Standard solution
1,3-Butadiene 2000ug/ml in methanol

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
SDS Reference Number: P872240
Issue date: 03/05/2013 Revision date: 07/01/2025 Supersedes version of: 24/07/2018 Version: 1.2

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

1.1. Product identifier

Product form : Mixture
Product name : Standard solution
1,3-Butadiene 2000ug/ml in methanol
Product code : P872240

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

Relevant identified uses

Main use category : Professional use
Use of the substance/mixture : Certified reference material for laboratory use
Function or use category : Laboratory chemicals

1.3. Details of the supplier of the safety data sheet

Spectracer UK Ltd.
20 Seymour Mews,
London,
W1H 6BQ,
United Kingdom.

Tel: +44 (0) 207 193 9114
Fax:+44 (0) 203 432 4686
Email: contact@spectracer.com
Web: www.spectracer.com

1.4. Emergency telephone number

Country/Area	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	Beaumont Hospital Beaumont Road 9 Dublin	: +353 1 8379964	
Malta	Medicines & Poisons Info Office	Mater Dei Hospital Msida MSD 2090 Msida	112 +356 2545 6508	
United Kingdom	National Poisons Information Service (NHS Direct)	http://www.npis.org	111 (England & Wales only) or 112 (EU) or 08454 24 24 24 (Scotland)	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Flammable liquids, Category 2 H225
Acute toxicity (oral), Category 3 H301
Acute toxicity (dermal), Category 3 H311
Germ cell mutagenicity, Category 1B H340
Carcinogenicity, Category 1A H350
Specific target organ toxicity – single exposure, Category 1 H370
Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

Highly flammable liquid and vapour. May cause cancer. May cause genetic defects. Causes damage to organs. Toxic in contact with skin. Toxic if swallowed.

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS02 GHS06 GHS08

Signal word (CLP) : Danger

Contains : methanol;1,3-butadiene, buta-1,3-diene

Hazard statements (CLP) : H225 - Highly flammable liquid and vapour.
H301+H311 - Toxic if swallowed or in contact with skin.
H340 - May cause genetic defects.
H350 - May cause cancer.
H370 - Causes damage to organs.

Precautionary statements (CLP) : P201 - Obtain special instructions before use.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P264 - Wash hands and other exposed areas thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P308+P311 - IF exposed or concerned: Call a POISON CENTER or doctor.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P312 - Call a POISON CENTRE or doctor if you feel unwell.
P361+P364 - Take off immediately all contaminated clothing and wash it before reuse.

2.3. Other hazards

Contains no PBT and/or vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	methanol (67-56-1)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	methanol (67-56-1)

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 substance(s) are 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 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
methanol 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, PT, RO, SE, SI, SK, AL, IS, NO, MK, RS, CH, TR); substance with a Community workplace exposure limit	CAS-No.: 67-56-1 EC-No.: 200-659-6 EC Index-No.: 603-001-00-X REACH-no: 01-2119433307-44-XXXX	≥ 99	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370
1,3-butadiene, buta-1,3-diene substance with national workplace exposure limit(s) (BE, BG, CZ, DK, ES, FI, GB, HU, LT, NL, PL, PT, SE, SI, NO); substance with a Community workplace exposure limit	CAS-No.: 106-99-0 EC-No.: 203-450-8 EC Index-No.: 601-013-00-X	0.1 – 0.25	Flam. Gas 1A, H220 Press. Gas Muta. 1B, H340 Carc. 1A, H350

Specific concentration limits:

Name	Product identifier	Specific concentration limits (%)
methanol	CAS-No.: 67-56-1 EC-No.: 200-659-6 EC Index-No.: 603-001-00-X REACH-no: 01-2119433307-44-XXXX	(3 ≤ C < 10) STOT SE 2; H371 (10 ≤ C < 100) STOT SE 1; H370

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 general : Call a physician immediately.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Rinse mouth. Call a physician immediately.
First-aid measures for first aider : First aid workers will be equipped with suitable personal protective equipment.

