



SAFETY DATA SHEET CAFLON NAS..

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

1.1. Product identifier

Product name	CAFLON NAS..
Product number	10562
Synonyms; trade names	CAFLON NAS 25A, CAFLON NAS 30A, CAFLON NAS 20A, CAFLON NAS 40, CAFLON NAS 50

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

Identified uses	Surfactant Cleaning agent. Adhesive. Leather treatment Textiles Process Additive Biocide Additive for Agrochemicals Cosmetics Personal Care For further information, see attached Exposure Scenario.
-----------------	--

1.3. Details of the supplier of the safety data sheet

Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com
----------	---

1.4. Emergency telephone number

Emergency telephone	SGS - +32 (0)3 575 55 55 (24h)
Sds No.	10562

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Not Classified
Health hazards	Skin Irrit. 2 - H315 Eye Dam. 1 - H318
Environmental hazards	Aquatic Chronic 3 - H412

2.2. Label elements

Hazard pictograms



Signal word	Danger
-------------	--------

CAFLON NAS..

Hazard statements	H315 Causes skin irritation. H318 Causes serious eye damage. H412 Harmful to aquatic life with long lasting effects.
Precautionary statements	P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P302+P352 IF ON SKIN: Wash with plenty of water. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P501 Dispose of contents/ container in accordance with national regulations.
Contains	BENZENESULPHONIC ACID MONO C10 - 13 ALKYL DERIVS SODIUM SALTS

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

BENZENESULPHONIC ACID MONO C10 - 13 ALKYL DERIVS SODIUM SALTS		25 - 50%
CAS number: 68411-30-3	EC number: 270-115-0	REACH registration number: 01-2119489428-22-XXXX
Classification Acute Tox. 4 - H302 Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Aquatic Chronic 3 - H412		

The full text for all hazard statements is displayed in Section 16.

Composition comments The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move affected person to fresh air at once. Get medical attention if any discomfort continues.
Ingestion	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention if any discomfort continues.
Skin contact	Remove contaminated clothing and rinse skin thoroughly with water. Get medical attention if irritation persists after washing.
Eye contact	Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Get medical attention immediately. Continue to rinse. May cause permanent damage if eye is not immediately irrigated.

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

Skin contact	Skin irritation.
Eye contact	May cause blurred vision and serious eye damage. May cause severe eye irritation.

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

Notes for the doctor Treat symptomatically.

CAFLON NAS..

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Sulphurous gases (SO_x).

5.3. Advice for firefighters

Protective actions during firefighting Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Contain and collect extinguishing water.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. In case of spills, beware of slippery floors and surfaces. Avoid contact with skin and eyes. Provide adequate ventilation.

6.2. Environmental precautions

Environmental precautions Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Absorb spillage with inert, damp, non-combustible material. Flush contaminated area with plenty of water. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.

6.4. Reference to other sections

Reference to other sections Wear protective clothing as described in Section 8 of this safety data sheet.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid contact with skin and eyes. Provide adequate ventilation.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Do not store near heat sources or expose to high temperatures. Store in tightly-closed, original container in a dry, cool and well-ventilated place.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Ingredient comments No exposure limits known for ingredient(s).

BENZENESULPHONIC ACID MONO C10 - 13 ALKYL DERIVS SODIUM SALTS (CAS: 68411-30-3)

CAFLON NAS..

DNEL

Industry - Inhalation; Long term systemic effects: 7.6 mg/m³
 Industry - Dermal; Long term systemic effects: 119 mg/kg/day
 Consumer - Inhalation; Long term systemic effects: 1.3 mg/m³
 Consumer - Dermal; Long term systemic effects: 42.5 mg/kg/day
 Consumer - Oral; Long term systemic effects: 0.425 mg/kg/day

PNEC

- Fresh water; 0.268 mg/l
 - marine water; 0.0268 mg/l
 - Intermittent release; 0.0167 mg/l
 - STP; 3.43 mg/l
 - Sediment (Freshwater); 8.1 mg/kg
 - Sediment (Marinewater); 6.8 mg/kg
 - Soil; 35 mg/kg

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation. Avoid inhalation of vapours.

Eye/face protection

The following protection should be worn: Chemical splash goggles. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection

The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. It is recommended that gloves are made of the following material: Butyl rubber. To protect hands from chemicals, gloves should comply with European Standard EN374.

Other skin and body protection

Wear suitable protective clothing as protection against splashing or contamination.

Hygiene measures

Provide eyewash station and safety shower. Wash contaminated clothing before reuse. Wash promptly if skin becomes contaminated. Eating, smoking and water fountains prohibited in immediate work area.

Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. It is recommended to use respiratory equipment with combination filter, type A2/P2. EN 136/140/141/145/143/149

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Viscous liquid.
Colour	Yellowish. to Amber.
Odour	Characteristic.
Odour threshold	Data lacking.
pH	pH (concentrated solution): 7
Melting point	< 5°C
Initial boiling point and range	100°C
Flash point	> 100°C
Evaporation rate	Data lacking.

CAFLON NAS..

Evaporation factor	No information available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	Not applicable.
Other flammability	No information available.
Vapour pressure	Data lacking.
Vapour density	Data lacking.
Relative density	1.04 - 1.09
Bulk density	No information available.
Solubility(ies)	Soluble in water.
Partition coefficient	Not determined.
Auto-ignition temperature	Data lacking.
Decomposition Temperature	Data lacking.
Viscosity	500 - 1000 cP @ 20°C
Explosive properties	Not applicable.
Explosive under the influence of a flame	No information available.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Other information	Not determined.
Refractive index	No information available.
Particle size	No information available.
Molecular weight	No information available.
Volatility	No information available.
Saturation concentration	No information available.
Critical temperature	No information available.
Volatile organic compound	No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	The following materials may react with the product: Acids. Oxidising materials.
------------	---

10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
-----------	---

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Not determined.
------------------------------------	-----------------

10.4. Conditions to avoid

Conditions to avoid	Avoid excessive heat for prolonged periods of time.
---------------------	---

CAFLON NAS..

10.5. Incompatible materials

Materials to avoid Strong oxidising agents. Strong acids.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Sulphurous gases (SO_x).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects No information available.

Acute toxicity - oral

ATE oral (mg/kg) 2,700.0

Skin corrosion/irritation

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.

Respiratory sensitisation

Respiratory sensitisation Data lacking.

Skin sensitisation

Skin sensitisation Data lacking.

Germ cell mutagenicity

Genotoxicity - in vitro Data lacking.

Carcinogenicity

Carcinogenicity Data lacking.

Reproductive toxicity

Reproductive toxicity - fertility Data lacking.

Specific target organ toxicity - single exposure

STOT - single exposure Data lacking.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Data lacking.

Aspiration hazard

Aspiration hazard Data lacking.

Inhalation

Gas or vapour in high concentrations may irritate the respiratory system.

Ingestion

May cause discomfort if swallowed.

Skin contact

Irritating to skin.

Eye contact

Risk of serious damage to eyes.

Toxicological information on ingredients.

BENZENESULPHONIC ACID MONO C10 - 13 ALKYL DERIVS SODIUM SALTS

Acute toxicity - oral

CAFLON NAS..

Acute toxicity oral (LD₅₀ mg/kg)	1,080.0
Species	Rat
ATE oral (mg/kg)	1,080.0
<u>Acute toxicity - dermal</u>	
Notes (dermal LD₅₀)	LD ₅₀ >2000 mg/kg, Oral, Rat
<u>Skin corrosion/irritation</u>	
Animal data	Causes skin irritation. OECD 404 Rabbit
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Causes serious eye damage. Rabbit OECD 405
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	No information available.
<u>Skin sensitisation</u>	
Skin sensitisation	Not sensitising. Guinea pig maximization test (GPMT) OECD 406
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Chromosome aberration: Negative. This substance has no evidence of mutagenic properties.
<u>Carcinogenicity</u>	
Carcinogenicity	Scientifically unjustified.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Two-generation study - NOAEL 350 mg/kg, Oral, Rat F2a
Reproductive toxicity - development	Teratogenicity: - NOAEL: 300 mg/kg, Oral, Rat
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	No information available.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	NOAEL 125 mg/kg, Oral, Rat
Target organs	Spleen Heart & cardiovascular system Liver
<u>Aspiration hazard</u>	
Aspiration hazard	Not relevant.
<u>Inhalation</u>	
Inhalation	Dust may irritate the respiratory system.
<u>Ingestion</u>	
Ingestion	Harmful if swallowed.
<u>Skin contact</u>	
Skin contact	Irritating to skin.
<u>Eye contact</u>	
Eye contact	Causes serious eye damage.

SECTION 12: Ecological information

CAFLON NAS..

Ecotoxicity The product contains a substance which is harmful to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

Ecological information on ingredients.

BENZENESULPHONIC ACID MONO C10 - 13 ALKYL DERVIS SODIUM SALTS

Ecotoxicity Harmful to aquatic life with long lasting effects.

12.1. Toxicity

Toxicity Harmful to aquatic life.

Ecological information on ingredients.

BENZENESULPHONIC ACID MONO C10 - 13 ALKYL DERVIS SODIUM SALTS

Toxicity Harmful to aquatic life with long lasting effects.

Acute aquatic toxicity

Acute toxicity - fish LC50, 96 hours: 1.67 mg/l, Lepomis macrochirus (Bluegill)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 2.9 mg/l, Daphnia magna

Acute toxicity - aquatic plants ErC50, 96 hours: 29 mg/l, Pseudokirchneriella subcapitata

Chronic aquatic toxicity

Chronic toxicity - fish early life stage NOEC, 28 - 196 days: 0.23 - 3.2 mg/l, Fish

Short term toxicity - embryo and sac fry stages NOEC, : 0.23 mg/l, Oncorhynchus mykiss (Rainbow trout)

Chronic toxicity - aquatic invertebrates NOEC, 2 - 32 days: 0.59 - 4.5 mg/l, Daphnia magna
EC₅₀, 21 days: 1.67 mg/l, Daphnia magna

12.2. Persistence and degradability

Persistence and degradability The surfactant(s) contained in this product complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them at their direct request, or at the request of a detergent manufacturer.

Ecological information on ingredients.

BENZENESULPHONIC ACID MONO C10 - 13 ALKYL DERVIS SODIUM SALTS

Persistence and degradability The substance is readily biodegradable.

Biodegradation - Degradation (%) > 98%: 29 days
OECD 301D

12.3. Bioaccumulative potential

Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.

Partition coefficient Not determined.

Ecological information on ingredients.

CAFLON NAS..**BENZENESULPHONIC ACID MONO C10 - 13 ALKYL DERVIS SODIUM SALTS**

Bioaccumulative potential The product is not bioaccumulating.

Partition coefficient Log Koc: 3.4

12.4. Mobility in soil

Mobility The product is soluble in water.

