

This safety data sheet was created pursuant to the requirements of:
UK REACH Regulations (SI 2019/758 as amended)

Supersedes date 29-Oct-2024

Revision date 12-May-2026

Revision Number 5

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

1.1. Product identifier

Product Code(s)	20316
Safety data sheet number	20316
Product Name	SODIUM BENZOATE
EC Number	208-534-8
CAS No	532-32-1
Synonyms	SODIUM BENZOIC ACID, BENZOIC ACID SODIUM SALT, BENZOATE OF SODIUM, ANTIMOL, PROBENZ SG, PROBENZ SP MICRONIZED, SODIUM BENZOIC ACID (C) PELLETS, NATRIUMBENZOAT (D) PELLETS, SOD BENZOATE E211 PLT WH, PALMAROLE MI.NA.08, PUROX S, SOD BENZOATE (PUROX S), BENZOATE SOD REGULAR, KALAGUARD SB, SOD BENZOATE DENSE NF/FCC, PROBENZ SP FG, SOD BENZOATE E211 PRILLS WH, KALAMA SOD BENZOATE NF/FCC, TEQGUARD SB
Pure substance/mixture	Substance
Molecular weight	144.11

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

Recommended use	Additive Antioxidant Biocide Cosmetics Food industry Pharmaceuticals Polymerisation Initiator Preservative For further information, see attached Exposure Scenario
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1.3. Details of the supplier of the safety data sheet

Supplier

Univar Solutions UK Ltd
Aquarius House
6 Mid Point Business Park
Bradford
GBR

For further information, please contact

E-mail address SDS.EMEA@univarsolutions.com

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

1.4. Emergency telephone number

Emergency Telephone

SGS - +32 (0)3 575 55 55 (24h)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Serious eye damage/eye irritation**

Category 2 - (H319)

2.2. Label elements**Signal word**

Warning

Hazard statements

H319 - Causes serious eye irritation

Precautionary statements

P264 - Wash skin thoroughly after handling

P280 - Wear eye protection/ face protection

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

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

2.3. Other hazards

Dust can form an explosive mixture with air.

SECTION 3: Composition/information on ingredients**3.1 Substances**

Chemical name	Weight-%	EC No (EU Index No)	UK REACH registration number	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
SODIUM BENZOATE 532-32-1	>=90 - <=100%	208-534-8	UK-01-3401501887-1-XXXX	Eye Irrit. 2 (H319)	-	-	-

Full text of H- and EUH-phrases: see section 16

This product does not contain candidate substances of very high concern at a concentration >= 0.1% (UK REACH Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	Move into fresh air and keep at rest. Keep victim under observation. Get medical attention if symptoms occur. Show this safety data sheet to the doctor in attendance.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Rinse mouth thoroughly with water. If breathing is irregular or stopped, administer artificial respiration. Place unconscious person on the side in the recovery position and ensure breathing can take place. Maintain an open airway. Get medical attention if symptoms occur.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if symptoms occur.
Skin contact	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if symptoms occur.
Ingestion	Rinse mouth thoroughly with water. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Place unconscious person on the side in the recovery position and ensure breathing can take place. Maintain an open airway. Get medical attention if symptoms occur.
Self-protection of the first aider	No action shall be taken involving any personal risk or without suitable training.

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

Symptoms

Eyes	Causes serious eye irritation.
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4.3. Indication of any immediate medical attention and special treatment needed

Note to doctors	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Water spray. Dry chemical. Foam.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Carbon dioxide (CO ₂). Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	Dust can form an explosive mixture with air. When heated and in case of fire, toxic vapours/gases may be formed. Do not allow run-off from fire-fighting to enter drains or water courses.
Hazardous combustion products	Carbon oxides. Metal oxides.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Collect contaminated fire extinguishing water separately. Do not allow it to enter drains or surface water.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Avoid generation of dust. No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Remove all sources of ignition.
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Other information	Refer to protective measures listed in Sections 7 and 8.
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For emergency responders	Use personal protection recommended in Section 8.
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6.2. Environmental precautions

Environmental precautions	Do not allow runoff to sewer, waterway or ground. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.
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6.3. Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
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Methods for cleaning up	Move containers from fire area if you can do it without risk. Avoid generation of dust. Use nonsparking tools and explosion-proof lamps and electric appliances. Remove spillage with vacuum cleaner. If not possible, collect spillage with shovel, broom or the like. Pick up and transfer to properly labelled containers.
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Prevention of secondary hazards	Observe good chemical hygiene practices.
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6.4. Reference to other sections

Reference to other sections	See section 8 for more information. See section 13 for more information.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling	Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid contact with eyes, skin and clothing. Do not breathe dust. Avoid generation of dust. Keep away from heat, sparks and open flame. In case of insufficient ventilation, wear suitable respiratory equipment. Keep only in original container. Keep container closed when not in use. Electrical equipment should be protected to the appropriate standard. Take precautionary measures against static discharge. Empty containers retain product residue and can be hazardous. Do not re-use container. Use non-sparking tools.
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General hygiene considerations	Do not eat, drink or smoke when using the product. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and immediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas. Ensure that eyewash stations and safety showers are close to the workstation location.
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7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep/store only in
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original container. Protect from direct sunlight. See section 10 for more information. Keep away from food, drink and animal feedingstuffs. Keep away from heat, sparks and open flame. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Keep in properly labelled containers. Use appropriate containment to avoid environmental contamination. Empty containers retain product residue and can be hazardous. Do not re-use container. Protect from moisture. Hygroscopic. Store away from the following materials. Strong oxidising agents. Strong acids. Iron.

7.3. Specific end use(s)

Specific use(s)

See section 1 for more information.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
SODIUM BENZOATE 532-32-1		62.5 mg/kg [4] [6]	3 mg/m ³ [4] [6] 0.1 mg/m ³ [5] [6]

[4] Systemic health effects.
[5] Local health effects.
[6] Long term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
SODIUM BENZOATE 532-32-1	16.6 mg/kg [4] [6]	31.25 mg/kg [4] [6]	1.5 mg/m ³ [4] [6] 0.06 mg/m ³ [5] [6]

[4] Systemic health effects.
[5] Local health effects.
[6] Long term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
SODIUM BENZOATE 532-32-1	0.13 mg/l	0.3 mg/l	0.013 mg/l		

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
SODIUM BENZOATE 532-32-1	1.76 mg/kg dry weight (d.w.)	0.176 mg/kg dry weight (d.w.)	10 mg/L	0.06 mg/kg dry weight (d.w.)	300 mg/kg

8.2. Exposure controls

Engineering controls No information available.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Use eye protection according to EN ISO 16321-1.

