

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

1.1. Product identifier

Product form : Mixture
Product name : Moss remover
Product code : VC5282-1

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

Relevant identified uses

Intended for general public
Main use category : Industrial use, Professional use, Consumer use
Use of the substance/mixture : Cleaning/washing agents and additives

1.3. Details of the supplier of the safety data sheet

Valet-Chem Ltd
Summit Close
NG17 8GJ Kirkby In Ashfield Nottingham, Nottinghamshire
United Kingdom
T +44 (0) 844 414 0987
info@valetchem.co.uk

1.4. Emergency telephone number

Emergency number : +44 (0) 844 414 0987

Country/Area	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH	0344 892 0111	Only for healthcare professionals
United Kingdom	National Poisons Information Service (Cardiff Centre) University Hospital Llandough	Penlan Road CF64 2XX	0344 892 0111	Only for healthcare professionals
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER	+44 20 7188 7188	
United Kingdom	National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre	16/17 Framlington Place Newcastle-upon-Tyne NE2 4AB	0344 892 0111	Only for healthcare professionals
United Kingdom	NHS 111/NHS 24/NHS Direct		111 0845 4647	or call a doctor

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

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2.2. Label elements

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

Precautionary statements (CLP) : P102 - Keep out of reach of children.

2.3. Other hazards

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

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2-BUTOXYETHANOL substance with a Community workplace exposure limit	CAS-No.: 111-76-2 EC-No.: 203-905-0 EC Index-No.: 603-014-00-0 REACH-no: 01-2119475108-36	<5	Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Oral), H302 Eye Irrit. 2, H319 Skin Irrit. 2, H315

Comments : Contains Didecyldimethylammonium Chloride

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

No additional information available

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.

5.2. Special hazards arising from the substance or mixture

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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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Emergency procedures : Ventilate spillage area.

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.

Switzerland

Storage class (LK) : LK 3 - Flammable liquids

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

National occupational exposure and biological limit values

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

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2-BUTOXYETHANOL (111-76-2)	
MAK (OEL TWA)	98 mg/m ³
	20 ppm
MAK (OEL STEL)	200 mg/m ³ (4x 30(Miw) min)
	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
	20 ppm
OEL STEL	246 mg/m ³
	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 19/11/2020
Bulgaria - Occupational Exposure Limits	
Local name	2-Бутоксиетанол
OEL TWA	98 mg/m ³
	20 ppm
OEL STEL	246 mg/m ³
	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)	98 mg/m ³
	20 ppm
KGVI (OEL STEL)	246 mg/m ³
	50 ppm
Remark	Direktiva: 2000/39/EZ. Napomena: Koža (razvrstana kao tvar koja nadražuje kožu (H315))
Regulatory reference	Pravilnik o izmjenama i dopunama Pravilnika o graničnim vrijednostima izloženosti opasnim tvarima pri radu i o biološkim graničnim vrijednostima (NN 1/2021)
Cyprus - Occupational Exposure Limits	
Local name	2-Βουτοξυαιθανόλη

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2-BUTOXYETHANOL (111-76-2)	
OEL TWA	98 mg/m ³
	20 ppm
OEL STEL	246 mg/m ³
	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
	20 ppm
NPK-P (OEL C)	200 mg/m ³
	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 - Biološki uzorak: moči - Doba odběru: konec směny na konci 0.17 mmol/mmol Creatinine Ukazatel: Butoxyoctová kyselina - Biološki uzorak: 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	98 mg/m ³
	20 ppm
Remark	E (betyder, at stoffet har en EF-grænseværdi); H (betyder, at stoffet kan optages gennem huden)
Regulatory reference	BEK nr 1426 af 28. juni 2021
Estonia - Occupational Exposure Limits	
Local name	2-butoksüetanool (o-butüületüleenglükool, etüleenglükoolmono-butüüleeter, butüületsellosolv)
OEL TWA	98 mg/m ³
	20 ppm
OEL STEL	246 mg/m ³
	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, 17.10.2019, 2); Vabariigi Valitsuse 10. märtsi 2019. a määruse nr 84
Finland - Occupational Exposure Limits	
Local name	2-Butoksietanoli

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2-BUTOXYETHANOL (111-76-2)	
HTP (OEL TWA)	98 mg/m ³
	20 ppm
HTP (OEL STEL)	250 mg/m ³
	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
	10 ppm
VLE (OEL C/STEL)	246 mg/m ³
	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)
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA)	49 mg/m ³
	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
	20 ppm
OEL STEL	246 mg/m ³
	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-

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2-BUTOXYETHANOL (111-76-2)	
OEL TWA	120 mg/m ³ 25 ppm
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	98 mg/m ³ 20 ppm
OEL STEL	246 mg/m ³ 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 20 ppm
OEL STEL	246 mg/m ³ 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 20 ppm

