0,327	
Consumer, long-term, systemic, Inhalation	0,043 mg/m3	0,033	
Consumer, long-term, systemic, Oral	0 mg/kg bw/day	<0,01	
Consumer, long-term, systemic, Combined routes	N/A	0,36	
nvironment		0,00	
Effect/Compartment	Exposure estimate/PEC	RCR	Notes
Freshwater	0,000055 mg/L	<0.01	<u></u>
Freshwater sediment	, 0	<0,01	
	0,000849 mg/kg dw 0.0000053 ma/L	<0,01	
NUCLUID MOTOR	-, J	,	
Marine water	0,000081 mg/kg dw	<0,01	
Marine water sediment	0.000455		
Marine water sediment Soil	0,000155 mg/kg dw	<0,01	
Marine water sediment Soil Human via environment, Inhalation	0,00000019 mg/m3	<0,01	
Marine water sediment Soil Human via environment, Inhalation Human via environment, Oral	0,00000019 mg/m3 0,00000395 mg/kg bw/day	<0,01 <0,01	
Marine water sediment Soil Human via environment, Inhalation Human via environment, Oral Human via environment, Combined routes	0,00000019 mg/m3 0,00000395 mg/kg bw/day N/A	<0,01 <0,01 <0,01	
Marine water sediment Soil Human via environment, Inhalation Human via environment, Oral Human via environment, Combined routes RCR=Risk characterization ratio (PEC/PNEC or Exp	0,00000019 mg/m3 0,00000395 mg/kg bw/day N/A osure estimate/DNEL); PEC=P	<0,01 <0,01 <0,01 redicted enviro	
Marine water sediment Soil Human via environment, Inhalation Human via environment, Oral Human via environment, Combined routes RCR=Risk characterization ratio (PEC/PNEC or Exp . Guidance to the Downstream User to evaluate v	0,00000019 mg/m3 0,00000395 mg/kg bw/day N/A osure estimate/DNEL); PEC=P whether he works inside the	<0,01 <0,01 <0,01 redicted enviro boundaries se	t by the ES
Marine water sediment Soil Human via environment, Inhalation Human via environment, Oral Human via environment, Combined routes RCR=Risk characterization ratio (PEC/PNEC or Exp . Guidance to the Downstream User to evaluate v Health: Predicted exposures are n Conditions outlined in Sec	0,00000019 mg/m3 0,00000395 mg/kg bw/day N/A osure estimate/DNEL); PEC=P whether he works inside the not expected to exceed the DN(tion 2 are implemented. Where	<0,01 <0,01 <0,01 redicted enviro boundaries se M)EL when the other Risk Ma	t by the ES Risk Management Measures/Operational nagement Measures/Operational Conditions
Marine water sediment Soil Human via environment, Inhalation Human via environment, Oral Human via environment, Combined routes RCR=Risk characterization ratio (PEC/PNEC or Exp Guidance to the Downstream User to evaluate v Health: Predicted exposures are n Conditions outlined in Sec are adopted, then users sh Environment: Guidance is based on ass necessary to define approcan be achieved using ons	0,00000019 mg/m3 0,00000395 mg/kg bw/day N/A osure estimate/DNEL); PEC=P whether he works inside the not expected to exceed the DN(tion 2 are implemented. Where hould ensure that risks are mar umed operating conditions whi priate site-specific risk manage site/offsite technologies, either	<0,01 <0,01 redicted enviro boundaries se M)EL when the other Risk Ma laged to at leas ch may not be a ment measure alone or in com	t by the ES Risk Management Measures/Operational nagement Measures/Operational Conditions t equivalent levels. applicable to all sites; thus, scaling may be
Marine water sediment Soil Human via environment, Inhalation Human via environment, Oral Human via environment, Combined routes RCR=Risk characterization ratio (PEC/PNEC or Expl. Guidance to the Downstream User to evaluate or the alth: Predicted exposures are in Conditions outlined in Secare adopted, then users she cessary to define approcan be achieved using onsunsafe use (i.e., RCRs > 1	0,00000019 mg/m3 0,00000395 mg/kg bw/day N/A osure estimate/DNEL); PEC=P whether he works inside the not expected to exceed the DN(tion 2 are implemented. Where hould ensure that risks are mar umed operating conditions while priate site-specific risk manage site/offsite technologies, either 1), additional RMMs or a site-sp	<0,01 <0,01 redicted enviro boundaries se M)EL when the other Risk Ma laged to at leas ch may not be a ment measure alone or in com pecific chemica	t by the ES Risk Management Measures/Operational nagement Measures/Operational Conditions t equivalent levels. applicable to all sites; thus, scaling may be s. Required removal efficiency for wastewate bination. If scaling reveals a condition of safety assessment is required.
Marine water sediment Soil Human via environment, Inhalation Human via environment, Oral Human via environment, Combined routes RCR=Risk characterization ratio (PEC/PNEC or Expl. Guidance to the Downstream User to evaluate of the Health: Predicted exposures are in Conditions outlined in Secare adopted, then users shared on ass necessary to define approcember of the the provision of the the provision of the	0,00000019 mg/m3 0,00000395 mg/kg bw/day N/A osure estimate/DNEL); PEC=P whether he works inside the not expected to exceed the DN(tion 2 are implemented. Where hould ensure that risks are mar umed operating conditions while priate site-specific risk manage site/offsite technologies, either 1), additional RMMs or a site-sp	<0,01 <0,01 redicted enviro boundaries se M)EL when the other Risk Ma laged to at leas ch may not be a ment measure alone or in com pecific chemica	t by the ES Risk Management Measures/Operational nagement Measures/Operational Conditions t equivalent levels. applicable to all sites; thus, scaling may be s. Required removal efficiency for wastewate bination. If scaling reveals a condition of safety assessment is required.
Marine water sediment Soil Human via environment, Inhalation Human via environment, Oral Human via environment, Combined routes RCR=Risk characterization ratio (PEC/PNEC or Exp Guidance to the Downstream User to evaluate or Health: Predicted exposures are in Conditions outlined in Sec are adopted, then users st Environment: Guidance is based on ass necessary to define appro can be achieved using ons unsafe use (i.e., RCRs > 1	0,00000019 mg/m3 0,00000395 mg/kg bw/day N/A osure estimate/DNEL); PEC=P whether he works inside the not expected to exceed the DN(tion 2 are implemented. Where hould ensure that risks are mar umed operating conditions while priate site-specific risk manage site/offsite technologies, either 1), additional RMMs or a site-sp	<0,01 <0,01 redicted enviro boundaries se M)EL when the other Risk Ma laged to at leas ch may not be a ment measure alone or in com pecific chemica	t by the ES Risk Management Measures/Operational nagement Measures/Operational Conditions t equivalent levels. applicable to all sites; thus, scaling may be s. Required removal efficiency for wastewate bination. If scaling reveals a condition of safety assessment is required.