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

Symptoms/effects after inhalation : None under normal conditions.
Symptoms/effects after skin contact : Toxic in contact with skin.
Symptoms/effects after eye contact : None under normal conditions.
Symptoms/effects after ingestion : Toxic if swallowed.

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	:	Highly flammable liquid and vapour.
Explosion hazard	:	No direct explosion hazard.
Hazardous decomposition products in case of fire	:	Toxic fumes may be released.

5.3. Advice for firefighters

Firefighting instructions	:	Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	:	Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	:	Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

For non-emergency personnel

Protective equipment	:	Wear recommended personal protective equipment.
Emergency procedures	:	No open flames, no sparks, and no smoking. Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapours/spray.

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".
Emergency procedures	:	Evacuate unnecessary personnel. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	:	Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak without risks if possible.
Methods for cleaning up	:	Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
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

Additional hazards when processed	:	Not expected to present a significant hazard under anticipated conditions of normal use.

Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing.

Hygiene measures : Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. 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

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

Packaging materials : Store always product in container of same material as original container.

Germany

Storage class (LGK, TRGS 510) : LGK 3 - Flammable 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 2A, LGK 4.1A, LGK 4.1B, LGK 4.2, LGK 4.3, LGK 5.1A, LGK 5.1C, LGK 5.2, LGK 6.1B, LGK 6.2, LGK 7

Joint storage with restrictions permitted for : LGK 5.1B, LGK 6.1D, LGK 11, LGK 10-13

Joint storage permitted for : LGK 2B, LGK 3, LGK 6.1A, LGK 6.1C, LGK 8A, LGK 8B, LGK 10, LGK 12, LGK 13

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

methanol (67-56-1)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Methanol
IOEL TWA	260 mg/m³ (Methanol; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
	200 ppm (Methanol; EU; Time-weighted average exposure limit 8 h; Indicative occupational exposure limit value)
Remark	Skin
Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC
Albania - Occupational Exposure Limits	
Local name	Metanol

methanol (67-56-1)	
OEL TWA	260 mg/m³
	200 ppm
Remark	Lëkurë (tregon mundësinë e një marrjeje të rëndësishme nëpërmjet lëkurës)
Regulatory reference	VENDIM Nr. 522, datë 6.8.2014 PËR MIRATIMIN E RREGULLORES “PËR MBROJTJEN E SIGURISË DHE SHËNDETIT TË PUNËMARRËSVE NGA RISQET E LIDHURA ME AGJENTËT KIMIKË NË PUNË”
Austria - Occupational Exposure Limits	
Local name	Methanol (Methylalkohol)
MAK (OEL TWA)	260 mg/m³
	200 ppm
MAK (OEL STEL)	1040 mg/m³ (4x 15(Miw) min)
	800 ppm (4x 15(Miw) min)
Remark	H
Regulatory reference	BGBl. II Nr. 156/2021
Belgium - Occupational Exposure Limits	
Local name	Alcool méthylique # Methanol
OEL TWA	266 mg/m³
	200 ppm
OEL STEL	333 mg/m³
	250 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 16/11/2023
Bulgaria - Occupational Exposure Limits	
Local name	Метилов алкохол
OEL TWA	260 mg/m³
	200 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. 28 от 2024 г., в сила от 05.04.2024 г.)
Croatia - Occupational Exposure Limits	
Local name	Metanol
GVI (OEL TWA)	260 mg/m³
	200 ppm
Remark	Direktiva: 2006/15/EZ. Napomena: Koža (razvrstana kao tvar koja nadražuje kožu (H315))

