

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form : Mixture
Product name : FASTRAC RUST CONVERTER
Product code : RC46
Product group : End product

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Main use category : Consumer use
Function or use category : Coatings and paints, thinners, paint removers

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet**Manufacturer**

Bradite Paints
Ogwen Valley Works
Bethesda Gwynedd
LL57 4YP
T +44 (0)1248 600315 - F +44 (0)1248 602782
sales@bradite.com

1.4. Emergency telephone number

Emergency number : +44 (0)1248 600315

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Hazardous to the aquatic environment – Chronic Hazard, Category 3 H412
Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Harmful to aquatic life with long lasting effects.

2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Signal word (CLP) : -
Hazard statements (CLP) : H412 - Harmful to aquatic life with long lasting effects.
Precautionary statements (CLP) : P273 - Avoid release to the environment.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Contains no PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

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

Not applicable

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according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2-BUTOXYETHANOL substance with national workplace exposure limit(s) (AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GI, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, IS, NO, MK, RS, CH, TR); substance with a Community workplace exposure limit	CAS-No.: 111-76-2 EC-No.: 203-905-0 EC Index-No.: 603-014-00-0	< 5	Acute Tox. 4 (Oral), H302 (ATE=1414 mg/kg bodyweight) Acute Tox. 4 (Dermal), H312 (ATE=1100 mg/kg bodyweight) Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT RE 2, H373
TRIZINC BIS(ORTHOPHOSPHATE)	CAS-No.: 7779-90-0 EC-No.: 231-944-3 EC Index-No.: 030-011-00-6 REACH-no: 01-2119485044-40	< 5	STOT RE 2, H373 Aquatic Acute 1, H400 (M=1) Aquatic Chronic 1, H410 (M=1)

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

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after skin contact	: Causes mild skin irritation.
Symptoms/effects after eye contact	: May cause eye irritation. Redness.
Symptoms/effects after ingestion	: May cause irritation to the digestive tract.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Not flammable.
Explosion hazard	: No direct explosion hazard.
Reactivity in case of fire	: Product is not explosive.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
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according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2015/830

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

2-BUTOXYETHANOL (111-76-2)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	2-Butoxyethanol
IOEL TWA [ppm]	20 ppm
IOEL STEL	246 mg/m ³
IOEL STEL [ppm]	50 ppm
Remark	Skin
Regulatory reference	COMMISSION DIRECTIVE 2000/39/EC
Austria - Occupational Exposure Limits	
Local name	2-Butoxyethanol (Butylglykol; Ethylenglykolmonobutylether)
MAK (OEL TWA)	98 mg/m ³
MAK (OEL TWA) [ppm]	20 ppm

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2-BUTOXYETHANOL (111-76-2)	
MAK (OEL STEL)	200 mg/m ³ (4x 30(Miw) min)
MAK (OEL STEL) [ppm]	40 ppm (4x 30(Miw) min)
Remark	H
Regulatory reference	BGBI. II Nr. 156/2021
Belgium - Occupational Exposure Limits	
Local name	2-Butoxyéthanol # 2-Butoxy-ethanol
OEL TWA	98 mg/m ³
OEL TWA [ppm]	20 ppm
OEL STEL	246 mg/m ³
OEL STEL [ppm]	50 ppm
Remark	D: la mention "D" signifie que la résorption de l'agent, via la peau, les muqueuses ou les yeux, constitue une partie importante de l'exposition totale. Cette résorption peut se faire tant par contact direct que par présence de l'agent dans l'air. # D: de vermelding "D" betekent dat de opname van het agens via de huid, de slijmvliezen of de ogen een belangrijk deel van de totale blootstelling vormt. Deze opname kan het gevolg zijn van zowel direct contact als zijn aanwezigheid in de lucht.
Regulatory reference	Koninklijk besluit/Arrêté royal 11/05/2021
Bulgaria - Occupational Exposure Limits	
Local name	2-Бутоксietанол
OEL TWA	98 mg/m ³
OEL TWA [ppm]	20 ppm
OEL STEL	246 mg/m ³
OEL STEL [ppm]	50 ppm
Remark	Кожа (възможна е значителна резорбция чрез кожата); * (Химични агенти, за които са определени гранични стойности във въздуха на работната среда за Европейската общност)
Regulatory reference	Наредба № 13 от 30.12.2003 г. за защита на работещите от рискове, свързани с експозиция на химични агенти при работа (изм. и доп. ДВ. бр. 47 от 2021 г., в сила от 04.06.2021 г.)
Croatia - Occupational Exposure Limits	
Local name	2-Butoksietanol; etilen-glikol monobutil-eter; butilov celosolv
GVI (OEL TWA) [1]	98 mg/m ³
GVI (OEL TWA) [2]	20 ppm
KGVI (OEL STEL)	246 mg/m ³
KGVI (OEL STEL) [ppm]	50 ppm
Remark	Direktiva: 2000/39/EZ. Napomena: Koža (razvrstana kao tvar koja nadražuje kožu (H315))
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, граниčnim vrijednostima izloženosti i biološkim граниčnim vrijednostima (NN 1/2021)
Cyprus - Occupational Exposure Limits	
Local name	2-Βουτοξυαιθανόλη
OEL TWA	98 mg/m ³
OEL TWA [ppm]	20 ppm

