

butyl glycolacetate

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

1.1 Product identifier:

Product name	: butyl glycolacetate
Synonyms	: 2-butoxyethyl acetate; BGA; butylglycol acetate; EGBEA; ethanol, 2-butoxy-, acetate; ethylene glycol butylether acetate
Registration number REACH	: 01-2119475112-47-0000
Product type REACH	: Substance/mono-constituent
CAS number	: 112-07-2
EC index number	: 607-038-00-2
EC number	: 203-933-3
RTECS number	: KJ8925000
Molecular mass	: 160.22 g/mol
Formula	: C ₈ H ₁₆ O ₃

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

1.2.1 Relevant identified uses

Exposure scenario title	Exposure scenario group	Sector of use	Use descriptors (PROC or PC)	Use descriptors (ERC)
ES01 Manufacture of substance	Industrial	SU 8	PROC 1, PROC 2, PROC 3, PROC 8a, PROC 8b, PROC 15	ERC 1
	Industrial	SU 9	PROC 1, PROC 2, PROC 3, PROC 8a, PROC 8b, PROC 15	ERC 1
ES02 Distribution of substance	Industrial		PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9, PROC 15	ERC 1
	Industrial		PROC 1, PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 9, PROC 15	ERC 2
ES03 Formulation & (re)packing of substances and mixtures	Industrial	SU 10	PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 8a, PROC 8b, PROC 9, PROC 15	ERC 2
ES04 Use in coatings	Industrial		PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 7, PROC 8a, PROC 8b, PROC 9, PROC 10, PROC 13, PROC 15	ERC 4
ES05 Use in coatings	Professional		PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 8a, PROC 8b, PROC 10, PROC 11, PROC 13, PROC 15, PROC 19	ERC 8a
	Professional		PROC 1, PROC 2, PROC 3, PROC 4, PROC 5, PROC 8a, PROC 8b, PROC 10, PROC 11, PROC 13, PROC 15, PROC 19	ERC 8d
ES06 Use in coatings	Consumer		PC 9a, PC 18	ERC 8a
	Consumer		PC 9a, PC 18	ERC 8d
ES07 Use in Cleaning Agents	Industrial		PROC 2, PROC 3, PROC 4, PROC 7, PROC 8a, PROC 8b, PROC 10, PROC 13	ERC 4
ES08 Use in Cleaning Agents	Professional		PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 10, PROC 11, PROC 13	ERC 8a
	Professional		PROC 2, PROC 3, PROC 4, PROC 8a, PROC 8b, PROC 10, PROC 11, PROC 13	ERC 8d
ES09 Use in Cleaning Agents	Consumer		PC 35	ERC 8a
	Consumer		PC 35	ERC 8d

1.2.2 Uses advised against

Group	Uses advised against	Use descriptors (PC)	Environmental release category (ERC)
Consumer	No uses advised against		
Industrial	No uses advised against		
Professional	No uses advised against		

Group	Uses advised against	Use descriptors (PC)	Article (AC)
Consumer	No uses advised against		

butyl glycolacetate

Industrial	No uses advised against		
Professional	No uses advised against		

1.3 Details of the supplier of the safety data sheet:

Supplier of the safety data sheet

INEOS N.V.
Haven 1053 - Nieuwe Weg 1
B-2070 Zwijndrecht
☎ +32 3 250 91 11
☎ +32 3 252 84 33
reach.oxide.be@ineos.com

Manufacturer of the product

INEOS Chemicals Lavera SAS
Avenue de la bienfaisance BP6
FR-13117 Lavera
☎ +33 4 42 35 80 00

1.4 Emergency telephone number:

24h/24h (Telephone advice: English, French, German, Dutch):
+32 14 58 45 45 (BIG)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture:

2.1.1 Classification according to Regulation EC No 1272/2008

Classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

Class	Category	Hazard statements
Acute Tox.	category 4	H312: Harmful in contact with skin.
Acute Tox.	category 4	H302: Harmful if swallowed.

2.1.2 Classification according to Directive 67/548/EEC-1999/45/EC

Classified as dangerous in accordance with the criteria of Directives 67/548/EEC and 1999/45/EC
Xn; R21/22 - Harmful in contact with skin and if swallowed.

2.2 Label elements:

Labelling according to Regulation EC No 1272/2008 (CLP)



Signal word Warning

H-statements

H312 Harmful in contact with skin.
H302 Harmful if swallowed.

