



SAFETY DATA SHEET BETACLEAN 3300

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

1.1. Product identifier

Product name	BETACLEAN 3300
Product number	48881
REACH registration notes	This product is a mixture; the substances have been/will be registered for REACH at the appropriate time.

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

Identified uses	Cleaning agent.
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1.3. Details of the supplier of the safety data sheet

Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 sds@univar.com +44 1274 267306
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1.4. Emergency telephone number

Emergency telephone	SGS - +32 (0)3 575 55 55 (24h)
Sds No.	48881

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC/1272/2008)

Physical hazards	Not Classified
Health hazards	Eye Irrit. 2 - H319
Environmental hazards	Not Classified

Classification (67/548/EEC or 1999/45/EC) Xi; R36

2.2. Label elements

Pictogram



Signal word	Warning
Hazard statements	H319 Causes serious eye irritation.

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Precautionary statements

P264 Wash contaminated skin 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.

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

3.2. Mixtures

PROPAN-2-OL 10-30%		
CAS number: 67-63-0	EC number: 200-661-7	REACH registration number: 01-2119457558-25-XXXX
Classification Flam. Liq. 2 - H225 Eye Irrit. 2 - H319 STOT SE 3 - H336	Classification (67/548/EEC or 1999/45/EC) F; R11. Xi; R36. R67	

2-BUTOXYETHANOL 1-5%		
CAS number: 111-76-2	EC number: 203-905-0	REACH registration number: 01-2119475108-36
Classification Acute Tox. 4 - H302 Acute Tox. 4 - H312 Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319	Classification (67/548/EEC or 1999/45/EC) Xn; R20/21/22. Xi; R36/38	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse nose and mouth with water. Get medical attention if any discomfort continues.
Ingestion	Do not induce vomiting. Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention if any discomfort continues.
Skin contact	Remove affected person from source of contamination. Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention promptly if symptoms occur after washing.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

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

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

Notes for the doctor	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media The product is not flammable. Use fire-extinguishing media suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

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

5.3. Advice for firefighters

Special protective equipment for firefighters Use protective equipment appropriate for surrounding materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Follow precautions for safe handling described in this safety data sheet. Avoid inhalation of vapours and contact with skin and eyes. Provide adequate ventilation.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

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

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Store at temperatures between 5°C and 25°C.

7.3. Specific end use(s)

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

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

PROPAN-2-OL

Long-term exposure limit (8-hour TWA): WEL 400 ppm 999 mg/m³

Short-term exposure limit (15-minute): WEL 500 ppm 1250 mg/m³

2-BUTOXYETHANOL

Long-term exposure limit (8-hour TWA): WEL 25 ppm 123 mg/m³

Short-term exposure limit (15-minute): WEL 50 ppm 246 mg/m³

Sk

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WEL = Workplace Exposure Limit
Sk = Can be absorbed through skin.

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

PROPAN-2-OL (CAS: 67-63-0)

DNEL	Industry - Dermal; Long term systemic effects: 888 mg/kg/day Industry - Inhalation; Long term systemic effects: 500 mg/m ³ Consumer - Dermal; Long term systemic effects: 319 mg/kg/day Consumer - Inhalation; Long term systemic effects: 89 mg/m ³ Consumer - Oral; Long term systemic effects: 26 mg/kg/day
PNEC	- Fresh water; 140.9 mg/l - Marine water; 140.9 mg/l - Intermittent release; 140.9 mg/l - STP; 2251 mg/l - Sediment (Freshwater); 552 mg/kg - Sediment (Marinewater); 552 mg/kg - Soil; 28 mg/kg

2-BUTOXYETHANOL (CAS: 111-76-2)

Ingredient comments	WEL = Workplace Exposure Limits
DNEL	Industry - Dermal; Short term systemic effects: 89 mg/kg/day Industry - Inhalation; Short term systemic effects: 652 mg/m ³ Industry - Dermal; Long term systemic effects: 75 mg/kg/day Industry - Inhalation; Long term systemic effects: 98 mg/m ³ Consumer - Dermal; Short term systemic effects: 44.5 mg/kg/day Consumer - Inhalation; Short term systemic effects: 426 mg/m ³ Consumer - Oral; Short term systemic effects: 13.4 mg/kg/day Consumer - Dermal; Long term systemic effects: 38 mg/kg/day Consumer - Oral; Long term systemic effects: 3.2 mg/kg/day
PNEC	- Fresh water; 8.8 mg/l - Marine water; 0.88 mg/l - Sediment (Freshwater); 34.6 mg/kg - Sediment (Marinewater); 3.46 mg/kg - Soil; 2.8 mg/kg - STP; 463 mg/l

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Tight-fitting safety glasses. EN 166

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Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. EN 374
Other skin and body protection	Wear suitable protective clothing as protection against splashing or contamination.
Hygiene measures	Wash hands at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke.
Respiratory protection	No specific recommendations. Respiratory protection may be required if excessive airborne contamination occurs.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Blue.
Odour	Alcoholic.
pH	pH (concentrated solution): 8.5
Initial boiling point and range	100°C @ 760 mm Hg
Evaporation rate	1 (butyl acetate = 1)
Vapour density	1
Relative density	0.98 @ 20°C
Solubility(ies)	Soluble in water.

9.2. Other information

Other information	Not determined.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Not determined.
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10.4. Conditions to avoid

Conditions to avoid	Avoid excessive heat for prolonged periods of time.
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10.5. Incompatible materials

Materials to avoid	Not determined.
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10.6. Hazardous decomposition products

Hazardous decomposition products	Oxides of carbon. Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.
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BETACLEAN 3300**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Acute toxicity - oral**

ATE oral (mg/kg)	26,530.61
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Acute toxicity - dermal

ATE dermal (mg/kg)	22,448.98
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Acute toxicity - inhalation

ATE inhalation (gases ppm)	91,836.73
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ATE inhalation (vapours mg/l)	224.49
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ATE inhalation (dusts/mists mg/l)	30.61
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Inhalation	May cause respiratory irritation.
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Ingestion	Ingestion may cause severe irritation of the mouth, the oesophagus and the gastrointestinal tract.
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Skin contact	May be slightly irritating to skin.
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Eye contact	Causes serious eye irritation.
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Toxicological information on ingredients.**PROPAN-2-OL****Acute toxicity - oral**

Acute toxicity oral (LD ₅₀ mg/kg)	5,000.0
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Species	Rat
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Notes (oral LD ₅₀)	LD ₅₀ >5000 mg/kg, Oral, Rat
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Acute toxicity - dermal

Acute toxicity dermal (LD ₅₀ mg/kg)	5,000.0
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Species	Rabbit
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Notes (dermal LD ₅₀)	LD ₅₀ >5000 mg/kg, Dermal, Rabbit
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Skin corrosion/irritation

Animal data	Not irritating.
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Respiratory sensitisation

Respiratory sensitisation	Not sensitising.
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Skin sensitisation

Skin sensitisation	Not sensitising.
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Germ cell mutagenicity

Genotoxicity - in vivo	Data lacking.
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Carcinogenicity

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Carcinogenicity There is no evidence that the product can cause cancer.

IARC carcinogenicity IARC Group 3 Not classifiable as to its carcinogenicity to humans.

Reproductive toxicity

Reproductive toxicity - fertility Data lacking.

Specific target organ toxicity - single exposure

STOT - single exposure Data lacking.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Data lacking.

Inhalation May cause respiratory system irritation. Vapours may cause drowsiness and dizziness.

Ingestion Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.

Skin contact Prolonged contact may cause dryness of the skin.

Eye contact Irritating to eyes.

