

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

Supersedes date 02-Oct-2023

Revision date 14-Apr-2026

Revision Number 3

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

1.1. Product identifier

Product Code(s)	20624
Safety data sheet number	20624
Product Name	BUTYL DIGLYCOL ACETATE
EC Number	204-685-9
CAS No	124-17-4
Synonyms	2-(2-BUTOXYETHOXY) ETHYL ACETATE, BDGA, butyldigol acetate, DEGBEA, diethyleneglycolmonobutyl ether acetate, ethanol, 2-(2-butoxyethoxy)-, acetate
Pure substance/mixture	Substance
Formula	C ₁₀ H ₂₀ O ₄
Molecular weight	204.26 g/mol

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

Recommended use	Manufacture of substance Formulation & (re)packing of substances and mixtures. In coatings Inks Use in laboratories Use in agrochemicals Binding agent Releasing agent Use in process chemicals 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

P280 - Wear eye protection/ face protection

P264 - Wash hands thoroughly after handling

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

No hazard identified.

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)
BUTYL DIGLYCOL ACETATE 124-17-4	>= 98 %	204-685-9	-	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	First aid personnel should wear appropriate protective equipment during any rescue. In case of accident or if you feel unwell, seek medical advice immediately (show safety data sheet if possible). Keep victim under observation.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Rinse mouth thoroughly with water. 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. In case of accident or if you feel unwell, seek medical advice immediately (show safety data sheet if possible).
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

Symptoms

Inhalation	Inhalation of vapours in high concentration may cause irritation of respiratory system. May cause irritation. Mucous membrane. Coughing and/or wheezing. Nausea. Dizziness.
Eyes	Causes serious eye irritation.
Dermal	Dryness and/or cracking.
Ingestion	AFTER INGESTION OF HIGH QUANTITIES: Gastrointestinal discomfort May cause central nervous system depression Unconsciousness

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	Use extinguishing agent suitable for type of surrounding fire. Dry chemical, CO ₂ , alcohol-resistant foam or water spray.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	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	When heated and in case of fire, toxic vapours/gases may be formed.
Hazardous combustion products	Carbon 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. Use personal protection equipment.

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 skin, eyes and inhalation of vapours.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Pick up and transfer to properly labelled containers. Do not allow run-off from fire-fighting to enter drains or water courses.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

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 skin, eyes and inhalation of vapours. Keep away from heat, sparks and open flame. Use non-sparking tools. Use explosion-proof electrical, ventilating and lighting equipment. Handle in accordance with good industrial hygiene and safety practice. Keep container closed when not in use.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Keep away from heat, sparks and open flame. Store away from the following materials. Oxidising agent. Strong bases.

Packaging materials Suitable container/equipment material: Steel. stainless steel. Glass. Polypropylene. Aluminium.
Unsuitable container/equipment material. copper. Plastic container.

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
BUTYL DIGLYCOL ACETATE 124-17-4		100 mg/kg bw/day [4] [6]	

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

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
BUTYL DIGLYCOL ACETATE 124-17-4	7.9 mg/kg bw/day [4] [6]		

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

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
BUTYL DIGLYCOL ACETATE 124-17-4	0.108 mg/L	0.6 mg/L	0.0108 mg/L		

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
BUTYL DIGLYCOL ACETATE 124-17-4	0.8 mg/kg sediment dw	0.08 mg/kg sediment dw	100 mg/L	0.29 mg/kg soil dw	70 mg/kg food

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
	PVC		
	Wear protective butyl rubber gloves		
	Tetrafluoroethylene		

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

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state Liquid
Appearance Clear liquid
Colour Colourless
Odour Mild. Pleasant.
Odour threshold No information available

Property	Values	Remarks • Method
Melting point / freezing point	< - 70 °C	@ 1013 hPa.
Initial boiling point and boiling range	245 °C	@ 1013 hPa.
Flammability		Not classified. The product is not flammable.
Flammability Limit in Air		
Upper flammability or explosive limits	5 % vol	
Lower flammability or explosive limits	0.8 % vol	
Flash point	116 °C	CC (closed cup). @ 1013 hPa.
Autoignition temperature	197 °C	@ 1013 hPa.
Decomposition temperature		No information available.
pH		No information available.
pH (as aqueous solution)		No information available.
Kinematic viscosity	3.519 mm ² /s	@ 20 °C.
2.771 mm ² /s		@ 30 °C.
Dynamic viscosity	3.5 mPa s	@ 20 °C.
Water solubility	Soluble in water	
	6.5 g/100mg/l @ 20°C	
Solubility(ies)	soluble in Ethanol Acetone Ether	
Partition coefficient	log Pow: 1.7	OECD 117. @ 23 °C.

Vapour pressure	0.005 hPa	@ 20 °C.
Relative density	0.98	@ 20 °C. DIN 51757.
Bulk density		No information available
Liquid Density	977 kg/m ³	@ 20 °C DIN 51757
Relative vapour density	7.00	Calculation method.
Particle characteristics		Not applicable. liquid.
Particle Size	No information available	
Particle Size Distribution	No information available	
Explosive properties	No information available	
Oxidising properties	No information available	
9.2. Other information		
Molecular weight	204.26 g/mol	
VOC content	0 %	
Evaporation rate	6500 Ether	
	<0 (n-butyl acetate=1)	

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Temperature above flashpoint: higher fire/explosion hazard.

10.2. Chemical stability

Stability Unstable on exposure to air.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Reacts slowly on exposure to air: peroxidation resulting in increased fire or explosion risk. Reacts violently with (some) bases: release of heat. Prolonged storage: may form peroxides: pressure rise and possible bursting of container.

10.4. Conditions to avoid

Conditions to avoid Keep away from heat, sparks and open flame. Use spark-proof tools and explosion-proof equipment.

10.5. Incompatible materials

Incompatible materials Strong oxidising agents. Strong bases.

10.6. Hazardous decomposition products

Hazardous decomposition products Carbon oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Information on likely routes of exposure

Product Information

Inhalation Inhalation of vapours in high concentration may cause irritation of respiratory system. May

cause irritation. Mucous membrane. Coughing and/or wheezing. Nausea. Dizziness.

Eye contact Causes serious eye irritation.

Skin contact Non-irritating during normal use. Dryness and/or cracking.

Ingestion AFTER INGESTION OF HIGH QUANTITIES:.. Gastrointestinal discomfort. May cause central nervous system depression. Unconsciousness.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms

Acute toxicity

Numerical measures of toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
BUTYL DIGLYCOL ACETATE	11920 mg/kg (Rat)	5400 mg/kg (Rabbit)	-

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

Skin corrosion/irritation Non-irritating during normal use.