Environmental release category (ERC): ERC8a

Name of contributing environmental scenario and corresponding ERCs: ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor).

Further explanations:

PC31 Polishes and wax blends.			
For further information on standardized use descripted	ors see the European Chemical	Agency (ECHA) Guidance on information requirements and
chemical safety assessment, Chapter R.12: Use des			
information requirements r12 en.pdf).			······································
2. Conditions of use affecting exposure			
2.1 Control of consumer exposure			
Product characteristics:			
Concentration of substance in product: Up to 0,01%.			
Physical state: liquid.			
Oral contact foreseen: No.			
Spray: No.			
Amounts used: Applied amounts for each use event: 50 g.			
Frequency and duration of use/exposure:			
Duration covers exposure up to: 8 hours/event.			
Frequency - covers use frequency: up to 1 time/day.			
Human factors not influenced by risk manageme	nt:		
Body parts potentially exposed: Whole body.			
Inhalation factor = 1.			
Dermal transfer factor = 1.			
Other given operational conditions affecting con	sumers exposure:		
Location: Indoor use. Body weight: 60 kg.			
2.2 Control of environmental exposure			
General:			
All risk management measures utilised must also co	mply with all relevant local requi	lations	
Product characteristics:	mply with an relevant local regu		
Vapour pressure: 0.358 Pa at 25 °C			
Amounts used:			
Daily wide dispersive use: 0.0000027 tons/day.			
Amounts used in the EU: 5 tons/year.			
Frequency and duration of use:			
Wide dispersive use.			
Environmental factors not influenced by risk man			
Flow rate of receiving surface water: >=18000 m3/da			
Other given operational conditions affecting envi Indoor use.	ironmental exposure:		
Consumer use.			
Release fraction to air from process (initial release):	1.00: (final release): 1.00.		
Release fraction to wastewater from process (initial r		00. Local releas	se rate: 0,00275 kg/day.
Release fraction to soil from process: 0,0.			
Conditions and measures related to municipal se			
Municipal Sewage Treatment Plant (STP): Yes (Efficient			
Size of municipal sewage system/treatment plant: >=			
Conditions and measures related to external trea			
External treatment and disposal of waste should con		national regula	tions.
Conditions and measures related to external reco		national regula	tions
External recovery and recycling of waste should com Additional good practice advice:		nauonai regula	uuus.
Additional good practice advice: All risk management measures utilised must also col	mply with all relevant local requi	lations	
	1,		
3. Exposure estimation and reference to its source			
Assessment method-Health: TRA Consumer v3.1 (R			
Assessment method-Environment: EUSES 2.1.2.			
Health			N - 4
Effect/Compartment	Exposure estimate/PEC	<u>RCR</u>	Notes
Consumer, long-term, systemic, Dermal	0,292 mg/kg bw/day	0,327	
Consumer, long-term, systemic, Inhalation	0,000431 mg/m3	<0,01	
Consumer, long-term, systemic, Oral	0 mg/kg bw/day	<0,01	
Consumer, long-term, systemic, Combined routes	N/A	0,327	
Environment			
Effect/Compartment	Exposure estimate/PEC	RCR	Notes
Freshwater	0,0000555 mg/L	<u><0,01</u>	<u></u>
		,	
Freshwater sediment	0,000849 mg/kg dw	<0,01	
Marine water	0,0000053 mg/L	<0,01	

Exposure estimate/PEC	<u>RCR</u>	<u>Notes</u>
0,000081 mg/kg dw	<0,01	
0,000155 mg/kg dw	<0,01	
0,00000019 mg/m3	<0,01	
0,00000395 mg/kg bw/day	<0,01	
N/A	<0,01	
-	0,000155 mg/kg dw 0,00000019 mg/m3 0,00000395 mg/kg bw/day N/A	0,000081 mg/kg dw <0,01 0,000155 mg/kg dw <0,01

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

Health:	Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational
	Conditions outlined in Section 2 are implemented. Where other Risk Management Measures/Operational Conditions
	are adopted, then users should ensure that risks are managed to at least equivalent levels.
Environment:	Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be
	necessary to define appropriate site-specific risk management measures. Required removal efficiency for wastewater
	can be achieved using onsite/offsite technologies, either alone or in combination. If scaling reveals a condition of
	unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required.