Ecological information on ingredients.**BENZENESULPHONIC ACID MONO C10 - 13 ALKYL DERVIS SODIUM SALTS**

Mobility No information available.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

Ecological information on ingredients.**BENZENESULPHONIC ACID MONO C10 - 13 ALKYL DERVIS SODIUM SALTS**

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects Not determined.

Ecological information on ingredients.**BENZENESULPHONIC ACID MONO C10 - 13 ALKYL DERVIS SODIUM SALTS**

Other adverse effects No information available.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

General information Do not puncture or incinerate, even when empty. Waste is classified as hazardous waste.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

CAFLON NAS..

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78
and the IBC Code

SECTION 15: Regulatory information

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

EU legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).
Commission Regulation (EU) No 2015/830 of 28 May 2015.

Restrictions (Annex XVII Regulation 1907/2006)

This product is/contains a substance that is included in REGULATION (EC) No 1907/2006 (REACH) ANNEX XVII - RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES. Entry number: 3

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

CAFLON NAS..

Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
 CAS: Chemical Abstracts Service.
 DNEL: Derived No Effect Level.
 IATA: International Air Transport Association.
 IMDG: International Maritime Dangerous Goods.
 Kow: Octanol-water partition coefficient.
 LC₅₀: Lethal Concentration to 50 % of a test population.
 LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
 PBT: Persistent, Bioaccumulative and Toxic substance.
 PNEC: Predicted No Effect Concentration.
 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
 RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
 vPvB: Very Persistent and Very Bioaccumulative.
 IARC: International Agency for Research on Cancer.
 MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
 cATpE: Converted Acute Toxicity Point Estimate.
 BCF: Bioconcentration Factor.
 BOD: Biochemical Oxygen Demand.
 EC₅₀: 50% of maximal Effective Concentration.
 LOAEC: Lowest Observed Adverse Effect Concentration.
 LOAEL: Lowest Observed Adverse Effect Level.
 NOAEC: No Observed Adverse Effect Concentration.
 NOAEL: No Observed Adverse Effect Level.
 NOEC: No Observed Effect Concentration.
 LOEC: Lowest Observed Effect Concentration.
 DMEL: Derived Minimal Effect Level.
 EL50: Exposure Limit 50
 hPa: Hectopascal
 LL50: Lethal Loading fifty
 OECD: Organisation for Economic Co-operation and Development
 POW: Octanol-water partition coefficient
 SCBA: self-contained breathing apparatus
 STP: Sewage Treatment Plant
 VOC: Volatile Organic Compounds

Classification abbreviations and acronyms

Acute Tox. = Acute toxicity
 Aquatic Acute = Hazardous to the aquatic environment (acute)
 Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Key literature references and sources for data

Supplier's information.

Classification procedures according to Regulation (EC) 1272/2008

Skin Irrit. 2 - H315: Calculation method. Eye Dam. 1 - H318: Calculation method. Aquatic Chronic 3 - H412: Calculation method.

Revision comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date

06/01/2021

CAFLON NAS..

Version number	2.001
Supersedes date	30/10/2020
SDS number	10562
SDS status	Approved.
Hazard statements in full	H302 Harmful if swallowed. H315 Causes skin irritation. H318 Causes serious eye damage. H412 Harmful to aquatic life with long lasting effects.
Signature	Jitendra Panchal

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.



Exposure scenario Manufacture of substance

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Manufacture of substance
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC1 Manufacture of the substance
--------------------------------	-----------------------------------

Worker

Process category	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 PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC15 Use as laboratory reagent.
------------------	---

2. Conditions of use affecting exposure (Industrial - Environment 1)

Amounts used

Annual site tonnage: 55000 tonnes

Manufacture of substance

Worst case assumption

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 0.0001%
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.1%
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0%

Environmental factors not influenced by risk management measures

Dilution	Receiving surface water flow: 18000 m ³ /day Local freshwater dilution factor: 10 Local marine water dilution factor: 100
----------	--

Risk management measures

STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 99%

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils.
Waste treatment	Dispose of waste product or used containers according to local regulations

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Concentration details	Covers concentrations up to 100 %.
-----------------------	------------------------------------

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor.
Temperature	Assumes activities and processes are carried out at a temperature of <40°C.
Ventilation rate	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
-------------------------	---

Risk management measures

Manufacture of substance

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

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

PROC15 Use as laboratory reagent.

Use suitable eye protection.

Wear suitable coveralls to prevent exposure to the skin.

Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Efficiency of at least 90%

3. Exposure estimation (Environment 1)

Assessment method	Used EUSES model.
Environmental exposure	Fresh water: Exposure 0.085 mg/l, PNEC 0.268 mg/l, RCR 0.317 freshwater sediment: Exposure 5.3 mg/kg, PNEC 8.1 mg/kg, RCR 0.654 Marine water: Exposure 0.0085 mg/l, PNEC 0.0268 mg/l, RCR 0.317 marine sediment: Exposure 0.53 mg/kg, PNEC 6.8 mg/kg, RCR 0.078 STP: Exposure 0.197 mg/l, PNEC 3.43 mg/l, RCR 0.057 Soil: Exposure 1.4 mg/kg, PNEC 35 mg/kg, RCR 0.04

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
--------------------------	--

Manufacture of substance

Exposure

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Worker - inhalation, long-term - systemic: Exposure 0.01 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.034 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

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

Worker - inhalation, long-term - systemic: Exposure 0.5 mg/m³, DNEL 7.6 mg/m³, RCR 0.066

Worker - dermal, long-term - systemic: Exposure 0.137 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

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

Worker - inhalation, long-term - systemic: Exposure 1 mg/m³, DNEL 7.6 mg/m³, RCR 0.132

Worker - dermal, long-term - systemic: Exposure 0.069 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.001

PROC4 Chemical production where opportunity for exposure arises

Worker - inhalation, long-term - systemic: Exposure 5 mg/m³, DNEL 7.6 mg/m³, RCR 0.658

Worker - dermal, long-term - systemic: Exposure 0.686 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC5 Mixing or blending in batch processes

Worker - inhalation, long-term - systemic: Exposure 5 mg/m³, DNEL 7.6 mg/m³, RCR 0.658

Worker - dermal, long-term - systemic: Exposure 1.371 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.012

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 5 mg/m³, DNEL 7.6 mg/m³, RCR 0.658

Worker - dermal, long-term - systemic: Exposure 1.371 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.012

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 1 mg/m³, DNEL 7.6 mg/m³, RCR 0.132

Worker - dermal, long-term - systemic: Exposure 1.371 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.012

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Worker - inhalation, long-term - systemic: Exposure 5 mg/m³, DNEL 7.6 mg/m³, RCR 0.658

Worker - dermal, long-term - systemic: Exposure 0.686 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC15 Use as laboratory reagent.

Worker - inhalation, long-term - systemic: Exposure 0.5 mg/m³, DNEL 7.6 mg/m³, RCR 0.066

Worker - dermal, long-term - systemic: Exposure 0.034 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01



Exposure scenario Formulation and re-packing

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Formulation and re-packing
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC2 Formulation into mixture
--------------------------------	-------------------------------

Worker

Process category	PROC5 Mixing or blending in batch processes PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
------------------	--

2. Conditions of use affecting exposure (Industrial - Environment 1)

Amounts used

Daily amount per site: 20 tonnes
Annual site tonnage: 6000 tonnes

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 2.5%
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 2%
Emission factor - soil	Release fraction to soil from process (initial release prior to RMM): 0.01%

Environmental factors not influenced by risk management measures

Formulation and re-packing

Dilution	Receiving surface water flow: 18000 m ³ /day Local freshwater dilution factor: 10 Local marine water dilution factor: 100
-----------------	--

Risk management measures

STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 99%

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils.
Waste treatment	Dispose of waste product or used containers according to local regulations

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Concentration details	Covers concentrations up to 100 %.
------------------------------	------------------------------------

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor.
Temperature	Assumes activities and processes are carried out at a temperature of <40°C.
Ventilation rate	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
--------------------------------	---

Risk management measures

Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin.
Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.
Efficiency of at least 90%

3. Exposure estimation (Environment 1)

Assessment method	Used EUSES model.
Environmental exposure	Fresh water: Exposure 0.248 mg/l, PNEC 0.268 mg/l, RCR 0.925 freshwater sediment: Exposure 2.28 mg/kg, PNEC 8.1 mg/kg, RCR 0.281 Marine water: Exposure 0.024 mg/l, PNEC 0.0268 mg/l, RCR 0.914 marine sediment: Exposure 0.225 mg/kg, PNEC 6.8 mg/kg, RCR 0.033 STP: Exposure 2 mg/l, PNEC 3.43 mg/l, RCR 0.583 Soil: Exposure 0.59 mg/kg, PNEC 35 mg/kg, RCR 0.017

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
--------------------------	--

Formulation and re-packing

Exposure

PROC5 Mixing or blending in batch processes

Worker - inhalation, long-term - systemic: Exposure 5 mg/m³, DNEL 7.6 mg/m³, RCR 0.658

Worker - dermal, long-term - systemic: Exposure 1.371 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.012

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 5 mg/m³, DNEL 7.6 mg/m³, RCR 0.658

Worker - dermal, long-term - systemic: Exposure 1.371 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.012

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 1 mg/m³, DNEL 7.6 mg/m³, RCR 0.132

Worker - dermal, long-term - systemic: Exposure 1.371 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.012

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Worker - inhalation, long-term - systemic: Exposure 5 mg/m³, DNEL 7.6 mg/m³, RCR 0.658

Worker - dermal, long-term - systemic: Exposure 0.686 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01



Exposure scenario

Industrial end-use of washing and cleaning products - liquid

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Industrial end-use of washing and cleaning products - liquid
Product category	PC3 Air care products. PC8 Biocidal products PC31 Polishes and wax blends. PC35 Washing and cleaning products
Main sector	SU3 Industrial uses

Environment

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

Worker

Process category	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 PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC13 Treatment of articles by dipping and pouring.
------------------	---

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Industrial end-use of washing and cleaning products - liquid

Physical state Liquid

Amounts used

Daily amount per site: 0.05 tonnes
Annual site tonnage: 11 tonnes

Frequency and duration of use

Intermittent release.
Emission days: 220 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): %
The product is non-volatile.

Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 10%

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0%

Environmental factors not influenced by risk management measures

Dilution Receiving surface water flow: 18000 m³/day
Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

Technical measures Product applied in aqueous process solution with negligible volatilisation.

STP type Municipal STP.

STP details Assumed domestic sewage treatment plant flow: 2000 m³/day
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant)
RMMs: 99%

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Water Provide onsite wastewater removal efficiency of 90%. Spent process fluid discharged to waste water.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment Municipal waste assumed to be used as fertiliser.

Waste treatment Dispose of waste product or used containers according to local regulations

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Liquid

Concentration details Concentration of substance in product: 25%

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes activities and processes are carried out at a temperature of <40°C.