BUTYL DIGLYCOL ACETATE (124-17-4)

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD 404	Rabbit	Dermal		24; 72 hours	non-irritant

Serious eye damage/eye irritation Causes serious eye irritation.

BUTYL DIGLYCOL ACETATE (124-17-4)

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD 492B	Rabbit	in vitro eye			Causes serious eye irritation

Respiratory or skin sensitisation Not a skin sensitiser. Not a respiratory sensitiser.

BUTYL DIGLYCOL ACETATE (124-17-4)

Method	Species	Exposure route	Results
EU Method B.6	Guinea pig	Dermal	Not a skin sensitiser

Germ cell mutagenicity Not mutagenic.

Component Information

BUTYL DIGLYCOL ACETATE (124-17-4)

Method	Species	Results
OECD 471	in vitro Bacteria S. typhimurium	Not mutagenic
OECD 473	in vitro Chinese hamster Ovary (CHO)	Not mutagenic

Carcinogenicity Not Carcinogenic.

Reproductive toxicity

Based on available data the classification criteria are not met.

BUTYL DIGLYCOL ACETATE (124-17-4)

Method	Species	Results
OECD 414	Rat	Not Classifiable
OECD 416	Mouse	Not Classifiable

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.

Method	Species	Exposure route	Effective dose	Exposure time	Results
OECD 408	Rat	Oral	250 mg/kg bw/d	90 days	Negative NOAEL
OECD 411	Rat	Dermal	> 2000 mg/kg bw/d	13 weeks	Negative NOAEL
OECD 413	Rat	Inhalation	118 mg/m ³	90 days	Negative NOAEC

Aspiration hazard

Not classified.

Other adverse effects

No information available.

SECTION 12: Ecological information**12.1. Toxicity****Ecotoxicity**

The product contains no substances known to be hazardous to health or to the environment in concentrations which need to be taken into account.

BUTYL DIGLYCOL ACETATE (124-17-4)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
OECD Test No. 203: Fish, Acute Toxicity Test	Freshwater Brachydanio rerio	LC50	50 - 70 mg/L	96 hours	
OECD Test No. 202: Daphnia sp., Acute Immobilisation Test	Freshwater Daphnia magna	EC0	>= 120 mg/L	48 hours	
OECD Test No. 201: Freshwater Algae and Cyanobacteria, Growth Inhibition Test	Freshwater Pseudokirchneriella subcapitata	EC10	120 mg/L	72 hours	
Chronic toxicity	Freshwater Pisces	ChV	6 mg/L		
Chronic toxicity AFNOR	Freshwater Ceriodaphnia dubia	EC10	10.84 mg/L	7 days	
OECD Test No. 209: Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation)	Freshwater activated sludge	EC0	1575 mg/L	30 minutes	

12.2. Persistence and degradability

Persistence and degradability Readily biodegradable.

BUTYL DIGLYCOL ACETATE (124-17-4)

Method	Exposure time	Value	Results
OECD Test No. 301D: Ready Biodegradability: Closed Bottle Test (TG 301 D)	20 days	Biodegradation 73 %	Readily biodegradable

12.3. Bioaccumulative potential

Bioaccumulation Not likely to bioaccumulate.

Component Information

Chemical name	Partition coefficient
BUTYL DIGLYCOL ACETATE	1.7

12.4. Mobility in soil

Mobility in soil Highly mobile in soil.

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
BUTYL DIGLYCOL ACETATE	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 to be treated as controlled waste. Disposal to licensed waste disposal site in accordance with local Waste Disposal Authority. Do not puncture or incinerate cans. Avoid release to the environment.

Contaminated packaging Do not reuse empty containers.

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
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).

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)

Not applicable

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/NDSL - 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:

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 1 2 3 4 5 6 7 8 9 10 11 12 14 15 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) (AEGl(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 02-Oct-2023
Revision date 14-Apr-2026

**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 2-(2-butoxyethoxy)ethyl acetate
Pure substance/mixture Substance
REACH registration number 01-2119475110-51-XXXX
CAS No 124-17-4
EC No (EU Index No) 204-685-9
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)
 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)
 PROC15 - Use as laboratory reagent
 PROC28 - Manual maintenance (cleaning and repair) of machinery
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	Daily amount per site
Value	<= 1500
Units	kg/d

Type	Annual amount per site
Value	<= 450
Units	t(ons)/year

Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	>= 4000 m3/d
Sludge treatment	No application of sewage sludge to soil

Further information

Operational conditions	Indoor use
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Environmental factors not influenced by risk management

Local freshwater dilution factor	10
Local marine water dilution factor	100

Risk management measures

Additional good practice advice beyond the REACH Chemical Safety Report	Bund storage facilities to prevent soil and water pollution in the event of spillage A leak prevention plan is needed to prevent low level continual releases Site should have a spill plan to ensure that adequate safeguards are in place to minimise the impact of episodic releases
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Control measures to prevent releases

Air	Not applicable
Water	Assumed on-site sewage treatment plant flow

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 Dispose of waste or used sacks/containers according to local regulations
Waste treatment methods	Hazardous waste incineration
Efficiency of at least	99.98%

Control of worker exposure

Title	General measures applicable to all activities
Covers concentrations up to	100%
Physical form of product	Liquid
Technical conditions and measures to control dispersion from source towards the worker	Clear spills immediately Regular cleaning of equipment
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented Regular inspection and maintenance of equipment and machines Ensure operatives are trained to minimise exposures Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Indoor/Outdoor use	Indoor use

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Title	General exposures (closed systems) Batch process
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment
Assumes process temperature up to	25°C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	General exposures (open systems)
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)

the worker	
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment
Assumes process temperature up to	25°C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Title	Batch process Elevated temperature Use in contained systems
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 90% Handle substance within a predominantly closed system provided with extract ventilation Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment
Operational conditions	Elevated temperature

Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment
Assumes process temperature up to	25°C

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Title	Process sampling
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment
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
Title	Bulk transfers
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment
Assumes process temperature up to	25°C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Title	Manual
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)

control dispersion from source towards the worker	
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment
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
Title	Drum/batch transfers
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment
Assumes process temperature up to	25°C

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Title	Drum and small package filling
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment
Assumes process temperature up to	25°C

Process category(ies)	PROC15 - Use as laboratory reagent
Title	Laboratory activities
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment
Assumes process temperature up to	25°C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC28 - Manual maintenance (cleaning and repair) of machinery
Title	Equipment cleaning and maintenance
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment
Assumes process temperature up to	25°C

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	Storage
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).