Hand protection Wear suitable gloves. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. Gloves must conform to standard EN 374.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
Long term (repeated)	Butyl rubber		>= 8 hours
Long term (repeated)	Nitrile rubber		>= 8 hours
Long term (repeated)	Fluorinated rubber		>= 8 hours
Long term (repeated)	Polyvinyl chloride (PVC)		>= 8 hours
Long term (repeated)	Viton™		>= 8 hours

Skin and body protection Wear appropriate clothing to prevent reasonably probable skin contact.

Respiratory protection In case of inadequate ventilation wear respiratory protection.
Recommended filter type: Particulate filter P1.

General hygiene considerations Do not eat, drink or smoke when using the product. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and immediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Environmental exposure controls Avoid release to the environment. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state Solid
Appearance granules
Colour white
Odour Odourless.
Odour threshold No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point	436 °C	@ 1013 hPa. OECD 102.
Initial boiling point and boiling range		Decomposes prior to boiling.
Flammability		The product is not flammable., May form combustible dust concentrations in air.
Flammability Limit in Air		No information available.
Upper flammability or explosive limits		
Lower flammability or explosive limits		
Flash point		Not applicable.
Autoignition temperature		No information available.
Decomposition temperature	450 - 475 °C	
pH		No information available.
pH (as aqueous solution)	8	solution (10 %).
Kinematic viscosity		No information available.
Dynamic viscosity		No information available.
Water solubility	Soluble in water 556 g/l	@ 20 °C.
Solubility(ies)		No information available.
Partition coefficient	log Kow: 1.88	Read-across.
Vapour pressure		negligible.
Relative density	1.44 - 1.50	@ 20 °C. OECD 109.
Bulk density		No information available
Liquid Density	No information available	No information available
Relative vapour density		No information available.
Particle characteristics		No information available.
Particle Size	> 500 µm	
Particle Size Distribution	No information available	
Explosive properties	Not considered to be explosive.	
Oxidising properties	On basis of test data Does not meet the criteria for classification as oxidising	

9.2. Other information

Molecular weight	144.11
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SECTION 10: Stability and reactivity**10.1. Reactivity**

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
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10.2. Chemical stability

Stability	Stable under normal conditions.
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Explosion data

Sensitivity to mechanical impact	None.
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Sensitivity to static discharge	None.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
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10.4. Conditions to avoid

Conditions to avoid	Heat, flames and sparks. Water. Protect from moisture. Avoid static discharge. Avoid generation of dust.
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10.5. Incompatible materials

Incompatible materials Strong acids. Strong oxidising agents. Iron.

10.6. Hazardous decomposition products

Hazardous decomposition products Carbon oxides. Metal oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Information on likely routes of exposure

Product Information

Inhalation	Inhalation of dust in high concentration may cause irritation of respiratory system.
Eye contact	Causes serious eye irritation.
Skin contact	Non-irritating during normal use.
Ingestion	May cause discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms

Acute toxicity

Numerical measures of toxicity

Based on available data, the classification criteria are not met

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
SODIUM BENZOATE	> 2000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 12.2 mg/L (Rat) 4h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Based on available data the classification criteria are not met.

SODIUM BENZOATE (532-32-1)

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD 404	Rabbit	Dermal			Not classified

Serious eye damage/eye irritation Causes serious eye irritation.

SODIUM BENZOATE (532-32-1)

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD 405	Rabbit	eye			Causes serious eye irritation

Respiratory or skin sensitisation Based on available data the classification criteria are not met.

SODIUM BENZOATE (532-32-1)

Method	Species	Exposure route	Results
Read-across OECD 429	Mouse	Dermal	Not classified

Germ cell mutagenicity

Based on available data the classification criteria are not met.

Component Information

SODIUM BENZOATE (532-32-1)

Method	Species	Results
Ames Test OECD Test No. 471: Bacterial Reverse Mutation Test	in vitro Ames Test Salmonella typhimurium	Negative
Ames Test OECD Test No. 471: Bacterial Reverse Mutation Test	in vitro Ames Test Escherichia coli	Negative
OECD Test No. 473: In vitro Mammalian Chromosome Aberration Test	in vitro Chinese hamster cells	Positive
OECD 479 sister chromatid exchange assay	in vitro Human lymphocytes	Positive
OECD 487: In Vitro Mammalian Cell Micronucleus Test	in vitro Human lymphocytes	Positive
OECD Test No. 475: Mammalian Bone Marrow Chromosome Aberration Test	in vivo Chromosome aberration test Rat	Negative
OECD Test No. 478: Rodent Dominant Lethal Test	in vivo Rat	Negative

Carcinogenicity

Based on available data the classification criteria are not met.

Component Information

SODIUM BENZOATE (532-32-1)

Method	Species	Results
	Rat	Not classified

Reproductive toxicity

Based on available data the classification criteria are not met.

SODIUM BENZOATE (532-32-1)

Method	Species	Results
OECD Test No. 416: Two-Generation Reproduction Toxicity	Rat	Not classified No effects on fertility and early embryonic development were detected NOAEL $\geq$ 10,000 ppm
OECD Test No. 414: Pre-natal Development Toxicity Study	Rat	Not classified General Toxicity Maternal: NOAEL = 1.306 mg/kg bw/day
OECD Test No. 414: Pre-natal Development Toxicity Study	Rat	Not classified Developmental Toxicity: NOAEL = 1.306 mg/kg bw/day

Developmental toxicity

Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses.

Teratogenicity

Did not show teratogenic effects in animal experiments.

STOT - single exposure

Based on available data the classification criteria are not met.

STOT - repeated exposure

Based on available data the classification criteria are not met.