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Organisational measures to prevent/limit releases, dispersion and exposure

Industrial end-use of washing and cleaning products - liquid

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Use suitable eye protection.

Wear suitable coveralls to prevent exposure to the skin.

Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Efficiency of at least 90%

3. Exposure estimation (Environment 1)

Assessment method Used EUSES model.

Environmental exposure Fresh water: Exposure 0.05 mg/l, PNEC 0.268 mg/l, RCR 0.188
freshwater sediment: Exposure 0.463 mg/kg, PNEC 8.1 mg/kg, RCR 0.057
Marine water: Exposure 0.00474 mg/l, PNEC 0.0268 mg/l, RCR 0.177
marine sediment: Exposure 0.044 mg/kg, PNEC 6.8 mg/kg, RCR <0.01
STP: Exposure 0.025 mg/l, PNEC 3.43 mg/l, RCR <0.01
Soil: Exposure 1.53 mg/kg, PNEC 35 mg/kg, RCR 0.044

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Industrial end-use of washing and cleaning products - liquid

Exposure

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

Worker - inhalation, long-term - systemic: Exposure 0.006 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.082 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

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

Worker - inhalation, long-term - systemic: Exposure 0.06 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.041 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC4 Chemical production where opportunity for exposure arises

Worker - inhalation, long-term - systemic: Exposure 0.3 mg/m³, DNEL 7.6 mg/m³, RCR 0.039

Worker - dermal, long-term - systemic: Exposure 0.412 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC5 Mixing or blending in batch processes

Worker - inhalation, long-term - systemic: Exposure 0.3 mg/m³, DNEL 7.6 mg/m³, RCR 0.039

Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 0.3 mg/m³, DNEL 7.6 mg/m³, RCR 0.039

Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 0.06 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Worker - inhalation, long-term - systemic: Exposure 0.06 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.412 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC13 Treatment of articles by dipping and pouring.

Worker - inhalation, long-term - systemic: Exposure 0.06 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01



Exposure scenario

Industrial end-use of washing and cleaning products - solid

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Industrial end-use of washing and cleaning products - solid
Product category	PC3 Air care products. PC8 Biocidal products PC31 Polishes and wax blends. PC35 Washing and cleaning products
Main sector	SU3 Industrial uses

Environment

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

Worker

Process category	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 PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC13 Treatment of articles by dipping and pouring.
------------------	---

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Industrial end-use of washing and cleaning products - solid

Physical state Solid

Amounts used

Daily amount per site: 0.05 tonnes
Annual site tonnage: 11 tonnes

Frequency and duration of use

Intermittent release.
Emission days: 220 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): %
The product is non-volatile.

Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 10%

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0%

Environmental factors not influenced by risk management measures

Dilution Receiving surface water flow: 18000 m³/day
Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

Technical measures Product applied in aqueous process solution with negligible volatilisation.

STP type Municipal STP.

STP details Assumed domestic sewage treatment plant flow: 2000 m³/day
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant)
RMMs: 99%

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Water Provide onsite wastewater removal efficiency of 90%. Spent process fluid discharged to waste water.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment Municipal waste assumed to be used as fertiliser.

Waste treatment Dispose of waste product or used containers according to local regulations

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state Solid

Concentration details Concentration of substance in product: 100%

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes activities and processes are carried out at a temperature of <40°C.

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Organisational measures to prevent/limit releases, dispersion and exposure

Industrial end-use of washing and cleaning products - solid

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Use suitable eye protection.

Wear suitable coveralls to prevent exposure to the skin.

Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Efficiency of at least 90%

3. Exposure estimation (Environment 1)

Assessment method Used EUSES model.

Environmental exposure Fresh water: Exposure 0.05 mg/l, PNEC 0.268 mg/l, RCR 0.188
freshwater sediment: Exposure 0.463 mg/kg, PNEC 8.1 mg/kg, RCR 0.057
Marine water: Exposure 0.00474 mg/l, PNEC 0.0268 mg/l, RCR 0.177
marine sediment: Exposure 0.044 mg/kg, PNEC 6.8 mg/kg, RCR <0.01
STP: Exposure 0.025 mg/l, PNEC 3.43 mg/l, RCR <0.01
Soil: Exposure 1.53 mg/kg, PNEC 35 mg/kg, RCR 0.044

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Industrial end-use of washing and cleaning products - solid

Exposure

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

Worker - inhalation, long-term - systemic: Exposure 0.01 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.137 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

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

Worker - inhalation, long-term - systemic: Exposure 0.1 mg/m³, DNEL 7.6 mg/m³, RCR 0.013

Worker - dermal, long-term - systemic: Exposure 0.069 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC4 Chemical production where opportunity for exposure arises

Worker - inhalation, long-term - systemic: Exposure 0.5 mg/m³, DNEL 7.6 mg/m³, RCR 0.066

Worker - dermal, long-term - systemic: Exposure 0.686 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC5 Mixing or blending in batch processes

Worker - inhalation, long-term - systemic: Exposure 0.5 mg/m³, DNEL 7.6 mg/m³, RCR 0.066

Worker - dermal, long-term - systemic: Exposure 1.371 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.012

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 0.5 mg/m³, DNEL 7.6 mg/m³, RCR 0.066

Worker - dermal, long-term - systemic: Exposure 1.371 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.012

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 0.1 mg/m³, DNEL 7.6 mg/m³, RCR 0.013

Worker - dermal, long-term - systemic: Exposure 1.371 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.012

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Worker - inhalation, long-term - systemic: Exposure 0.1 mg/m³, DNEL 7.6 mg/m³, RCR 0.013

Worker - dermal, long-term - systemic: Exposure 0.686 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC13 Treatment of articles by dipping and pouring.

Worker - inhalation, long-term - systemic: Exposure 0.1 mg/m³, DNEL 7.6 mg/m³, RCR 0.013

Worker - dermal, long-term - systemic: Exposure 1.371 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.012



Exposure scenario

Industrial end-use of Textile and Leather Finishing Products

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Industrial end-use of Textile and Leather Finishing Products
Main sector	SU3 Industrial uses
Sector of use	SU5 Manufacture of textiles, leather, fur

Environment

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

Worker

Process category	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 PROC6 Calendering operations. PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC13 Treatment of articles by dipping and pouring. PROC15 Use as laboratory reagent.
------------------	---

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Physical state	Liquid
----------------	--------

Amounts used

Industrial end-use of Textile and Leather Finishing Products

Daily amount per site: 0.05 tonnes

Annual site tonnage: 11 tonnes

Frequency and duration of use

Intermittent release.

Emission days: 220 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): %
The product is non-volatile.

Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 10%

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0%

Environmental factors not influenced by risk management measures

Dilution Receiving surface water flow: 18000 m³/day
Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

Technical measures Product applied in aqueous process solution with negligible volatilisation.

STP type Municipal STP.

STP details Assumed domestic sewage treatment plant flow: 2000 m³/day
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant)
RMMs: 99%

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Water Provide onsite wastewater removal efficiency of 90%. Spent process fluid discharged to waste water.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment Municipal waste assumed to be used as fertiliser.

Waste treatment Dispose of waste product or used containers according to local regulations

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Concentration details Concentration of substance in product: 25%

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes activities and processes are carried out at a temperature of <40°C.

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Industrial end-use of Textile and Leather Finishing Products

Use suitable eye protection.

Wear suitable coveralls to prevent exposure to the skin.

Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Efficiency of at least 90%

3. Exposure estimation (Environment 1)

Assessment method Used EUSES model.

Environmental exposure Fresh water: Exposure 0.05 mg/l, PNEC 0.268 mg/l, RCR 0.188
freshwater sediment: Exposure 0.463 mg/kg, PNEC 8.1 mg/kg, RCR 0.057
Marine water: Exposure 0.00474 mg/l, PNEC 0.0268 mg/l, RCR 0.177
marine sediment: Exposure 0.044 mg/kg, PNEC 6.8 mg/kg, RCR <0.01
STP: Exposure 0.025 mg/l, PNEC 3.43 mg/l, RCR <0.01
Soil: Exposure 1.53 mg/kg, PNEC 35 mg/kg, RCR 0.044

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Industrial end-use of Textile and Leather Finishing Products

Exposure

PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
Worker - inhalation, long-term - systemic: Exposure 0.06 mg/m³, DNEL 7.6 mg/m³, RCR <0.01
Worker - dermal, long-term - systemic: Exposure 0.041 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC4 Chemical production where opportunity for exposure arises
Worker - inhalation, long-term - systemic: Exposure 0.3 mg/m³, DNEL 7.6 mg/m³, RCR 0.039
Worker - dermal, long-term - systemic: Exposure 0.412 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC5 Mixing or blending in batch processes
Worker - inhalation, long-term - systemic: Exposure 0.3 mg/m³, DNEL 7.6 mg/m³, RCR 0.039
Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC6 Calendering operations.
Worker - inhalation, long-term - systemic: Exposure 0.06 mg/m³, DNEL 7.6 mg/m³, RCR <0.01
Worker - dermal, long-term - systemic: Exposure 1.646 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.014

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
Worker - inhalation, long-term - systemic: Exposure 0.3 mg/m³, DNEL 7.6 mg/m³, RCR 0.039
Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
Worker - inhalation, long-term - systemic: Exposure 0.06 mg/m³, DNEL 7.6 mg/m³, RCR <0.01
Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
Worker - inhalation, long-term - systemic: Exposure 0.06 mg/m³, DNEL 7.6 mg/m³, RCR <0.01
Worker - dermal, long-term - systemic: Exposure 0.412 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC13 Treatment of articles by dipping and pouring.
Worker - inhalation, long-term - systemic: Exposure 0.06 mg/m³, DNEL 7.6 mg/m³, RCR <0.01
Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC15 Use as laboratory reagent.
Worker - inhalation, long-term - systemic: Exposure 0.06 mg/m³, DNEL 7.6 mg/m³, RCR <0.01
Worker - dermal, long-term - systemic: Exposure 0.02 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01



Exposure scenario

Industrial use as Processing Aid in Emulsion Polymerisation

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Industrial use as Processing Aid in Emulsion Polymerisation
Product category	PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents PC21 Laboratory chemicals. PC32 Polymer preparations and compounds.
Main sector	SU3 Industrial uses
Sector of use	SU12 Manufacture of plastics products, including compounding and conversion

Environment

Environmental release category	ERC6d Use of reactive process regulators in polymerisation processes at industrial site (inclusion or not into/onto article)
---------------------------------------	--

Worker

Process category	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 PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC15 Use as laboratory reagent.
-------------------------	--

2. Conditions of use affecting exposure (Industrial - Environment 1)

Product characteristics

Industrial use as Processing Aid in Emulsion Polymerisation

Physical state Liquid

Amounts used

Daily amount per site: 50 tonnes
Annual site tonnage: 15000 tonnes

Frequency and duration of use

Emission days: 300 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from process (initial release prior to RMM): 35%
Release fraction to air from process (after typical onsite RMMs): 0.7%

Emission factor - water Release fraction to wastewater from process (initial release prior to RMM): 0.005%

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 0.025%

Environmental factors not influenced by risk management measures

Dilution Receiving surface water flow: 18000 m³/day
Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

Technical measures Product applied in aqueous process solution with negligible volatilisation.