Technical conditions and measures to control dispersion from source towards the worker	Store substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment
Assumes process temperature up to	25°C
Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	Storage
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Store substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment
Assumes process temperature up to	25°C

Section 3 - Exposure estimation

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

Predicted No Effect Concentration (PNEC)

Freshwater	0.108 mg/l
Freshwater sediment	0.8 mg/kg dw
Marine water	0.0108 mg/l
Marine sediment	0.08 mg/kg dw
Soil	0.29 mg/kg dw
Impact on Sewage Treatment	100 mg/l
Food chain	70 mg/kg
Intermittent release	0.6 mg/l

Calculation method Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	0.024 mg/l	0.225
Freshwater sediment	0.282 mg/kg dw	0.353
Marine water	0.002 mg/l	0.225
Marine sediment	0.028 mg/kg dw	0.353
STP: Sewage Treatment Plant	0.236 mg/l	< 0.01
Soil	0.009 mg/kg dw	0.031

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	100 mg/kg bw/d
Consumer - oral, long-term - systemic	7.9 mg/kg bw/d

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

Remarks No exposure assessment presented for human health.

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Used ECETOC TRA model. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMS or a site-specific chemical safety assessment is required. Further details on scaling and control technologies are provided in SpERC factsheet.

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

Chemical name 2-(2-butoxyethoxy)ethyl acetate
Pure substance/mixture Substance
REACH registration number 01-2119475110-51-XXXX
CAS No 124-17-4
EC No (EU Index No) 204-685-9
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 Coatings and Inks
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
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)
 PROC7 - Industrial spraying
 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
 PROC10 - Roller application or brushing
 PROC13 - Treatment of articles by dipping and pouring
 PROC15 - Use as laboratory reagent
 PROC28 - Manual maintenance (cleaning and repair) of machinery
Product category(ies) PC9a - Coatings and paints, thinners, paint removers PC18 - Ink and toners PC23 - Leather tanning, dye, finishing, impregnation and 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) - ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

Amounts used

Type	Daily amount per site
Value	<= 500
Units	kg/d

Type	Annual amount per site
Value	<= 150
Units	t(ons)/year

Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	>= 4000 m3/d
Sludge treatment	No application of sewage sludge to soil

Further information

Operational conditions	Indoor use
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Environmental factors not influenced by risk management

Local freshwater dilution factor	10
Local marine water dilution factor	100

Control measures to prevent releases

Water	Aerobic biological treatment
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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
Covers concentrations up to	100%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Clear spills immediately Regular cleaning of equipment
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented Regular inspection and maintenance of equipment and machines Ensure operatives are trained to minimise exposures Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Indoor/Outdoor use	Indoor use

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	General exposures (closed systems)
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Assumes process temperature up to	25°C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	General exposures (closed systems)
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment

	Use suitable eye protection
Assumes process temperature up to	25°C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	Film formation Elevated temperature
Technical conditions and measures to control dispersion from source towards the worker	Handle substance within a predominantly closed system provided with extract ventilation Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Operational conditions	Elevated temperature

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	Film formation
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 90% Handle substance within a predominantly closed system provided with extract ventilation Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Assumes process temperature up to	25°C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Title	Mixing operations (closed systems) Batch process Use in contained systems
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Assumes process temperature up to	25°C

Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
Title	Preparation of material for application
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Assumes process temperature up to	25°C

Process category(ies)	PROC7 - Industrial spraying
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Assumes process temperature up to	25°C

Process category(ies)	PROC7 - Industrial spraying
Title	Manual
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying Wear suitable face shield
Assumes process temperature up to	25°C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Title	Material transfers
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
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
Title	Material transfers
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment
Assumes process temperature up to	25°C

Process category(ies)	PROC10 - Roller application or brushing
Title	Roller, spreader, flow application Manual
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Assumes process temperature up to	25°C

Process category(ies)	PROC10 - Roller application or brushing
Title	Roller, spreader, flow application Automated task
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment

	Use suitable eye protection
Assumes process temperature up to	25°C
Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Assumes process temperature up to	25°C
Process category(ies)	PROC15 - Use as laboratory reagent
Title	Laboratory activities
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Assumes process temperature up to	25°C
Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC28 - Manual maintenance (cleaning and repair) of machinery
Title	Equipment cleaning and maintenance
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Assumes process temperature up to	25°C
Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	Storage
Technical conditions and measures to control dispersion from source towards the worker	Store substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Assumes process temperature up to	25°C

Section 3 - Exposure estimation

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

Predicted No Effect Concentration

(PNEC)

Freshwater	0.108 mg/l
Freshwater sediment	0.8 mg/kg dw
Marine water	0.0108 mg/l
Marine sediment	0.08 mg/kg dw
Soil	0.29 mg/kg dw
Impact on Sewage Treatment	100 mg/l
Food chain	70 mg/kg
Intermittent release	0.6 mg/l

Calculation method

Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	0.032 mg/l	0.298
Freshwater sediment	0.373 mg/kg dw	0.467
Marine water	0.003 mg/l	0.298
Marine sediment	0.037 mg/kg dw	0.467
STP: Sewage Treatment Plant	0.314 mg/l	< 0.01
Soil	0.012 mg/kg dw	0.04

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	100 mg/kg bw/d
Consumer - oral, long-term - systemic	7.9 mg/kg bw/d

Calculation method

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

Remarks

No exposure assessment presented for human health.

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Used ECETOC TRA model. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Further details on scaling and control technologies are provided in SpERC factsheet.