Component Information
SODIUM BENZOATE (532-32-1)

Method	Species	Exposure route	Effective dose	Exposure time	Results
Chronic toxicity	Rat	Oral	10,000 - 20,000 ppm, 7 days/week	18 - 24 months	NOAEL $\geq$ 20,000 ppm
OECD Test No. 412: Sub-acute Inhalation Toxicity: 28-Day Study	Rat	Inhalation Dust/Mist	25; 250; 1200 mg/m ³ 6h/d, 5 days/week	4 weeks	NOAEC =250 mg/m ³ Systemic Toxicity Test results on an analogous product Not classified
OECD Test No. 412: Sub-acute Inhalation Toxicity: 28-Day Study	Rat	Inhalation Dust/Mist	25; 250; 1200 mg/m ³ , 6h/d, 5 days/week	4 weeks	LOAEC =25 mg/m ³ respiratory tract Test results on an analogous product Not classified
Subacute Toxicity	Rabbit	Dermal	100; 500; 2500, mg/kg bw/day, 5h/d, 5 days/week	3 weeks	NOAEL >2500 mg/kg Test results on an analogous product

Aspiration hazard Based on available data, the classification criteria are not met.

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Not considered to be harmful to aquatic life.

SODIUM BENZOATE (532-32-1)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
EPA OPP 72-1	Pimephales promelas	LC50	484 mg/L	96 hours	Not classified
	Daphnia magna	EC50	> 100 mg/L	48 hours	Not classified
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	Pseudokirchneriella subcapitata	ErC50	> 30.5 mg/L	72 hours	Not classified
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	Pseudokirchneriella subcapitata	EC10	6.5 mg/L	72 hours	Not classified
	Brachydanio rerio	NOEC	> 10 mg/L	6 days	Not classified

12.2. Persistence and degradability

Persistence and degradability Readily biodegradable.

SODIUM BENZOATE (532-32-1)

Method	Exposure time	Value	Results
OECD Test No. 301B: Ready Biodegradability: CO ₂ Evolution Test (TG 301 B) or Equivalent.	28 days	Biodegradation 85 - 94 %	Rapidly biodegradable
OECD 311	60 days	Biodegradation 50 - 97 %	Rapidly biodegradable

12.3. Bioaccumulative potential

Bioaccumulation Not likely to bioaccumulate.

Component Information

Chemical name	Partition coefficient
SODIUM BENZOATE	1.88

12.4. Mobility in soil

Mobility in soil Soluble in water.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB.

Chemical name	PBT and vPvB assessment
SODIUM BENZOATE	The substance is not PBT / vPvB

12.6. Other adverse effects

No information available.

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

Waste from residues/unused products Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority.

Contaminated packaging Do not reuse empty containers. Empty remaining contents. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information**IATA**

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	No
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	No
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number or ID number	Not regulated
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14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	No
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	No
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Authorisations and/or restrictions on use:**

This product contains one or more substances subject to restriction (UK REACH - Annex XVII).

This product does not contain substances subject to authorisation (UK REACH - Annex XIV).

Product restricted per REACH Annex XVII: 3

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
SODIUM BENZOATE - 532-32-1	75.	-

Persistent Organic Pollutants

Not applicable

Export Notification requirements

Not applicable

Named dangerous substances per COMAH Regulations 2015 (as amended)

Not applicable

The Ozone-Depleting Substances Regulations 2015

Not applicable

The Biocidal Products Regulations 2001 (as amended)

Chemical name	The Biocidal Products Regulations 2001 (as amended)
SODIUM BENZOATE - 532-32-1	Simplified procedure - Category A

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)

Not applicable

Poisons Act 1972 (Explosive Precursors) Regulations (as Amended)

Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status
DSL/NDL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status

IECSC	Contact supplier for inventory compliance status
KECI	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AIIC	Contact supplier for inventory compliance status
NZIoC	Contact supplier for inventory compliance status

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AIIC - Australian Inventory of Industrial Chemicals
NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report A Chemical Safety Assessment has been carried out for this substance

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet****Full text of H-Statements referred to under section 3**

H319 - Causes serious eye irritation

Legend

SVHC: Substances of Very High Concern for Authorisation:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitisers		

Revision Note **SDS sections updated 2 3 4 5 6 7 8 9 10 11 12 14 16**

Classification procedure

Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AELG(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Prepared By Lisa Bland
Supersedes date 29-Oct-2024
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**This material safety data sheet complies with the requirements of UK REACH Regulations (SI 2019/758 as amended)
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work**

Disclaimer

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

End of Safety Data Sheet

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Chemical name SODIUM BENZOATE
Pure substance/mixture Substance
REACH registration number 01-2119460683-35-XXXX
CAS No 532-32-1
EC No (EU Index No) 208-534-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Formulation & (re)packing of substances and mixtures Cosmetics, personal care products
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC2 - Formulation of preparations (mixtures)
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
 PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
 PROC15 - Use as laboratory reagent
Product category(ies) PC39 - Cosmetics, personal care products
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)

Amounts used

Type	Annual amount per site
Value	400
Units	t(ons)/year

Type	Daily amount per site
Value	1600
Units	kg/d

Other operational conditions of use affecting environmental exposure

Emission days	250
Release fraction to wastewater from process (initial release prior to RMM)	0.1 %

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	87.44 %

Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Equipment cleaning with minimised emissions to wastewater Process optimised for highly efficient use of raw materials Product applied in aqueous process solution with negligible volatilisation Trained staff, spill protection including waste reuse
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Conditions and measures related to external treatment of waste for disposal

Disposal	External treatment and disposal of waste should comply with applicable local and/or national regulations
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Control of worker exposure

Title	General measures applicable to all activities
Technical conditions and measures to control dispersion from source towards the worker	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimize exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. there is potential for exposure: restrict access to authorized persons; provide specific activity training to operators to minimize exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. the need for risk based health surveillance Avoid contact with contaminated tools and objects
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	1 %
Physical form of product	Solid or Solid in solution
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	1 %