methanol (67-56-1)	
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 148/2023)
Croatia - Biological limit values	
Local name	Metanol
BLV	24.7 mmol/mol Creatinine Karakteristični pokazatelj: metanol - Biološki uzorak: mokraća - Vrijeme uzorkovanja: na kraju radne smjene 7 mg/g creatinine Karakteristični pokazatelj: metanol - Biološki uzorak: mokraća - Vrijeme uzorkovanja: na kraju radne smjene
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 91/2018)
Cyprus - Occupational Exposure Limits	
Local name	Μεθανόλη
OEL TWA	260 mg/m³
	200 ppm
Remark	δέρμα
Regulatory reference	Κανονισμοί του 2007 (Κ.Δ.Π. 295/2007)
Czech Republic - Occupational Exposure Limits	
Local name	Methanol (Methylalkohol)
PEL (OEL TWA)	250 mg/m³
	188 ppm
NPK-P (OEL C)	1000 mg/m³
	751 ppm
Remark	D - při expozici se významně uplatňuje pronikání faktoru kůží, B - u látky je zaveden biologický expoziční test (BET) v moči nebo krvi.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 330/2023 Sb.)
Czech Republic - Biological limit values	
Local name	Methanol (Methylalkohol)
BLV	15 mg/l Ukazatel: Methanol - Biologicky vzorek: moči - Doba odběru: konec směny 0.47 mmol/l Ukazatel: Methanol - Biologicky vzorek: moči - Doba odběru: konec směny
Regulatory reference	Vyhláška č. 107/2013 Sb. (kterou se mění vyhláška č. 432/2003 Sb.)
Denmark - Occupational Exposure Limits	
Local name	Methanol (Methylalkohol)
OEL TWA	260 mg/m³
	200 ppm
Remark	E (betyder, at stoffet har en EF-grænseværdi); H (betyder, at stoffet kan optages gennem huden)
Regulatory reference	BEK nr 291 af 19/03/2024
Estonia - Occupational Exposure Limits	
Local name	Metanool (metüülalkohol)
OEL TWA	250 mg/m³
	200 ppm

methanol (67-56-1)	
OEL STEL	350 mg/m³
	250 ppm
Remark	A (Naha kaudu kergesti imenduv aine)
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 02.04.2024, 13)
Finland - Occupational Exposure Limits	
Local name	Metanoli
HTP (OEL TWA)	270 mg/m³
	200 ppm
HTP (OEL STEL)	330 mg/m³
	250 ppm
Remark	Iho
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö)
France - Occupational Exposure Limits	
Local name	Méthanol (alcool méthylique)
VME (OEL TWA)	260 mg/m³
	200 ppm
VLE (OEL C/STEL)	1300 mg/m³
	1000 ppm
Remark	Valeurs règlementaires contraignantes. Risque de pénétration percutanée. La VLEP CT n'est pas réglementaire et provient d'une circulaire du ministère chargé du travail
Regulatory reference	Article R4412-149 du Code du travail et circulaire du Ministère du travail (réf.: INRS ED 6443, 2022; Outil65; Décret n° 2019-1487; Décret n° 2020-1546; Décret n° 2021-434; Décret n° 2021-1849)
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	Methanol
AGW (OEL TWA)	130 mg/m³
	100 ppm
Peak exposure limitation factor	2(II)
Remark	DFG - Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe der DFG (MAK-Kommission); EU - Europäische Union (Von der EU wurde ein Luftgrenzwert festgelegt: Abweichungen bei Wert und Spitzenbegrenzung sind möglich); 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	Methanol
Biological limit value	15 mg/l Parameter: Methanol - Untersuchungsmaterial: U = Urin - Probenahmezeitpunkt: b) Expositionsende, bzw. Schichtende - Festlegung/Begründung: 05/2024 DFG
Regulatory reference	TRGS 903