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

Chemical name 2-(2-butoxyethoxy)ethyl acetate
Pure substance/mixture Substance
REACH registration number 01-2119475110-51-XXXX
CAS No 124-17-4
EC No (EU Index No) 204-685-9
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 Coatings and Inks
Type Worker
Main user group Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category(ies) ERC8a - Wide dispersive indoor use of processing aids in open systems ERC8d - Wide dispersive outdoor use of processing aids in open systems
Process category(ies) 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
 PROC10 - Roller application or brushing
 PROC11 - Non industrial spraying
 PROC13 - Treatment of articles by dipping and pouring
 PROC15 - Use as laboratory reagent
 PROC19 - Hand-mixing with intimate contact and only PPE available
 PROC28 - Manual maintenance (cleaning and repair) of machinery
Product category(ies) PC9a - Coatings and paints, thinners, paint removers PC18 - Ink and toners PC23 - Leather tanning, dye, finishing, impregnation and care products
Sector(s) of use SU22 - Professional 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
 - ERC8d - Wide dispersive outdoor use of processing aids in open systems

Further information

Operational conditions	Indoor/Outdoor use
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Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Prevent environmental discharge consistent with regulatory requirements
Additional good practice advice beyond the REACH Chemical Safety Report	Bund storage facilities to prevent soil and water pollution in the event of spillage

Control measures to prevent releases

Air	Not applicable Typical measures to maintain workplace concentrations of airborne VOCs and particulates below respective OELs: e.g. thermal wet scrubber - gas removal and/or air filtration - particle removal and/or thermal oxidation and/or vapour recovery - adsorption
Water	Assumed domestic sewage treatment plant flow

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 Dispose of waste or used sacks/containers according to local regulations
Waste treatment methods	Hazardous waste incineration
Efficiency of at least	99.98%

Control of worker exposure

Title	General measures applicable to all activities
Physical form of product	Liquid
Assumes process temperature up to	25°C

Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
Title	Preparation of material for application
Covers concentrations up to	100%
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Indoor/Outdoor use	Indoor use

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Title	Material transfers Drum/batch transfers
Covers concentrations up to	100%
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Indoor/Outdoor use	Indoor use

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Title	Material transfers Drum/batch transfers
Covers concentrations up to	100%
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)
Conditions and measures related to	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee

personal protection, hygiene and health evaluation	training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Indoor/Outdoor use	Indoor use

Process category(ies)	PROC10 - Roller application or brushing
Title	Roller, spreader, flow application Outdoor use
Covers concentrations up to	100%
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Indoor/Outdoor use	Outdoor use

Process category(ies)	PROC10 - Roller application or brushing
Title	Roller, spreader, flow application Indoor use
Covers concentrations up to	100%
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Indoor/Outdoor use	Indoor use

Process category(ies)	PROC11 - Non industrial spraying
Title	Manual Outdoor use
Covers concentrations up to	100%
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment Wear suitable face shield
Indoor/Outdoor use	Outdoor use

Process category(ies)	PROC11 - Non industrial spraying
Title	Manual Indoor use
Covers concentrations up to	100%
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment
Indoor/Outdoor use	Indoor use

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	100%
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)

the worker	
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Indoor/Outdoor use	Indoor use

Process category(ies)	PROC15 - Use as laboratory reagent
Title	Laboratory activities
Covers concentrations up to	100%
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Indoor/Outdoor use	Indoor use

Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Title	Manual
Covers concentrations up to	5%
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Indoor/Outdoor use	Indoor use

Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Title	Hand application - fingerpaints, pastels, adhesives
Covers concentrations up to	5%
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Indoor/Outdoor use	Indoor use

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC28 - Manual maintenance (cleaning and repair) of machinery
Title	Equipment cleaning and maintenance
Covers concentrations up to	100%
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)

Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Indoor/Outdoor use	Indoor use

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8a - Wide dispersive indoor use of processing aids in open systems
- ERC8d - Wide dispersive outdoor use of processing aids in open systems

Predicted No Effect Concentration (PNEC)

Freshwater	0.108 mg/l
Freshwater sediment	0.8 mg/kg dw
Marine water	0.0108 mg/l
Marine sediment	0.08 mg/kg dw
Soil	0.29 mg/kg dw
Impact on Sewage Treatment	100 mg/l
Food chain	70 mg/kg
Intermittent release	0.6 mg/l

Calculation method Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	< 0.001 mg/l	< 0.01
Freshwater sediment	0.009 mg/kg dw	0.011
Marine water	< 0.001 mg/l	< 0.01
Marine sediment	< 0.001 mg/kg dw	0.011
STP: Sewage Treatment Plant	< 0.001 mg/l	< 0.01
Soil	0.009 mg/kg dw	0.031

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	100 mg/kg bw/d
Consumer - oral, long-term - systemic	7.9 mg/kg bw/d

Calculation method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Remarks	No exposure assessment presented for human health.

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Used ECETOC TRA model. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Further details on scaling and control technologies are provided in SpERC factsheet.

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

Chemical name 2-(2-butoxyethoxy)ethyl acetate
Pure substance/mixture Substance
REACH registration number 01-2119475110-51-XXXX
CAS No 124-17-4
EC No (EU Index No) 204-685-9
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 Coatings and Inks
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 ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category ESVOC SpERC 8.3c.v2
Product category(ies) PC9a - Coatings and paints, thinners, paint removers PC18 - Ink and toners PC23 - Leather tanning, dye, finishing, impregnation and 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
 - ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category - ESVOC SpERC 8.3c.v2

Further information

Operational conditions	Indoor/Outdoor use
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Control measures to prevent releases

Water	Assumed domestic sewage treatment plant flow
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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 consumer exposure

Product categories [PC]	PC9a - Coatings and paints, thinners, paint removers
Product (sub) category(ies)	Waterborne latex wall paint
Covers concentrations up to	1.5%
Remarks	No Spraying
Amounts used	Amount per use 276 g/event
Exposure duration	Avoid carrying out operation for more than 2.2 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). Covers use up to 1 events per day

	Covers use up to 2 weeks per year
Covers skin contact area up to	428.7 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Covers use under typical household ventilation.

Product categories [PC]	PC9a - Coatings and paints, thinners, paint removers
Product (sub) category(ies)	Solvent rich, high solid, water borne paint
Covers concentrations up to	27.5%
Remarks	No Spraying
Amounts used	Amount per use 744 g/event
Exposure duration	Avoid carrying out operation for more than 2.2 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). Covers use up to 1 events per day Covers use up to 2 weeks per year
Covers skin contact area up to	428.7 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Covers use under typical household ventilation.

Product categories [PC]	PC9a - Coatings and paints, thinners, paint removers
Product (sub) category(ies)	Aerosol spray can
Covers concentrations up to	50%
Amounts used	Amount per use 215 g/event
Exposure duration	Avoid carrying out operation for more than 0.33 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). Covers use up to 1 events per day Covers use up to 2 weeks per year
Covers skin contact area up to	0 cm2
Use in room with a volume of minimum	34 m3

Product categories [PC]	PC9a - Coatings and paints, thinners, paint removers
Product (sub) category(ies)	Removers (paint-, glue-, wall paper-, sealant-remover)
Covers concentrations up to	50%
Remarks	No Spraying
Amounts used	Amount per use 491 g/event
Exposure duration	Avoid carrying out operation for more than 2 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). Covers use up to 1 events per day Covers use up to 2 weeks per year
Covers skin contact area up to	857.5 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Covers use under typical household ventilation.