2-BUTOXYETHANOL

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 1,300.0

Species Rat

ATE oral (mg/kg) 1,300.0

Acute toxicity - dermal

Notes (dermal LD₅₀) OECD 402

ATE dermal (mg/kg) 1,100.0

Acute toxicity - inhalation

ATE inhalation (gases ppm) 4,500.0

ATE inhalation (vapours mg/l) 11.0

ATE inhalation (dusts/mists mg/l) 1.5

Inhalation Harmful by inhalation.

Ingestion Harmful if swallowed.

Skin contact Harmful in contact with skin. Irritating to skin.

Eye contact Irritating to eyes.

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Acute and chronic health hazards A single exposure may cause the following adverse effects: Central nervous system depression.

Target organs Skin Eyes Respiratory system, lungs

SECTION 12: Ecological Information

Ecotoxicity The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

Ecological information on ingredients.

PROPAN-2-OL

Ecotoxicity The product is not expected to be toxic to aquatic organisms.

2-BUTOXYETHANOL

Ecotoxicity The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Toxicity Not considered toxic to fish.

Ecological information on ingredients.

PROPAN-2-OL

Toxicity Not considered toxic to fish.

Acute toxicity - fish LC₅₀, 48 hours: >100 mg/l, Leuciscus idus (Golden orfe)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: >100 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: >100 mg/l, Scenedesmus subspicatus

2-BUTOXYETHANOL

Acute toxicity - fish LC₅₀, 96 hours: 1474 mg/l, Onchorhynchus mykiss (Rainbow trout) OECD 203

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 1550 mg/l, Daphnia magna OECD 202

Acute toxicity - aquatic plants EC₅₀, 72 hours: 1840 mg/l,

Chronic toxicity - aquatic invertebrates NOEC, 21 days: 100 mg/l, Daphnia magna

12.2. Persistence and degradability

Persistence and degradability There are no data on the degradability of this product.

Ecological information on ingredients.

PROPAN-2-OL

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Persistence and degradability The substance is readily biodegradable.

2-BUTOXYETHANOL

Persistence and degradability The product is readily biodegradable.

Biodegradation - Degradation (%) 90.4: 28 days

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Ecological information on ingredients.**PROPAN-2-OL**

Bioaccumulative potential The product is not bioaccumulating.

Partition coefficient log Pow: 0.05

2-BUTOXYETHANOL

Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.
BCF: < 100,

Partition coefficient : ~0.8

12.4. Mobility in soil

Mobility The product is soluble in water.

Ecological information on ingredients.**PROPAN-2-OL**

Mobility The product is soluble in water.

2-BUTOXYETHANOL

Mobility The product is soluble in water.

12.5. Results of PBT and vPvB assessment

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

Ecological information on ingredients.**PROPAN-2-OL**

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

2-BUTOXYETHANOL

Results of PBT and vPvB assessment No information available.

12.6. Other adverse effects

Other adverse effects Not determined.

BETACLEAN 3300**Ecological information on ingredients.****PROPAN-2-OL**

Other adverse effects No data available.

2-BUTOXYETHANOL

Other adverse effects Not determined.

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

General information Do not puncture or incinerate, even when empty. Waste should be treated as controlled waste.

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

SECTION 14: Transport information

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

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

Not applicable.

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

Transport in bulk according to Not applicable.
Annex II of MARPOL 73/78
and the IBC Code

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

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EU legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Commission Regulation (EU) No 453/2010 of 20 May 2010.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	14/06/2016
Revision	01
SDS number	48881
Version number	1.000
SDS status	Approved.
Signature	Jitendra Panchal
Risk phrases in full	R11 Highly flammable. R20/21/22 Harmful by inhalation, in contact with skin and if swallowed. R36 Irritating to eyes. R36/38 Irritating to eyes and skin. R67 Vapours may cause drowsiness and dizziness.
Hazard statements in full	H225 Highly flammable liquid and vapour. H302 Harmful if swallowed. H312 Harmful in contact with skin. H315 Causes skin irritation. H319 Causes serious eye irritation. H332 Harmful if inhaled. H336 May cause drowsiness or dizziness.



Exposure scenario

Manufacture of substance and use as intermediate (Industrial)

Identification

Product name	Butyl Glycol
REACH registration number	01-2119475108-36-XXXX
CAS number	111-76-2
EC number	203-905-0
EU index number	603-014-00-0
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 sds@univar.com +44 1274 267306

1. Title of exposure scenario

Main title	Manufacture of substance and use as intermediate (Industrial)
Main sector	SU3 Industrial uses
Sector of use	SU8 Manufacture of bulk, large-scale chemicals (including petroleum products) SU9 Manufacture of fine chemicals

Environment

Environmental release category	ERC1 Manufacture of substances.
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Worker

Process category	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. 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. PROC15 Use as laboratory reagent.
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2. Conditions of use affecting exposure (Workers - Health 1)

Product characteristics

Physical state	Liquid
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Manufacture of substance and use as intermediate (Industrial)

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Ventilation rate Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc.
Controlled ventilation means air is supplied or removed by a powered fan.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions. Ensure material transfers are under containment or extract ventilation. Provide extract ventilation to points where emissions occur.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Wear suitable gloves (tested to EN374) and eye protection.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method ESIG GES Worker tool

Manufacture of substance and use as intermediate (Industrial)

Exposure

PROC1 Use in closed process, no likelihood of exposure.

Worker - inhalation, long-term - systemic:

Exposure 0.01 ppm, DNEL 20 ppm, RCR 0.00

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.00

PROC2 Use in closed, continuous process with occasional controlled exposure

Worker - inhalation, long-term - systemic:

Exposure 1 ppm, DNEL 20 ppm, RCR 0.1

Worker - dermal, long-term - systemic:

Exposure 1.37 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

PROC3 Use in closed batch process (synthesis or formulation).

Worker - inhalation, long-term - systemic:

Exposure 3 ppm, DNEL 20 ppm, RCR 0.2

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.

PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.3

Worker - dermal, long-term - systemic:

Exposure 6.86 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.1

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.5

Worker - dermal, long-term - systemic:

Exposure 13.71 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.2

PROC15 Use as laboratory reagent.

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.3

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

4. Guidance to check compliance with the exposure scenario (Health 1)

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>



Exposure scenario

Formulation & (re)packing of substances and mixtures (Industrial)

Identification

Product name	Butyl Glycol
REACH registration number	01-2119475108-36-XXXX
CAS number	111-76-2
EC number	203-905-0
EU index number	603-014-00-0
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 sds@univar.com +44 1274 267306

1. Title of exposure scenario

Main title	Formulation & (re)packing of substances and mixtures (Industrial)
Main sector	SU3 Industrial uses
Sector of use	SU10 Formulation [mixing] of preparations and/or re-packaging
<u>Environment</u>	
Environmental release category	ERC2 Formulation of preparations.
<u>Worker</u>	
Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact). PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC15 Use as laboratory reagent.

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

Formulation & (re)packing of substances and mixtures (Industrial)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently.
Ventilation rate	Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions. Ensure material transfers are under containment or extract ventilation. Provide extract ventilation to points where emissions occur.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented.
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Risk management measures

Wear suitable gloves (tested to EN374) and eye protection.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method	ESIG GES Worker tool
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Formulation & (re)packing of substances and mixtures (Industrial)

Exposure

PROC1 Use in closed process, no likelihood of exposure.

Worker - inhalation, long-term - systemic:

Exposure 0.01 ppm, DNEL 20 ppm, RCR 0.00

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.00

PROC2 Use in closed, continuous process with occasional controlled exposure

Worker - inhalation, long-term - systemic:

Exposure 1 ppm, DNEL 20 ppm, RCR 0.1

Worker - dermal, long-term - systemic:

Exposure 1.37 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

PROC3 Use in closed batch process (synthesis or formulation).