Physical form of product	Solid or Solid in solution
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	1 %
Physical form of product	Solid or Solid in solution
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
Covers concentrations up to	1 %
Physical form of product	Solid or Solid in solution
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to
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	vessels/large containers at non dedicated facilities
Covers concentrations up to	1 %
Physical form of product	Solid or Solid in solution
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C
Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	1 %
Physical form of product	Solid or Solid in solution
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) Local exhaust ventilation - efficiency of at least 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C
Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	1 %
Physical form of product	Solid or Solid in solution
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of controlled ventilation (5 to 10 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor

Assumes process temperature up to	40 C
Process category(ies)	PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
Covers concentrations up to	1 %
Physical form of product	Solid or Solid in solution
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C
Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	1 %
Physical form of product	Solid Solid in solution or
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)

Predicted No Effect Concentration (PNEC)

Freshwater	0.13 mg/l
Freshwater sediment	1.76 mg/kg
Marine water	0.013 mg/l
Marine sediment	0.176 mg/kg
Soil	0.06 mg/kg
Impact on Sewage Treatment	10 mg/l

Calculation method Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
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Freshwater	0.014 mg/l	0.111
Freshwater sediment	0.195 mg/kg	0.111
Marine water	0.00144 mg/l	0.111
Marine sediment	0.019 mg/kg	0.111
STP: Sewage Treatment Plant	0.1 mg/l	0.01
Soil	0.053 mg/kg	0.883

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	62.5 mg/kg
Worker - inhalative, long-term - local	0.1 mg/m ³
Worker - inhalative, long-term - systemic	3 mg/m ³

Calculation method

Used ECETOC TRA model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - systemic	0.001 mg/m ³	<0.01
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local	0.001 mg/m ³	0.01
PROC1 - Use in closed process, no likelihood of exposure	Worker - dermal, long-term - systemic	0.0034 mg/kg/d	<0.01
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - systemic	0.01 mg/m ³	<0.01
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	0.01 mg/m ³	0.1
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - dermal, long-term - systemic	0.137 mg/kg/d	<0.01
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - systemic	0.1 mg/m ³	0.033
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local	0.1 mg/m ³	1
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - dermal, long-term - systemic	0.069 mg/kg/d	<0.01
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	Worker - inhalative, long-term - systemic	0.025 mg/m ³	<0.01
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	Worker - inhalative, long-term - local	0.025 mg/m ³	0.25
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	Worker - dermal, long-term - systemic	1.371 mg/kg/d	0.022
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, long-term - systemic	0.05 mg/m ³	0.017
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, long-term - local	0.05 mg/m ³	0.5

PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - dermal, long-term - systemic	1.371 mg/kg/d	0.022
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - systemic	0.087 mg/m ³	0.029
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - local	0.087 mg/m ³	0.875
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - dermal, long-term - systemic	1.371 mg/kg/d	0.022
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - systemic	0.06 mg/m ³	0.02
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - local	0.06 mg/m ³	0.6
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - dermal, long-term - systemic	0.686 mg/kg/d	0.011
PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising	Worker - inhalative, long-term - systemic	0.07 mg/m ³	0.023
PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising	Worker - inhalative, long-term - local	0.07 mg/m ³	0.7
PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising	Worker - dermal, long-term - systemic	0.343 mg/kg/d	<0.01
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - systemic	0.000216 mg/m ³	<0.01
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local	0.000216 mg/m ³	<0.01
PROC15 - Use as laboratory reagent	Worker - dermal, long-term - systemic	0.034 mg/kg/d	<0.01

Section 4 - Guidance to check compliance with the exposure scenario

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Chemical name SODIUM BENZOATE
Pure substance/mixture Substance
REACH registration number 01-2119460683-35-XXXX
CAS No 532-32-1
EC No (EU Index No) 208-534-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Formulation & (re)packing of substances and mixtures Adhesives, sealants
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC2 - Formulation of preparations (mixtures)
Process category(ies) PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
 PROC10 - Roller application or brushing
 PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising

Product category(ies) PC1 - Adhesives, sealants
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)

Amounts used

Type	Annual amount per site
Value	800
Units	t(ons)/year

Type	Daily amount per site
Value	3640
Units	kg/d

Other operational conditions of use affecting environmental exposure

Emission days	220
Release fraction to wastewater from process (initial release prior to RMM)	0.05 %

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	87.44 %

Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Equipment cleaning with minimised emissions to wastewater Process optimised for highly efficient use of raw materials Product applied in aqueous process solution with negligible volatilisation Trained staff, spill protection including waste reuse
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Conditions and measures related to external treatment of waste for disposal

Disposal	External treatment and disposal of waste should comply with applicable local and/or national regulations
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Control of worker exposure

Title	General measures applicable to all activities
Technical conditions and measures to control dispersion from source towards the worker	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimize exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. there is potential for exposure: restrict access to authorized persons; provide specific activity training to operators to minimize exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. the need for risk based health surveillance Avoid contact with contaminated tools and objects
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	1 %
Physical form of product	Solid or Solid in solution
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	1 %
Physical form of product	Solid or Solid in solution
Vapour pressure	0.00371 mPa

Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	1 %
Physical form of product	Solid or Solid in solution
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of controlled ventilation (5 to 10 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
Covers concentrations up to	1 %
Physical form of product	Solid or Solid in solution
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of controlled ventilation (5 to 10 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	1 %
Physical form of product	Solid or Solid in solution
Vapour pressure	0.00371 mPa
Temperature associated to vapour	40 C

pressure	
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of controlled ventilation (5 to 10 air changes per hour) Local exhaust ventilation - efficiency of at least 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	1 %
Physical form of product	Solid or Solid in solution
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of controlled ventilation (5 to 10 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC10 - Roller application or brushing
Covers concentrations up to	1 %
Physical form of product	Solid or Solid in solution
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
Covers concentrations up to	1 %
Physical form of product	Solid or Solid in solution
Vapour pressure	0.00371 mPa
Temperature associated to vapour	40 C

pressure	
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)

Predicted No Effect Concentration (PNEC)

Freshwater	0.13 mg/l
Freshwater sediment	1.76 mg/kg
Marine water	0.013 mg/l
Marine sediment	0.176 mg/kg
Soil	0.06 mg/kg
Impact on Sewage Treatment	10 mg/l