Product categories [PC]	PC18 - Ink and toners
Covers concentrations up to	10%
Remarks	No Spraying
Amounts used	Amount per use 40 g/event
Exposure duration	Avoid carrying out operation for more than 2.2 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). Covers use up to 1 events per day
Covers skin contact area up to	71.4 cm2
Use in room with a volume of minimum	20 m3
Operational conditions	Covers use under typical household ventilation.

Product categories [PC]	PC23 - Leather tanning, dye, finishing, impregnation and care products
Product (sub) category(ies)	Polishes, wax / cream (floor, furniture, shoes)
Covers concentrations up to	50%
Remarks	No Spraying

Amounts used	Amount per use 56 g/event
Exposure duration	Avoid carrying out operation for more than 1.23 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). Covers use up to 1 events per day Covers use up to 2 weeks per year
Covers skin contact area up to	430 cm ²
Use in room with a volume of minimum	20 m ³
Operational conditions	Covers use under typical household ventilation.

Product categories [PC]	PC23 - Leather tanning, dye, finishing, impregnation and care products
Product (sub) category(ies)	Polishes, spray (furniture, shoes)
Covers concentrations up to	50%
Remarks	No Spraying
Amounts used	Amount per use 56 g/event
Exposure duration	Avoid carrying out operation for more than 0.33 hours
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). Covers use up to 1 events per day Covers use up to 2 weeks per year
Covers skin contact area up to	430 cm ²
Use in room with a volume of minimum	20 m ³
Operational conditions	Covers use under typical household ventilation.

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8a - Wide dispersive indoor use of processing aids in open systems
- ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category - ESVOC SpERC 8.3c.v2

Predicted No Effect Concentration (PNEC)

Freshwater	0.108 mg/l
Freshwater sediment	0.8 mg/kg dw
Marine water	0.0108 mg/l
Marine sediment	0.08 mg/kg dw
Soil	0.29 mg/kg dw
Impact on Sewage Treatment	100 mg/l
Food chain	70 mg/kg
Intermittent release	0.6 mg/l

Calculation method	Used EUSES model	
Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	< 0.001 mg/l	< 0.01
Freshwater sediment	0.008 mg/kg dw	0.011
Marine water	< 0.001 mg/l	< 0.01
Marine sediment	< 0.001 mg/kg dw	0.011
STP: Sewage Treatment Plant	< 0.001 mg/l	< 0.01
Soil	0.009 mg/kg dw	0.031

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	100 mg/kg bw/d
Consumer - oral, long-term - systemic	7.9 mg/kg bw/d

Calculation method EGRET

Product category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PC9a - Coatings and paints, thinners, paint removers	Consumer - oral, long-term - systemic	0 mg/kg bw/d	< 0.01
PC9a - Coatings and paints, thinners, paint removers	Consumer - oral, long-term - systemic	0 mg/kg bw/d	< 0.01
PC9a - Coatings and paints, thinners, paint removers	Consumer - oral, long-term - systemic	0 mg/kg bw/d	< 0.01
PC9a - Coatings and paints, thinners, paint removers	Consumer - oral, long-term - systemic	0 mg/kg bw/d	< 0.01
PC18 - Ink and toners	Consumer - oral, long-term - systemic	0 mg/kg bw/d	< 0.01
PC23 - Leather tanning, dye, finishing, impregnation and care products	Consumer - oral, long-term - systemic	0 mg/kg bw/d	< 0.01
PC23 - Leather tanning, dye, finishing, impregnation and care products	Consumer - oral, long-term - systemic	0 mg/kg bw/d	< 0.01

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Risk management measures are based on qualitative risk characterization. Further details on scaling and control technologies are provided in SpERC factsheet.

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

Chemical name 2-(2-butoxyethoxy)ethyl acetate
Pure substance/mixture Substance
REACH registration number 01-2119475110-51-XXXX
CAS No 124-17-4
EC No (EU Index No) 204-685-9
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 Use in laboratories
Type Worker
Main user group Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category(ies) ERC8a - Wide dispersive indoor use of processing aids in open systems
Process category(ies) PROC10 - Roller application or brushing
 PROC15 - Use as laboratory reagent
Product category(ies) PC21 - Laboratory chemicals
Sector(s) of use SU22 - Professional 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

Further information

Operational conditions	Indoor use
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Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Prevent environmental discharge consistent with regulatory requirements
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Control measures to prevent releases

Water	Assumed domestic sewage treatment plant flow
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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 Dispose of waste or used sacks/containers according to local regulations
Waste treatment methods	Hazardous waste incineration
Efficiency of at least	99.98%

Control of worker exposure

Title	General measures applicable to all activities
Covers concentrations up to	100%
Physical form of product	Liquid

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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	25°C

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	0.108 mg/l
Freshwater sediment	0.8 mg/kg dw
Marine water	0.0108 mg/l
Marine sediment	0.08 mg/kg dw
Soil	0.29 mg/kg dw
Impact on Sewage Treatment	100 mg/l
Food chain	70 mg/kg
Intermittent release	0.6 mg/l

Calculation method Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	< 0.001 mg/l	< 0.01
Freshwater sediment	0.008 mg/kg dw	0.011
Marine water	< 0.001 mg/l	< 0.01
Marine sediment	< 0.001 mg/kg dw	0.011
STP: Sewage Treatment Plant	< 0.001 mg/l	< 0.01
Soil	0.009 mg/kg dw	0.031

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	100 mg/kg bw/d
Consumer - oral, long-term - systemic	7.9 mg/kg bw/d

Calculation method The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Remarks No exposure assessment presented for human health.

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Used ECETOC TRA model. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Further details on scaling and control technologies are provided in SpERC factsheet.