methanol (67-56-1)	
Gibraltar - Occupational Exposure Limits	
Local name	Methanol
OEL TWA	260 mg/m³
	200 ppm
Remark	Skin
Regulatory reference	Factories (Control of Chemical Agents at Work) Regulations 2003 (LN. 2018/181)
Greece - Occupational Exposure Limits	
Local name	Μεθανόλη
OEL TWA	260 mg/m³
	200 ppm
OEL STEL	325 mg/m³
	250 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	METANOL
AK (OEL TWA)	260 mg/m³
	200 ppm
Remark	b (Bőrön át is felszívódik), i (ingerlő anyag, amely izgatja a bőrt, nyálkahártyát, szemet vagy mindhármat); EU2 (2006/15/EK irányelvben közölt érték); R+T (Azok az anyagok, amelyek RÖVID és TARTÓS expozíciója is egészségkárosodást okoz)
Regulatory reference	5/2020. (II. 6.) ITM rendelet - A kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
Hungary - Biological Exposure Indices	
Local name	Metanol
BEI	30 mg/l Biológiai expozíciós (hatás) mutató: metanol - Biológiai minta: vizeletben - Mintavétel ideje: m.v. (műszak végén) 940 µmol/l Biológiai expozíciós (hatás) mutató: metanol - Biológiai minta: vizeletben - Mintavétel ideje: m.v. (műszak végén)
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	Methanol [Methyl alcohol]
OEL TWA	260 mg/m³
	200 ppm
Remark	IOELV (Indicative Occupational Exposure Limit Values), Skin (Substances which have the capacity to penetrate intact skin when they come in contact with it and be absorbed into the body. A substantial contribution to the total body burden via dermal exposure is possible)
Regulatory reference	Chemical Agents Code of Practice 2024

methanol (67-56-1)	
Ireland - Biological limit values	
Local name	Methanol
BMGV	15 mg/l Parameter: methanol - Medium: urine - Sampling time: End of shift - Notations: B (Background), Ns (Non-specific)
Regulatory reference	Biological Monitoring Guidelines (HSA, 2011)
Italy - Occupational Exposure Limits	
Local name	Metanolo
OEL TWA	260 mg/m³
	200 ppm
Remark	Cute
Regulatory reference	Allegato XXXVIII del Decreto Legislativo 4 settembre 2024, n. 135
Latvia - Occupational Exposure Limits	
Local name	Metanols (metilspirts, karbinols)
OEL TWA	260 mg/m³
	200 ppm
Remark	Āda
Regulatory reference	Ministru kabineta 2007. gada 15. maija noteikumiem Nr. 325 (Grozījumi Ministru kabineta 2024. gada 26. martā noteikumiem Nr. 191).
Lithuania - Occupational Exposure Limits	
Local name	Metanolis (metilo alkoholis)
IPRV (OEL TWA)	260 mg/m³
	200 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	Méthanol
OEL TWA	260 mg/m³
	200 ppm
Remark	Peau
Regulatory reference	Mémorial A Nº 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	Methanol
OEL TWA	260 mg/m³
	200 ppm
Remark	Skin # Ġilda
Regulatory reference	S.L. 424.24 - Chemical Agents at Work Regulations (L.N. 356 of 2021) # L.S. 424.24 - Regolamenti dwar Aġenti Kimiċi fuq il-Post tax-Xogħol (A.L. 356 tal-2021)

methanol (67-56-1)	
Netherlands - Occupational Exposure Limits	
Local name	Methanol
TGG-8u (OEL TWA)	133 mg/m³
	100 ppm (Methanol; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
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 2024
Portugal - Occupational Exposure Limits	
Local name	Metanol (Álcool metílico)
OEL TWA	200 ppm
OEL STEL	250 ppm
Remark	P (Toxicidade percutânea); IBE (Índice biológico de exposição)
Regulatory reference	Norma Portuguesa NP 1796:2014
Portugal - Biological Exposure Indices	
Local name	Metanol
BEI	15 mg/l Parâmetro: Metanol - Meio: urina - Momento da amostragem: Fim do turno - Notaçao: Vb (Valor basal), Ne (Não específico)
Regulatory reference	Norma Portuguesa NP 1796:2014
Romania - Occupational Exposure Limits	
Local name	Metanol/Alcool metilic
OEL TWA	260 mg/m³
	200 ppm
Remark	P - posibilitatea unei penetrări cutanate importante
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 179/2024)
Romania - Biological limit values	
Local name	Alcool metilic
BLV	6 mg/l Indicatorul biologic: Metanol - Material biologic: urină - Momentul recoltării: sfârșit de schimb
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 179/2024)
Serbia - Occupational Exposure Limits	
Local name	метанол
OEL TWA	260 mg/m³
	200 ppm
Remark	ЕУ** – напомена да се ради о хемијским материјама за које су утврђене индикативне граничне вредности изложености према Директиви 2006/15/ЕЗ (друга листа); К – напомена да хемијска материја може штетно деловати на кожу
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)