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2-BUTOXYETHANOL (111-76-2)	
OEL STEL	246 mg/m ³
OEL STEL [ppm]	50 ppm
Remark	δέρμα
Regulatory reference	Κανονισμοί του 2007 (Κ.Δ.Π. 295/2007)
Czech Republic - Occupational Exposure Limits	
Local name	2-Butoxyethanol (Butylcellosolv; Ethylenglykolmonobutylether)
PEL (OEL TWA)	100 mg/m ³
PEL (OEL TWA) [ppm]	20 ppm
NPK-P (OEL C)	200 mg/m ³
NPK-P (OEL C) [ppm]	41 ppm
Remark	D - při expozici se významně uplatňuje pronikání faktoru kůží, I - dráždí sliznice (oči, dýchací cesty), respektive kůži, B - u látky je zaveden biologický expoziční test (BET) v moči nebo krvi.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 195/2021 Sb.)
Czech Republic - Biological limit values	
Local name	2-Butoxyethanol (Butylcellosolv, Ethylenglykolmonobutylether)
BLV	200 mg/g creatinine Ukazatel: Butoxyoctová kyselina - Biologický vzorek: moči - Doba odběru: konec směny na konci 0.17 mmol/mmol Creatinine Ukazatel: Butoxyoctová kyselina - Biologický vzorek: moči - Doba odběru: konec směny na konci
Regulatory reference	Vyhláška č. 107/2013 Sb. (kterou se mění vyhláška č. 432/2003 Sb.)
Denmark - Occupational Exposure Limits	
Local name	Butylglycol (2-Butoxyethanol; Butylcellosolve; Ethylenglykolmonobutylether)
OEL TWA [1]	98 mg/m ³
OEL TWA [2]	20 ppm
Remark	E (betyder, at stoffet har en EF-grænseværdi); H (betyder, at stoffet kan optages gennem huden)
Regulatory reference	BEK nr 2203 af 29. november 2021
Estonia - Occupational Exposure Limits	
Local name	2-butoksüetanool (o-butüületüleenglükool, etüleenglükoolmono-butüüleeter, butüületsellosolv)
OEL TWA	98 mg/m ³
OEL TWA [ppm]	20 ppm
OEL STEL	246 mg/m ³
OEL STEL [ppm]	50 ppm
Remark	A (Naha kaudu kergesti imenduv aine), S (Sensibiliseeriv aine)
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 15.05.2021, 1)
Finland - Occupational Exposure Limits	
Local name	2-Butoksietanoli
HTP (OEL TWA) [1]	98 mg/m ³
HTP (OEL TWA) [2]	20 ppm