STP type Municipal STP.

STP details Assumed domestic sewage treatment plant flow: 2000 m³/day
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant)
RMMs: 99%

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air Treat air emission to provide a typical removal efficiency of 98%.
Wet scrubber for dust elimination of waste gases. Filtration.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment Do not apply industrial sludge to natural soils.

Waste treatment Dispose of waste product or used containers according to local regulations

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Concentration details Concentration of substance in product: 25%

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes activities and processes are carried out at a temperature of <40°C.

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Industrial use as Processing Aid in Emulsion Polymerisation

Risk management measures

Use suitable eye protection.

Wear suitable coveralls to prevent exposure to the skin.

Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Efficiency of at least 90%

3. Exposure estimation (Environment 1)

Assessment method Used EUSES model.

Environmental exposure Fresh water: Exposure 0.049 mg/l, PNEC 0.268 mg/l, RCR 0.183
freshwater sediment: Exposure 0.452 mg/kg, PNEC 8.1 mg/kg, RCR 0.056
Marine water: Exposure 0.00461 mg/l, PNEC 0.0268 mg/l, RCR 0.172
marine sediment: Exposure 0.042 mg/kg, PNEC 6.8 mg/kg, RCR <0.01
STP: Exposure 0.013 mg/l, PNEC 3.43 mg/l, RCR <0.01
Soil: Exposure 0.423 mg/kg, PNEC 35 mg/kg, RCR 0.012

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Exposure PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
Worker - inhalation, long-term - systemic: Exposure 0.06 mg/m³, DNEL 7.6 mg/m³, RCR <0.01
Worker - dermal, long-term - systemic: Exposure 0.041 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01
PROC4 Chemical production where opportunity for exposure arises
Worker - inhalation, long-term - systemic: Exposure 0.3 mg/m³, DNEL 7.6 mg/m³, RCR 0.039
Worker - dermal, long-term - systemic: Exposure 0.412 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01
PROC5 Mixing or blending in batch processes
Worker - inhalation, long-term - systemic: Exposure 0.3 mg/m³, DNEL 7.6 mg/m³, RCR 0.039
Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01
PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
Worker - inhalation, long-term - systemic: Exposure 0.3 mg/m³, DNEL 7.6 mg/m³, RCR 0.039
Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01
PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
Worker - inhalation, long-term - systemic: Exposure 0.06 mg/m³, DNEL 7.6 mg/m³, RCR <0.01
Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
Worker - inhalation, long-term - systemic: Exposure 0.06 mg/m³, DNEL 7.6 mg/m³, RCR <0.01
Worker - dermal, long-term - systemic: Exposure 0.412 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01
PROC15 Use as laboratory reagent.
Worker - inhalation, long-term - systemic: Exposure 0.06 mg/m³, DNEL 7.6 mg/m³, RCR <0.01
Worker - dermal, long-term - systemic: Exposure 0.02 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01



Exposure scenario Industrial end-use of Glues

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Industrial end-use of Glues
Product category	PC1 Adhesives, sealants.
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC6a Use of intermediate
--------------------------------	---------------------------

Worker

Process category	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 PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC15 Use as laboratory reagent. PROC25 Other hot work operations with metals
------------------	--

2. Conditions of use affecting exposure (Industrial - Environment 1)

Amounts used

Industrial end-use of Glues

Daily amount per site: 0.78 tonnes

Annual site tonnage: 172 tonnes

Frequency and duration of use

Emission days: 220 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 1.7%
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.3%
Emission factor - soil	Not applicable - no direct release to soil.

Environmental factors not influenced by risk management measures

Dilution	Receiving surface water flow: 18000 m ³ /day Local freshwater dilution factor: 10 Local marine water dilution factor: 100
----------	--

Risk management measures

Technical measures	Product applied in aqueous process solution with negligible volatilisation.
STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 99%

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils.
Waste treatment	Dispose of waste product or used containers according to local regulations

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Concentration details	Concentration of substance in product: 5%
-----------------------	---

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor.
Temperature	Assumes activities and processes are carried out at a temperature of <40°C.
Ventilation rate	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
-------------------------	---

Risk management measures

Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin.

3. Exposure estimation (Environment 1)

Assessment method	Used EUSES model.
-------------------	-------------------

Industrial end-use of Glues

Environmental exposure

Fresh water: Exposure 0.049 mg/l, PNEC 0.268 mg/l, RCR 0.183
 freshwater sediment: Exposure 0.451 mg/kg, PNEC 8.1 mg/kg, RCR 0.056
 Marine water: Exposure 0.0046 mg/l, PNEC 0.0268 mg/l, RCR 0.172
 marine sediment: Exposure 0.042 mg/kg, PNEC 6.8 mg/kg, RCR <0.01
 STP: Exposure 0.012 mg/l, PNEC 3.43 mg/l, RCR <0.01
 Soil: Exposure 0.745 mg/kg, PNEC 35 mg/kg, RCR 0.021

3. Exposure estimation (Health 1)

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Exposure

PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
 Worker - inhalation, long-term - systemic: Exposure 0.002 mg/m³, DNEL 7.6 mg/m³, RCR <0.01
 Worker - dermal, long-term - systemic: Exposure 0.274 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01
 PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
 Worker - inhalation, long-term - systemic: Exposure 0.02 mg/m³, DNEL 7.6 mg/m³, RCR <0.01
 Worker - dermal, long-term - systemic: Exposure 0.138 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01
 PROC4 Chemical production where opportunity for exposure arises
 Worker - inhalation, long-term - systemic: Exposure 0.1 mg/m³, DNEL 7.6 mg/m³, RCR 0.013
 Worker - dermal, long-term - systemic: Exposure 1.372 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.012
 PROC5 Mixing or blending in batch processes
 Worker - inhalation, long-term - systemic: Exposure 0.1 mg/m³, DNEL 7.6 mg/m³, RCR 0.013
 Worker - dermal, long-term - systemic: Exposure 2.742 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.023
 PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
 Worker - inhalation, long-term - systemic: Exposure 0.1 mg/m³, DNEL 7.6 mg/m³, RCR 0.013
 Worker - dermal, long-term - systemic: Exposure 2.742 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.023
 PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
 Worker - inhalation, long-term - systemic: Exposure 0.02 mg/m³, DNEL 7.6 mg/m³, RCR <0.01
 Worker - dermal, long-term - systemic: Exposure 2.742 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.023
 PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
 Worker - inhalation, long-term - systemic: Exposure 0.02 mg/m³, DNEL 7.6 mg/m³, RCR <0.01
 Worker - dermal, long-term - systemic: Exposure 1.372 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.012
 PROC15 Use as laboratory reagent.
 Worker - inhalation, long-term - systemic: Exposure 0.02 mg/m³, DNEL 7.6 mg/m³, RCR <0.01
 Worker - dermal, long-term - systemic: Exposure 0.68 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01
 PROC25 Other hot work operations with metals
 Worker - inhalation, long-term - systemic: Exposure 1 mg/m³, DNEL 7.6 mg/m³, RCR 0.132
 Worker - dermal, long-term - systemic: Exposure 0.056 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01



Exposure scenario

Industrial end-use of Metalworking products

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Industrial end-use of Metalworking products
Product category	PC14 Metal surface treatment products
Main sector	SU3 Industrial uses

Environment

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

Worker

Process category	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 PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC13 Treatment of articles by dipping and pouring. PROC15 Use as laboratory reagent. PROC25 Other hot work operations with metals
------------------	--

2. Conditions of use affecting exposure (Industrial - Environment 1)

Amounts used

Industrial end-use of Metalworking products

Daily amount per site: 5 tonnes

Annual site tonnage: 100 tonnes

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 2%
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0.1%
Emission factor - soil	Not applicable - no direct release to soil.

Environmental factors not influenced by risk management measures

Dilution	Receiving surface water flow: 18000 m ³ /day Local freshwater dilution factor: 10 Local marine water dilution factor: 100
----------	--

Risk management measures

Technical measures	Product applied in aqueous process solution with negligible volatilisation.
STP type	Municipal STP.
STP details	Assumed domestic sewage treatment plant flow: 2000 m ³ /day Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant) RMMs: 99%

Conditions and measures related to external treatment of waste for disposal

Sludge treatment	Do not apply industrial sludge to natural soils.
Waste treatment	Dispose of waste product or used containers according to local regulations

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Concentration details	Concentration of substance in product: 25%
-----------------------	--

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor.
Temperature	Assumes activities and processes are carried out at a temperature of <40°C.
Ventilation rate	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
-------------------------	---

Risk management measures

Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin.
Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.

3. Exposure estimation (Environment 1)

Assessment method	Used EUSES model.
-------------------	-------------------

Industrial end-use of Metalworking products

Environmental exposure

Fresh water: Exposure 0.05 mg/l, PNEC 0.268 mg/l, RCR 0.188
freshwater sediment: Exposure 0.463 mg/kg, PNEC 8.1 mg/kg, RCR 0.057
Marine water: Exposure 0.00474 mg/l, PNEC 0.0268 mg/l, RCR 0.177
marine sediment: Exposure 0.044 mg/kg, PNEC 6.8 mg/kg, RCR <0.01
STP: Exposure 0.012 mg/l, PNEC 3.43 mg/l, RCR <0.01
Soil: Exposure 1.538 mg/kg, PNEC 35 mg/kg, RCR 0.044

3. Exposure estimation (Health 1)

Assessment method

The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Industrial end-use of Metalworking products

Exposure

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

Worker - inhalation, long-term - systemic: Exposure 0.006 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.082 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

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

Worker - inhalation, long-term - systemic: Exposure 0.06 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.041 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC4 Chemical production where opportunity for exposure arises

Worker - inhalation, long-term - systemic: Exposure 0.3 mg/m³, DNEL 7.6 mg/m³, RCR 0.039

Worker - dermal, long-term - systemic: Exposure 0.412 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC5 Mixing or blending in batch processes

Worker - inhalation, long-term - systemic: Exposure 0.3 mg/m³, DNEL 7.6 mg/m³, RCR 0.039

Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 0.3 mg/m³, DNEL 7.6 mg/m³, RCR 0.039

Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 0.06 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Worker - inhalation, long-term - systemic: Exposure 0.06 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.412 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC13 Treatment of articles by dipping and pouring.

Worker - inhalation, long-term - systemic: Exposure 0.06 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC15 Use as laboratory reagent.