methanol (67-56-1)	
Slovakia - Occupational Exposure Limits	
Local name	Metylalkohol (metanol)
NPHV (OEL TWA)	260 mg/m³
	200 ppm
Remark	K – znamená, že faktor môže byť ľahko absorbovaný kožou
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (122/2024 Z. z.)
Slovakia - Biological limit values	
Local name	Metanol
BLV	30 mg/l Zisťovaný faktor: Metanol - Vyšetrovaný materiál: moč - Čas odberu vzorky: c) pri dlhodobej expozícii; po viacerých pracovných zmenách, b) koniec expozície alebo pracovnej zmeny
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (122/2024 Z. z.)
Slovenia - Occupational Exposure Limits	
Local name	metanol (metilalkohol)
OEL TWA	260 mg/m³
	200 ppm
OEL STEL	1040 mg/m³
	800 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. 29/2024 z dne 4. 4. 2024 - Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
Slovenia - Biological limit values	
Local name	metanol
BLV	15 mg/l Parameter: metanol - 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. 29/24 z dne 4. 4. 2024 - Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
Spain - Occupational Exposure Limits	
Local name	Metanol (Alcohol metílico)
VLA-ED (OEL TWA)	266 mg/m³
	200 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), VLB® (Agente químico que tiene Valor Límite Biológico), VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2024. INSHT

methanol (67-56-1)	
Spain - Biological limit values	
Local name	Metanol (Alcohol metílico)
BLV	15 mg/l Parámetro: Metanol - Medio: Orina - Momento de muestreo: Final de la jornada laboral - Notas: F (Fondo. El indicador está generalmente presente en cantidades detectables en personas no expuestas laboraboralmente. Estos niveles de fondo están considerados en el valor VLB), I (Significa que el indicador biológico es inespecífico puesto que puede encontrarse después de la exposición a otros agentes químicos)
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2024. INSHT
Sweden - Occupational Exposure Limits	
Local name	Metanol
NGV (OEL TWA)	250 mg/m³
	200 ppm
KGV (OEL STEL)	350 mg/m³
	250 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); V (Vägledande korttidsgränsvärde ska användas som ett rekommenderat högsta värde som inte bör överskridas)
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
United Kingdom - Occupational Exposure Limits	
Local name	Methanol
WEL TWA (OEL TWA)	266 mg/m³
	200 ppm
WEL STEL (OEL STEL)	333 mg/m³
	250 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
Iceland - Occupational Exposure Limits	
Local name	Metanól (metýlalkóhól, tréspíritus)
OEL TWA	260 mg/m³
	200 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	Metanol
Grenseverdi (OEL TWA)	130 mg/m³
	100 ppm
Remark	H: Kjemikalier som kan tas opp gjennom huden; E: EU har en veiledende grenseverdi og/eller anmerkning for stoffet.

methanol (67-56-1)	
Regulatory reference	FOR-2024-04-05-581
North Macedonia - Occupational Exposure Limits	
Local name	метанол (метилалкохол)
OEL TWA	260 mg/m³
	200 ppm
Remark	(К) својство на полесно пренесување на супстанците во организмот преку кожата; (BAT) биолошка гранична вредност – праг на биолошка гранична вредност, што значи предупредување на опасна хемиска супстанца и нејзини метаболити во ткивата, телесните течности или издишувањето на воздухот, без оглед на тоа, дали опасната хемиска супстанца е внесена во организмот со вдишување, голтање или 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 супстанци („Службен весник на Република Македонија” бр.46/10)
Switzerland - Occupational Exposure Limits	
Local name	Methanol
MAK (OEL TWA)	260 mg/m³ 260 mg/m³
	200 ppm 200 ppm
KZGW (OEL STEL)	1040 mg/m³ 1040 mg/m³
	800 ppm 800 ppm
Notation	R, SS_C, B / H, SS_C, B
Remark	H B SS_C - ZNS, Sehen - INRS, NIOSH
Regulatory reference	www.suva.ch, 01.01.2024
Switzerland - BAT	
Local name	Méthanol / Methanol
BAT	30 mg/l (936 µmol/l; Paramètre biologique: Méthanol; 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.) / (936 µmol/l; Biologischer Parameter: Methanol; 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
USA - ACGIH - Occupational Exposure Limits	
Local name	Methanol
ACGIH OEL TWA	200 ppm
ACGIH OEL STEL	250 ppm
Remark (ACGIH)	TLV® Basis: Headache; eye dam; dizziness; nausea. Notations: Skin; BEI
Regulatory reference	ACGIH 2024