Calculation method

Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	0.016 mg/l	0.122
Freshwater sediment	0.214 mg/kg	0.122
Marine water	0.00157 mg/l	0.121
Marine sediment	0.021 mg/kg	0.121
STP: Sewage Treatment Plant	0.114 mg/l	0.011
Soil	0.056 mg/kg	0.934

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	62.5 mg/kg
Worker - inhalative, long-term - local	0.1 mg/m ³
Worker - inhalative, long-term - systemic	3 mg/m ³

Calculation method

Used ECETOC TRA model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - systemic	0.1 mg/m ³	0.033
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	0.1 mg/m ³	1
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - dermal, long-term - systemic	0.137 mg/kg/d	<0.01

PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - systemic	0.1 mg/m ³	0.033
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local	0.1 mg/m ³	1
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - dermal, long-term - systemic	0.069 mg/kg/d	<0.01
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - systemic	0.075 mg/m ³	0.025
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local	0.075 mg/m ³	0.75
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - dermal, long-term - systemic	0.686 mg/kg/d	0.011
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	Worker - inhalative, long-term - systemic	0.075 mg/m ³	0.025
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	Worker - inhalative, long-term - local	0.075 mg/m ³	0.75
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	Worker - dermal, long-term - systemic	1.371 mg/kg/d	0.022
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - systemic	0.037 mg/m ³	0.012
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - local	0.037 mg/m ³	0.375
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - dermal, long-term - systemic	1.371 mg/kg/d	0.022
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - systemic	0.06 mg/m ³	0.02
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - local	0.06 mg/m ³	0.6
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - dermal, long-term - systemic	0.686 mg/kg/d	0.011
PROC10 - Roller application or brushing	Worker - inhalative, long-term - systemic	0.1 mg/m ³	0.033
PROC10 - Roller application or brushing	Worker - inhalative, long-term - local	0.1 mg/m ³	1
PROC10 - Roller application or brushing	Worker - dermal, long-term - systemic	2.743 mg/kg/d	0.044
PROC14 - Production of preparations	Worker - inhalative, long-term	0.1 mg/m ³	0.033

or articles by tableting, compression, extrusion, pelettising	- systemic		
PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising	Worker - inhalative, long-term - local	0.1 mg/m ³	1
PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising	Worker - dermal, long-term - systemic	0.343 mg/kg/d	<0.01

Section 4 - Guidance to check compliance with the exposure scenario

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Chemical name SODIUM BENZOATE
Pure substance/mixture Substance
REACH registration number 01-2119460683-35-XXXX
CAS No 532-32-1
EC No (EU Index No) 208-534-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Formulation & (re)packing of substances and mixtures Coatings
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC2 - Formulation of preparations (mixtures)
Specific Environmental Release Category CEPE SPERC 2.1c.v1
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Product category(ies) PC9 - Coatings and paints, fillers, putties, thinners
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)
Specific Environmental Release Category - CEPE SPERC 2.1c.v1

Amounts used

Type	Annual amount per site
Value	800
Units	t(ons)/year

Type	Daily amount per site
Value	3640
Units	kg/d

Other operational conditions of use affecting environmental exposure

Emission days	220
Release fraction to air from process (initial release prior to RMM)	0.97 %
Release fraction to wastewater from process (initial release prior to RMM)	0.005 %

Release fraction to air from process (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements)	0.0097 %
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Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	87.44 %

Environmental factors not influenced by risk management

Local freshwater dilution factor	10
Local marine water dilution factor	100

Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Equipment cleaning with minimised emissions to wastewater Process optimised for highly efficient use of raw materials Product applied in aqueous process solution with negligible volatilisation Trained staff, spill protection including waste reuse
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Conditions and measures related to external treatment of waste for disposal

Disposal	External treatment and disposal of waste should comply with applicable local and/or national regulations
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Control of worker exposure

Title	General measures applicable to all activities
Technical conditions and measures to control dispersion from source towards the worker	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimize exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. there is potential for exposure: restrict access to authorized persons; provide specific activity training to operators to minimize exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. the need for risk based health surveillance Avoid contact with contaminated tools and objects
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	1 %
Physical form of product	Solid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Organisational measures to prevent /limit releases, dispersion and	Supervision in place to check that the RMMs in place are being used correctly and OCs followed

exposure	
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	1 %
Physical form of product	Solid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	1 %
Physical form of product	Solid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
Covers concentrations up to	1 %
Physical form of product	Solid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of controlled ventilation (5 to 10 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed

Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	1 %
Physical form of product	Solid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) Local exhaust ventilation - efficiency of at least 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	1 %
Physical form of product	Solid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of controlled ventilation (5 to 10 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)
Specific Environmental Release Category - CEPE SPERC 2.1c.v1

**Predicted No Effect Concentration
(PNEC)**

Freshwater	0.13 mg/l
Freshwater sediment	1.76 mg/kg
Marine water	0.013 mg/l
Marine sediment	0.176 mg/kg

Soil 0.06 mg/kg
Impact on Sewage Treatment 10 mg/l

Calculation method Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	0.00552 mg/l	0.042
Freshwater sediment	0.075 mg/kg	0.042
Marine water	0.000546mg/l	0.042
Marine sediment	0.00739 mg/kg	0.042
STP: Sewage Treatment Plant	0.011 mg/l	<0.01
Soil	0.033 mg/kg	0.553

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic 62.5 mg/kg
Worker - inhalative, long-term - local 0.1 mg/m³
Worker - inhalative, long-term - systemic 3 mg/m³

Calculation method Used ECETOC TRA model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - systemic	0.001 mg/m ³	<0.01
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local	0.001 mg/m ³	0.01
PROC1 - Use in closed process, no likelihood of exposure	Worker - dermal, long-term - systemic	0.0034 mg/kg/d	<0.01
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - systemic	0.01 mg/m ³	<0.01
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	0.01 mg/m ³	0.1
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - dermal, long-term - systemic	0.137 mg/kg/d	<0.01
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - systemic	0.01 mg/m ³	<0.01
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local	0.01 mg/m ³	0.1
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - dermal, long-term - systemic	0.069 mg/kg/d	<0.01
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	Worker - inhalative, long-term - systemic	0.075 mg/m ³	0.025
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	Worker - inhalative, long-term - local	0.075 mg/m ³	0.75
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	Worker - dermal, long-term - systemic	1.371 mg/kg/d	0.022
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at	Worker - inhalative, long-term - systemic	0.087 mg/m ³	0.029

dedicated facilities			
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - local	0.087 mg/m ³	0.875
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - dermal, long-term - systemic	1.371 mg/kg/d	0.022
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - systemic	0.06 mg/m ³	0.02
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - local	0.06 mg/m ³	0.6
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - dermal, long-term - systemic	0.686 mg/kg/d	0.011