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

Chemical name 2-(2-butoxyethoxy)ethyl acetate
Pure substance/mixture Substance
REACH registration number 01-2119475110-51-XXXX
CAS No 124-17-4
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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 Use in agrochemicals
Type Worker
Main user group Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category(ies) ERC8a - Wide dispersive indoor use of processing aids in open systems ERC8d - Wide dispersive outdoor use of processing aids in open systems
Process category(ies) PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 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
 PROC11 - Non industrial spraying
 PROC13 - Treatment of articles by dipping and pouring
 PROC28 - Manual maintenance (cleaning and repair) of machinery
Product category(ies) PC27 - Plant protection products
Sector(s) of use SU22 - Professional 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
 - ERC8d - Wide dispersive outdoor use of processing aids in open systems

Further information

Operational conditions	Indoor/Outdoor use
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Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Prevent environmental discharge consistent with regulatory requirements
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Control measures to prevent releases

Water	Assumed domestic sewage treatment plant flow
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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 Dispose of waste or used sacks/containers according to local regulations
Waste treatment methods	Hazardous waste incineration

Efficiency of at least	99.98%
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Control of worker exposure	
Title	General measures applicable to all activities
Covers concentrations up to	100%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment
Assumes process temperature up to	25°C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	Mixing operations (open systems)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands
Indoor/Outdoor use	Outdoor use

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection
Indoor/Outdoor use	Outdoor use

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection
Indoor/Outdoor use	Outdoor use

Process category(ies)	PROC11 - Non industrial spraying
Title	Manual
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable face shield
Indoor/Outdoor use	Indoor use

Process category(ies)	PROC11 - Non industrial spraying
Title	Machine
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable face shield
Indoor/Outdoor use	Indoor use

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Title	Ad hoc manual application via trigger sprays, dipping, etc
Technical conditions and measures to	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)

control dispersion from source towards the worker	
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection
Indoor/Outdoor use	Indoor use
Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC28 - Manual maintenance (cleaning and repair) of machinery
Title	Equipment cleaning and maintenance
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection
Indoor/Outdoor use	Indoor use

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8a - Wide dispersive indoor use of processing aids in open systems
- ERC8d - Wide dispersive outdoor use of processing aids in open systems

Predicted No Effect Concentration (PNEC)

Freshwater	0.108 mg/l
Freshwater sediment	0.8 mg/kg dw
Marine water	0.0108 mg/l
Marine sediment	0.08 mg/kg dw
Soil	0.29 mg/kg dw
Impact on Sewage Treatment	100 mg/l
Food chain	70 mg/kg
Intermittent release	0.6 mg/l

Calculation method

Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	< 0.001 mg/l	< 0.01
Freshwater sediment	0.008 mg/kg dw	0.011
Marine water	< 0.001 mg/l	< 0.01
Marine sediment	< 0.001 mg/kg dw	0.011
STP: Sewage Treatment Plant	< 0.001 mg/l	< 0.01
Soil	0.009 mg/kg dw	0.031

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	100 mg/kg bw/d
Consumer - oral, long-term - systemic	7.9 mg/kg bw/d

Calculation method

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

Remarks

No exposure assessment presented for human health.

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Used ECETOC TRA model. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMS or a site-specific chemical safety assessment is required. Further details on scaling and control technologies are provided in SpERC factsheet.

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

Chemical name	2-(2-butoxyethoxy)ethyl acetate
Pure substance/mixture	Substance
REACH registration number	01-2119475110-51-XXXX
CAS No	124-17-4
EC No (EU Index No)	204-685-9
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	Use in agrochemicals
Type	Worker
Main user group	Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category(ies)	ERC8a - Wide dispersive indoor use of processing aids in open systems ERC8d - Wide dispersive outdoor use of processing aids in open systems
Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises 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 PROC11 - Non industrial spraying PROC13 - Treatment of articles by dipping and pouring PROC28 - Manual maintenance (cleaning and repair) of machinery
Product category(ies)	PC12 - Fertilisers
Sector(s) of use	SU22 - Professional 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
- ERC8d - Wide dispersive outdoor use of processing aids in open systems

Further information

Operational conditions	Indoor/Outdoor use
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Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Prevent environmental discharge consistent with regulatory requirements
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Control measures to prevent releases

Water	Assumed domestic sewage treatment plant flow
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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 Dispose of waste or used sacks/containers according to local regulations
Waste treatment methods	Hazardous waste incineration

Efficiency of at least	99.98%
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Control of worker exposure	
Title	General measures applicable to all activities
Covers concentrations up to	100%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment
Assumes process temperature up to	25°C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	Mixing operations (open systems)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands
Indoor/Outdoor use	Outdoor use

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection
Indoor/Outdoor use	Outdoor use

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection
Indoor/Outdoor use	Outdoor use

Process category(ies)	PROC11 - Non industrial spraying
Title	Manual
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable face shield
Indoor/Outdoor use	Indoor use

Process category(ies)	PROC11 - Non industrial spraying
Title	Machine
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable face shield
Indoor/Outdoor use	Indoor use

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Title	Ad hoc manual application via trigger sprays, dipping, etc
Technical conditions and measures to	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)

control dispersion from source towards the worker	
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection
Indoor/Outdoor use	Indoor use
Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC28 - Manual maintenance (cleaning and repair) of machinery
Title	Equipment cleaning and maintenance
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection
Indoor/Outdoor use	Indoor use

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8a - Wide dispersive indoor use of processing aids in open systems
- ERC8d - Wide dispersive outdoor use of processing aids in open systems

Predicted No Effect Concentration (PNEC)

Freshwater	0.108 mg/l
Freshwater sediment	0.8 mg/kg dw
Marine water	0.0108 mg/l
Marine sediment	0.08 mg/kg dw
Soil	0.29 mg/kg dw
Impact on Sewage Treatment	100 mg/l
Food chain	70 mg/kg
Intermittent release	0.6 mg/l

Calculation method Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	< 0.001 mg/l	< 0.01
Freshwater sediment	0.008 mg/kg dw	0.011
Marine water	< 0.001 mg/l	< 0.01
Marine sediment	< 0.001 mg/kg dw	0.011
STP: Sewage Treatment Plant	< 0.001 mg/l	< 0.01
Soil	0.009 mg/kg dw	0.031

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	100 mg/kg bw/d
Consumer - oral, long-term - systemic	7.9 mg/kg bw/d

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

Remarks No exposure assessment presented for human health.

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Used ECETOC TRA model. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMS or a site-specific chemical safety assessment is required. Further details on scaling and control technologies are provided in SpERC factsheet.