methanol (67-56-1)	
USA - ACGIH - Biological Exposure Indices	
Local name	Methanol
BEI	15 mg/l Parameter: Methanol - Medium: urine - Sampling time: End of shift - Notations: B, Ns
Regulatory reference	ACGIH 2024

1,3-butadiene, buta-1,3-diene (106-99-0)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	1,3-Butadiene
IOEL TWA	2.2 mg/m³ (BOEL)
	1 ppm (BOEL)
Regulatory reference	DIRECTIVE (EU) 2019/130 (amending Directive 2004/37/EC)
Belgium - Occupational Exposure Limits	
Local name	1,3-Butadiène # 1,3-Butadieen
OEL TWA	2.2 mg/m³
	1 ppm
Remark	C: la mention “C” signifie que l’agent en question relève du champ d’application du titre 2 relatif aux agents cancérigènes, mutagènes et reprotoiques du livre VI du code de bien-être au travail. # C: de vermelding “C” betekent dat het betrokken agens valt onder het toepassingsgebied van titel 2 betreffende kankerverwekkende, mutagene en reprotoxische agentia van boek VI van de codex over het welzijn op het werk.
Regulatory reference	Koninklijk besluit/Arrêté royal 16/11/2023
Bulgaria - Occupational Exposure Limits	
Local name	1,3-бутадиен (дивинил)
OEL TWA	2.2 mg/m³
	1 ppm
Regulatory reference	Наредба № 10 от 26.09.2003 г. за защита на работещите от рискове, свързани с експозиция на канцерогени и мутагени при работа (изм. и доп. ДВ. бр. 28 от 2 Април 2024г.)
Czech Republic - Occupational Exposure Limits	
Local name	1,3-Butadien (Buta-1,3-dien)
PEL (OEL TWA)	2.2 mg/m³
	1 ppm
NPK-P (OEL C)	4 mg/m³
	1.8 ppm
Remark	D - při expozici se významně uplatňuje pronikání faktoru kůží, K - karcinogen kategorie 1A a 1B (s větou H350, H350i), M - mutagen v zárodečných buňkách kategorie 1A a 1B (s větou H340).
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 330/2023 Sb.)
Denmark - Occupational Exposure Limits	
Local name	1,3-Butadien
OEL TWA	2.2 mg/m³

1,3-butadiene, buta-1,3-diene (106-99-0)	
	1 ppm
Remark	E (betyder, at stoffet har en EF-grænseværdi); K (betyder, at stoffet anses for at kunne være kræftfremkaldende)
Regulatory reference	BEK nr 291 af 19/03/2024
Finland - Occupational Exposure Limits	
Local name	1,3-Butadieeni
BOEL TWA	2.2 mg/m³
	1 ppm
Remark	Syöpäsairauden vaaraa aiheuttavat ja perimää vaurioittavat tekijät
Regulatory reference	HTP-ARVOT 2020 (Sosiaali- ja terveysministeriö). Valtioneuvoston asetus (113/2024)
Hungary - Occupational Exposure Limits	
Local name	1,3-BUTADIÉN
AK (OEL TWA)	2.2 mg/m³
	1 ppm
Remark	k(1A) (rákkeltő), i (ingerlő anyag, amely izgatja a bőrt, nyálkahártyát, szemet vagy mindhármat); EU6 (2019/130 EU 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
Lithuania - Occupational Exposure Limits	
Local name	1,3-butadienas
IPRV (OEL TWA)	1 mg/m³
	0.5 ppm
TPRV (OEL STEL)	10 mg/m³
	5 ppm
Remark	K (kancerogeninis poveikis); M (mutageninis poveikis)
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
Netherlands - Occupational Exposure Limits	
Local name	1,3-Butadieen
TGG-8u (OEL TWA)	2 mg/m³
	21 ppm (1,3-Butadieen; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
Remark	Kankerverwekkende stof
Regulatory reference	Arbeidsomstandighedenregeling 2024
Poland - Occupational Exposure Limits	
Local name	Buta-1,3-dien
NDS (OEL TWA)	2.2 mg/m³
	1 ppm
Regulatory reference	Dz. U. 2024 poz. 1017 wraz z późn. zm.