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2-BUTOXYETHANOL (111-76-2)	
HTP (OEL STEL)	250 mg/m ³
HTP (OEL STEL) [ppm]	50 ppm
Remark	lho
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö)
France - Occupational Exposure Limits	
Local name	2-Butoxyéthanol (Butylglycol)
VME (OEL TWA)	49 mg/m ³
VME (OEL TWA) [ppm]	10 ppm
VLE (OEL C/STEL)	246 mg/m ³
VLE (OEL C/STEL) [ppm]	50 ppm
Remark	Valeurs réglementaires contraignantes; risque de pénétration percutanée
Regulatory reference	Article R4412-149 du Code du travail (réf.: INRS ED 984, 2016; Décret n° 2019-1487; Décret n° 2020-1546; Décret n° 2021-434; Décret n° 2021-1849)
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	49 mg/m ³
AGW (OEL TWA) [2]	10 ppm
Peak exposure limitation factor	2(l)
Remark	EU - Europäische Union (Von der EU wurde ein Luftgrenzwert festgelegt: Abweichungen bei Wert und Spitzenbegrenzung sind möglich); DFG - Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG (MAK-Kommission); H - hautresorptiv; Y - Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden
Regulatory reference	TRGS900
Germany - Biological limit values (TRGS 903)	
Local name	2-Butoxyethanol
Biological limit value	150 mg/g creatinine Parameter: Butoxyessigsäure (nach Hydrolyse) - Untersuchungsmaterial: U = Urin - Probenahmezeitpunkt: b) Expositionsende, bzw. Schichtende, c) bei Langzeitexposition: am Schichtende nach mehreren vorangegangenen Schichten - Festlegung/Begründung: 11/2016 DFG
Regulatory reference	TRGS 903
Gibraltar - Occupational Exposure Limits	
Local name	2-Butoxyethanol
OEL TWA	98 mg/m ³
OEL TWA [ppm]	20 ppm
OEL STEL	246 mg/m ³
OEL STEL [ppm]	50 ppm
Remark	Skin
Regulatory reference	Factories (Control of Chemical Agents at Work) Regulations 2003 (LN. 2018/181)
Greece - Occupational Exposure Limits	
Local name	Βουτοξυ-αιθανόλη, 2-
OEL TWA	120 mg/m ³
OEL TWA [ppm]	25 ppm

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2-BUTOXYETHANOL (111-76-2)	
Remark	Η ένδειξη «δέρμα» στις οριακές τιμές επαγγελματικής έκθεσης επισημαίνει το ενδεχόμενο σημαντικής διείσδυσης μέσω του δέρματος.
Regulatory reference	Π.Δ. 90/1999 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους
Hungary - Occupational Exposure Limits	
Local name	2-BUTOXIETANOL
AK (OEL TWA)	98 mg/m ³
CK (OEL STEL)	246 mg/m ³
Remark	b (Bőrön át is felszívódik), i (ingerlő anyag, amely izgatja a bőrt, nyálkahártyát, szemet vagy mindhármát); EU1 (2000/39/EK irányelvben közölt érték); T (Azok az anyagok, amelyek egészségkárosító hatása TARTÓS expozíciót követően jelentkezik)
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
Ireland - Occupational Exposure Limits	
Local name	2-Butoxyethanol (EGBE) [Ethylene glycol monobutyl ether]
OEL TWA [1]	98 mg/m ³
OEL TWA [2]	20 ppm
OEL STEL	246 mg/m ³
OEL STEL [ppm]	50 ppm
Remark	Sk (Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body), IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2021
Ireland - Biological limit values	
Local name	2-Butoxyethanol
BMGV	200 mg/g creatinine Parameter: BAA - Medium: urine - Sampling time: End of shift
Regulatory reference	Biological Monitoring Guidelines (HSA, 2011)
Italy - Occupational Exposure Limits	
Local name	Butossietanolo-2
OEL TWA	98 mg/m ³
OEL TWA [ppm]	20 ppm
OEL STEL	246 mg/m ³
OEL STEL [ppm]	50 ppm
Remark	Cute
Regulatory reference	Allegato XXXVIII del D.Lgs. 9 aprile 2008, n. 81 e s.m.i.
Latvia - Occupational Exposure Limits	
Local name	2-Butoksietanols, (etilēnglikola monobutilēteris, Butilcelosolvs)
OEL TWA	98 mg/m ³
OEL TWA [ppm]	20 ppm
OEL STEL	246 mg/m ³
OEL STEL [ppm]	50 ppm