P-statements

P280 Wear protective gloves and protective clothing.
P264 Wash hands thoroughly after handling.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330 Rinse mouth.

2.3 Other hazards:

SECTION 3: Composition/information on ingredients

3.1 Substances:

Name REACH Registration No	CAS No EC No	Conc. (C)	Classification according to DSD/DPD	Classification according to CLP	Note	Remark
2-butoxyethyl acetate 01-2119475112-47	112-07-2 203-933-3	>99%	Xn; R21/22	Acute Tox. 4; H312 Acute Tox. 4; H302	(1)(2)(10)	Mono-constituent

(1) For R-phrases and H-statements in full: see heading 16

(2) Substance with a Community workplace exposure limit

(10) Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006

Reason for revision: 1.2.1; 1.3; 8.1.4

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Product number: 50504

2 / 13

butyl glycolacetate

3.2 Mixtures:

Not applicable

SECTION 4: First aid measures

4.1 Description of first aid measures:

General:

Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Never give alcohol to drink.

After inhalation:

Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

After skin contact:

Wash immediately with lots of water. Soap may be used. Remove clothing before washing. Take victim to a doctor if irritation persists.

After eye contact:

Rinse with water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

After ingestion:

Do not induce vomiting. Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Give activated charcoal. Consult a doctor/medical service if you feel unwell.

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

4.2.1 Acute symptoms

After inhalation:

No data available.

After skin contact:

Dry skin.

After eye contact:

Redness of the eye tissue. Slight irritation.

After ingestion:

AFTER INGESTION OF HIGH QUANTITIES: Risk of aspiration pneumonia. Feeling of weakness. Central nervous system depression. Nausea. Vomiting. Headache. Dizziness. Coordination disorders. Slurred speech. Visual disturbances. Disturbances of consciousness. FOLLOWING SYMPTOMS MAY APPEAR LATER: Decreased renal function. Change in urine output. Change in urine composition.

4.2.2 Delayed symptoms

If applicable and available it will be listed below.

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

If applicable and available it will be listed below.

SECTION 5: Firefighting measures

5.1 Extinguishing media:

5.1.1 Suitable extinguishing media:

Water spray. Alcohol-resistant foam. BC powder. Carbon dioxide.

5.1.2 Unsuitable extinguishing media:

No unsuitable extinguishing media known.

5.2 Special hazards arising from the substance or mixture:

Upon combustion: CO and CO₂ are formed.

5.3 Advice for firefighters:

5.3.1 Instructions:

Cool tanks/drums with water spray/remove them into safety.

5.3.2 Special protective equipment for fire-fighters:

Gloves. Face-shield. Protective clothing. Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

No naked flames.

6.1.1 Protective equipment for non-emergency personnel

See heading 8.2

6.1.2 Protective equipment for emergency responders

Gloves. Face-shield. Protective clothing.

Suitable protective clothing

See heading 8.2

6.2 Environmental precautions:

butyl glycolacetate

Contain released substance, pump into suitable containers. Plug the leak, cut off the supply.

6.3 Methods and material for containment and cleaning up:

Take up liquid spill into absorbent material, e.g.: sand, earth, vermiculite. Scoop absorbed substance into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

6.4 Reference to other sections:

See heading 13.

SECTION 7: Handling and storage

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

7.1 Precautions for safe handling:

Use earthed equipment. Keep away from naked flames/heat. At temperature > flashpoint: use spark-/explosionproof appliances. Finely divided: spark- and explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Gas/vapour heavier than air at 20°C. Observe normal hygiene standards. Keep container tightly closed. Remove contaminated clothing immediately. Cool before opening.

7.2 Conditions for safe storage, including any incompatibilities:

7.2.1 Safe storage requirements:

Store in a cool area. Store in a dry area. Ventilation at floor level. Fireproof storeroom. Meet the legal requirements.

7.2.2 Keep away from:

Heat sources, oxidizing agents, (strong) bases.

7.2.3 Suitable packaging material:

Steel, stainless steel, glass, tin, polypropylene.

7.2.4 Non suitable packaging material:

Copper.

7.3 Specific end use(s):

If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters:

8.1.1 Occupational exposure

a) Occupational exposure limit values

If limit values are applicable and available these will be listed below.