Worker - inhalation, long-term - systemic:

Exposure 3 ppm, DNEL 20 ppm, RCR 0.2

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.

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).

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.3

Worker - dermal, long-term - systemic:

Exposure 6.86 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.1

PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.3

Worker - dermal, long-term - systemic:

Exposure 13.71 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.2

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.5

Worker - dermal, long-term - systemic:

Exposure 13.71 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.2

PROC15 Use as laboratory reagent.

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.3

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

4. Guidance to check compliance with the exposure scenario (Health 1)

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>



Exposure scenario

Distribution of substance (Industrial)

Identification

Product name	Butyl Glycol
REACH registration number	01-2119475108-36-XXXX
CAS number	111-76-2
EC number	203-905-0
EU index number	603-014-00-0
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 sds@univar.com +44 1274 267306

1. Title of exposure scenario

Main title	Distribution of substance (Industrial)
Main sector	SU3 Industrial uses
<u>Environment</u>	
Environmental release category	ERC1 Manufacture of substances. ERC2 Formulation of preparations.
<u>Worker</u>	
Process category	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. 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.

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

Product characteristics

Physical state	Liquid
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Distribution of substance (Industrial)

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Ventilation rate Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc.
Controlled ventilation means air is supplied or removed by a powered fan.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Control any potential exposure using measures such as contained or enclosed systems, properly designed and maintained facilities and a good standard of general ventilation. Drain down systems and clear transfer lines prior to breaking containment. Drain down and flush equipment where possible prior to maintenance. Where there is potential for exposure: Ensure relevant staff are informed of the nature of exposure and aware of basic actions to minimise exposures; Ensure suitable personal protective equipment is available; Clear up spills and dispose of waste in accordance with regulatory requirements; monitor effectiveness of control measures; consider the need for health surveillance; identify and implement corrective actions. Ensure material transfers are under containment or extract ventilation. Provide extract ventilation to points where emissions occur.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Wear suitable gloves (tested to EN374) and eye protection.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method ESIG GES Worker tool

Distribution of substance (Industrial)

Exposure

PROC1 Use in closed process, no likelihood of exposure.

Worker - inhalation, long-term - systemic:

Exposure 0.01 ppm, DNEL 20 ppm, RCR 0.00

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.00

PROC2 Use in closed, continuous process with occasional controlled exposure

Worker - inhalation, long-term - systemic:

Exposure 1 ppm, DNEL 20 ppm, RCR 0.1

Worker - dermal, long-term - systemic:

Exposure 1.37 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

PROC3 Use in closed batch process (synthesis or formulation).

Worker - inhalation, long-term - systemic:

Exposure 3 ppm, DNEL 20 ppm, RCR 0.2

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.

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

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.3

Worker - dermal, long-term - systemic:

Exposure 6.86 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.1

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.5

Worker - dermal, long-term - systemic:

Exposure 13.71 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.2

PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

Worker - inhalation, long-term - systemic:

Exposure 3.5 ppm, DNEL 20 ppm, RCR 0.2

Worker - dermal, long-term - systemic:

Exposure 6.86 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.1

PROC15 Use as laboratory reagent.

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.3

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

4. Guidance to check compliance with the exposure scenario (Health 1)

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>



Exposure scenario Use in coatings (Industrial)

Identification

Product name	Butyl Glycol
REACH registration number	01-2119475108-36-XXXX
CAS number	111-76-2
EC number	203-905-0
EU index number	603-014-00-0
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 sds@univar.com +44 1274 267306

1. Title of exposure scenario

Main title	Use in coatings (Industrial)
Main sector	SU3 Industrial uses
Environment	
Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
Worker	
Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact). PROC7 Spraying in industrial settings and applications. 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). PROC10 Roller application or brushing of adhesive and other coating. PROC13 Treatment of articles by dipping and pouring. PROC15 Use as laboratory reagent.

Use in coatings (Industrial)

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

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently.
Ventilation rate	Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Consider technical advances and process upgrades (including automation) for the elimination of releases. minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenario; clear up spills immediately and dispose of waste safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. Ensure material transfers are under containment or extract ventilation. Provide extract ventilation to points where emissions occur.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented.
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Risk management measures

Wear suitable gloves (tested to EN374) and eye protection.
PROC7 Spraying in industrial settings and applications.
Wear a full-face respirator conforming to EN136 with Type A filter or better.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method	ESIG GES Worker tool
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Use in coatings (Industrial)

Exposure

PROC1 Use in closed process, no likelihood of exposure.

Worker - inhalation, long-term - systemic:

Exposure 0.01 ppm, DNEL 20 ppm, RCR 0.00

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.00

PROC2 Use in closed, continuous process with occasional controlled exposure

Worker - inhalation, long-term - systemic:

Exposure 1 ppm, DNEL 20 ppm, RCR 0.1

Worker - dermal, long-term - systemic:

Exposure 1.37 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

PROC3 Use in closed batch process (synthesis or formulation).

Worker - inhalation, long-term - systemic:

Exposure 3 ppm, DNEL 20 ppm, RCR 0.2

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.

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

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.3

Worker - dermal, long-term - systemic:

Exposure 6.86 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.1

PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.3

Worker - dermal, long-term - systemic:

Exposure 13.71 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.2

PROC7 Spraying in industrial settings and applications.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.5

Worker - dermal, long-term - systemic:

Exposure 2.14 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.

Worker - inhalation, long-term - systemic:

Exposure 2.5 ppm, DNEL 20 ppm, RCR 0.1

Worker - dermal, long-term - systemic:

Exposure 0.14 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.5

Worker - dermal, long-term - systemic:

Exposure 6.86 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.1

PROC10 Roller application or brushing of adhesive and other coating.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.5

Worker - dermal, long-term - systemic:

Exposure 27.43 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.4

PROC13 Treatment of articles by dipping and pouring.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.5

Worker - dermal, long-term - systemic:

Exposure 13.71 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.2

Use in coatings (Industrial)

PROC15 Use as laboratory reagent.

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.3

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

4. Guidance to check compliance with the exposure scenario (Health 1)

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>



Exposure scenario Use in Cleaning Agents (Industrial)

Identification

Product name	Butyl Glycol
REACH registration number	01-2119475108-36-XXXX
CAS number	111-76-2
EC number	203-905-0
EU index number	603-014-00-0
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 sds@univar.com +44 1274 267306

1. Title of exposure scenario

Main title	Use in Cleaning Agents (Industrial)
Main sector	SU3 Industrial uses
<u>Environment</u>	
Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
<u>Worker</u>	
Process category	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 Spraying in industrial settings and applications. 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 of adhesive and other coating. PROC13 Treatment of articles by dipping and pouring.

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

Product characteristics

Physical state	Liquid
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Use in Cleaning Agents (Industrial)

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Ventilation rate Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc.
Controlled ventilation means air is supplied or removed by a powered fan.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Consider technical advances and process upgrades (including automation) for the elimination of releases. minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenario; clear up spills immediately and dispose of waste safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. Ensure material transfers are under containment or extract ventilation. Provide extract ventilation to points where emissions occur.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Wear suitable gloves (tested to EN374) and eye protection.
PROC7 Spraying in industrial settings and applications.
Wear a respirator conforming to EN140 with Type A filter or better.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method ESIG GES Worker tool

Use in Cleaning Agents (Industrial)

Exposure

PROC1 Use in closed process, no likelihood of exposure.

Worker - inhalation, long-term - systemic:

Exposure 0.01 ppm, DNEL 20 ppm, RCR 0.0005

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.005

PROC2 Use in closed, continuous process with occasional controlled exposure

Worker - inhalation, long-term - systemic:

Exposure 1 ppm, DNEL 20 ppm, RCR 0.05

Worker - dermal, long-term - systemic:

Exposure 1.37 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.02

PROC3 Use in closed batch process (synthesis or formulation).