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2-BUTOXYETHANOL (111-76-2)	
Remark	Āda
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325
Lithuania - Occupational Exposure Limits	
Local name	Etilenglikolio monobutyleteris (butilglikolis, 2-butoksietanolis)
IPRV (OEL TWA)	50 mg/m ³
IPRV (OEL TWA) [ppm]	10 ppm
TPRV (OEL STEL)	100 mg/m ³
TPRV (OEL STEL) [ppm]	20 ppm
Remark	O (medžiaga į organizmą gali prasiskverbti pro nepažeistą odą)
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
Luxembourg - Occupational Exposure Limits	
Local name	2-Butoxyéthanol
OEL TWA	98 mg/m ³
OEL TWA [ppm]	20 ppm
OEL STEL	246 mg/m ³
OEL STEL [ppm]	50 ppm
Remark	Peau
Regulatory reference	Mémorial A N° 226 de 2021 concernant la protection de la sécurité et de la santé des salariés contre les risques liés à des agents chimiques sur le lieu de travail
Malta - Occupational Exposure Limits	
Local name	2-Butoxyethanol
OEL TWA	98 mg/m ³
OEL TWA [ppm]	20 ppm
OEL STEL	246 mg/m ³
OEL STEL [ppm]	50 ppm
Remark	Skin # Ġilda
Regulatory reference	S.L.424.24 - Chemical Agents at Work Regulations (L.N.356 of 2021)
Netherlands - Occupational Exposure Limits	
Local name	2-Butoxyethanol
TGG-8u (OEL TWA)	100 mg/m ³
TGG-15min (OEL STEL)	246 mg/m ³
Remark	H (Huidopname) Stoffen die relatief gemakkelijk door de huid kunnen worden opgenomen, hetgeen een substantiële bijdrage kan betekenen aan de totale inwendige blootstelling, hebben in de lijst een H-aanduiding. Bij deze stoffen moeten naast maatregelen tegen inademing ook adequate maatregelen ter voorkoming van huidcontact worden genomen.
Regulatory reference	Arbeidsomstandighedenregeling 2022
Poland - Occupational Exposure Limits	
Local name	2-Butoksyetanol (butoksyetylowy alkohol)
NDS (OEL TWA)	98 mg/m ³
NDSch (OEL STEL)	200 mg/m ³

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2-BUTOXYETHANOL (111-76-2)	
Remark	Skóra (Oznakowanie substancji notacją „skóra” oznacza, że wchłanianie substancji przez skórę może być tak samo istotne jak przy narażeniu drogą oddechową).
Regulatory reference	Dz. U. 2018 poz. 1286
Portugal - Occupational Exposure Limits	
Local name	2-Butoxietanol (EGBE)
OEL TWA [ppm]	20 ppm
Remark	A3 (Agente carcinogénico confirmado nos animais de laboratorio con relevância desconhecida no Homem); IBE (Índice biológico de exposição)
Regulatory reference	Norma Portuguesa NP 1796:2014
Portugal - Biological Exposure Indices	
Local name	2-Butoxietanol (EGBE)
BEI	200 mg/g creatinine Parâmetro: Ácido butoxiacético (BAA) - Meio: urina - Momento da amostragem: Fim do turno - Notação: Com hidrólise
Regulatory reference	Norma Portuguesa NP 1796:2014
Romania - Occupational Exposure Limits	
Local name	2-Butoxietanol/Etilenglicol monobutyleter
OEL TWA	98 mg/m ³
OEL TWA [ppm]	20 ppm
OEL STEL	246 mg/m ³
OEL STEL [ppm]	50 ppm
Remark	P - posibilitatea unei penetrări cutanate importante
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 53/2021)
Serbia - Occupational Exposure Limits	
Local name	2-бутоксietанол
OEL TWA	98 mg/m ³
OEL TWA [ppm]	20 ppm
OEL STEL	246 mg/m ³
OEL STEL [ppm]	50 ppm
Remark	EУ* – напомена да се ради о хемијским материјама за које су утврђене индикативне граничне вредности изложености према Директиви 2000/39/ЕЗ (прва листа)
Regulatory reference	ПРАВИЛНИК о превентивним мерама за безбедан и здрав рад при излагању хемијским материјама („Службени гласник РС”, бр. 106/09, 117/17 и 107/21)
Slovakia - Occupational Exposure Limits	
Local name	2-Butoxyetanol (butylglykol)
NPHV (OEL TWA) [1]	98 mg/m ³
NPHV (OEL TWA) [2]	20 ppm
NPHV (OEL STEL)	246 mg/m ³
NPHV (OEL STEL) [ppm]	50 ppm
Remark	K - znamená, že faktor môže byť ľahko absorbovaný kožou
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (236/2020 Z. z.)