The Netherlands

2-Butoxyethylacetaat	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	20 ppm
	Time-weighted average exposure limit 8 h (Public occupational exposure limit value)	135 mg/m ³
	Short time value (Public occupational exposure limit value)	50 ppm
	Short time value (Public occupational exposure limit value)	333 mg/m ³

EU

2-Butoxyethyl acetate	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	20 ppm
	Time-weighted average exposure limit 8 h (Indicative occupational exposure limit value)	133 mg/m ³
	Short time value (Indicative occupational exposure limit value)	50 ppm
	Short time value (Indicative occupational exposure limit value)	333 mg/m ³

Belgium

Acétate de 2-butoxyéthyle	Time-weighted average exposure limit 8 h	20 ppm
	Time-weighted average exposure limit 8 h	133 mg/m ³
	Short time value	50 ppm
	Short time value	333 mg/m ³

USA (TLV-ACGIH)

2-Butoxyethyl acetate (EGBEA)	Time-weighted average exposure limit 8 h (TLV - Adopted Value)	20 ppm
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Germany

2-Butoxyethyl-acetat	Time-weighted average exposure limit 8 h (TRGS 900)	20 ppm
	Time-weighted average exposure limit 8 h (TRGS 900)	130 mg/m ³

France

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4 / 13

butyl glycolacetate

Acétate de 2-butoxyéthyle	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	10 ppm
	Time-weighted average exposure limit 8 h (VRC: Valeur réglementaire contraignante)	66.5 mg/m ³
	Short time value (VRC: Valeur réglementaire contraignante)	50 ppm
	Short time value (VRC: Valeur réglementaire contraignante)	333 mg/m ³

UK

2-Butoxyethyl acetate	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	20 ppm
	Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))	133 mg/m ³
	Short time value (Workplace exposure limit (EH40/2005))	50 ppm
	Short time value (Workplace exposure limit (EH40/2005))	332 mg/m ³

b) National biological limit values

If limit values are applicable and available these will be listed below.

8.1.2 Sampling methods

Product name	Test	Number
2-butoxyethyl acetate:	NIOSH	8316
Butyl Cellosolve Acetate	OSHA	73
Butyl Cellosolve Acetate	OSHA	83

8.1.3 Applicable limit values when using the substance or mixture as intended

If limit values are applicable and available these will be listed below.

8.1.4 DNEL/PNEC values

DNEL - Workers

butyl glycolacetate

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	133 mg/m ³	
	Acute local effects inhalation	333 mg/m ³	
	Long-term systemic effects dermal	169 mg/kg bw/day	
	Acute systemic effects dermal	120 mg/kg bw/day	

DNEL - General population

butyl glycolacetate

Effect level (DNEL/DMEL)	Type	Value	Remark
DNEL	Long-term systemic effects inhalation	80 mg/m ³	
	Acute local effects inhalation	200 mg/m ³	
	Long-term systemic effects dermal	102 mg/kg bw/day	
	Acute systemic effects dermal	72 mg/kg bw/day	
	Long-term systemic effects oral	8.6 mg/kg bw/day	
	Acute systemic effects oral	36 mg/kg bw/day	

PNEC

butyl glycolacetate

Compartments	Value	Remark
Fresh water	0.304 mg/l	
Marine water	0.0304 mg/l	
Aqua (intermittent releases)	0.56 mg/l	
Fresh water sediment	2.03 mg/kg sediment dw	
Marine water sediment	0.203 mg/kg sediment dw	
Soil	0.42 mg/kg soil dw	
STP	90 mg/l	

8.1.5 Control banding

If applicable and available it will be listed below.

8.2 Exposure controls:

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

8.2.1 Appropriate engineering controls

Use earthed equipment. Keep away from naked flames/heat. At temperature > flashpoint: use spark-/explosionproof appliances. Finely divided: spark- and explosionproof appliances. Finely divided: keep away from ignition sources/sparks. Before use: check for peroxides and eliminate them. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

8.2.2 Individual protection measures, such as personal protective equipment

Observe normal hygiene standards. Keep container tightly closed. Do not eat, drink or smoke during work.

a) Respiratory protection:

Gas mask with filter type A. High vapour/gas concentration: self-contained respirator.

b) Hand protection:

Gloves.

- materials (excellent resistance)

Butyl rubber.

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Product number: 50504

5 / 13

butyl glycolacetate

- materials (good resistance)
Tetrafluoroethylene.
- materials (poor resistance)
Natural rubber, PVC.

c) Eye protection:

Face shield.

d) Skin protection:

Protective clothing.