Section 4 - Guidance to check compliance with the exposure scenario

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Chemical name SODIUM BENZOATE
Pure substance/mixture Substance
REACH registration number 01-2119460683-35-XXXX
CAS No 532-32-1
EC No (EU Index No) 208-534-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Formulation & (re)packing of substances and mixtures Coatings
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC2 - Formulation of preparations (mixtures)
Specific Environmental Release Category CEPE SPERC 2.2c.v1
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Product category(ies) PC9 - Coatings and paints, fillers, putties, thinners
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)
Specific Environmental Release Category - CEPE SPERC 2.2c.v1

Amounts used

Type	Annual amount per site
Value	800
Units	t(ons)/year

Type	Daily amount per site
Value	3640
Units	kg/d

Other operational conditions of use affecting environmental exposure

Emission days	220
Release fraction to air from process (initial release prior to RMM)	0.97 %

Release fraction to wastewater from process (initial release prior to RMM)	0.005 %
Release fraction to air from process (after typical onsite RMMs consistent with EU Solvent Emissions Directive requirements)	0.0097 %

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	87.44 %

Environmental factors not influenced by risk management

Local freshwater dilution factor	10
Local marine water dilution factor	100

Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Equipment cleaning with minimised emissions to wastewater Process optimised for highly efficient use of raw materials Product applied in aqueous process solution with negligible volatilisation Trained staff, spill protection including waste reuse
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Conditions and measures related to external treatment of waste for disposal

Disposal	External treatment and disposal of waste should comply with applicable local and/or national regulations
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Control of worker exposure

Title	General measures applicable to all activities
Technical conditions and measures to control dispersion from source towards the worker	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimize exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. there is potential for exposure: restrict access to authorized persons; provide specific activity training to operators to minimize exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. the need for risk based health surveillance Avoid contact with contaminated tools and objects
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	1 %
Physical form of product	Liquid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Organisational measures to prevent	Supervision in place to check that the RMMs in place are being used correctly and OCs

/limit releases, dispersion and exposure	followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	1 %
Physical form of product	Liquid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	1 %
Physical form of product	Liquid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
Covers concentrations up to	1 %
Physical form of product	Liquid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of controlled ventilation (5 to 10 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face

the REACH Chemical Safety Report	protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	1 %
Physical form of product	Solid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of controlled ventilation (5 to 10 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	1 %
Physical form of product	Solid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of controlled ventilation (5 to 10 air changes per hour) Local exhaust ventilation - efficiency of at least 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	1 %
Physical form of product	Liquid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of controlled ventilation (5 to 10 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and	Supervision in place to check that the RMMs in place are being used correctly and OCs followed

exposure	
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)

Specific Environmental Release Category - CEPE SPERC 2.2c.v1

Predicted No Effect Concentration (PNEC)

Freshwater	0.13 mg/l
Freshwater sediment	1.76 mg/kg
Marine water	0.013 mg/l
Marine sediment	0.176 mg/kg
Soil	0.06 mg/kg
Impact on Sewage Treatment	10 mg/l

Calculation method Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	0.00552 mg/l	0.042
Freshwater sediment	0.075 mg/kg	0.042
Marine water	0.000546mg/l	0.042
Marine sediment	0.00739 mg/kg	0.042
STP: Sewage Treatment Plant	0.011 mg/l	<0.01
Soil	0.033 mg/kg	0.553

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	62.5 mg/kg
Worker - inhalative, long-term - local	0.1 mg/m ³
Worker - inhalative, long-term - systemic	3 mg/m ³

Calculation method Used ECETOC TRA model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - systemic	0.001 mg/m ³	<0.01
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local	0.001 mg/m ³	0.01
PROC1 - Use in closed process, no likelihood of exposure	Worker - dermal, long-term - systemic	0.0034 mg/kg/d	<0.01
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - systemic	0.01 mg/m ³	<0.01
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	0.01 mg/m ³	0.1
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - dermal, long-term - systemic	0.137 mg/kg/d	<0.01
PROC3 - Use in closed batch process	Worker - inhalative, long-term	0.01 mg/m ³	<0.01

(synthesis or formulation)	- systemic		
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local	0.01 mg/m ³	0.1
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - dermal, long-term - systemic	0.069 mg/kg/d	<0.01
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	Worker - inhalative, long-term - systemic	0.075 mg/m ³	0.025
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	Worker - inhalative, long-term - local	0.075 mg/m ³	0.75
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	Worker - dermal, long-term - systemic	1.371 mg/kg/d	0.022
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, long-term - systemic	0.015 mg/m ³	<0.01
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, long-term - local	0.015 mg/m ³	0.15
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - dermal, long-term - systemic	1.371 mg/kg/d	0.022
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - systemic	0.037 mg/m ³	0.012
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - local	0.037 mg/m ³	0.375
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - dermal, long-term - systemic	1.371 mg/kg/d	0.022
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - systemic	0.06 mg/m ³	0.02
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - local	0.06 mg/m ³	0.6
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - dermal, long-term - systemic	0.686 mg/kg/d	0.011

Section 4 - Guidance to check compliance with the exposure scenario

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at

least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Chemical name SODIUM BENZOATE
Pure substance/mixture Substance
REACH registration number 01-2119460683-35-XXXX
CAS No 532-32-1
EC No (EU Index No) 208-534-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Formulation & (re)packing of substances and mixtures
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC2 - Formulation of preparations (mixtures)
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
 PROC6 - Calendaring operations
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
 PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
 PROC15 - Use as laboratory reagent
Product category(ies) PC9a - Coatings and paints, thinners, paint removers PC9b - Fillers, putties, plasters, modelling clay PC29 - Pharmaceuticals PC32 - Polymer preparations and compounds PC0 - Other Products
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)