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2-BUTOXYETHANOL (111-76-2)	
Slovenia - Occupational Exposure Limits	
Local name	2-butoksietanol (butilglikol)
OEL TWA	98 mg/m ³
OEL TWA [ppm]	20 ppm
OEL STEL	246 mg/m ³
OEL STEL [ppm]	50 ppm
Remark	K (Lastnost lažjega prehajanja snovi v organizem skozi kožo), Y (Snovi, pri katerih ni nevarnosti za zarodek ob upoštevanju mejnih vrednosti in bat vrednosti), BAT (Biološka mejna vrednost), EU
Regulatory reference	Uradni list RS, št. 72/2021 z dne 11.5.2021
Slovenia - Biological limit values	
Local name	2-butoksietanol
BLV	150 mg/g creatinine Parameter: butoksiocetna kislina (po hidrolizi) - Biološki vzorec: urin - Čas vzorčenja: ob koncu delovne izmene, pri dolgotrajni izpostavljenosti: ob koncu delovne izmene po več zaporednih delavnikih
Regulatory reference	Uradni list RS, št. 72/2021 z dne 11.5.2021
Spain - Occupational Exposure Limits	
Local name	2-Butoxietanol (Butil cellosolve; Éter monobutílico del etilenglicol)
VLA-ED (OEL TWA) [1]	98 mg/m ³
VLA-ED (OEL TWA) [2]	20 ppm
VLA-EC (OEL STEL)	245 mg/m ³
VLA-EC (OEL STEL) [ppm]	50 ppm
Remark	Vía dérmica (Indica que, en las exposiciones a esta sustancia, la aportación por la vía cutánea puede resultar significativa para el contenido corporal total si no se adoptan medidas para prevenir la absorción. En estas situaciones, es aconsejable la utilización del control biológico para poder cuantificar la cantidad global absorbida del contaminante), VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo), VLB® (Agente químico que tiene Valor Límite Biológico).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2022. INSHT
Spain - Biological limit values	
Local name	2-Butoxietanol (Butil cellosolve; Éter monobutílico del etilenglicol)
BLV	200 mg/g creatinine Parámetro: Ácido butoxiacético - Medio: Orina - Momento de muestreo: Final de la jornada laboral - Notas: Con hidrólisis
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2022. INSHT
Sweden - Occupational Exposure Limits	
Local name	Etylenglykolmonobutyleter (2-Butoxietanol)
NGV (OEL TWA)	50 mg/m ³
NGV (OEL TWA) [ppm]	10 ppm
KTV (OEL STEL)	246 mg/m ³
KTV (OEL STEL) [ppm]	50 ppm
Remark	H (Ämnet kan lätt upptas genom huden. Det föreskrivna gränsvärdet bedöms ge tillräckligt skydd endast under förutsättning att huden är skyddad mot exponering för ämnet ifråga)
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)

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2-BUTOXYETHANOL (111-76-2)	
United Kingdom - Occupational Exposure Limits	
Local name	2-Butoxyethanol
WEL TWA (OEL TWA) [1]	123 mg/m ³
WEL TWA (OEL TWA) [2]	25 ppm
WEL STEL (OEL STEL)	246 mg/m ³
WEL STEL (OEL STEL) [ppm]	50 ppm
Remark	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
United Kingdom - Biological limit values	
Local name	2-Butoxyethanol
BMGV	240 mmol/mol Creatinine Parameter: butoxyacetic acid - Medium: urine - Sampling time: Post shift
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Iceland - Occupational Exposure Limits	
Local name	2-Bútoxýetanól (bútylglykól, bútylsellósolv, etýlenglykólmonóbútyleter, glykólmonóbútyleter)
OEL TWA	100 mg/m ³
OEL TWA [ppm]	20 ppm
OEL STEL	246 mg/m ³
OEL STEL [ppm]	50 ppm
Remark	H (efnið getur auðveldlega borist inn í líkamann gegnum húð)
Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 390/2009)
Norway - Occupational Exposure Limits	
Local name	2-butoksyetanol (Butylglykol; Etylenglykolmonobutyleter)
Grenseverdi (OEL TWA) [1]	50 mg/m ³
Grenseverdi (OEL TWA) [2]	10 ppm
Remark	H: Kjemikalier som kan tas opp gjennom huden; E: EU har en veiledende grenseverdi og/eller anmerkning for stoffet.
Regulatory reference	FOR-2021-06-28-2248
North Macedonia - Occupational Exposure Limits	
Local name	2-бутоксietанол (бутилгликол)
OEL TWA	98 mg/m ³
OEL TWA [ppm]	20 ppm
KTV	2.5
Short time value [mg/m ³]	245 mg/m ³
Short time value [ppm]	50 ppm