8.2.3 Environmental exposure controls:

See headings 6.2, 6.3 and 13

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Physical form	Liquid
Odour	Pleasant odour Fruity odour
Odour threshold	0.1 - 0.5 ppm 0.67 - 3.33 mg/m ³
Colour	Colourless
Particle size	Not applicable
Explosion limits	0.88 - 8.5 vol %
Flammability	Non-flammable
Log Kow	1.51 ; Test data ; 20 °C
Dynamic viscosity	0.00181Pa.s ; 20°C ; Test data
Kinematic viscosity	Not determined
Melting point	-64°C ; 1013hPa
Boiling point	192.3°C ; 1013hPa
Flash point	78°C ; Test data
Evaporation rate	0.03 ; butyl acetate
Relative vapour density	5.5
Vapour pressure	0.5hPa ; 20°C
Solubility	water ; 1.5g/100 ml
Relative density	0.94
Decomposition temperature	Not applicable
Auto-ignition temperature	280°C ; Weight of evidence approach ; 1013hPa
Explosive properties	No chemical group associated with explosive properties
Oxidising properties	No chemical group associated with oxidising properties
pH	4 ; 1%

9.2 Other information:

Surface tension	0.026N/m ; 20°C
Relative density saturated vapour/air mixture	1.0
Saturation concentration	2g/m ³
Absolute density	942kg/m ³

SECTION 10: Stability and reactivity

10.1 Reactivity:

Temperature above flashpoint: higher fire/explosion hazard. Substance has acid reaction.

10.2 Chemical stability:

Unstable on exposure to air.

10.3 Possibility of hazardous reactions:

Decomposes slowly on exposure to air: peroxidation resulting in increased fire or explosion risk. Reacts violently with (strong) oxidizers: (increased) risk of fire.

10.4 Conditions to avoid:

Use earthed equipment. Keep away from naked flames/heat. At temperature > flashpoint: use spark-/explosionproof appliances. Finely divided: spark- and explosionproof appliances. Finely divided: keep away from ignition sources/sparks.

10.5 Incompatible materials:

Oxidizing agents, (strong) bases.

10.6 Hazardous decomposition products:

Upon combustion: CO and CO₂ are formed.

SECTION 11: Toxicological information

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Product number: 50504

6 / 13

butyl glycolacetate

11.1 Information on toxicological effects:

11.1.1 Test results

- Toxicokinetics: summary

There is very little specific toxicokinetic information available for this substance. However, in vitro hydrolysis studies show the half life of 2 -butoxyethyl acetate (2BA) in rat plasma to be of the order of 1 -5 minutes for conversion to the parent glycol ether 2 -butoxyethanol (2BE), with evidence that the half life increases with increasing concentration. Once hydrolyzed, the kinetics for the glycol ether derived from the acetate are identical to that observed following administration of the glycol ether itself. The toxicological databases for systemic effects for the glycol ether and its acetate are essentially toxicologically equivalent. The possible exception to this is effects on the upper respiratory tract, where the hydrolysis product is acetic acid. However, no lesions in this area were reported in the inhalation study data available, which may reflect the relatively low volatility of the substance. The toxicological equivalence of these two compounds 2BE and 2BA is consistent with the demonstration of rapid hydrolysis of the glycol ether acetate to the glycol ether and acetic acid in vitro, and subsequent metabolism of the glycol ether via common metabolic pathways.

The available information on metabolism supports the use of the toxicological database for 2 -butoxyethanol as a surrogate for the systemic toxicity of 2 -butoxyethyl acetate. There is no dermal absorption data available for 2 -butoxyethyl acetate. However, there is experimental data available for the primary in vivo metabolite 2 -butoxyethanol (2BE) which indicate that under semi-occlusive conditions, dermal uptake of pure 2BE is between 20 and 30 % of the administered dose. QSAR data for 2 -butoxyethyl acetate indicates that it will have a much lower dermal permeation rate than the parent glycol ether 2BE (5% of the rate of 2BE). A conservative approach is to use a figure 3x this (i. e. 15%) in deriving a predicted dermal absorption rate of 5%