Worker - inhalation, long-term - systemic: Exposure 0.06 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.02 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC25 Other hot work operations with metals

Worker - inhalation, long-term - systemic: Exposure 3 mg/m³, DNEL 7.6 mg/m³, RCR 0.395

Worker - dermal, long-term - systemic: Exposure 0.017 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01



Exposure scenario Industrial end-use of Concrete

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Industrial end-use of Concrete
Main sector	SU3 Industrial uses

Environment

Environmental release category	ERC5 Use at industrial site leading to inclusion into/onto article
--------------------------------	--

Worker

Process category	PROC5 Mixing or blending in batch processes PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
------------------	--

2. Conditions of use affecting exposure (Industrial - Environment 1)

Amounts used

Daily amount per site: 1.9 tonnes
Annual site tonnage: 430 tonnes

Frequency and duration of use

Emission days: 220 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from process (initial release prior to RMM): 1.7%
Emission factor - water	Release fraction to wastewater from process (initial release prior to RMM): 0%

Industrial end-use of Concrete

Emission factor - soil Release fraction to soil from process (initial release prior to RMM): 1%

Environmental factors not influenced by risk management measures

Dilution Receiving surface water flow: 18000 m³/day
Local freshwater dilution factor: 10
Local marine water dilution factor: 100

Risk management measures

STP type Municipal STP.

STP details Assumed domestic sewage treatment plant flow: 2000 m³/day
Total efficiency of removal from wastewater after onsite and offsite (domestic treatment plant)
RMMs: 99%

Technical onsite conditions and measures to reduce or limit discharges to air, water and soil

Air Air emission controls are not applicable as there is no direct release to air.

Water Not applicable as there is no release to wastewater.

Conditions and measures related to external treatment of waste for disposal

Sludge treatment Do not apply industrial sludge to natural soils.

Waste treatment Dispose of waste product or used containers according to local regulations

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Concentration details Concentration of substance in product: 5%

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting Indoor.

Temperature Assumes activities and processes are carried out at a temperature of <40°C.

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Use suitable eye protection.

Wear suitable coveralls to prevent exposure to the skin.

3. Exposure estimation (Environment 1)

Assessment method Used EUSES model.

Environmental exposure Fresh water: Exposure 0.048 mg/l, PNEC 0.268 mg/l, RCR 0.179
freshwater sediment: Exposure 0.44 mg/kg, PNEC 8.1 mg/kg, RCR 0.054
Marine water: Exposure 0.00449 mg/l, PNEC 0.0268 mg/l, RCR 0.167
marine sediment: Exposure 0.041 mg/kg, PNEC 6.8 mg/kg, RCR <0.01
STP: Exposure 0 mg/l, PNEC 3.43 mg/l, RCR <0.01
Soil: Exposure 0.061 mg/kg, PNEC 35 mg/kg, RCR <0.01

Industrial end-use of Concrete

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Exposure	PROC5 Mixing or blending in batch processes Worker - inhalation, long-term - systemic: Exposure 0.1 mg/m³, DNEL 7.6 mg/m³, RCR 0.013 Worker - dermal, long-term - systemic: Exposure 2.742 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.023 PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities Worker - inhalation, long-term - systemic: Exposure 0.1 mg/m³, DNEL 7.6 mg/m³, RCR 0.013 Worker - dermal, long-term - systemic: Exposure 2.742 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.023 PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities Worker - inhalation, long-term - systemic: Exposure 0.02 mg/m³, DNEL 7.6 mg/m³, RCR <0.01 Worker - dermal, long-term - systemic: Exposure 2.742 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.023 PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) Worker - inhalation, long-term - systemic: Exposure 0.02 mg/m³, DNEL 7.6 mg/m³, RCR <0.01 Worker - dermal, long-term - systemic: Exposure 1.372 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.012



Exposure scenario

Professional end-use of washing and cleaning products - liquid

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Professional end-use of washing and cleaning products - liquid
Product category	PC14 Metal surface treatment products PC15 Non-metal-surface treatment products. PC35 Washing and cleaning products
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
---------------------------------------	---

Worker

Process category	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 PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC13 Treatment of articles by dipping and pouring. PROC15 Use as laboratory reagent.
-------------------------	---

2. Conditions of use affecting exposure (Workers - Health 1)

Professional end-use of washing and cleaning products - liquid

Product characteristics

Physical state	Liquid
Concentration details	Concentration of substance in product: 25%

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor/outdoor use.
Temperature	Assumes activities and processes are carried out at a temperature of <40°C.
Ventilation rate	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
-------------------------	---

Risk management measures

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
 PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
 PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
 PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
 PROC13 Treatment of articles by dipping and pouring.
 PROC15 Use as laboratory reagent.
 Use suitable eye protection.
 Wear suitable coveralls to prevent exposure to the skin.
 Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.
 Efficiency of at least 90%

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Amounts used

Daily amount for wide dispersive uses: 0.00085 tonnes
 Fraction of EU tonnage used in region: 0.04
 Fraction of Regional tonnage used locally: 0.00075

Frequency and duration of use

Continuous.
 Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0%
Emission factor - water	Release fraction to wastewater from wide dispersive use: 100%
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0%

Risk management measures

Professional end-use of washing and cleaning products - liquid

STP type	Municipal STP.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 99% Assumed domestic sewage treatment plant flow: 2000 m ³ /day

Conditions and measures related to external treatment of waste for disposal

Disposal method	Contain and dispose of waste according to local regulations.
-----------------	--

3. Exposure estimation (Environment 1)

Assessment method	Used EUSES model.
Environmental exposure	Fresh water: Exposure 0.048 mg/l, PNEC 0.268 mg/l, RCR 0.18 freshwater sediment: Exposure 0.444 mg/kg, PNEC 8.1 mg/kg, RCR 0.055 Marine water: Exposure 0.00453 mg/l, PNEC 0.0268 mg/l, RCR 0.169 marine sediment: Exposure 0.042 mg/kg, PNEC 6.8 mg/kg, RCR <0.01 STP: Exposure 0.00423 mg/l, PNEC 3.43 mg/l, RCR <0.01 Soil: Exposure 0.287 mg/kg, PNEC 35 mg/kg, RCR <0.01

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
-------------------	--

Professional end-use of washing and cleaning products - liquid

Exposure

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Worker - inhalation, long-term - systemic: Exposure 0.006 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.02 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

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

Worker - inhalation, long-term - systemic: Exposure 0.006 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.082 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

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

Worker - inhalation, long-term - systemic: Exposure 0.06 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.041 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC4 Chemical production where opportunity for exposure arises

Worker - inhalation, long-term - systemic: Exposure 0.6 mg/m³, DNEL 7.6 mg/m³, RCR 0.079

Worker - dermal, long-term - systemic: Exposure 0.412 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 0.3 mg/m³, DNEL 7.6 mg/m³, RCR 0.039

Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 0.3 mg/m³, DNEL 7.6 mg/m³, RCR 0.039

Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Worker - inhalation, long-term - systemic: Exposure 0.3 mg/m³, DNEL 7.6 mg/m³, RCR 0.039

Worker - dermal, long-term - systemic: Exposure 0.412 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC13 Treatment of articles by dipping and pouring.

Worker - inhalation, long-term - systemic: Exposure 0.3 mg/m³, DNEL 7.6 mg/m³, RCR 0.039

Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC15 Use as laboratory reagent.

Worker - inhalation, long-term - systemic: Exposure 0.06 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.02 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01



Exposure scenario

Professional end-use of washing and cleaning products - solid

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Professional end-use of washing and cleaning products - solid
Product category	PC14 Metal surface treatment products PC15 Non-metal-surface treatment products. PC35 Washing and cleaning products
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
---------------------------------------	---

Worker

Process category	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 PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC13 Treatment of articles by dipping and pouring. PROC15 Use as laboratory reagent.
-------------------------	---

2. Conditions of use affecting exposure (Workers - Health 1)

Professional end-use of washing and cleaning products - solid

Product characteristics

Physical state	Solid
Concentration details	Concentration of substance in product: 100%

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor/outdoor use.
Temperature	Assumes activities and processes are carried out at a temperature of <40°C.
Ventilation rate	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
-------------------------	---

Risk management measures

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
 PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
 PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
 PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
 PROC13 Treatment of articles by dipping and pouring.
 PROC15 Use as laboratory reagent.
 Use suitable eye protection.
 Wear suitable coveralls to prevent exposure to the skin.
 Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.
 Efficiency of at least 90%

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Amounts used

Daily amount for wide dispersive uses: 0.00085 tonnes
 Fraction of EU tonnage used in region: 0.04
 Fraction of Regional tonnage used locally: 0.00075

Frequency and duration of use

Continuous.
 Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0%
Emission factor - water	Release fraction to wastewater from wide dispersive use: 100%
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0%

Risk management measures

Professional end-use of washing and cleaning products - solid

STP type	Municipal STP.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 99% Assumed domestic sewage treatment plant flow: 2000 m ³ /day

Conditions and measures related to external treatment of waste for disposal

Disposal method	Contain and dispose of waste according to local regulations.
-----------------	--

3. Exposure estimation (Environment 1)

Assessment method	Used EUSES model.
Environmental exposure	Fresh water: Exposure 0.048 mg/l, PNEC 0.268 mg/l, RCR 0.18 freshwater sediment: Exposure 0.444 mg/kg, PNEC 8.1 mg/kg, RCR 0.055 Marine water: Exposure 0.00453 mg/l, PNEC 0.0268 mg/l, RCR 0.169 marine sediment: Exposure 0.042 mg/kg, PNEC 6.8 mg/kg, RCR <0.01 STP: Exposure 0.00423 mg/l, PNEC 3.43 mg/l, RCR <0.01 Soil: Exposure 0.287 mg/kg, PNEC 35 mg/kg, RCR <0.01

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
-------------------	--

Professional end-use of washing and cleaning products - solid

Exposure

PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions

Worker - inhalation, long-term - systemic: Exposure 0.01 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.034 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

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

Worker - inhalation, long-term - systemic: Exposure 0.01 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.137 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

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

Worker - inhalation, long-term - systemic: Exposure 0.1 mg/m³, DNEL 7.6 mg/m³, RCR 0.013

Worker - dermal, long-term - systemic: Exposure 0.069 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC4 Chemical production where opportunity for exposure arises

Worker - inhalation, long-term - systemic: Exposure 1 mg/m³, DNEL 7.6 mg/m³, RCR 0.132

Worker - dermal, long-term - systemic: Exposure 0.686 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 0.5 mg/m³, DNEL 7.6 mg/m³, RCR 0.066

Worker - dermal, long-term - systemic: Exposure 1.371 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.012

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 0.5 mg/m³, DNEL 7.6 mg/m³, RCR 0.066

Worker - dermal, long-term - systemic: Exposure 1.371 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.012

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Worker - inhalation, long-term - systemic: Exposure 0.5 mg/m³, DNEL 7.6 mg/m³, RCR 0.066

Worker - dermal, long-term - systemic: Exposure 0.412 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC13 Treatment of articles by dipping and pouring.