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2-BUTOXYETHANOL (111-76-2)	
Remark	(KTV) краткотрајна вредност (КТВ) значи концентрација на опасни хемиски супстанции во воздухот на работното место внатре во зона на дишење, на која работникот без опасност по здравјето може да е изложен на покусо време. Изложеноста на краткотрајни вредности може да трае највеќе 15 минути и не смее да се повтори повеќе од четирипати во работната смена, при што меѓу две изложености на оваа концентрација мора да измине најмалку 60 минути. Краткотрајната вредност е изразена во mg/m ³ или во ml/m ³ (ppm) а е дадена како многукратни дозволени пречекорувања на граничната вредност; (K) својство на полесно пренесување на супстанците во организмот преку кожата; (EU) European Union – гранична вредност, определена на ниво на Европската унија
Regulatory reference	Правилник за минималните барања за безбедност и здравје при работа на вработени од ризици поврзани со изложување на хемиски супстанции („Службен весник на Република Македонија“ бр.46/10)
Switzerland - Occupational Exposure Limits	
Local name	2-Butoxyéthanol / 2-Butoxyethanol [Butylglykol, Ethylenglykolmonobutylether]
MAK (OEL TWA) [1]	49 mg/m ³
MAK (OEL TWA) [2]	10 ppm
KZGW (OEL STEL)	98 mg/m ³
KZGW (OEL STEL) [ppm]	20 ppm
Critical toxicity	VRS, Yeux / OAW, Auge
Notation	R, SS _C , B / H, SS _C , B
Remark	INRS, HSE, NIOSH
Regulatory reference	www.suva.ch, 28.03.2022
Switzerland - BAT	
Local name	2-Butoxyéthanol / 2-Butoxyethanol
BAT	150 mg/g creatinine (Paramètre biologique: Acide 2-butoxyacétique (après hydrolyse); Substrat d'examen: Urine; Moment du prélèvement: Fin de l'exposition, de la période de travail. Exposition de longue durée: après plusieurs périodes de travail.) / (Biologischer Parameter: 2-Butoxyessigsäure (nach Hydrolyse); Untersuchungsmaterial: Urin; Probenahmezeitpunkt: Expositionsende, bzw. Schichtende. Bei Langzeitexposition: nach mehreren vorangegangenen Schichten.)
Regulatory reference	Ordonnance 832.30 (OPA), article 50 al. 3, www.suva.ch/valeurs-limites / Verordnung 832.30 (VUV), Art. 50 Abs. 3, www.suva.ch/grenzwerte
USA - ACGIH - Occupational Exposure Limits	
Local name	2-Butoxyethanol (EGBE)
ACGIH OEL TWA [ppm]	20 ppm
Remark (ACGIH)	TLV® Basis: Eye & URT irr. Notations: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans); BEI
Regulatory reference	ACGIH 2022
USA - ACGIH - Biological Exposure Indices	
Local name	2- BUTOXYETHANOL
BEI	200 mg/g creatinine Parameter: Butoxyacetic acid (BAA) (with hydrolysis) - Medium: urine - Sampling time: End of shift
Regulatory reference	ACGIH 2022

8.1.2. Recommended monitoring procedures

No additional information available

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8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Protective gloves

8.2.2.3. Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: white.
Colour	: white.
Odour	: Barely perceptible odour.
Odour threshold	: No data available
pH	: ≈ 3
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: ≈ 0 °C
Freezing point	: No data available
Boiling point	: ≈ 100 °C
Flash point	: > 93 °C
Auto-ignition temperature	: Not applicable.
Decomposition temperature	: No data available

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Flammability (solid, gas)	: Not applicable
Vapour pressure	: ≈ 23 hPa
Relative vapour density at 20°C	: No data available
Relative density	: No data available
Density	: ≈ 1.4 kg/l
Solubility	: Miscible with water.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: ≈ 1000 mm ² /s
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

VOC content : ≈ 17 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Strong acids. Oxidizing agent.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. When heated to decomposition, emits toxic fumes.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

2-BUTOXYETHANOL (111-76-2)

LD50 oral	1414 mg/kg bodyweight Animal: guinea pig, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1020 - 1961
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TRIZINC BIS(ORTHOPHOSPHATE) (7779-90-0)