1,3-butadiene, buta-1,3-diene (106-99-0)	
Portugal - Occupational Exposure Limits	
Local name	1,3-Butadieno
OEL TWA	2 ppm
Remark	A2 (Agente carcinogénico confirmado nos animais de laboratorio con relevância desconhecida no Homem)
Regulatory reference	Norma Portuguesa NP 1796:2014
Slovenia - Occupational Exposure Limits	
Local name	1,3-butadien
OEL TWA	2.2 mg/m³
	1 ppm
OEL STEL	136 mg/m³
	60 ppm
Remark	Rakotvorne snovi – kategorija 1A, Mutagene snovi za zarodne celice – kategorija 1B. EU, BAT (Biološka mejna vrednost), EKA (Zveza med koncentracijo rakotvornih snovi v zraku na delovnem mestu in količino snovi in/ali njenih metabolitov v organizmu)
Regulatory reference	Uradni list RS, št. 29/2024 z dne 4.4.2024 - Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti rakotvornim ali mutagenim snovem
Spain - Occupational Exposure Limits	
Local name	1,3-Butadieno
VLA-ED (OEL TWA)	2.2 mg/m³
	1 ppm
Remark	C1A (Carcinógeno para el hombre), M1B (Sustancias de las que se considera que inducen mutaciones hereditarias en las células germinales humanas), r (Esta sustancia tiene establecidas restricciones a la fabricación, la comercialización o el uso en los términos especificados en el “Reglamento (CE) nº 1907/2006 sobre Registro, Evaluación, Autorización y Restricción de sustancias y preparados químicos” (REACH) de 18 de diciembre de 2006 (DOUE L 369 de 30 de diciembre de 2006). Las restricciones de una sustancia pueden aplicarse a todos los usos o sólo a usos concretos. El anexo XVII del Reglamento REACH contiene la lista de todas las sustancias restringidas y especifica los usos que se han restringido), v (Agente cancerígeno con valor límite vinculante recogido en el anexo III del Real Decreto 665/1997 y en sus modificaciones posteriores), VLB® (Agente químico que tiene Valor Límite Biológico).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2024. INSHT
Spain - Biological limit values	
Local name	1,3-Butadieno
BLV	1.6 mg/g creatinine Parámetro: Acido 1,2-Dihidroxibutilmercaptúrico - Medio: Orina - Momento de muestreo: Final de la jornada laboral - Notas: S (Significa que el indicador biológico es un indicador de exposición al agente químico en cuestión, pero la interpretación cuantitativa de su medida es ambigua (semicuantitativa). Estos indicadores biológicos deben utilizarse como una prueba de selección (screening) cuando no se pueda realizar una prueba cuantitativa o usarse como prueba de confirmación, si la prueba cuantitativa no es específica y el origen del determinante es dudoso), F (Fondo. El indicador está generalmente presente en cantidades detectables en personas no expuestas laboraboralmente. Estos niveles de fondo están considerados en el valor VLB)
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2024. INSHT