Basic toxicokinetics: There is very little specific toxicokinetic information available for this substance. However, an in vitro hydrolysis showed the half life of 2 -butoxyethyl acetate in rat plasma to be of the order of 1 -5 minute for conversion to the parent glycol ether 2 -butoxyethanol, with evidence that the half life is concentration dependent (increasing with increasing concentration.) Once hydrolyzed, the kinetics for the glycol ether derived from the acetate are identical to that observed following administration of the glycol ether itself. The toxicological databases for systemic effects for the glycol ether and its acetate are essentially toxicologically equivalent. The possible exception to this is effects on the upper respiratory tract, where the hydrolysis product is acetic acid. However, no lesions in this area were reported in the inhalation study data available, which may reflect the relatively low volatility of the substance. The toxicological equivalence of these two compounds is consistent with the demonstration of rapid hydrolysis of the glycol ether acetate to the glycol ether and acetic acid in vitro, and subsequent metabolism of the glycol ether via common metabolic pathways. Based on data from similar substances, a respiratory uptake of 65% is deemed appropriate. The following information is taken into account for any hazard / risk assessment: Half life of 2-butoxyethyl acetate (deacylation to parent glycol ether 2-butoxyethanol) 0.96mins

Dermal absorption: There is no dermal absorption data available for 2 -butoxyethyl acetate. QSAR data for 2 -butoxyethyl acetate indicates that it will have a slightly higher dermal permeation rate than the parent glycol ether 2 -butoxyethanol, which is known to have a dermal uptake of around 30%. Using the available data a pro-rata estimate for the dermal uptake of 2 -butoxyethyl acetate is 50%. The following information is taken into account for any hazard / risk assessment: QSAR data. Value used for CSA: Absorption rate (%): 50

Acute toxicity

butyl glycolacetate

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Remark
Oral	LD50	Equivalent to OECD 401	1880mg/kg bw		Rat (male/female)	Experimental value	
Dermal	LD50	Modification of Draize 1959 method	1500mg/kg bw		Rabbit	Experimental value	
Inhalation	LC0	Equivalent to OECD 403	> 400ppm	4 h	Rat (male/female)	Experimental value	

Conclusion

Low acute toxicity by the inhalation route
Harmful if swallowed.
Harmful in contact with skin.

Corrosion/irritation

butyl glycolacetate

Route of exposure	Result	Method	Exposure time	Time point	Species	Value determination	Remark
Eye	Not irritating	Equivalent to OECD 405		24 hours	Rabbit	Experimental value	
Eye	Not irritating	Equivalent to OECD 405		24; 48 hours	Rabbit	Experimental value	
Dermal	Not irritating	BASF-internal standards		48; 72 hours	Rabbit	Experimental value	
Dermal	Not irritating	EU Method B.4		24; 72 hours	Rabbit	Experimental value	

Conclusion

Not classified as irritating to the skin
Not classified as irritating to the eyes

Respiratory or skin sensitisation

butyl glycolacetate

Route of exposure	Result	Method	Exposure time	Observation time point	Species	Value determination	Remark
Dermal	Not sensitizing	EU Method B.6			Guinea pig (male)	Experimental value	

Conclusion

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Product number: 50504

7 / 13

butyl glycolacetate

Not classified as sensitizing for skin
No respiratory sensitization data available

Specific target organ toxicity

butyl glycolacetate

Route of exposure	Parameter	Method	Value	Organ	Effect	Exposure time	Species	Value determination
Oral	NOAEL	Equivalent to OECD 408	< 69mg/kg bw	Liver	Histopathology	90 days (continuous)	Rat (male)	Read-across
Oral	NOAEL	Equivalent to OECD 408	< 82mg/kg bw	Liver	Histopathology	90 days (continuous)	Rat (female)	Read-across
Dermal	NOAEL	Equivalent to OECD 411	> 150mg/kg bw/day		No effect	90 day(s)	Rabbit (male/female)	Read-across
Inhalation	NOAEC	Equivalent to OECD 413	< 31ppm		Haematological changes	14 week(s)	Rat (female)	Read-across
Inhalation	NOAEC	Equivalent to OECD 413	62.5ppm		Haematological changes	14 week(s)	Rat (male)	Read-across
Inhalation	NOAEC	Equivalent to OECD 413	< 31ppm		Haematological changes	14 week(s)	Mouse (female)	Read-across
Inhalation	NOAEC	Equivalent to OECD 413	62.5ppm		Haematological changes	14 week(s)	Mouse (male)	Read-across