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

Chemical name 2-(2-butoxyethoxy)ethyl acetate
Pure substance/mixture Substance
REACH registration number 01-2119475110-51-XXXX
CAS No 124-17-4
EC No (EU Index No) 204-685-9
Supplier Univar Solutions UK Ltd
 Aquarius House
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Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Binder and Release agents
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
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
 PROC7 - Industrial spraying
 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
 PROC10 - Roller application or brushing
 PROC13 - Treatment of articles by dipping and pouring
 PROC15 - Use as laboratory reagent
 PROC28 - Manual maintenance (cleaning and repair) of machinery
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

Amounts used

Type	Daily amount per site
Value	<= 100
Units	kg/d

Type	Annual amount per site
Value	<= 30
Units	t(ons)/year

Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	>= 4000 m ³ /d
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Sludge treatment	No application of sewage sludge to soil
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Further information

Operational conditions	Indoor use
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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	Prevent environmental discharge consistent with regulatory requirements
Additional good practice advice beyond the REACH Chemical Safety Report	Bund storage facilities to prevent soil and water pollution in the event of spillage

Control measures to prevent releases

Water	Aerobic biological treatment
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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 Dispose of waste or used sacks/containers according to local regulations
Waste treatment methods	Hazardous waste incineration
Efficiency of at least	99.98%

Control of worker exposure

Title	General measures applicable to all activities
Covers concentrations up to	100%
Physical form of product	Liquid
Technical conditions and measures to control dispersion from source towards the worker	Clear spills immediately Regular cleaning of equipment
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented Regular inspection and maintenance of equipment and machines Ensure operatives are trained to minimise exposures Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	25°C

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	Material transfers
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
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Title	Material transfers
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Title	Material transfers
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Title	Drum/batch transfers
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Title	Mixing operations (closed systems)
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	Mixing operations (open systems)
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection

Process category(ies)	PROC7 - Industrial spraying
Title	Machine

Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Wear suitable face shield Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying

Process category(ies)	PROC7 - Industrial spraying
Title	Manual
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Wear suitable face shield Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying

Process category(ies)	PROC10 - Roller application or brushing
Title	Manual
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection

Process category(ies)	PROC15 - Use as laboratory reagent
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC28 - Manual maintenance (cleaning and repair) of machinery
Title	Equipment cleaning and maintenance
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	Storage
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Store substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	Storage
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Store substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection

Section 3 - Exposure estimation

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

Predicted No Effect Concentration (PNEC)

Freshwater	0.108 mg/l
Freshwater sediment	0.8 mg/kg dw
Marine water	0.0108 mg/l
Marine sediment	0.08 mg/kg dw
Soil	0.29 mg/kg dw
Impact on Sewage Treatment	100 mg/l
Food chain	70 mg/kg
Intermittent release	0.6 mg/l

Calculation method Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
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- Use at industrial sites; Adhesives, Sealants (PC 1);

Use as binders and release agents

Freshwater	0.016 mg/l	0.152
Freshwater sediment	0.191 mg/kg dw	0.239
Marine water	0.002 mg/l	0.153
Marine sediment	0.019 mg/kg dw	0.239
STP: Sewage Treatment Plant	0.157 mg/l	< 0.01
Soil	0.014 mg/kg dw	0.05

Derived No Effect Level (DNEL):**Worker - dermal, long-term - systemic**

100 mg/kg bw/d

Consumer - oral, long-term - systemic

7.9 mg/kg bw/d

Calculation method

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

Remarks

No exposure assessment presented for human health.

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Used ECETOC TRA model. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMS or a site-specific chemical safety assessment is required. Further details on scaling and control technologies are provided in SpERC factsheet.

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

Chemical name 2-(2-butoxyethoxy)ethyl acetate
Pure substance/mixture Substance
REACH registration number 01-2119475110-51-XXXX
CAS No 124-17-4
EC No (EU Index No) 204-685-9
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 Binder and Release agents
Type Worker
Main user group Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category(ies) ERC8a - Wide dispersive indoor use of processing aids in open systems ERC8d - Wide dispersive outdoor use of processing aids in open systems
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)
 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
 PROC10 - Roller application or brushing
 PROC11 - Non industrial spraying
Product category(ies) PC1 - Adhesives, sealants
Sector(s) of use SU22 - Professional 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
 - ERC8d - Wide dispersive outdoor use of processing aids in open systems

Further information

Operational conditions	Indoor/Outdoor use
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Risk management measures

Technical onsite conditions and measures to reduce or limit discharges, air emissions	Prevent environmental discharge consistent with regulatory requirements
Additional good practice advice beyond the REACH Chemical Safety Report	Bund storage facilities to prevent soil and water pollution in the event of spillage

Control measures to prevent releases

Water	Assumed domestic sewage treatment plant flow
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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 Dispose of waste or used sacks/containers according to local regulations
Waste treatment methods	Hazardous waste incineration
Efficiency of at least	99.98%

Control of worker exposure

Title	General measures applicable to all activities
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	General exposures (closed systems)
Covers concentrations up to	25%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Assumes process temperature up to	20°C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	General exposures (closed systems)
Covers concentrations up to	25%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 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
Assumes process temperature up to	20°C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Title	General exposures (closed systems) Batch process
Covers concentrations up to	25%
Conditions and measures related to personal protection, hygiene and health evaluation	Wear suitable gloves tested to EN 374 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
Assumes process temperature up to	20°C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	General exposures (open systems)
Covers concentrations up to	100%
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Indoor/Outdoor use	Indoor use
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
Title	Drum/batch transfers
Covers concentrations up to	100%
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	25°C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Title	Drum/batch transfers
Covers concentrations up to	100%
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	25°C

Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
Title	Mixing operations (open systems)
Covers concentrations up to	100%
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	25°C

Process category(ies)	PROC11 - Non industrial spraying
Title	Machine
Covers concentrations up to	100%
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	25°C

Process category(ies)	PROC11 - Non industrial spraying
Title	Manual

Covers concentrations up to	100%
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	25°C

Process category(ies)	PROC10 - Roller application or brushing
Title	Manual
Covers concentrations up to	100%
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment Use suitable eye protection
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	25°C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8a - Wide dispersive indoor use of processing aids in open systems
- ERC8d - Wide dispersive outdoor use of processing aids in open systems

Predicted No Effect Concentration (PNEC)

Freshwater	0.108 mg/l
Freshwater sediment	0.8 mg/kg dw
Marine water	0.0108 mg/l
Marine sediment	0.08 mg/kg dw
Soil	0.29 mg/kg dw
Impact on Sewage Treatment	100 mg/l
Food chain	70 mg/kg
Intermittent release	0.6 mg/l

Calculation method Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	< 0.001 mg/l	< 0.01
Freshwater sediment	0.009 mg/kg dw	0.011
Marine water	< 0.001 mg/l	< 0.01
Marine sediment	< 0.001 mg/kg dw	0.011
STP: Sewage Treatment Plant	< 0.001 mg/l	< 0.01
Soil	0.009 mg/kg dw	0.031

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	100 mg/kg bw/d
Consumer - oral, long-term - systemic	7.9 mg/kg bw/d

Calculation method	The ECETOC TRA tool has been used to estimate workplace exposures unless otherwise indicated
Remarks	No exposure assessment presented for human health.