Worker - inhalation, long-term - systemic: Exposure 0.5 mg/m³, DNEL 7.6 mg/m³, RCR 0.066

Worker - dermal, long-term - systemic: Exposure 1.371 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.012

PROC15 Use as laboratory reagent.

Worker - inhalation, long-term - systemic: Exposure 0.1 mg/m³, DNEL 7.6 mg/m³, RCR 0.013

Worker - dermal, long-term - systemic: Exposure 0.034 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01



Exposure scenario

Professional end-use of Glues

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Professional end-use of Glues
Product category	PC1 Adhesives, sealants.
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
--------------------------------	---

Worker

Process category	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 PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing) PROC15 Use as laboratory reagent. PROC25 Other hot work operations with metals
------------------	--

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Concentration details	Concentration of substance in product: 5%
-----------------------	---

Professional end-use of Glues

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor.
Temperature	Assumes activities and processes are carried out at a temperature of <40°C.
Ventilation rate	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
-------------------------	---

Risk management measures

Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin.

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Amounts used

Daily amount for wide dispersive uses: 0.000071 tonnes

Frequency and duration of use

Continuous.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0%
Emission factor - water	Release fraction to wastewater from wide dispersive use: 1.5%
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0%

Risk management measures

STP type	Municipal STP.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 99% Assumed domestic sewage treatment plant flow: 2000 m ³ /day

Conditions and measures related to external treatment of waste for disposal

Disposal method	Contain and dispose of waste according to local regulations.
-----------------	--

3. Exposure estimation (Environment 1)

Assessment method	Used EUSES model.
Environmental exposure	Fresh water: Exposure 0.048 mg/l, PNEC 0.268 mg/l, RCR 0.18 freshwater sediment: Exposure 0.444 mg/kg, PNEC 8.1 mg/kg, RCR 0.055 Marine water: Exposure 0.00449 mg/l, PNEC 0.0268 mg/l, RCR 0.167 marine sediment: Exposure 0.041 mg/kg, PNEC 6.8 mg/kg, RCR <0.01 STP: Exposure 0.00000532 mg/l, PNEC 3.43 mg/l, RCR <0.01 Soil: Exposure 0.034 mg/kg, PNEC 35 mg/kg, RCR <0.01

3. Exposure estimation (Health 1)

Assessment method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
-------------------	--

Professional end-use of Glues

Exposure

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

Worker - inhalation, long-term - systemic: Exposure 0.002 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.274 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

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

Worker - inhalation, long-term - systemic: Exposure 0.02 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.138 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC4 Chemical production where opportunity for exposure arises

Worker - inhalation, long-term - systemic: Exposure 0.2 mg/m³, DNEL 7.6 mg/m³, RCR 0.026

Worker - dermal, long-term - systemic: Exposure 1.372 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.012

PROC5 Mixing or blending in batch processes

Worker - inhalation, long-term - systemic: Exposure 0.2 mg/m³, DNEL 7.6 mg/m³, RCR 0.026

Worker - dermal, long-term - systemic: Exposure 2.742 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.023

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 0.1 mg/m³, DNEL 7.6 mg/m³, RCR 0.013

Worker - dermal, long-term - systemic: Exposure 2.742 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.023

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 0.1 mg/m³, DNEL 7.6 mg/m³, RCR 0.013

Worker - dermal, long-term - systemic: Exposure 2.742 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.023

PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)

Worker - inhalation, long-term - systemic: Exposure 0.1 mg/m³, DNEL 7.6 mg/m³, RCR 0.013

Worker - dermal, long-term - systemic: Exposure 1.372 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.012

PROC15 Use as laboratory reagent.

Worker - inhalation, long-term - systemic: Exposure 0.02 mg/m³, DNEL 7.6 mg/m³, RCR <0.01

Worker - dermal, long-term - systemic: Exposure 0.068 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC25 Other hot work operations with metals

Worker - inhalation, long-term - systemic: Exposure 2 mg/m³, DNEL 7.6 mg/m³, RCR 0.263

Worker - dermal, long-term - systemic: Exposure 0.056 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01



Exposure scenario

Professional end-use of Textile and Leather Finishing Products

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Professional end-use of Textile and Leather Finishing Products
Product category	PC23 Leather treatment products PC34 Textile dyes and impregnating products
Main sector	SU22 Professional uses
Sector of use	SU5 Manufacture of textiles, leather, fur
<u>Environment</u>	
Environmental release category	ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
<u>Worker</u>	
Process category	PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC13 Treatment of articles by dipping and pouring.

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Concentration details	Concentration of substance in product: 25%
-----------------------	--

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor.
---------	---------

Professional end-use of Textile and Leather Finishing Products

Temperature Assumes activities and processes are carried out at a temperature of <40°C.

Ventilation rate Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Use suitable eye protection.

Wear suitable coveralls to prevent exposure to the skin.

Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.

Efficiency of at least 90%

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Amounts used

Daily amount for wide dispersive uses: 0.00024 tonnes

Frequency and duration of use

Continuous.

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from wide dispersive use (regional only): 100%

Emission factor - water Release fraction to wastewater from wide dispersive use: 100%

Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 20%

Risk management measures

STP type Municipal STP.

STP details Estimated substance removal from wastewater via domestic sewage treatment: 99%
Assumed domestic sewage treatment plant flow: 2000 m³/day

Conditions and measures related to external treatment of waste for disposal

Disposal method Contain and dispose of waste according to local regulations.

3. Exposure estimation (Environment 1)

Assessment method Used EUSES model.

Environmental exposure Fresh water: Exposure 0.048 mg/l, PNEC 0.268 mg/l, RCR 0.18
freshwater sediment: Exposure 0.442 mg/kg, PNEC 8.1 mg/kg, RCR 0.055
Marine water: Exposure 0.0045 mg/l, PNEC 0.0268 mg/l, RCR 0.168
marine sediment: Exposure 0.041 mg/kg, PNEC 6.8 mg/kg, RCR <0.01
STP: Exposure 0.00118 mg/l, PNEC 3.43 mg/l, RCR <0.01
Soil: Exposure 0.105 mg/kg, PNEC 35 mg/kg, RCR <0.01

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Professional end-use of Textile and Leather Finishing Products

Exposure

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 0.3 mg/m³, DNEL 7.6 mg/m³, RCR 0.039

Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 0.3 mg/m³, DNEL 7.6 mg/m³, RCR 0.039

Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01

PROC13 Treatment of articles by dipping and pouring.

Worker - inhalation, long-term - systemic: Exposure 0.3 mg/m³, DNEL 7.6 mg/m³, RCR 0.039

Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01



Exposure scenario

Professional end-use of Biocidal Products

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Professional end-use of Biocidal Products
Product category	PC8 Biocidal products
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
--------------------------------	--

Worker

Process category	PROC13 Treatment of articles by dipping and pouring.
------------------	--

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Concentration details	Concentration of substance in product: 25%
-----------------------	--

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor.
Temperature	Assumes activities and processes are carried out at a temperature of <40°C.
Ventilation rate	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Organisational measures to prevent/limit releases, dispersion and exposure

Professional end-use of Biocidal Products

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin.
Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.
Efficiency of at least 90%

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Amounts used

Daily amount for wide dispersive uses: 0.00047 tonnes

Frequency and duration of use

Continuous.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from wide dispersive use (regional only): 100%
Emission factor - water Release fraction to wastewater from wide dispersive use: 100%
Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 20%

Risk management measures

STP type Municipal STP.
STP details Estimated substance removal from wastewater via domestic sewage treatment: 99%
Assumed domestic sewage treatment plant flow: 2000 m³/day

Conditions and measures related to external treatment of waste for disposal

Disposal method Contain and dispose of waste according to local regulations.

3. Exposure estimation (Environment 1)

Assessment method Used EUSES model.
Environmental exposure Fresh water: Exposure 0.048 mg/l, PNEC 0.268 mg/l, RCR 0.18
freshwater sediment: Exposure 0.443 mg/kg, PNEC 8.1 mg/kg, RCR 0.055
Marine water: Exposure 0.00451 mg/l, PNEC 0.0268 mg/l, RCR 0.168
marine sediment: Exposure 0.041 mg/kg, PNEC 6.8 mg/kg, RCR <0.01
STP: Exposure 0.00237 mg/l, PNEC 3.43 mg/l, RCR <0.01
Soil: Exposure 0.175 mg/kg, PNEC 35 mg/kg, RCR <0.01

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Exposure PROC13 Treatment of articles by dipping and pouring.
Worker - inhalation, long-term - systemic: Exposure 3 mg/m³, DNEL 7.6 mg/m³, RCR 0.395
Worker - dermal, long-term - systemic: Exposure 0.823 mg/kg/day, DNEL 119 mg/kg/day, RCR <0.01



Exposure scenario

Professional end-use of Plant Protection Products

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Professional end-use of Plant Protection Products
Product category	PC27 Plant protection products.
Main sector	SU22 Professional uses
<u>Environment</u>	
Environmental release category	ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
<u>Worker</u>	
Process category	PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC11 Non industrial spraying

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Concentration details	Concentration of substance in product: 5%
-----------------------	---

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor/outdoor use.
Temperature	Assumes activities and processes are carried out at a temperature of <40°C.

Professional end-use of Plant Protection Products

Ventilation rate Indoor use. Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin.

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Amounts used

Daily amount for wide dispersive uses: 0.24 tonnes
Fraction of EU tonnage used in region: 0.1
Application rate 1.4 kg/ha

Frequency and duration of use

Continuous.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from wide dispersive use (regional only): 0%
Emission factor - water Release fraction to wastewater from wide dispersive use: 0%
Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 100%

Risk management measures

STP type No STP.
STP details Estimated substance removal from wastewater via domestic sewage treatment: 0%

Conditions and measures related to external treatment of waste for disposal

Disposal method Contain and dispose of waste according to local regulations.

3. Exposure estimation (Environment 1)

Assessment method Used EUSES model.
Environmental exposure Fresh water: Exposure 0.223 mg/l, PNEC 0.268 mg/l, RCR 0.832
freshwater sediment: Exposure 0.503 mg/kg, PNEC 8.1 mg/kg, RCR 0.062
Marine water: Exposure 0.0022 mg/l, PNEC 0.0268 mg/l, RCR 0.82
marine sediment: Exposure 0.047 mg/kg, PNEC 6.8 mg/kg, RCR <0.01
STP: Exposure 0 mg/l, PNEC 3.43 mg/l, RCR <0.01
Soil: Exposure 1.304 mg/kg, PNEC 35 mg/kg, RCR 0.037

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Professional end-use of Plant Protection Products

Exposure

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 0.1 mg/m³, DNEL 7.6 mg/m³, RCR 0.013

Worker - dermal, long-term - systemic: Exposure 2.742 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.023

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 0.1 mg/kg/day, DNEL 7.6 mg/kg/day, RCR 0.013

Worker - dermal, long-term - systemic: Exposure 2.742 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.023

PROC11 Non industrial spraying

Worker - inhalation, long-term - systemic: Exposure 0.2 mg/m³, DNEL 7.6 mg/m³, RCR 0.026

Worker - dermal, long-term - systemic: Exposure 21.43 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.18



Exposure scenario

Professional end-use of Fertilizers

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Professional end-use of Fertilizers
Main sector	SU22 Professional uses

Environment

Environmental release category	ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
--------------------------------	--

Worker

Process category	PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC11 Non industrial spraying
------------------	--

2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Concentration details	Concentration of substance in product: 5%
-----------------------	---

Frequency and duration of use

Covers daily exposures up to 8 hours (unless stated differently).