Conclusion

Low sub-chronic toxicity by the dermal route
Low sub-chronic toxicity by the oral route
Low sub-chronic toxicity by inhalation route

Mutagenicity (in vitro)

butyl glycolacetate

Result	Method	Test substrate	Effect	Value determination
Negative	OECD 471	Bacteria (S.typhimurium)		Read-across
Negative	OECD 473	Chinese hamster ovary (CHO)		Read-across

Mutagenicity (in vivo)

butyl glycolacetate

Result	Method	Exposure time	Test substrate	Organ	Value determination
Negative	Equivalent to OECD 474		Mouse (male)		Read-across

Carcinogenicity

butyl glycolacetate

Route of exposure	Parameter	Method	Value	Exposure time	Species	Value determination	Organ	Effect
Inhalation	NOAEC	Equivalent to OECD 451	125ppm	102 weeks (daily, 5 days/week)	Mouse (male/female)	Read-across	Liver	Neoplastic effects

Reproductive toxicity

butyl glycolacetate

	Parameter	Method	Value	Exposure time	Species	Effect	Organ	Value determination
Developmental toxicity	LOAEL	Equivalent to OECD 414	100ppm	6 - 15 days (gestation, daily)	Rat	Minor skeletal variations		Read-across
	NOAEL	Equivalent to OECD 414	50ppm	6 - 15 days (gestation, daily)	Rat	No effect		Read-across
	NOAEL	Equivalent to OECD 414	100mg/kg bw/day	9 - 11 or 9 - 13 days (gestation, daily)	Rat		Blood	Read-across
	NOAEL	Equivalent to OECD 414	100ppm	6 - 18 days (gestation, daily)	Rabbit	Viable implants		Read-across
Effects on fertility	NOAEL (P)	NTP continuous breeding protocol	720mg/kg bw/day	14 week(s)	Mouse (male/female)	Body weight reduction, mortality, reproductive performance	General	Read-across

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Revision number: 0102

Product number: 50504

8 / 13

butyl glycolacetate

Effects on fertility	NOAEL (F1)	NTP continuous breeding protocol	720mg/kg bw/day	14 week(s)	Mouse (male/female)	Weight changes		Read-across
	NOAEL (F2)	NTP continuous breeding protocol	720mg/kg bw/day	14 week(s)	Mouse (male/female)	No effect		Read-across

Conclusion CMR

Mutagenicity and genotoxicity are not likely to be manifest
 Not classified for carcinogenicity
 Not classified for reprotoxic or developmental toxicity

Toxicity other effects

butyl glycolacetate

No (test) data available

SECTION 12: Ecological information

12.1 Toxicity:

butyl glycolacetate

	Parameter	Method	Value	Duration	Species	Test design	Fresh/salt water	Value determination
Acute toxicity fishes	LC50	OECD 203	28mg/l	96 h	Oncorhynchus mykiss		Fresh water	Experimental value
Acute toxicity invertebrates	EC50	ASTM	> 100mg/l	24 h	Crassostrea gigas	Static system	Salt water	Experimental value
	EC50	DIN 38412-11	37mg/l	48 h	Daphnia magna	Static system	Fresh water	Experimental value
Toxicity algae and other aquatic plants	EC50	ISO 8692	1570mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value
	EC0	ISO 8692	300mg/l	72 h	Pseudokirchneriella subcapitata	Static system	Fresh water	Experimental value
Long-term toxicity aquatic invertebrates	EC10	AFNOR	30.4mg/l	7 day(s)	Ceriodaphnia dubia	Semi-static system	Fresh water	Experimental value
Toxicity aquatic micro-organisms	EC10	DIN 38412-8	720mg/l	17 h	Pseudomonas putida	Static system	Fresh water	Experimental value
	EC50	DIN 38412-8	960mg/l	17 h	Pseudomonas putida	Static system	Fresh water	Experimental value

Conclusion

Harmful to fishes
 Not harmful to algae
 Slightly harmful to bacteria
 Harmful to invertebrates
 Classification concerning the environment: not applicable

12.2 Persistence and degradability:

butyl glycolacetate

Biodegradation water

Method	Value	Duration	Value determination
EU Method C.4	88%	28 day(s)	Experimental value

Phototransformation air (DT50 air)