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Used ECETOC TRA model. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Further details on scaling and control technologies are provided in SpERC factsheet.

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

Chemical name 2-(2-butoxyethoxy)ethyl acetate
Pure substance/mixture Substance
REACH registration number 01-2119475110-51-XXXX
CAS No 124-17-4
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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 Binder and Release agents
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 ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category ESVOC SpERC 8.3c.v2
Product category(ies) PC1 - Adhesives, sealants
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
 - ERC8d - Wide dispersive outdoor use of processing aids in open systems
Specific Environmental Release Category - ESVOC SpERC 8.3c.v2

Further information

Operational conditions	Indoor/Outdoor use
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Control measures to prevent releases

Water	Assumed domestic sewage treatment plant flow
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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 consumer exposure

Product categories [PC]	PC1 - Adhesives, sealants
Product (sub) category(ies)	Sealant
Covers concentrations up to	30%
Remarks	No Spraying
Amounts used	Amount per use 75 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 1 hour
Use frequency	Covers daily exposures up to 8 hours (unless stated differently). Covers use up to 1 events per day
Covers skin contact area up to	35.72 cm ²

Use in room with a volume of minimum 20 m³

Section 3 - Exposure estimation

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

- ERC8d - Wide dispersive outdoor use of processing aids in open systems

Specific Environmental Release Category - ESVOC SpERC 8.3c.v2

Predicted No Effect Concentration (PNEC)

Freshwater	0.108 mg/l
Freshwater sediment	0.8 mg/kg dw
Marine water	0.0108 mg/l
Marine sediment	0.08 mg/kg dw
Soil	0.29 mg/kg dw
Impact on Sewage Treatment	100 mg/l
Food chain	70 mg/kg
Intermittent release	0.6 mg/l

Calculation method Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	< 0.001 mg/l	< 0.01
Freshwater sediment	0.008 mg/kg dw	0.011
Marine water	< 0.001 mg/l	< 0.01
Marine sediment	< 0.001 mg/kg dw	0.011
STP: Sewage Treatment Plant	< 0.001 mg/l	< 0.01
Soil	0.009 mg/kg dw	0.031

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	100 mg/kg bw/d
Consumer - oral, long-term - systemic	7.9 mg/kg bw/d

Calculation method EGRET

Product category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PC1 - Adhesives, sealants	Consumer - oral, long-term - systemic	0 mg/kg bw/d	< 0.01

Section 4 - Guidance to check compliance with the exposure scenario

Predicted exposures are not expected to exceed the applicable consumer reference values when the operational conditions/risk management measures given in section 2 are implemented. Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels. Risk management measures are based on qualitative risk characterization. Further details on scaling and control technologies are provided in SpERC factsheet.

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

Chemical name 2-(2-butoxyethoxy)ethyl acetate
Pure substance/mixture Substance
REACH registration number 01-2119475110-51-XXXX
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Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Use in process chemicals
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
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)
 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
 PROC13 - Treatment of articles by dipping and pouring
 PROC15 - Use as laboratory reagent
 PROC28 - Manual maintenance (cleaning and repair) of machinery
Product category(ies) PC23 - Leather tanning, dye, finishing, impregnation and care products PC34 - Textile dyes, finishing and impregnating 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) - ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

Amounts used

Type	Daily amount per site
Value	<= 100
Units	kg/d

Type	Annual amount per site
Value	<= 30
Units	t(ons)/year

Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment	>= 4000 m3/d
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plant flow	
Sludge treatment	No application of sewage sludge to soil

Further information

Operational conditions	Indoor use
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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	Prevent environmental discharge consistent with regulatory requirements
Additional good practice advice beyond the REACH Chemical Safety Report	Bund storage facilities to prevent soil and water pollution in the event of spillage

Control measures to prevent releases

Water	Aerobic biological treatment
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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 Dispose of waste or used sacks/containers according to local regulations
Waste treatment methods	Hazardous waste incineration
Efficiency of at least	99.98%

Control of worker exposure

Title	General measures applicable to all activities
Covers concentrations up to	100%
Physical form of product	Liquid
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Clear spills immediately Regular cleaning of equipment
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Avoid direct eye contact with product, also via contamination on hands
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented Regular inspection and maintenance of equipment and machines Ensure operatives are trained to minimise exposures Supervision in place to check that the RMMs in place are being used correctly and OCs followed
Indoor/Outdoor use	Indoor use
Assumes process temperature up to	25°C

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	General exposures (closed systems)
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
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Title	General exposures (closed systems) Batch process
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment
Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Title	General exposures (open systems)
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment
Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
Title	Preparation of material for application
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment
Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Title	Material transfers
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment
Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Title	Bulk transfers
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment
Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Title	Drum/batch transfers
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities PROC28 - Manual maintenance (cleaning and repair) of machinery
Title	Equipment cleaning and maintenance
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment

Process category(ies)	PROC15 - Use as laboratory reagent
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)
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Title	Storage
Technical conditions and measures to control dispersion from source towards the worker	Store substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training See Section 8 for information on appropriate personal protective equipment

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Title	Storage
Technical conditions and measures to control dispersion from source towards the worker	Store substance within a closed system
Conditions and measures related to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training See Section 8 for information on appropriate personal protective equipment

Section 3 - Exposure estimation

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

Predicted No Effect Concentration (PNEC)

Freshwater	0.108 mg/l
Freshwater sediment	0.8 mg/kg dw

- Use at industrial sites; Various products (PC23, PC34); Use in process chemicals

Marine water	0.0108 mg/l
Marine sediment	0.08 mg/kg dw
Soil	0.29 mg/kg dw
Impact on Sewage Treatment	100 mg/l
Food chain	70 mg/kg
Intermittent release	0.6 mg/l

Calculation method Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	0.004 mg/l	0.036
Freshwater sediment	0.045 mg/kg dw	0.056
Marine water	< 0.001 mg/l	0.036
Marine sediment	0.005 mg/kg dw	0.057
STP: Sewage Treatment Plant	0.031 mg/l	< 0.01
Soil	0.009 mg/kg dw	0.031

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	100 mg/kg bw/d
Consumer - oral, long-term - systemic	7.9 mg/kg bw/d

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

Remarks No exposure assessment presented for human health.

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures. Used ECETOC TRA model. If scaling reveals a condition of unsafe use (i.e., RCRs > 1), additional RMMs or a site-specific chemical safety assessment is required. Further details on scaling and control technologies are provided in SpERC factsheet.