Amounts used

Type	Annual amount per site
Value	275
Units	t(ons)/year

Type	Daily amount per site
Value	920
Units	kg/d

Other operational conditions of use affecting environmental exposure

Emission days	300
Release fraction to air from process (initial release prior to RMM)	0.005 %
Release fraction to wastewater from process (initial release prior to RMM)	0.2 %
Release fraction to soil from process (initial release prior to RMM)	0.01 %

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	87.44 %

Environmental factors not influenced by risk management

Receiving water dilution (fresh or marine)	18000 m3/d
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Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Equipment cleaning with minimised emissions to wastewater Process optimised for highly efficient use of raw materials Product applied in aqueous process solution with negligible volatilisation Trained staff, spill protection including waste reuse
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Conditions and measures related to external treatment of waste for disposal

Disposal	External treatment and disposal of waste should comply with applicable local and/or national regulations
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Control of worker exposure

Title	General measures applicable to all activities
Technical conditions and measures to control dispersion from source towards the worker	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimize exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. there is potential for exposure: restrict access to authorized persons; provide specific activity training to operators to minimize exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. the need for risk based health surveillance Avoid contact with contaminated tools and objects
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	1 %
Physical form of product	Liquid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).

Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	1 %
Physical form of product	Liquid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	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	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	1 %
Physical form of product	Liquid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	1 %
Physical form of product	Liquid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) Local exhaust ventilation - efficiency of at least 90%

the worker	
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 90% Wear suitable gloves tested to EN 374 Efficiency of at least 80%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
Covers concentrations up to	1 %
Physical form of product	Liquid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of controlled ventilation (5 to 10 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC6 - Calendaring operations
Covers concentrations up to	1 %
Physical form of product	Liquid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of controlled ventilation (5 to 10 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	1 %
Physical form of product	Solid
Vapour pressure	0.00141 mPa
Temperature associated to vapour pressure	25 C

Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of controlled ventilation (5 to 10 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	25 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	1 %
Physical form of product	Solid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of controlled ventilation (5 to 10 air changes per hour) Local exhaust ventilation - efficiency of at least 95%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	100 %
Physical form of product	Liquid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of controlled ventilation (5 to 10 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC14 - Production of preparations or articles by tableting, compression, extrusion,
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	pelettising
Covers concentrations up to	1 %
Physical form of product	Solid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	1 %
Physical form of product	Solid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour) Local exhaust ventilation - efficiency of at least 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)

Predicted No Effect Concentration (PNEC)

Freshwater	0.13 mg/l
Freshwater sediment	1.76 mg/kg
Marine water	0.013 mg/l
Marine sediment	0.176 mg/kg
Soil	0.06 mg/kg
Impact on Sewage Treatment	10 mg/l

Calculation method Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	0.016 mg/l	0.122
Freshwater sediment	0.216 mg/kg	0.123
Marine water	0.00159 mg/l	0.122

Marine sediment	0.021 mg/kg	0.122
STP: Sewage Treatment Plant	0.115 mg/l	0.012
Soil	0.056 mg/kg	0.939

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	62.5 mg/kg
Worker - inhalative, long-term - local	0.1 mg/m ³
Worker - inhalative, long-term - systemic	3 mg/m ³

Calculation method	Used ECETOC TRA model		
Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - systemic	0.001 mg/m ³	<0.01
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - local	0.001 mg/m ³	0.01
PROC1 - Use in closed process, no likelihood of exposure	Worker - dermal, long-term - systemic	0.0034 mg/kg/d	<0.01
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - systemic	0.07 mg/m ³	0.023
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - local	0.07 mg/m ³	0.7
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - dermal, long-term - systemic	0.137 mg/kg/d	<0.01
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - systemic	0.1 mg/m ³	0.033
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - local	0.1 mg/m ³	1
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - dermal, long-term - systemic	0.069 mg/kg/d	<0.01
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - systemic	0.017 mg/m ³	<0.01
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - local	0.017 mg/m ³	0.175
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - dermal, long-term - systemic	0.137 mg/kg/d	<0.01
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	Worker - inhalative, long-term - systemic	0.0075 mg/m ³	0.025
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	Worker - inhalative, long-term - local	0.075 mg/m ³	0.75
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	Worker - dermal, long-term - systemic	1.371 mg/kg/d	0.022
PROC6 - Calendaring operations	Worker - inhalative, long-term - systemic	0.075 mg/m ³	0.025

PROC6 - Calendaring operations	Worker - inhalative, long-term - local	0.075 mg/m ³	0.75
PROC6 - Calendaring operations	Worker - dermal, long-term - systemic	2.743 mg/kg/d	0.044
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, long-term - systemic	0.015 mg/m ³	<0.01
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, long-term - local	0.015 mg/m ³	0.15
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - dermal, long-term - systemic	1.371 mg/kg/d	0.022
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - systemic	0.037 mg/m ³	0.012
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - local	0.037 mg/m ³	0.375
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - dermal, long-term - systemic	1.371 mg/kg/d	0.022
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - systemic	0.06 mg/m ³	0.02
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - local	0.06 mg/m ³	0.6
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - dermal, long-term - systemic	6.86 mg/kg/d	0.11
PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising	Worker - inhalative, long-term - systemic	0.1 mg/m ³	0.033
PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising	Worker - inhalative, long-term - local	0.1 mg/m ³	1
PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising	Worker - dermal, long-term - systemic	0.343 mg/kg/d	<0.01
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - systemic	0.035 mg/m ³	0.012
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - local	0.035 mg/m ³	0.35
PROC15 - Use as laboratory reagent	Worker - dermal, long-term - systemic	0.034 mg/kg/d	<0.01