LD50 oral rat	> 5000 mg/kg
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Skin corrosion/irritation	: Not classified pH: ≈ 3
Serious eye damage/irritation	: Not classified pH: ≈ 3
Respiratory or skin sensitisation	: Not classified

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Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified

2-BUTOXYETHANOL (111-76-2)

NOAEL (dermal, rat/rabbit, 90 days)	> 150 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study), Remarks on results: other:
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STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
------------------------	--

TRIZINC BIS(ORTHOPHOSPHATE) (7779-90-0)

LOAEL (oral, rat, 90 days)	53.8 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
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NOAEL (oral, rat, 90 days)	31.52 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)
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STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
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Aspiration hazard	: Not classified
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Viscosity, kinematic	≈ 1000 mm ² /s
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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Harmful to aquatic life with long lasting effects.
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Hazardous to the aquatic environment, short-term (acute)	: Not classified
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Hazardous to the aquatic environment, long-term (chronic)	: Harmful to aquatic life with long lasting effects.
---	--

Not rapidly degradable

2-BUTOXYETHANOL (111-76-2)

LC50 - Fish [1]	1474 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
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EC50 - Crustacea [1]	≈ 1800 mg/l Test organisms (species): Daphnia magna
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NOEC (chronic)	100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
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NOEC chronic fish	≥ 100 mg/l Test organisms (species): Oryzias latipes Duration: '14 d'
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TRIZINC BIS(ORTHOPHOSPHATE) (7779-90-0)

LC50 - Fish [1]	0.14 – 5.59 mg/l
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EC50 - Other aquatic organisms [1]	0.89 – 0.96 mg/l
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12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

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12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
European List of Waste (LoW) code : 08 01 11* - waste paint and varnish containing organic solvents or other dangerous substances

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

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

Not applicable

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SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

VOC Directive (2004/42)

VOC content : ≈ 17 g/l

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

France

Occupational diseases	
Code	Description
RG 84	Conditions caused by liquid organic solvents for professional use: saturated or unsaturated aliphatic or cyclic liquid hydrocarbons and mixtures thereof; liquid halogenated hydrocarbons; nitrated derivatives of aliphatic hydrocarbons; alcohols; glycols, glycol ethers; ketones; aldehydes; aliphatic and cyclic ethers, including tetrahydrofuran; esters; dimethylformamide and dimethylacetamine; acetonitrile and propionitrile; pyridine; dimethylsulfone and dimethylsulfoxide

Germany

Employment restrictions

: Observe restrictions according Act on the Protection of Working Mothers (MuSchG).
Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG).

Water hazard class (WGK)

: WGK 1, Slightly hazardous to water (Classification according to AwSV, Annex 1).

Storage class (LGK, TRGS 510)

: LGK 12 - Non-combustible liquids.

Joint storage table

LGK 1	LGK 2A	LGK 2B	LGK 3	LGK 4.1A
LGK 4.1B	LGK 4.2	LGK 4.3	LGK 5.1A	LGK 5.1B
LGK 5.1C	LGK 5.2	LGK 6.1A	LGK 6.1B	LGK 6.1C
LGK 6.1D	LGK 6.2	LGK 7	LGK 8A	LGK 8B
LGK 10	LGK 11	LGK 12	LGK 13	LGK 10-13

Joint storage not permitted for

: LGK 1, LGK 6.2, LGK 7.

Joint storage with restrictions permitted for

: LGK 4.1A, LGK 4.3, LGK 5.1C.

Joint storage permitted for

: LGK 2A, LGK 2B, LGK 3, LGK 4.1B, LGK 4.2, LGK 5.1A, LGK 5.1B, LGK 5.2, LGK 6.1A, LGK 6.1B, LGK 6.1C, LGK 6.1D, LGK 8A, LGK 8B, LGK 10, LGK 11, LGK 12, LGK 13, LGK 10-13.

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Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

ABM category : A(3) - hazardous for aquatic organisms, may have longterm hazardous effects in aquatic environment
SZW-lijst van kankerverwekkende stoffen : None of the components are listed
SZW-lijst van mutagene stoffen : None of the components are listed
SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : None of the components are listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling : None of the components are listed

Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed
Danish National Regulations : Pregnant/breastfeeding women working with the product must not be in direct contact with the product

Switzerland

Storage class (LK) : LK 10/12 - Liquids

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development

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Abbreviations and acronyms:	
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Full text of H- and EUH-statements:	
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2

The classification complies with : ATP 12

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.