Worker - inhalation, long-term - systemic:

Exposure 3 ppm, DNEL 20 ppm, RCR 0.15

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.005

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.25

Worker - dermal, long-term - systemic:

Exposure 6.86 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.09

PROC7 Spraying in industrial settings and applications.

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.0.25

Worker - dermal, long-term - systemic:

Exposure 42.86 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.57

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.50

Worker - dermal, long-term - systemic:

Exposure 13.70 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.18

PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.25

Worker - dermal, long-term - systemic:

Exposure 6.86 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.09

PROC10 Roller application or brushing of adhesive and other coating.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.50

Worker - dermal, long-term - systemic:

Exposure 27.43 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.37

PROC13 Treatment of articles by dipping and pouring.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.5

Worker - dermal, long-term - systemic:

Exposure 13.71 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.2

PROC15 Use as laboratory reagent.

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.3

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

4. Guidance to check compliance with the exposure scenario (Health 1)

Use in Cleaning Agents (Industrial)

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>



Exposure scenario

Use in lubricants (Industrial)

Identification

Product name	Butyl Glycol
REACH registration number	01-2119475108-36-XXXX
CAS number	111-76-2
EC number	203-905-0
EU index number	603-014-00-0
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 sds@univar.com +44 1274 267306

1. Title of exposure scenario

Main title	Use in lubricants (Industrial)
Main sector	SU3 Industrial uses
Environment	
Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles. ERC7 Industrial use of substances in closed systems.
Worker	
Process category	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 Spraying in industrial settings and applications. 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). PROC10 Roller application or brushing of adhesive and other coating. PROC13 Treatment of articles by dipping and pouring. PROC17 Lubrication at high energy conditions and in partly open process.

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

Use in lubricants (Industrial)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently.
Ventilation rate	Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Consider technical advances and process upgrades (including automation) for the elimination of releases. minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenario; clear up spills immediately and dispose of waste safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. Ensure material transfers are under containment or extract ventilation. Provide extract ventilation to points where emissions occur.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented.
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Risk management measures

Wear suitable gloves (tested to EN374) and eye protection.
PROC7 Spraying in industrial settings and applications.
Wear a respirator conforming to EN140 with Type A filter or better.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method	ESIG GES Worker tool
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Use in lubricants (Industrial)

Exposure

PROC1 Use in closed process, no likelihood of exposure.

Worker - inhalation, long-term - systemic:

Exposure 0.01 ppm, DNEL 20 ppm, RCR 0.0005

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.005

PROC2 Use in closed, continuous process with occasional controlled exposure

Worker - inhalation, long-term - systemic:

Exposure 1 ppm, DNEL 20 ppm, RCR 0.05

Worker - dermal, long-term - systemic:

Exposure 1.37 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.02

PROC3 Use in closed batch process (synthesis or formulation).

Worker - inhalation, long-term - systemic:

Exposure 3 ppm, DNEL 20 ppm, RCR 0.15

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.005

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.

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).

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.25

Worker - dermal, long-term - systemic:

Exposure 6.86 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.09

PROC7 Spraying in industrial settings and applications.

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.0.25

Worker - dermal, long-term - systemic:

Exposure 42.86 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.57

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.50

Worker - dermal, long-term - systemic:

Exposure 13.70 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.18

PROC10 Roller application or brushing of adhesive and other coating.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.50

Worker - dermal, long-term - systemic:

Exposure 27.43 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.37

PROC13 Treatment of articles by dipping and pouring.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.5

Worker - dermal, long-term - systemic:

Exposure 13.71 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.2

PROC15 Use as laboratory reagent.

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.3

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

PROC17 Lubrication at high energy conditions and in partly open process.

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.25

Worker - dermal, long-term - systemic:

Exposure 1.37 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.02

Use in lubricants (Industrial)

4. Guidance to check compliance with the exposure scenario (Health 1)

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>



Exposure scenario
Use in process water treatment, use in sewage water treatment (Industrial)

Identification

Product name	Butyl Glycol
REACH registration number	01-2119475108-36-XXXX
CAS number	111-76-2
EC number	203-905-0
EU index number	603-014-00-0
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 sds@univar.com +44 1274 267306

1. Title of exposure scenario

Main title	Use in process water treatment, use in sewage water treatment (Industrial)
Main sector	SU3 Industrial uses
<u>Environment</u>	
Environmental release category	ERC4 Industrial use of processing aids in processes and products, not becoming part of articles.
<u>Worker</u>	
Process category	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. 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.

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

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Covers concentrations up to 100 %.

Use in process water treatment, use in sewage water treatment (Industrial)

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Temperature

Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Ventilation rate

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Consider technical advances and process upgrades (including automation) for the elimination of releases. minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenario; clear up spills immediately and dispose of waste safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. Ensure material transfers are under containment or extract ventilation. Provide extract ventilation to points where emissions occur.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures

Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Wear suitable gloves (tested to EN374) and eye protection.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method

ESIG GES Worker tool

Use in process water treatment, use in sewage water treatment (Industrial)

Exposure

PROC1 Use in closed process, no likelihood of exposure.

Worker - inhalation, long-term - systemic:

Exposure 0.01 ppm, DNEL 20 ppm, RCR 0.0005

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.005

PROC2 Use in closed, continuous process with occasional controlled exposure

Worker - inhalation, long-term - systemic:

Exposure 1 ppm, DNEL 20 ppm, RCR 0.05

Worker - dermal, long-term - systemic:

Exposure 1.37 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.02

PROC3 Use in closed batch process (synthesis or formulation).

Worker - inhalation, long-term - systemic:

Exposure 3 ppm, DNEL 20 ppm, RCR 0.15

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.005

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.

PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.25

Worker - dermal, long-term - systemic:

Exposure 6.86 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.09

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.50

Worker - dermal, long-term - systemic:

Exposure 13.70 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.18

PROC10 Roller application or brushing of adhesive and other coating.

PROC13 Treatment of articles by dipping and pouring.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.5

Worker - dermal, long-term - systemic:

Exposure 13.71 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.2

4. Guidance to check compliance with the exposure scenario (Health 1)

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>



Exposure scenario Use in coatings (Professional)

Identification

Product name	Butyl Glycol
REACH registration number	01-2119475108-36-XXXX
CAS number	111-76-2
EC number	203-905-0
EU index number	603-014-00-0
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 sds@univar.com +44 1274 267306

1. Title of exposure scenario

Main title	Use in coatings (Professional)
Main sector	SU22 Professional uses
Environment	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
Worker	
Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure PROC3 Use in closed batch process (synthesis or formulation). PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises. PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact). PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC10 Roller application or brushing of adhesive and other coating. PROC11 Spraying outside industrial settings and/or applications. PROC13 Treatment of articles by dipping and pouring. PROC15 Use as laboratory reagent. PROC19 Hand-mixing with intimate contact and only PPE available.

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

Use in coatings (Professional)

Control of workers exposure

Process category

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.
 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.
 PROC15 Use as laboratory reagent.

Product characteristics

Physical state

Liquid

Vapour pressure

Vapour pressure < 0.5 kPa at STP.

Concentration details

Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Temperature

Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Handle substance within a predominantly closed system provided with extract ventilation. Use drum pumps. Provide extract ventilation to points where emissions occur.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures

Assumes a good basic standard of occupational hygiene is implemented. Avoid carrying out activities involving exposure for more than 1 hour.

Risk management measures

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

Additional advice

Avoid manual contact with wet work pieces.

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

Control of workers exposure

Process category

PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).
 PROC10 Roller application or brushing of adhesive and other coating.
 PROC11 Spraying outside industrial settings and/or applications.
 PROC13 Treatment of articles by dipping and pouring.
 PROC19 Hand-mixing with intimate contact and only PPE available.