Other given operational conditions affecting workers exposure

Setting	Indoor/outdoor use.
Temperature	Assumes activities and processes are carried out at a temperature of <40°C.
Ventilation rate	Indoor use. Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Professional end-use of Fertilizers

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Risk management measures

Use suitable eye protection.
Wear suitable coveralls to prevent exposure to the skin.

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Amounts used

Daily amount for wide dispersive uses: 0.00047 tonnes

Frequency and duration of use

Continuous.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air Release fraction to air from wide dispersive use (regional only): 0%
Emission factor - water Release fraction to wastewater from wide dispersive use: 3.32%
Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 100%

Risk management measures

STP type Municipal STP.
STP details Estimated substance removal from wastewater via domestic sewage treatment: 0%

Conditions and measures related to external treatment of waste for disposal

Disposal method Contain and dispose of waste according to local regulations.

3. Exposure estimation (Environment 1)

Assessment method Used EUSES model.
Environmental exposure Fresh water: Exposure 0.048 mg/l, PNEC 0.268 mg/l, RCR 0.179
freshwater sediment: Exposure 0.441 mg/kg, PNEC 8.1 mg/kg, RCR 0.054
Marine water: Exposure 0.00449 mg/l, PNEC 0.0268 mg/l, RCR 0.167
marine sediment: Exposure 0.041 mg/kg, PNEC 6.8 mg/kg, RCR <0.01
STP: Exposure 0.0000785 mg/l, PNEC 3.43 mg/l, RCR <0.01
Soil: Exposure 0.038 mg/kg, PNEC 35 mg/kg, RCR <0.01

3. Exposure estimation (Health 1)

Assessment method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated

Professional end-use of Fertilizers

Exposure

PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 0.1 mg/m³, DNEL 7.6 mg/m³, RCR 0.013

Worker - dermal, long-term - systemic: Exposure 2.742 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.023

PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities

Worker - inhalation, long-term - systemic: Exposure 0.1 mg/kg/day, DNEL 7.6 mg/kg/day, RCR 0.013

Worker - dermal, long-term - systemic: Exposure 2.742 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.023

PROC11 Non industrial spraying

Worker - inhalation, long-term - systemic: Exposure 0.2 mg/m³, DNEL 7.6 mg/m³, RCR 0.026

Worker - dermal, long-term - systemic: Exposure 21.43 mg/kg/day, DNEL 119 mg/kg/day, RCR 0.18



Exposure scenario

Consumer end-use of washing and cleaning products

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Consumer end-use of washing and cleaning products
Product category	PC35 Washing and cleaning products
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
--------------------------------	---

2. Conditions of use affecting exposure (Workers - Health 1)

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.
-------------------------	---

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Amounts used

Daily amount for wide dispersive uses: 0.014 tonnes
 Fraction of EU tonnage used in region: 0.04
 Fraction of Regional tonnage used locally: 0.00075

Frequency and duration of use

Continuous.
 Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0%
-----------------------	--

Consumer end-use of washing and cleaning products

Emission factor - water Release fraction to wastewater from wide dispersive use: 100%

Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 0%

Risk management measures

STP type Municipal STP.

STP details Estimated substance removal from wastewater via domestic sewage treatment: 99%
Assumed domestic sewage treatment plant flow: 2000 m³/day

Conditions and measures related to external treatment of waste for disposal

Disposal method Contain and dispose of waste according to local regulations.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Physical state Liquid , or: Solid

Concentration details PC35 Washing and cleaning products PC8_1 Laundry and dish-washing products
Concentration of substance in product: 14%
PC35 Washing and cleaning products PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) Concentration of substance in product: 14%
PC35 Washing and cleaning products Oven cleaners Concentration of substance in product: 10%
PC35 Washing and cleaning products Bathroom cleaning (liquid) Bathroom cleaning (spray)
Concentration of substance in product: 2.2%
PC35 Washing and cleaning products Floor cleaning (liquids) Concentration of substance in product: 5%
PC35 Washing and cleaning products Detergent powders Concentration of substance in product: 60%

Amounts used

PC35 Washing and cleaning products
PC8_1 Laundry and dish-washing products
Amount per use: 19 g
PC35 Washing and cleaning products
Oven cleaners
Amount per use: 0.2 g
PC35 Washing and cleaning products
Bathroom cleaning (liquid)
Bathroom cleaning (spray)
Amount per use: 500 g
PC35 Washing and cleaning products
Floor cleaning (liquids)
Amount per use: 880 g
PC35 Washing and cleaning products
Detergent powders
Amount per use: 19 g

Frequency and duration of use

Consumer end-use of washing and cleaning products

PC35 Washing and cleaning products
 PC8_1 Laundry and dish-washing products
 Covers use up to 426 times per year.
 PC35 Washing and cleaning products
 PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)
 Covers use up to 365 times per year.
 Spray duration: 0.05 minutes
 Covers exposure up to 10 minutes per event.
 PC35 Washing and cleaning products
 Oven cleaners
 Covers use up to 26 times per year.
 PC35 Washing and cleaning products
 Bathroom cleaning (liquid)
 Bathroom cleaning (spray)
 Application duration: 20 minutes
 Covers exposure up to 25 minutes per event.
 PC35 Washing and cleaning products
 Floor cleaning (liquids)
 Covers use up to 104 times per year.
 Application duration: 30 minutes
 Covers exposure up to 240 minutes per event.
 PC35 Washing and cleaning products
 Detergent powders
 Covers use up to 365 times per year.

Human factors not influenced by risk management

Potentially exposed body parts	PC35 Washing and cleaning products PC8_2 Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) Covers skin contact area up to 1900 cm ² . PC35 Washing and cleaning products PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) Covers skin contact area up to 1900 cm ² . PC35 Washing and cleaning products Oven cleaners Covers skin contact area up to 430 cm ² . PC35 Washing and cleaning products Bathroom cleaning (liquid) Bathroom cleaning (spray) Covers skin contact area up to 1900 cm ² . PC35 Washing and cleaning products Floor cleaning (liquids) Covers skin contact area up to 1900 cm ² . PC35 Washing and cleaning products Detergent powders Covers skin contact area up to 1900 cm ² .
---------------------------------------	--

Other given operational conditions affecting Non-industrial exposure

Setting	Indoor use.
Ventilation rate	Covers use under typical household ventilation.

3. Exposure estimation (Environment 1)

Assessment method	Used EUSES model.
Environmental exposure	Fresh water: Exposure 0.055 mg/l, PNEC 0.268 mg/l, RCR 0.205 freshwater sediment: Exposure 0.505 mg/kg, PNEC 8.1 mg/kg, RCR 0.062 Marine water: Exposure 0.00519 mg/l, PNEC 0.0268 mg/l, RCR 0.194 marine sediment: Exposure 0.048 mg/kg, PNEC 6.8 mg/kg, RCR <0.01 STP: Exposure 0.07 mg/l, PNEC 3.43 mg/l, RCR 0.02 Soil: Exposure 4.224 mg/kg, PNEC 35 mg/kg, RCR 0.121

3. Exposure estimation (Health 1)

Consumer end-use of washing and cleaning products

Assessment method

ConsExpo v4.1

Exposure

PC35 Washing and cleaning products

PC8_1 Laundry and dish-washing products

Consumer - dermal, long-term - systemic: Exposure 0.832 mg/kg/day, DNEL 42.5 mg/kg/day, RCR 0.02

PC35 Washing and cleaning products

PC8_3 Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners)

Consumer - dermal, long-term - systemic: Exposure 0.038 mg/kg/day, DNEL 42.5 mg/kg/day, RCR 0.012

Consumer - inhalation, long-term - systemic: Exposure 0.0000131 mg/m³, DNEL 1.3 mg/m³, RCR <0.01

PC35 Washing and cleaning products

Oven cleaners

Consumer - inhalation, long-term - systemic: Exposure 0.0000019 mg/m³, DNEL 1.3 mg/m³, RCR <0.01

Consumer - dermal, long-term - systemic: Exposure 0.022 mg/kg/day, DNEL 42.5 mg/kg/day, RCR <0.01

PC35 Washing and cleaning products

Bathroom cleaning (liquid)

Bathroom cleaning (spray)

Consumer - dermal, long-term - systemic: Exposure 0.07 mg/kg/day, DNEL 42.5 mg/kg/day, RCR <0.01

PC35 Washing and cleaning products

Floor cleaning (liquids)

Consumer - dermal, long-term - systemic: Exposure 4.16 mg/kg/day, DNEL 42.5 mg/kg/day, RCR 0.098

Consumer - inhalation, long-term - systemic: Exposure 5.43E-15 mg/m³, DNEL 1.3 mg/m³, RCR <0.01

PC35 Washing and cleaning products

Detergent powders

Consumer - dermal, long-term - systemic: Exposure 18.3 mg/kg/day, DNEL 42.5 mg/kg/day, RCR 0.431



Exposure scenario

Use in Cosmetics and Personal Care Products (Consumer)

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Use in Cosmetics and Personal Care Products (Consumer) Consumer uses e.g. as a carrier in cosmetics/personal care products, perfumes and fragrances. Note: for cosmetic and personal care products, risk assessment only required for the environment under REACH as human health is covered by alternative legislation.
Product category	PC39 Cosmetics, personal care.
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
--------------------------------	---

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Amounts used

Daily amount for wide dispersive uses: 0.00047 tonnes
 Fraction of EU tonnage used in region: 0.053
 Fraction of Regional tonnage used locally: 0.00075

Frequency and duration of use

Continuous.
 Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0%
Emission factor - water	Release fraction to wastewater from wide dispersive use: 100%

Use in Cosmetics and Personal Care Products (Consumer)

Emission factor - soil Release fraction to soil from wide dispersive use (regional only): 0%

Risk management measures

STP type Municipal STP.