Method	Value	Conc. OH-radicals	Value determination
AOPWIN v1.90	5.46h		QSAR

Conclusion

Readily biodegradable in water

12.3 Bioaccumulative potential:

butyl glycolacetate

Log Kow

Method	Remark	Value	Temperature	Value determination
		1.51	20 °C	Test data

Conclusion

Low potential for bioaccumulation (Log Kow < 4)

12.4 Mobility in soil:

butyl glycolacetate

Percent distribution

Method	Fraction air	Fraction biota	Fraction sediment	Fraction soil	Fraction water	Value determination

Reason for revision: 1.2.1; 1.3; 8.1.4

Publication date: 2006-02-16

Date of revision: 2015-02-20

Revision number: 0102

Product number: 50504

9 / 13

butyl glycolacetate

Mackay level I	46.2%	0%	0.4%	29.3%	24.1%	QSAR
Mackay level III	5.6%	0%	0.57%	37.5%	56.3%	QSAR

Conclusion

Low potential for adsorption in soil

12.5 Results of PBT and vPvB assessment:

Substance does not meet the screening criteria for persistency nor bioaccumulation so is neither PBT nor vPvB.

12.6 Other adverse effects:

butyl glycolacetate

Ozone-depleting potential (ODP)

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

Ground water

Ground water pollutant

SECTION 13: Disposal considerations

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

13.1 Waste treatment methods:

13.1.1 Provisions relating to waste

Waste material code (Directive 2008/98/EC, Decision 2000/0532/EC).

07 01 04* (wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals: other organic solvents, washing liquids and mother liquors). Depending on branch of industry and production process, also other waste codes may be applicable. Hazardous waste according to Directive 2008/98/EC.

13.1.2 Disposal methods

Recycle by distillation. Remove to an authorized waste incinerator for solvents with energy recovery. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Obtain the consent of pollution control authorities before discharging to wastewater treatment plants. Do not discharge into surface water.

13.1.3 Packaging/Container

Waste material code packaging (Directive 2008/98/EC).

15 01 10* (packaging containing residues of or contaminated by dangerous substances).

SECTION 14: Transport information

Road (ADR)

14.1 UN number:

Transport	Not subject
-----------	-------------

14.2 UN proper shipping name:

14.3 Transport hazard class(es):

Hazard identification number	
Class	
Classification code	

14.4 Packing group:

Packing group	
Labels	

14.5 Environmental hazards:

Environmentally hazardous substance mark	no
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14.6 Special precautions for user:

Special provisions	
Limited quantities	

Rail (RID)

14.1 UN number:

Transport	Not subject
-----------	-------------

14.2 UN proper shipping name:

14.3 Transport hazard class(es):

Hazard identification number	
Class	
Classification code	

14.4 Packing group:

Packing group	
Labels	

14.5 Environmental hazards:

Environmentally hazardous substance mark	no
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Publication date: 2006-02-16

Date of revision: 2015-02-20

Revision number: 0102

Product number: 50504

10 / 13

butyl glycolacetate

14.6 Special precautions for user:

Special provisions	
Limited quantities	

Inland waterways (ADN)

14.1 UN number:

UN number	9003
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14.2 UN proper shipping name:

Proper shipping name	Substances with a flash-point above 60 °C and not more than 100 °C
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14.3 Transport hazard class(es):

Class	9
Classification code	

14.4 Packing group:

Packing group	
Labels	none.

14.5 Environmental hazards:

Environmentally hazardous substance mark	no
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14.6 Special precautions for user:

Special provisions	
Limited quantities	

Sea (IMDG/IMSBC)

14.1 UN number:

Transport	Not subject
-----------	-------------

14.2 UN proper shipping name:

14.3 Transport hazard class(es):

Class	
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14.4 Packing group:

Packing group	
Labels	

14.5 Environmental hazards:

Marine pollutant	-
Environmentally hazardous substance mark	no

14.6 Special precautions for user:

Special provisions	
Limited quantities	

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:

Annex II of MARPOL 73/78	
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Air (ICAO-TI/IATA-DGR)

14.1 UN number:

Transport	Not subject
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14.2 UN proper shipping name:

14.3 Transport hazard class(es):

Class	
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14.4 Packing group:

Packing group	
Labels	

14.5 Environmental hazards:

Environmentally hazardous substance mark	no
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14.6 Special precautions for user:

Special provisions	
Passenger and cargo transport: limited quantities: maximum net quantity per packaging	

SECTION 15: Regulatory information

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

European legislation:

VOC content Directive 2010/75/EU

VOC content	Remark
100%	

REACH Annex XVII - Restriction

Subject to restrictions of Annex XVII of Regulation (EC) No. 1907/2006: restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles.