Product characteristics

Physical state

Liquid

Vapour pressure

Vapour pressure < 0.5 kPa at STP.

Concentration details

Covers concentrations up to 100 %.

Frequency and duration of use

Use in coatings (Professional)

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

Other given operational conditions affecting workers exposure

Setting	Indoor.
Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently.
Ventilation rate	Provide a good standard of controlled ventilation (10 to 15 air changes per hour).

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Provide enhanced general ventilation by mechanical means. Provide extract ventilation to points where emissions occur. PROC11 Spraying outside industrial settings and/or applications. Carry out in a vented booth or extracted enclosure.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented. Avoid carrying out activities involving exposure for more than 1 hour. Other protection measures such as segregation of activity, minimisation of personnel, respiratory protection, impervious suits and face shields should also be considered for high dispersion activities which are likely to lead to substantial aerosol or vapour release, e.g. spraying.

Risk management measures

Wear chemically-resistant gloves (tested to EN374) in combination with 'basic' employee training.
Use suitable eye protection.
PROC10 Roller application or brushing of adhesive and other coating.
Wear a respirator conforming to EN140 with Type A filter or better.

2. Conditions of use affecting exposure (Workers - Health 3)

Control of workers exposure

Process category PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).
PROC10 Roller application or brushing of adhesive and other coating.
PROC11 Spraying outside industrial settings and/or applications.
PROC13 Treatment of articles by dipping and pouring.
PROC19 Hand-mixing with intimate contact and only PPE available.

Product characteristics

Physical state Liquid
Vapour pressure Vapour pressure < 0.5 kPa at STP.
Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Setting Outdoor.
Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures Ensure operation is undertaken outdoors.

Organisational measures to prevent/limit releases, dispersion and exposure

Use in coatings (Professional)

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

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

Use suitable eye protection.

PROC11 Spraying outside industrial settings and/or applications.

Wear a full-face respirator conforming to EN136 with Type A filter or better.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method ESIG GES Worker tool

Use in coatings (Professional)

Exposure

PROC1 Use in closed process, no likelihood of exposure.

Worker - inhalation, long-term - systemic:

Exposure 0.01 ppm, DNEL 20 ppm, RCR 0.00

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.00

PROC2 Use in closed, continuous process with occasional controlled exposure

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.25

Worker - dermal, long-term - systemic:

Exposure 1.37 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

PROC3 Use in closed batch process (synthesis or formulation).

Worker - inhalation, long-term - systemic:

Exposure 3 ppm, DNEL 20 ppm, RCR 0.2

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.

Worker - inhalation, long-term - systemic:

Exposure 7 ppm, DNEL 20 ppm, RCR 0.4

Worker - dermal, long-term - systemic:

Exposure 6.86 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.1

PROC5 Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact).

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.3

Worker - dermal, long-term - systemic:

Exposure 2.74 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.

Worker - inhalation, long-term - systemic:

Exposure 7.5 ppm, DNEL 20 ppm, RCR 0.4

Worker - dermal, long-term - systemic:

Exposure 0.69 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.5

Worker - dermal, long-term - systemic:

Exposure 6.86 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.1

PROC10 Roller application or brushing of adhesive and other coating.

Worker - inhalation, long-term - systemic:

Exposure 12.25 ppm, DNEL 20 ppm, RCR 0.6

Worker - dermal, long-term - systemic:

Exposure 2.74 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

PROC11 Spraying outside industrial settings and/or applications.

Worker - inhalation, long-term - systemic:

Exposure 4.9 ppm, DNEL 20 ppm, RCR 0.2

Worker - dermal, long-term - systemic:

Exposure 2.14 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

PROC13 Treatment of articles by dipping and pouring.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.5

Worker - dermal, long-term - systemic:

Exposure 13.71 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.2

PROC15 Use as laboratory reagent.

Worker - inhalation, long-term - systemic:

Use in coatings (Professional)

Exposure 5 ppm, DNEL 20 ppm, RCR 0.3

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

PROC19 Hand-mixing with intimate contact and only PPE available.

Worker - inhalation, long-term - systemic:

Exposure 12.25 ppm, DNEL 20 ppm, RCR 0.6

Worker - dermal, long-term - systemic:

Exposure 7.07 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.1

Worst case assumption

4. Guidance to check compliance with the exposure scenario (Health 1)

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>



Exposure scenario Use in Cleaning Agents (Professional)

Identification

Product name	Butyl Glycol
REACH registration number	01-2119475108-36-XXXX
CAS number	111-76-2
EC number	203-905-0
EU index number	603-014-00-0
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 sds@univar.com +44 1274 267306

1. Title of exposure scenario

Main title	Use in Cleaning Agents (Professional)
Main sector	SU22 Professional uses
<u>Environment</u>	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
<u>Worker</u>	
Process category	PROC2 Use in closed, continuous process with occasional controlled exposure 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. PROC10 Roller application or brushing of adhesive and other coating. PROC11 Spraying outside industrial settings and/or applications. PROC13 Treatment of articles by dipping and pouring.

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

<u>Product characteristics</u>	
Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Covers concentrations up to 100 %.

Use in Cleaning Agents (Professional)

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Temperature

Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Ventilation rate

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. , or: Ensure operation is undertaken outdoors.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures

Other protection measures such as segregation of activity, minimisation of personnel, respiratory protection, impervious suits and face shields should also be considered for high dispersion activities which are likely to lead to substantial aerosol or vapour release, e.g. spraying.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures

Assumes a good basic standard of occupational hygiene is implemented. Avoid carrying out activities involving exposure for more than 4 hours.

Risk management measures

Wear suitable gloves (tested to EN374) and eye protection.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method

ESIG GES Worker tool

Use in Cleaning Agents (Professional)

Exposure

PROC2 Use in closed, continuous process with occasional controlled exposure

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.3

Worker - dermal, long-term - systemic:

Exposure 1.37 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.02

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.25

Worker - dermal, long-term - systemic:

Exposure 6.86 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.09

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.

Worker - inhalation, long-term - systemic:

Exposure 12.25 ppm, DNEL 20 ppm, RCR 0.6

Worker - dermal, long-term - systemic:

Exposure 2.74 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0.0

PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

Worker - inhalation, long-term - systemic:

Exposure 3 ppm, DNEL 20 ppm, RCR 0.2

Worker - dermal, long-term - systemic:

Exposure 6.86 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.09

PROC10 Roller application or brushing of adhesive and other coating.

Worker - inhalation, long-term - systemic:

Exposure 7.5 ppm, DNEL 20 ppm, RCR 0.4

Worker - dermal, long-term - systemic:

Exposure 5.49 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.1

PROC11 Spraying outside industrial settings and/or applications.

Worker - inhalation, long-term - systemic:

Exposure 17.64 ppm, DNEL 20 ppm, RCR 0.9

Worker - dermal, long-term - systemic:

Exposure 10.71 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

PROC13 Treatment of articles by dipping and pouring.

Worker - inhalation, long-term - systemic:

Exposure 3 ppm, DNEL 20 ppm, RCR 0.2

Worker - dermal, long-term - systemic:

Exposure 2.74 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

4. Guidance to check compliance with the exposure scenario (Health 1)

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>



Exposure scenario Use in Agrochemicals (Professional)

Identification

Product name	Butyl Glycol
REACH registration number	01-2119475108-36-XXXX
CAS number	111-76-2
EC number	203-905-0
EU index number	603-014-00-0
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 sds@univar.com +44 1274 267306

1. Title of exposure scenario

Main title	Use in Agrochemicals (Professional)
Main sector	SU22 Professional uses
Environment	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.
Worker	
Process category	PROC1 Use in closed process, no likelihood of exposure. PROC2 Use in closed, continuous process with occasional controlled exposure 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 Spraying outside industrial settings and/or applications. PROC13 Treatment of articles by dipping and pouring.