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2-BUTOXYETHANOL (111-76-2)	
OEL STEL	246 mg/m ³
	50 ppm
Remark	Āda
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325
Lithuania - Occupational Exposure Limits	
Local name	Etilenglikolio monobutileteris (butilglikolis, 2-butoksietanolis)
IPRV (OEL TWA)	50 mg/m ³
	10 ppm
TPRV (OEL STEL)	100 mg/m ³
	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
	20 ppm
OEL STEL	246 mg/m ³
	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
	20 ppm
OEL STEL	246 mg/m ³
	50 ppm
Remark	Skin # Ġilda
Regulatory reference	S.L.424.24 - Chemical Agents at Work Regulations (L.N.57 of 2018)
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 2021
Poland - Occupational Exposure Limits	
Local name	2-Butoksyetanol (butoksyetylowy alkohol)

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2-BUTOXYETHANOL (111-76-2)	
NDS (OEL TWA)	98 mg/m ³
NDSch (OEL STEL)	200 mg/m ³
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	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 monobutileter
OEL TWA	98 mg/m ³ 20 ppm
OEL STEL	246 mg/m ³ 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-бutoксиетанол
OEL TWA	98 mg/m ³ 20 ppm
OEL STEL	246 mg/m ³ 50 ppm
Remark	EU* – 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 и 117/17)
Slovakia - Occupational Exposure Limits	
Local name	2-Butoxyetanol (butylglykol)
NPHV (OEL TWA)	98 mg/m ³ 20 ppm
NPHV (OEL STEL)	246 mg/m ³ 50 ppm
Remark	K - znamená, že faktor môže byť ľahko absorbovaný kožou

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2-BUTOXYETHANOL (111-76-2)	
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (236/2020 Z. z.)
Slovenia - Occupational Exposure Limits	
Local name	2-butoksietanol (butilglikol)
OEL TWA	98 mg/m ³
	20 ppm
OEL STEL	246 mg/m ³
	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)	98 mg/m ³
	20 ppm
VLA-EC (OEL STEL)	245 mg/m ³
	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 2021. 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 2021. INSHT
Sweden - Occupational Exposure Limits	
Local name	Etylenglykolmonobutyleter (2-Butoxietanol)
NGV (OEL TWA)	50 mg/m ³
	10 ppm
KTV (OEL STEL)	246 mg/m ³
	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)

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2-BUTOXYETHANOL (111-76-2)	
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
United Kingdom - Occupational Exposure Limits	
Local name	2-Butoxyethanol
WEL TWA (OEL TWA)	5 mg/m ³
	25 ppm
WEL STEL (OEL STEL)	10 mg/m ³
	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-Bútoxyetanól (bútylglykól, bútylsellósolv, etylenglykólmonóbútyleter, glykólmonóbútyleter)
OEL TWA	100 mg/m ³
	20 ppm
OEL STEL	246 mg/m ³
	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)	50 mg/m ³
	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-бutoксиетанол (бутилгликол)
OEL TWA	98 mg/m ³
	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	(КТВ) 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; (К) 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)	49 mg/m ³ 10 ppm
KZGW (OEL STEL)	98 mg/m ³ 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, 01.01.2021
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; Probennahmezeitpunkt: 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

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protection equipment

Personal protective equipment:

Protective clothing. Gloves.

Personal protective equipment symbol(s):



Eye and face protection

Eye protection:

Safety glasses

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Skin protection

Skin and body protection:

Wear suitable protective clothing

Hand protection:

Protective gloves

Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

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
Colour	: Various colours.
Odour	: Pleasant.
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: Not available
Boiling point	: $\approx 100\text{ }^{\circ}\text{C}$
Flammability	: Non flammable.
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: $> 100\text{ }^{\circ}\text{C}$
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: 6 – 8
Viscosity, kinematic	: Not available
Solubility	: Miscible.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50 °C	: Not available
Density	: Not available
Relative density	: ≈ 1
Relative vapour density at 20 °C	: Not available
Particle characteristics	: Not applicable

9.2. Other information

No additional information available

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).

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10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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

2-BUTOXYETHANOL (111-76-2)

LD50 oral rat	1746 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1322 - 2301
LD50 oral	1414 mg/kg bodyweight Animal: guinea pig, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1020 - 1961
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)

Skin corrosion/irritation : Not classified
pH: 6 – 8
Serious eye damage/irritation : Not classified
pH: 6 – 8
Respiratory or skin sensitisation : Not classified
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)
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Aspiration hazard : Not classified

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

2-BUTOXYETHANOL (111-76-2)

LC50 - Fish [1]	1474 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	≈ 1800 mg/l Test organisms (species): Daphnia magna

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2-BUTOXYETHANOL (111-76-2)	
EC50 72h - Algae [1]	911 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	1840 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
NOEC (chronic)	100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	> 100 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) Duration: '21 d'

12.2. Persistence and degradability

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Persistence and degradability	Not rapidly degradable
2-BUTOXYETHANOL (111-76-2)	
Persistence and degradability	Not rapidly degradable

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. 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.