	Designation of the substance, of the group of substances or of the mixture	Conditions of restriction
-	2-butoxyethyl acetate	Liquid substances or mixtures which are 1. Shall not be used in:

Reason for revision: 1.2.1; 1.3; 8.1.4

Publication date: 2006-02-16

Date of revision: 2015-02-20

Revision number: 0102

Product number: 50504

11 / 13

butyl glycolacetate

<p>regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008:</p> <p>(a) hazard classes 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F;</p> <p>(b) hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10;</p> <p>(c) hazard class 4.1;</p> <p>(d) hazard class 5.1.</p>	<p>— ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,</p> <p>— tricks and jokes,</p> <p>— games for one or more participants, or any article intended to be used as such, even with ornamental aspects.</p> <p>2. Articles not complying with paragraph 1 shall not be placed on the market.</p> <p>3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:</p> <p>— can be used as fuel in decorative oil lamps for supply to the general public, and,</p> <p>— present an aspiration hazard and are labelled with R65 or H304.</p> <p>4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).</p> <p>5. Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:</p> <p>a) lamp oils, labelled with R65 or H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: "Keep lamps filled with this liquid out of the reach of children"; and, by 1 December 2010, "Just a sip of lamp oil — or even sucking the wick of lamps — may lead to life-threatening lung damage";</p> <p>b) grill lighter fluids, labelled with R65 or H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: "Just a sip of grill lighter may lead to life threatening lung damage";</p> <p>c) lamp oils and grill lighters, labelled with R65 or H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.</p> <p>6. No later than 1 June 2014, the Commission shall request the European Chemicals Agency to prepare a dossier, in accordance with Article 69 of the present Regulation with a view to ban, if appropriate, grill lighter fluids and fuel for decorative lamps, labelled R65 or H304, intended for supply to the general public.</p> <p>7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with R65 or H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled R65 or H304 to the competent authority in the Member State concerned. Member States shall make those data available to the Commission.'</p>
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National legislation The Netherlands

Waste identification (the Netherlands)	LWCA (the Netherlands): KGA category 03
Waterbezwaarlijkheid	9

National legislation Germany

Schwangerschaft Gruppe	C
MAK - Krebserzeugend Kategorie	4
WGK	1; Classification water polluting in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 27 July 2005 (Anhang 2)

National legislation France

No data available

National legislation Belgium

No data available

Other relevant data

TLV - Carcinogen	2-Butoxyethyl acetate (EGBEA); A3
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15.2 Chemical safety assessment:

A chemical safety assessment has been performed.

SECTION 16: Other information

Labelling according to Directive 67/548/EEC-1999/45/EC (DSD/DPD)

Enumerated in substance list Annex I of Directive 67/548/EEC et sequens

Labels



Harmful

R-phrases

21/22 Harmful in contact with skin and if swallowed

S-phrases

(02) (Keep out of the reach of children)
 36/37 Wear suitable protective clothing and gloves
 (46) (If swallowed, seek medical advice immediately and show this container or label)

Full text of any R-phrases referred to under headings 2 and 3:

R21/22 Harmful in contact with skin and if swallowed

Full text of any H-statements referred to under headings 2 and 3:

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Publication date: 2006-02-16

Date of revision: 2015-02-20

Revision number: 0102

Product number: 50504

12 / 13

butyl glycolacetate

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

(*) = INTERNAL CLASSIFICATION BY BIG

PBT-substances = persistent, bioaccumulative and toxic substances

DSD Dangerous Substance Directive

DPD Dangerous Preparation Directive

CLP (EU-GHS) Classification, labelling and packaging (Globally Harmonised System in Europe)

The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Old versions must be destroyed. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. This safety data sheet is only to be used within the European Union, Switzerland, Iceland, Norway and Liechtenstein. Any use outside of this area is at your own risk. Use of this safety data sheet is subject to the licence and liability limiting conditions as stated in your BIG licence agreement or when this is failing the general conditions of BIG. All intellectual property rights to this sheet are the property of BIG and its distribution and reproduction are limited. Consult the mentioned agreement/conditions for details.

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13 / 13