Section 4 - Guidance to check compliance with the exposure scenario

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Chemical name SODIUM BENZOATE
Pure substance/mixture Substance
REACH registration number 01-2119460683-35-XXXX
CAS No 532-32-1
EC No (EU Index No) 208-534-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Adhesives, sealants Industrial use
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles
 ERC5 - Industrial use resulting in inclusion into or onto a matrix
Specific Environmental Release Category FEICA SPERC 4.2a.v2 FEICA SPERC 5.1a.v3
Process category(ies) PROC7 - Industrial spraying
 PROC19 - Hand-mixing with intimate contact and only PPE available
Product category(ies) PC1 - Adhesives, sealants
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

- ERC5 - Industrial use resulting in inclusion into or onto a matrix

Specific Environmental Release Category - **FEICA SPERC 4.2a.v2**

- **FEICA SPERC 5.1a.v3**

Amounts used

Type	Annual amount per site
Value	60 (ERC4) , 1000 (ERC5)
Units	t(ons)/year

Type	Daily amount per site
Value	600 (ERC4) , 4500 (ERC5)
Units	kg/d

Other operational conditions of use affecting environmental exposure

Emission days	220
Release fraction to air from process (initial release prior to RMM)	98.5 % (ERC4) , 1.7 % (ERC5)

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment	2000 m3/d

plant flow	
Removal efficiency (total)	87.44 %

Environmental factors not influenced by risk management

Receiving water dilution (fresh or marine)	18000 m3/d
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Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Equipment cleaning with minimised emissions to wastewater Process optimised for highly efficient use of raw materials Product applied in aqueous process solution with negligible volatilisation Trained staff, spill protection including waste reuse
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Conditions and measures related to external treatment of waste for disposal

Disposal	External treatment and disposal of waste should comply with applicable local and/or national regulations
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Control of worker exposure

Title	General measures applicable to all activities
Technical conditions and measures to control dispersion from source towards the worker	Consider technical advances and process upgrades (including automation) for the elimination of releases. Minimize exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. there is potential for exposure: restrict access to authorized persons; provide specific activity training to operators to minimize exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenarios; clear up spills immediately and dispose of wastes safely. safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. the need for risk based health surveillance Avoid contact with contaminated tools and objects
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection See Section 8 for information on appropriate personal protective equipment
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented

Process category(ies)	PROC7 - Industrial spraying
Covers concentrations up to	1 %
Physical form of product	Liquid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 95%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	1 %
Physical form of product	Liquid
Vapour pressure	0.00371 mPa
Temperature associated to vapour pressure	40 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Organisational measures to prevent /limit releases, dispersion and exposure	Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Additional good practice advice beyond the REACH Chemical Safety Report	Wear suitable coveralls to prevent exposure to the skin Wear suitable gloves and eye/face protection Wear suitable respiratory protection.
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

- ERC5 - Industrial use resulting in inclusion into or onto a matrix

Specific Environmental Release Category - FEICA SPERC 4.2a.v2

- FEICA SPERC 5.1a.v3

Predicted No Effect Concentration (PNEC)

Freshwater	0.13 mg/l
Freshwater sediment	1.76 mg/kg
Marine water	0.013 mg/l
Marine sediment	0.176 mg/kg
Soil	0.06 mg/kg
Impact on Sewage Treatment	10 mg/l

Calculation method Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	0.00437 mg/l	0.034
Freshwater sediment	0.059 mg/kg	0.034
Marine water	0.000432 mg/l	0.033
Marine sediment	0.00585 mg/kg	0.033
STP: Sewage Treatment Plant	0 mg/l	<0.01
Soil	0.043 mg/kg	0.725

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	62.5 mg/kg
Worker - inhalative, long-term - local	0.1 mg/m ³
Worker - inhalative, long-term - systemic	3 mg/m ³

Calculation method Used ECETOC TRA model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC7 - Industrial spraying	Worker - inhalative, long-term	0.05 mg/m ³	0.017

	- systemic		
PROC7 - Industrial spraying	Worker - inhalative, long-term - local	0.05 mg/m ³	0.5
PROC7 - Industrial spraying	Worker - dermal, long-term - systemic	4.286 mg/kg/d	0.069
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - inhalative, long-term - systemic	0.000216 mg/m ³	<0.01
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - inhalative, long-term - local	0.000216 mg/m ³	<0.01
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - dermal, long-term - systemic	14.14 mg/kg/d	0.226

Section 4 - Guidance to check compliance with the exposure scenario

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Chemical name SODIUM BENZOATE
Pure substance/mixture Substance
REACH registration number 01-2119460683-35-XXXX
CAS No 532-32-1
EC No (EU Index No) 208-534-8
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Cosmetics, personal care products
Type Consumer
Main user group Consumer uses: Private households (= general public = consumers)
Environmental release category(ies) ERC8a - Wide dispersive indoor use of processing aids in open systems
Product category(ies) PC39 - Cosmetics, personal care products
Sector(s) of use SU21 - Consumer uses

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC8a - Wide dispersive indoor use of processing aids in open systems

Amounts used

Type	Daily amount for wide dispersive uses
Value	1.09
Units	kg/d

Other operational conditions of use affecting environmental exposure

Emission days	365
Release fraction to wastewater from wide dispersive use	100%

Conditions and measures related to municipal sewage treatment plant

Type	Municipal STP
Assumed domestic sewage treatment plant flow	2000 m ³ /d
Removal efficiency (total)	87.44 %

Conditions and measures related to external treatment of waste for disposal

Disposal	External treatment and disposal of waste should comply with applicable local and/or national regulations
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Section 3 - Exposure estimation

Environmental release category(ies) - ERC8a - Wide dispersive indoor use of processing aids in open systems

Predicted No Effect Concentration (PNEC)

Freshwater	0.13 mg/l
Freshwater sediment	1.76 mg/kg
Marine water	0.013 mg/l
Marine sediment	0.176 mg/kg
Soil	0.06 mg/kg
Impact on Sewage Treatment	10 mg/l

Calculation method Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	0.011 mg/l	0.086
Freshwater sediment	0.152 mg/kg	0.086
Marine water	0.00112 mg/l	0.086
Marine sediment	0.015 mg/kg	0.086
STP: Sewage Treatment Plant	0.068 mg/l	<0.01
Soil	0.046 mg/kg	0.764

Derived No Effect Level (DNEL):

Section 4 - Guidance to check compliance with the exposure scenario

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.