STP details Estimated substance removal from wastewater via domestic sewage treatment: 99%
Assumed domestic sewage treatment plant flow: 2000 m³/day

Conditions and measures related to external treatment of waste for disposal

Disposal method Contain and dispose of waste according to local regulations.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Control of Non-industrial exposure

In accordance to the Article 14 (5b) of the REACH Regulation (EC) No 1907/2006, exposure estimation and risk characterisation for human health does not need to be performed for end uses in cosmetic products within the scope of Directive 76/768/EEC.

3. Exposure estimation (Environment 1)

Assessment method Used EUSES model.

Environmental exposure Fresh water: Exposure 0.048 mg/l, PNEC 0.268 mg/l, RCR 0.18
freshwater sediment: Exposure 0.443 mg/kg, PNEC 8.1 mg/kg, RCR 0.055
Marine water: Exposure 0.00451 mg/l, PNEC 0.0268 mg/l, RCR 0.168
marine sediment: Exposure 0.041 mg/kg, PNEC 6.8 mg/kg, RCR <0.01
STP: Exposure 0.00235 mg/l, PNEC 3.43 mg/l, RCR <0.01
Soil: Exposure 0.174 mg/kg, PNEC 35 mg/kg, RCR <0.01

3. Exposure estimation (Health 1)

In accordance to the Article 14 (5b) of the REACH Regulation (EC) No 1907/2006, exposure estimation and risk characterisation for human health does not need to be performed for end uses in cosmetic products within the scope of Directive 76/768/EEC.



Exposure scenario

Consumer end-use of Glues

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Consumer end-use of Glues
Product category	PC1 Adhesives, sealants.
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
--------------------------------	---

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Amounts used

Daily amount for wide dispersive uses: 0.000071 tonnes

Frequency and duration of use

Continuous.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 100%
Emission factor - water	Release fraction to wastewater from wide dispersive use: 100%
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0%

Risk management measures

STP type	Municipal STP.
----------	----------------

Consumer end-use of Glues

STP details Estimated substance removal from wastewater via domestic sewage treatment: 99%
Assumed domestic sewage treatment plant flow: 2000 m³/day

Conditions and measures related to external treatment of waste for disposal

Disposal method Contain and dispose of waste according to local regulations.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Concentration details Concentration of substance in product: 5%

Amounts used

Amount per use: 10 g

Frequency and duration of use

Covers use up to 52 times per year.
Application duration: 20 minutes
Covers exposure up to 240 minutes per event.

Human factors not influenced by risk management

Potentially exposed body parts Covers skin contact area up to 2 cm².

Other given operational conditions affecting Non-industrial exposure

Room size Covers use in room size of 20 m³.

3. Exposure estimation (Environment 1)

Assessment method Used EUSES model.

Environmental exposure Fresh water: Exposure 0.048 mg/l, PNEC 0.268 mg/l, RCR 0.18
freshwater sediment: Exposure 0.441 mg/kg, PNEC 8.1 mg/kg, RCR 0.054
Marine water: Exposure 0.00449 mg/l, PNEC 0.0268 mg/l, RCR 0.168
marine sediment: Exposure 0.041 mg/kg, PNEC 6.8 mg/kg, RCR <0.01
STP: Exposure 0.000355 mg/l, PNEC 3.43 mg/l, RCR <0.01
Soil: Exposure 0.055 mg/kg, PNEC 35 mg/kg, RCR <0.01

3. Exposure estimation (Health 1)

Assessment method ConsExpo v4.1

Exposure Consumer - inhalation, long-term - systemic: Exposure 3.06E-13 mg/m³, DNEL 1.3 mg/m³, RCR <0.01
Consumer - dermal, long-term - systemic: Exposure 0.00876 mg/kg/day, DNEL 42.5 mg/kg/day, RCR <0.01



Exposure scenario

Consumer end-use of Textile and Leather Finishing Products

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Consumer end-use of Textile and Leather Finishing Products
Product category	PC34 Textile dyes and impregnating products
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8a Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor)
--------------------------------	---

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Amounts used

Daily amount for wide dispersive uses: 0.00024 tonnes

Frequency and duration of use

Continuous.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 100%
Emission factor - water	Release fraction to wastewater from wide dispersive use: 100%
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 0%

Risk management measures

STP type	Municipal STP.
----------	----------------

Consumer end-use of Textile and Leather Finishing Products

STP details Estimated substance removal from wastewater via domestic sewage treatment: 99%
Assumed domestic sewage treatment plant flow: 2000 m³/day

Conditions and measures related to external treatment of waste for disposal

Disposal method Contain and dispose of waste according to local regulations.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Concentration details Concentration of substance in product: 25%

Frequency and duration of use

Spray duration: 3 minutes

Covers exposure up to 240 minutes per event.

Human factors not influenced by risk management

Potentially exposed body parts Covers skin contact area up to 1900 cm².

Other given operational conditions affecting Non-industrial exposure

Setting Indoor.

Room size Covers use in room size of 20 m³.

3. Exposure estimation (Environment 1)

Assessment method Used EUSES model.

Environmental exposure Fresh water: Exposure 0.048 mg/l, PNEC 0.268 mg/l, RCR 0.179
freshwater sediment: Exposure 0.442 mg/kg, PNEC 8.1 mg/kg, RCR 0.055
Marine water: Exposure 0.0045 mg/l, PNEC 0.0268 mg/l, RCR 0.168
marine sediment: Exposure 0.041 mg/kg, PNEC 6.8 mg/kg, RCR <0.01
STP: Exposure 0.00118 mg/l, PNEC 3.43 mg/l, RCR <0.01
Soil: Exposure 0.105 mg/kg, PNEC 35 mg/kg, RCR <0.01

3. Exposure estimation (Health 1)

Assessment method ConsExpo v4.1

Exposure Consumer - inhalation, long-term - systemic: Exposure 0.000516 mg/m³, DNEL 1.3 mg/m³, RCR <0.01
Consumer - dermal, long-term - systemic: Exposure 0.00316 mg/kg/day, DNEL 42.5 mg/kg/day, RCR <0.01



Exposure scenario

Consumer end-use of Fertilizers

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Consumer end-use of Fertilizers
Product category	PC12 Lawn and garden preparations (- fertilizers).
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
--------------------------------	--

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Amounts used

Daily amount for wide dispersive uses: 0.000011 tonnes

Frequency and duration of use

Continuous.
Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0%
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0%
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 100%

Risk management measures

STP type	Municipal STP.
----------	----------------

Consumer end-use of Fertilizers

STP details Estimated substance removal from wastewater via domestic sewage treatment: 99%
Assumed domestic sewage treatment plant flow: 2000 m³/day

Conditions and measures related to external treatment of waste for disposal

Disposal method Contain and dispose of waste according to local regulations.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Physical state Solid

Concentration details Concentration of substance in product: 5%

Frequency and duration of use

Covers use up to 12 times per year.

Human factors not influenced by risk management

Potentially exposed body parts Covers skin contact area up to 857.5 cm².

Other given operational conditions affecting Non-industrial exposure

Setting Indoor.

Room size Covers use in room size of 20 m³.

3. Exposure estimation (Environment 1)

Assessment method Used EUSES model.

Environmental exposure Fresh water: Exposure 0.048 mg/l, PNEC 0.268 mg/l, RCR 0.179
freshwater sediment: Exposure 0.44 mg/kg, PNEC 8.1 mg/kg, RCR 0.054
Marine water: Exposure 0.00449 mg/l, PNEC 0.0268 mg/l, RCR 0.167
marine sediment: Exposure 0.041 mg/kg, PNEC 6.8 mg/kg, RCR <0.01
STP: Exposure 0 mg/l, PNEC 3.43 mg/l, RCR <0.01
Soil: Exposure 0.034 mg/kg, PNEC 35 mg/kg, RCR <0.01

3. Exposure estimation (Health 1)

Assessment method ConsExpo v4.1

Exposure Consumer - dermal, long-term - systemic: Exposure 0.029 mg/kg/day, DNEL 42.5 mg/kg/day, RCR <0.01
Consumer - oral, long-term - systemic: Exposure 0.06 mg/kg/day, DNEL 0.425 mg/kg/day, RCR 0.141



Exposure scenario

Consumer end-use of Plant Protection Products

Identification

Product name	Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts
REACH registration number	01-2119489428-22-XXXX
CAS number	68411-30-3
EC number	270-115-0
Supplier	Univar Solutions UK Ltd Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 SDS.EMEA@univarsolutions.com

1. Title of exposure scenario

Main title	Consumer end-use of Plant Protection Products
Product category	PC27 Plant protection products.
Main sector	SU21 Consumer uses

Environment

Environmental release category	ERC8d Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
--------------------------------	--

2. Conditions of use affecting exposure (Non-industrial - Environment 1)

Amounts used

Daily amount for wide dispersive uses: 0.00047 tonnes

Frequency and duration of use

Emission days: 365 days/year

Other given operational conditions affecting environmental exposure

Emission factor - air	Release fraction to air from wide dispersive use (regional only): 0.8%
Emission factor - water	Release fraction to wastewater from wide dispersive use: 0.2%
Emission factor - soil	Release fraction to soil from wide dispersive use (regional only): 99%

Risk management measures

STP type	Municipal STP.
STP details	Estimated substance removal from wastewater via domestic sewage treatment: 99% Assumed domestic sewage treatment plant flow: 2000 m ³ /day

Consumer end-use of Plant Protection Products

Conditions and measures related to external treatment of waste for disposal

Disposal method Contain and dispose of waste according to local regulations.

2. Conditions of use affecting exposure (Non-industrial - Health 1)

Product characteristics

Physical state Liquid

Concentration details Concentration of substance in product: 5%

Amounts used

Amount per use: 20 g

Frequency and duration of use

Covers use up to 12 times per year.

Human factors not influenced by risk management

Potentially exposed body parts Covers skin contact area up to 857.5 cm².

Other given operational conditions affecting Non-industrial exposure

Setting Indoor.

Room size Covers use in room size of 20 m³.

3. Exposure estimation (Environment 1)

Assessment method Used EUSES model.

Environmental exposure Fresh water: Exposure 0.223 mg/l, PNEC 0.268 mg/l, RCR 0.832
freshwater sediment: Exposure 0.502 mg/kg, PNEC 8.1 mg/kg, RCR 0.062
Marine water: Exposure 0.022 mg/l, PNEC 0.0268 mg/l, RCR 0.82
marine sediment: Exposure 0.047 mg/kg, PNEC 6.8 mg/kg, RCR <0.01
STP: Exposure 0 mg/l, PNEC 3.43 mg/l, RCR <0.01
Soil: Exposure 1.031 mg/kg, PNEC 35 mg/kg, RCR 0.029

3. Exposure estimation (Health 1)

Assessment method ConsExpo v4.1

Exposure Consumer - dermal, long-term - systemic: Exposure 0.206 mg/kg/day, DNEL 42.5 mg/kg/day, RCR <0.01
Consumer - inhalation, long-term - systemic: Exposure 0.002 mg/m³, DNEL 1.3 mg/m³, RCR <0.01