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

Product characteristics	
Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Covers concentrations up to 100 %.

Use in Agrochemicals (Professional)

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Temperature

Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Ventilation rate

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. , or: Ensure operation is undertaken outdoors.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures PROC11 Spraying outside industrial settings and/or applications. Limit the substance content in the product to 5%.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures

Assumes a good basic standard of occupational hygiene is implemented. Avoid carrying out activities involving exposure for more than 4 hours.

Risk management measures

Wear suitable gloves (tested to EN374) and eye protection.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method

ESIG GES Worker tool

Use in Agrochemicals (Professional)

Exposure

PROC1 Use in closed process, no likelihood of exposure.

Worker - inhalation, long-term - systemic:

Exposure 0.01 ppm, DNEL 20 ppm, RCR 0.00

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.00

PROC2 Use in closed, continuous process with occasional controlled exposure

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.3

Worker - dermal, long-term - systemic:

Exposure 1.37 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.02

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.

Worker - inhalation, long-term - systemic:

Exposure 3 ppm, DNEL 20 ppm, RCR 0.2

Worker - dermal, long-term - systemic:

Exposure 6.86 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.09

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.

Worker - inhalation, long-term - systemic:

Exposure 12.25 ppm, DNEL 20 ppm, RCR 0.6

Worker - dermal, long-term - systemic:

Exposure 2.74 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.

Worker - inhalation, long-term - systemic:

Exposure 3 ppm, DNEL 20 ppm, RCR 0.2

Worker - dermal, long-term - systemic:

Exposure 6.86 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.09

PROC11 Spraying outside industrial settings and/or applications.

Worker - inhalation, long-term - systemic:

Exposure 17.64 ppm, DNEL 20 ppm, RCR 0.9

Worker - dermal, long-term - systemic:

Exposure 3.21 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

PROC13 Treatment of articles by dipping and pouring.

Worker - inhalation, long-term - systemic:

Exposure 3 ppm, DNEL 20 ppm, RCR 0.2

Worker - dermal, long-term - systemic:

Exposure 2.74 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.0

4. Guidance to check compliance with the exposure scenario (Health 1)

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>



Exposure scenario Use in Lubricants (Professional)

Identification

Product name	Butyl Glycol
REACH registration number	01-2119475108-36-XXXX
CAS number	111-76-2
EC number	203-905-0
EU index number	603-014-00-0
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 sds@univar.com +44 1274 267306

1. Title of exposure scenario

Main title	Use in Lubricants (Professional)
Main sector	SU22 Professional uses
Environment	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems. ERC9a Wide dispersive indoor use of substances in closed systems. ERC9b Wide dispersive outdoor use of substances in closed systems.
Worker	
Process category	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. PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC9 Transfer of substance or preparation into small containers (dedicated filling line, including weighing). PROC13 Treatment of articles by dipping and pouring. PROC17 Lubrication at high energy conditions and in partly open process. PROC20 Heat and pressure transfer fluids in dispersive use but closed systems.

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

Use in Lubricants (Professional)

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Temperature	Assumes use at not more than 20°C above ambient temperature, unless stated differently.
Ventilation rate	Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. , or: Ensure operation is undertaken outdoors.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures	Provide extract ventilation to points where emissions occur. PROC17 Lubrication at high energy conditions and in partly open process. Limit the substance content in the product to 5%.
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Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures	Assumes a good basic standard of occupational hygiene is implemented.
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Risk management measures

Wear suitable gloves (tested to EN374) and eye protection.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method	ESIG GES Worker tool
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Use in Lubricants (Professional)

Exposure

PROC1 Use in closed process, no likelihood of exposure.

Worker - inhalation, long-term - systemic:

Exposure 0.01 ppm, DNEL 20 ppm, RCR 0.0005

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.005

PROC2 Use in closed, continuous process with occasional controlled exposure

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.3

Worker - dermal, long-term - systemic:

Exposure 1.37 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.02

PROC3 Use in closed batch process (synthesis or formulation).

Worker - inhalation, long-term - systemic:

Exposure 3 ppm, DNEL 20 ppm, RCR 0.15

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.005

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.50

Worker - dermal, long-term - systemic:

Exposure 6.86 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.09

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.

Worker - inhalation, long-term - systemic:

Exposure 10.5 ppm, DNEL 20 ppm, RCR 0.53

Worker - dermal, long-term - systemic:

Exposure 13.7 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.18

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

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.50

Worker - dermal, long-term - systemic:

Exposure 6.86 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.09

PROC13 Treatment of articles by dipping and pouring.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.5

Worker - dermal, long-term - systemic:

Exposure 13.71 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.18

PROC17 Lubrication at high energy conditions and in partly open process.

Worker - inhalation, long-term - systemic:

Exposure 7 ppm, DNEL 20 ppm, RCR 0.35

Worker - dermal, long-term - systemic:

Exposure 27.43 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.37

PROC20 Heat and pressure transfer fluids in dispersive use but closed systems.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.50

Worker - dermal, long-term - systemic:

Exposure 1.71 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.02

4. Guidance to check compliance with the exposure scenario (Health 1)

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>



Exposure scenario

Use in process water treatment, use in sewage water treatment (Professional)

Identification

Product name	Butyl Glycol
REACH registration number	01-2119475108-36-XXXX
CAS number	111-76-2
EC number	203-905-0
EU index number	603-014-00-0
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 sds@univar.com +44 1274 267306

1. Title of exposure scenario

Main title	Use in process water treatment, use in sewage water treatment (Professional)
Main sector	SU22 Professional uses
<u>Environment</u>	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems. ERC8e Wide dispersive outdoor use of reactive substances in open systems.
<u>Worker</u>	
Process category	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. 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.

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

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.

Use in process water treatment, use in sewage water treatment (Professional)

Concentration details Covers concentrations up to 100 %.

Frequency and duration of use

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

Other given operational conditions affecting workers exposure

Temperature Assumes use at not more than 20°C above ambient temperature, unless stated differently.

Ventilation rate Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc.
Controlled ventilation means air is supplied or removed by a powered fan.

Technical conditions and measures at process level (source) to prevent release

Technical protective measures No specific risk management measure identified beyond those operational conditions stated.

Organisational measures to prevent/limit releases, dispersion and exposure

Organisational measures Assumes a good basic standard of occupational hygiene is implemented.

Risk management measures

Wear suitable gloves (tested to EN374) and eye protection.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method ESIG GES Worker tool

Use in process water treatment, use in sewage water treatment (Professional)

Exposure

PROC1 Use in closed process, no likelihood of exposure.

Worker - inhalation, long-term - systemic:

Exposure 0.01 ppm, DNEL 20 ppm, RCR 0.0005

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.005

PROC2 Use in closed, continuous process with occasional controlled exposure

Worker - inhalation, long-term - systemic:

Exposure 5 ppm, DNEL 20 ppm, RCR 0.25

Worker - dermal, long-term - systemic:

Exposure 1.37 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.02

PROC3 Use in closed batch process (synthesis or formulation).

Worker - inhalation, long-term - systemic:

Exposure 3 ppm, DNEL 20 ppm, RCR 0.15

Worker - dermal, long-term - systemic:

Exposure 0.34 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.005

PROC4 Use in batch and other process (synthesis) where opportunity for exposure arises.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.50

Worker - dermal, long-term - systemic:

Exposure 6.86 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.09

PROC8a Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities.

Worker - inhalation, long-term - systemic:

Exposure 10.5 ppm, DNEL 20 ppm, RCR 0.53

Worker - dermal, long-term - systemic:

Exposure 13.70 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.18

PROC13 Treatment of articles by dipping and pouring.