SECTION 14: Transport information






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

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 1219	UN 1219	UN 1219	UN 1219	UN 1219
14.2. UN proper shipping name				
ISOPROPANOL (ISOPROPYL ALCOHOL)	ISOPROPANOL (ISOPROPYL ALCOHOL)	Isopropanol	ISOPROPANOL (ISOPROPYL ALCOHOL)	ISOPROPANOL (ISOPROPYL ALCOHOL)

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ADR	IMDG	IATA	ADN	RID
Transport document description				
UN 1219 ISOPROPANOL (ISOPROPYL ALCOHOL), 3, II, (D/E)	UN 1219 ISOPROPANOL (ISOPROPYL ALCOHOL), 3, II (12°C c.c.)	UN 1219 Isopropanol, 3, II	UN 1219 ISOPROPANOL (ISOPROPYL ALCOHOL), 3, II	UN 1219 ISOPROPANOL (ISOPROPYL ALCOHOL), 3, II
14.3. Transport hazard class(es)				
3	3	3	3	3
				
14.4. Packing group				
II	II	II	II	II
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No EmS-No. (Fire): F-E EmS-No. (Spillage): S-D	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR)	: F1
Special provisions (ADR)	: 601
Limited quantities (ADR)	: 1I
Excepted quantities (ADR)	: E2
Packing instructions (ADR)	: P001, IBC02, R001
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T4
Portable tank and bulk container special provisions (ADR)	: TP1
Tank code (ADR)	: LGBF
Vehicle for tank carriage	: FL
Transport category (ADR)	: 2
Special provisions for carriage - Operation (ADR)	: S2, S20
Hazard identification number (Kemler No.)	: 33
Orange plates	:



Tunnel restriction code (ADR)	: D/E
EAC code	: •2YE

Transport by sea

Limited quantities (IMDG)	: 1 L
Excepted quantities (IMDG)	: E2
Packing instructions (IMDG)	: P001
IBC packing instructions (IMDG)	: IBC02
Tank instructions (IMDG)	: T4
Tank special provisions (IMDG)	: TP1
Stowage category (IMDG)	: B
Flash point (IMDG)	: 12°C c.c.
Properties and observations (IMDG)	: Colourless, mobile liquid. Flashpoint: 12°C c.c. Explosive limits: 2% to 12% Miscible with water.

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Air transport

PCA Excepted quantities (IATA)	: E2
PCA Limited quantities (IATA)	: Y341
PCA limited quantity max net quantity (IATA)	: 1L
PCA packing instructions (IATA)	: 353
PCA max net quantity (IATA)	: 5L
CAO packing instructions (IATA)	: 364
CAO max net quantity (IATA)	: 60L
Special provisions (IATA)	: A180
ERG code (IATA)	: 3L

Inland waterway transport

Classification code (ADN)	: F1
Special provisions (ADN)	: 601
Limited quantities (ADN)	: 1 L
Excepted quantities (ADN)	: E2
Carriage permitted (ADN)	: T
Equipment required (ADN)	: PP, EX, A
Ventilation (ADN)	: VE01
Number of blue cones/lights (ADN)	: 1

Rail transport

Classification code (RID)	: F1
Special provisions (RID)	: 601
Limited quantities (RID)	: 1L
Excepted quantities (RID)	: E2
Packing instructions (RID)	: P001, IBC02, R001
Mixed packing provisions (RID)	: MP19
Portable tank and bulk container instructions (RID)	: T4
Portable tank and bulk container special provisions (RID)	: TP1
Tank codes for RID tanks (RID)	: LGBF
Transport category (RID)	: 2
Colis express (express parcels) (RID)	: CE7
Hazard identification number (RID)	: 33

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

EU-Regulations

REACH Annex XVII (Restriction List)

Contains no REACH substances with Annex XVII restrictions

REACH Annex XIV (Authorisation List)

Contains no REACH Annex XIV substances

REACH Candidate List (SVHC)

Contains no substance on the REACH candidate list

PIC Regulation (Prior Informed Consent)

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

POP Regulation (Persistent Organic Pollutants)

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

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Ozone Regulation (1005/2009)

Contains no substance subject to REGULATION (EU) No 1005/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 September 2009 on substances that deplete the ozone layer.

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (2019/1148)

Contains no substance subject to Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors.

Drug Precursors Regulation (273/2004)

Contains no substance subject to Regulation (EC) 273/2004 of the European Parliament and of the Council of 11 February 2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances.

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 3, Highly hazardous to water (Classification according to AwSV, Annex 1).
Hazardous Incident Ordinance (12. BImSchV)	: Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

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

Danish National Regulations	: Pregnant/breastfeeding women working with the product must not be in direct contact with the product
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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

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Abbreviations and acronyms:	
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
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 disruptor

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
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.

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Full text of H- and EUH-statements:

H319	Causes serious eye irritation.
H332	Harmful if inhaled.
Skin Irrit. 2	Skin corrosion/irritation, Category 2

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.