Worker - inhalation, long-term - systemic:

Exposure 10 ppm, DNEL 20 ppm, RCR 0.5

Worker - dermal, long-term - systemic:

Exposure 13.71 mg/kg/day, DNEL 75 mg/kg/day, RCR 0.2

4. Guidance to check compliance with the exposure scenario (Health 1)

<http://www.esig.org/en/regulatory-information/reach/ges-library/ges-library-3>



Exposure scenario Use in coatings (Consumer)

Identification

Product name	Butyl Glycol
REACH registration number	01-2119475108-36-XXXX
CAS number	111-76-2
EC number	203-905-0
EU index number	603-014-00-0
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 sds@univar.com +44 1274 267306

1. Title of exposure scenario

Main title	Use in coatings (Consumer)
Product category	PC9a Coatings and paints, thinners, paint removers.
Main sector	SU21 Consumer uses
<u>Environment</u>	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.

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

<u>Product characteristics</u>	
Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Concentration of substance in product: 3%
<u>Amounts used</u>	Amount per use: 2.76 kg
<u>Frequency and duration of use</u>	Intermittent.
<u>Other given operational conditions affecting Non-industrial exposure</u>	
Setting	Indoor.

Use in coatings (Consumer)

Temperature Covers use at ambient temperatures.

Room size Covers use in room size of 20 m³.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method ESIG GES Consumer tool

Exposure

Consumer - dermal, long-term - systemic:
Exposure 0.02 mg/kg/day, DNEL 38 mg/kg/day, RCR < 0.001

Consumer - inhalation, long-term - systemic:
Exposure 1.27 mg/kg/day, DNEL 49 mg/kg/day, RCR 0.005

Consumer - inhalation, short-term - systemic:
Exposure 36.7 mg/m³, DNEL 123 mg/m³, RCR 0.3

Consumer - oral, long-term - systemic:
Exposure 0.0 mg/kg/day, DNEL 3.2 mg/kg/day, RCR 0.0

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see <http://www.esig.org/en/regulatory-information/reach/ges-library/consumer-gess>



Exposure scenario Use in Cleaning Agents (Consumer)

Identification

Product name	Butyl Glycol
REACH registration number	01-2119475108-36-XXXX
CAS number	111-76-2
EC number	203-905-0
EU index number	603-014-00-0
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 sds@univar.com +44 1274 267306

1. Title of exposure scenario

Main title	Use in Cleaning Agents (Consumer)
Product category	PC35 Washing and cleaning products (including solvent-based products).
Main sector	SU21 Consumer uses
<u>Environment</u>	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems.

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

<u>Product characteristics</u>	
Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Concentration of substance in product: 7%
<u>Amounts used</u>	Amount per use: 0.035 kg
<u>Frequency and duration of use</u>	Covers daily exposure up to 20minutes
<u>Other given operational conditions affecting Non-industrial exposure</u>	
Setting	Indoor.

Use in Cleaning Agents (Consumer)

Temperature	Covers use at ambient temperatures.
Room size	Covers use in room size of 20 m ³ .
Ventilation rate	Covers use under typical household ventilation.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method	ESIG GES Consumer tool
Exposure	Consumer - dermal, long-term - systemic: Exposure 9 mg/kg/day, DNEL 38 mg/kg/day, RCR 0.24 Consumer - inhalation, long-term - systemic: Exposure 0.84 mg/kg/day, DNEL 49 mg/kg/day, RCR 0.09 Consumer - inhalation, short-term - systemic: Exposure 116.57 mg/m ³ , DNEL 123 mg/m ³ , RCR 0.95 Consumer - oral, long-term - systemic: Exposure 0.0 mg/kg/day, DNEL 3.2 mg/kg/day, RCR 0.0



Exposure scenario Use in Agrochemicals (Consumer)

Identification

Product name	Butyl Glycol
REACH registration number	01-2119475108-36-XXXX
CAS number	111-76-2
EC number	203-905-0
EU index number	603-014-00-0
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 sds@univar.com +44 1274 267306

1. Title of exposure scenario

Main title	Use in Agrochemicals (Consumer)
Product category	PC12 Lawn and garden preparations (- fertilizers). PC27 Plant protection products.
Main sector	SU21 Consumer uses
<u>Environment</u>	
Environmental release category	ERC8d Wide dispersive outdoor use of processing aids in open systems.

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

<u>Product characteristics</u>	
Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Concentration of substance in product: 7%
<u>Amounts used</u>	Amount per use: 37.5 kg
<u>Frequency and duration of use</u>	Emission days: 365 days/year
<u>Human factors not influenced by risk management</u>	

Use in Agrochemicals (Consumer)

Potentially exposed body parts Covers skin contact area up to 6600 cm².

Other given operational conditions affecting Non-industrial exposure

Setting Indoor.

Temperature Covers use at ambient temperatures.

Room size Covers use in room size of 20 m³.

Ventilation rate Covers use under typical household ventilation.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method ESIG GES Consumer tool

Exposure Consumer - dermal, long-term - systemic:
Exposure 9 mg/kg/day, DNEL 38 mg/kg/day, RCR 0.24
Consumer - oral, long-term - systemic:
Exposure 2.1 mg/kg/day, DNEL 3.2 mg/kg/day, RCR 0.66



Exposure scenario

Use in Lubricants, Adhesives, Polishes and Waxes (Consumer)

Identification

Product name	Butyl Glycol
REACH registration number	01-2119475108-36-XXXX
CAS number	111-76-2
EC number	203-905-0
EU index number	603-014-00-0
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 sds@univar.com +44 1274 267306

1. Title of exposure scenario

Main title	Use in Lubricants, Adhesives, Polishes and Waxes (Consumer)
Product category	PC1 Adhesives, sealants. PC24 Lubricants, greases and release products. PC31 Polishes and wax blends.
Main sector	SU21 Consumer uses
<u>Environment</u>	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8b Wide dispersive indoor use of reactive substances in open systems. ERC9a Wide dispersive indoor use of substances in closed systems.

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

Control of Non-industrial exposure

PC1 Adhesives, sealants.

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	PC1_1 Glues, hobby use Concentration of substance in product: 9% PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue) Concentration of substance in product: 0.5% PC1_3 Glue from spray Concentration of substance in product: 5% PC1_4 Sealants Concentration of substance in product: 3%

Use in Lubricants, Adhesives, Polishes and Waxes (Consumer)

Amounts used

PC1_1 Glues, hobby use
 Amount per use: 9 g
 PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue)
 Amount per use: 22 kg
 PC1_3 Glue from spray
 Amount per use: 85.5 g
 PC1_4 Sealants
 Amount per use: 75 g

Frequency and duration of use

PC1_1 Glues, hobby use
 PC1_3 Glue from spray
 Application duration: 240 minutes
 PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue)
 Application duration: 480
 PC1_4 Sealants
 Application duration: 60 minutes

Human factors not influenced by risk management

Potentially exposed body parts PC1_1 Glues, hobby use PC1_4 Sealants PC1_3 Glue from spray Covers skin contact area up to 36 cm². PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue) Covers skin contact area up to 430 cm².

Other given operational conditions affecting Non-industrial exposure

Setting Indoor.
Temperature Covers use at ambient temperatures.
Room size PC1_1 Glues, hobby use PC1_3 Glue from spray PC1_4 Sealants Covers use in room size of 20 m³. PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue) Covers use in room size of 58 m³.
Ventilation rate Covers use under typical household ventilation. PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue) Avoid using without an operating fan and open windows.

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

Control of Non-industrial exposure

PC24 Lubricants, greases and release products.

Product characteristics

Physical state Liquid
Vapour pressure Vapour pressure < 0.5 kPa at STP.
Concentration details PC24_1 Liquids PC24_2 Pastes Concentration of substance in product: 9% PC24_3 Sprays Concentration of substance in product: 2%

Amounts used

PC24_1 Liquids
 Amount per use: 2.2 kg
 PC24_2 Pastes
 PC24_3 Sprays
 Amount per use: 73 g

Frequency and duration of use

Use in Lubricants, Adhesives, Polishes and Waxes (Consumer)

Application duration: 10 minutes

Human factors not influenced by risk management

Potentially exposed body parts Palm of both hands.

Other given operational conditions affecting Non-industrial exposure

Setting Indoor.

Temperature Assumes activities are at room temperature.

Ventilation rate PC24_1 Liquids Covers use in a one car garage (34 m³) under typical ventilation. PC24_2 Pastes PC24_3 Sprays Covers use under typical household ventilation.

2. Conditions of use affecting exposure (Non-industrial - Health 3)

Control of Non-industrial exposure

PC31 Polishes and wax blends.

Product characteristics

Physical state Liquid

Vapour pressure Vapour pressure < 0.5 kPa at STP.

Concentration details Concentration of substance in product: 5%

Amounts used

Amount per use: 35 g

Frequency and duration of use

Application duration: 20 minutes

Human factors not influenced by risk management

Potentially exposed body parts Palm of both hands.

Other given operational conditions affecting Non-industrial exposure

Setting Indoor.

Temperature Assumes activities are at room temperature.

Room size Covers use in room size of 20 m³.

Ventilation rate Covers use under typical household ventilation.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method ESIG GES Consumer tool ConsExpo v4.1

Use in Lubricants, Adhesives, Polishes and Waxes (Consumer)

Exposure

PC1_1 Glues, hobby use
 Consumer - inhalation, short-term - local:
 Exposure 15.34 mg/m³, DNEL 123 mg/m³, RCR 0.0.12
 Consumer - dermal, long-term - systemic:
 Exposure 0.54 mg/kg/day, DNEL 38 mg/kg/day, RCR 0.01
 Consumer - inhalation, long-term - systemic:
 Exposure 2.56 mg/m³, DNEL 49 mg/m³, RCR 0.05
 PC1_2 Glues DIY-use (carpet glue, tile glue, wood parquet glue)
 Consumer - inhalation, short-term - local:
 Exposure 94.2 mg/m³, DNEL 123 mg/m³, RCR 0.77
 Consumer - dermal, long-term - systemic:
 Exposure 1.11 mg/kg/day, DNEL 38 mg/kg/day, RCR 0.03
 Consumer - inhalation, long-term - systemic:
 Exposure 31.4 mg/m³, DNEL 49 mg/m³, RCR 0.64
 PC1_3 Glue from spray
 Consumer - inhalation, short-term - local:
 Exposure 80.56 mg/m³, DNEL 123 mg/m³, RCR 0.65
 Consumer - dermal, long-term - systemic:
 Exposure 0.30 mg/kg/day, DNEL 38 mg/kg/day, RCR 0.01
 Consumer - inhalation, long-term - systemic:
 Exposure 13.73 mg/m³, DNEL 49 mg/m³, RCR 0.27
 PC1_4 Sealants
 Consumer - inhalation, short-term - local:
 Exposure 84.60 mg/m³, DNEL 123 mg/m³, RCR 0.67
 Consumer - dermal, long-term - systemic:
 Exposure 0.18 mg/kg/day, DNEL 38 mg/kg/day, RCR 0.005
 Consumer - inhalation, long-term - systemic:
 Exposure 3.52 mg/m³, DNEL 49 mg/m³, RCR 0.07

4. Guidance to check compliance with the exposure scenario (Health 1)

For scaling see <http://www.esig.org/en/regulatory-information/reach/ges-library/consumer-gess>
<http://www.rivm.nl/en/healthanddisease/productsafety/ConsExpo.jsp>

3. Exposure estimation (Health 2)

Assessment method

ESIG GES Consumer tool

Exposure

PC24_1 Liquids
 Consumer - inhalation, short-term - local:
 Exposure 51.4 mg/m³, DNEL 123 mg/m³, RCR 0.42
 Consumer - dermal, long-term - systemic:
 Exposure 7.02 mg/kg/day, DNEL 38 mg/kg/day, RCR 0.18
 Consumer - inhalation, long-term - systemic:
 Exposure 0.36 mg/m³, DNEL 49 mg/m³, RCR 0.01
 PC24_2 Pastes
 Consumer - dermal, long-term - systemic:
 Exposure 7.02 mg/kg/day, DNEL 38 mg/kg/day, RCR 0.18
 PC24_3 Sprays
 Consumer - dermal, long-term - systemic:
 Exposure 1.13 mg/kg/day, DNEL 38 mg/kg/day, RCR 0.04
 Consumer - inhalation, long-term - systemic:
 Exposure 5.15 mg/m³, DNEL 49 mg/m³, RCR 0.11

4. Guidance to check compliance with the exposure scenario (Health 2)

Use in Lubricants, Adhesives, Polishes and Waxes (Consumer)

For scaling see <http://www.esig.org/en/regulatory-information/reach/ges-library/consumer-gess>

3. Exposure estimation (Health 3)

Assessment method	ESIG GES Consumer tool
Exposure	Consumer - inhalation, short-term - local: Exposure 79.38 mg/m ³ , DNEL 123 mg/m ³ , RCR 0.65 Consumer - dermal, long-term - systemic: Exposure 3.58 mg/kg/day, DNEL 38 mg/kg/day, RCR 0.08 Consumer - inhalation, long-term - systemic: Exposure 1.09 mg/m ³ , DNEL 49 mg/m ³ , RCR 0.02

4. Guidance to check compliance with the exposure scenario (Health 3)

For scaling see <http://www.esig.org/en/regulatory-information/reach/ges-library/consumer-gess>



Exposure scenario

Use in process water treatment, use in sewage water treatment (Consumer)

Identification

Product name	Butyl Glycol
REACH registration number	01-2119475108-36-XXXX
CAS number	111-76-2
EC number	203-905-0
EU index number	603-014-00-0
Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 sds@univar.com +44 1274 267306

1. Title of exposure scenario

Main title	Use in process water treatment, use in sewage water treatment (Consumer)
Product category	PC36 Water softeners. PC37 Water treatment chemicals.
Main sector	SU21 Consumer uses
<u>Environment</u>	
Environmental release category	ERC8a Wide dispersive indoor use of processing aids in open systems. ERC8b Wide dispersive indoor use of reactive substances in open systems. ERC8d Wide dispersive outdoor use of processing aids in open systems. ERC8e Wide dispersive outdoor use of reactive substances in open systems.

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

Product characteristics

Physical state	Liquid
Vapour pressure	Vapour pressure < 0.5 kPa at STP.
Concentration details	Concentration of substance in product: 9%

Amounts used

Amount per use: 10 g

Human factors not influenced by risk management

Use in process water treatment, use in sewage water treatment (Consumer)

Potentially exposed body parts Whole body.

Other given operational conditions affecting Non-industrial exposure

Setting Indoor.

Temperature Covers use at ambient temperatures.

3. Exposure estimation (Environment 1)

As no environmental hazard was identified, no environmental-related exposure assessment and risk characterisation was performed.

3. Exposure estimation (Health 1)

Assessment method ESIG GES Consumer tool

Exposure Consumer - dermal, long-term - systemic:
Exposure 0.01 mg/kg/day, DNEL 38 mg/kg/day, RCR 0.0
Consumer - oral, long-term - systemic:
Exposure 0.001 mg/kg/day, DNEL 3.2 mg/kg/day, RCR 0.0