1,3-butadiene, buta-1,3-diene (106-99-0)	
Sweden - Occupational Exposure Limits	
Local name	1,3-Butadien
NGV (OEL TWA)	1 mg/m³
	0.5 ppm
KGV (OEL STEL)	10 mg/m³
	5 ppm
Remark	C (Ämnet är cancerframkallande. Risk för cancer finns även vid annan exponering än via inandning. För vissa cancerframkallande ämnen som inte har gränsvärden gäller förbud eller tillståndskrav enligt föreskrifterna om kemiska arbetsmiljörisker)
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
United Kingdom - Occupational Exposure Limits	
Local name	Buta-1,3-diene
WEL TWA (OEL TWA)	2.2 mg/m³
	1 ppm
Remark	Carc (Capable of causing cancer and/or heritable genetic damage)
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Norway - Occupational Exposure Limits	
Local name	1,3-Butadien
Grenseverdi (OEL TWA)	2.2 mg/m³
	1 ppm
Remark	K: Kjemikalier som skal betraktes som kreftfremkallende; G: EU har fastsatt en bindende grenseverdi og/eller anmerkning for stoffet.
Regulatory reference	FOR-2024-04-05-581
USA - ACGIH - Occupational Exposure Limits	
Local name	1,3-Butadiene
ACGIH OEL TWA	2 ppm
Remark (ACGIH)	TLV® Basis: Cancer. Notations: A2 (Suspected Human Carcinogen)
Regulatory reference	ACGIH 2024

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

Personal protection equipment

Personal protective equipment:
Avoid all unnecessary exposure. Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the protective equipment.
Personal protective equipment symbol(s):

Eye and face protection

Eye protection:
Safety glasses

Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
Protective gloves

Respiratory protection

Respiratory protection:
[In case of inadequate ventilation] wear respiratory protection.

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	:	Colourless.
Odour	:	Characteristic odour. Mild odour. Pleasant odour. Alcohol odour.
Odour threshold	:	Not available
Melting point	:	Not applicable
Freezing point	:	Not available
Boiling point	:	64.7 °C (1013 hPa)
Flammability	:	Highly flammable liquid and vapour.
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	9.7 °C (1013 hPa)
Auto-ignition temperature	:	Not available
Decomposition temperature	:	Not available
pH	:	Not available
Viscosity, kinematic	:	Not available
Viscosity, dynamic	:	0.544 – 0.59 mPa·s (25.0 °C)
Solubility	:	Soluble in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in chloroform.
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	169.27 hPa (25 °C)
Vapour pressure at 50°C	:	552 hPa
Density	:	Not available
Relative density	:	0.79 – 0.8 (20 °C)
Relative vapour density at 20°C	:	Not available
Particle characteristics	:	Not applicable

9.2. Other information

Information with regard to physical hazard classes

Explosion limits	:	5.5 – 36.5 vol %

SECTION 10: Stability and reactivity

10.1. Reactivity

Highly flammable liquid and vapour.

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

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

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) : Toxic if swallowed.
Acute toxicity (dermal) : Toxic in contact with skin.
Acute toxicity (inhalation) : Not classified

Standard solution 1,3-Butadiene 2000ug/ml in methanol	
ATE CLP (oral)	100.2 mg/kg bodyweight
ATE CLP (dermal)	300.601 mg/kg bodyweight

methanol (67-56-1)	
LD50 oral rat	1187 – 2769 mg/kg bodyweight
LD50 dermal rabbit	15800 mg/kg
LC50 Inhalation - Rat	85 mg/l/4h
LC50 Inhalation - Rat [ppm]	64000 ppm/4h

1,3-butadiene, buta-1,3-diene (106-99-0)	
LD50 oral rat	5480 mg/kg (Rat)
LC50 Inhalation - Rat	285 mg/l/4h (Rat)

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : May cause genetic defects.
Carcinogenicity : May cause cancer.

1,3-butadiene, buta-1,3-diene (106-99-0)	
IARC group	1 - Carcinogenic to humans

Reproductive toxicity : Not classified

methanol (67-56-1)	
NOAEL (animal/male, F0/P)	< 1000 mg/kg bodyweight mouse

STOT-single exposure : Causes damage to organs.

methanol (67-56-1)	
STOT-single exposure	Causes damage to organs.

STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

1,3-butadiene, buta-1,3-diene (106-99-0)	
Viscosity, kinematic	0.011 mm²/s

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

methanol (67-56-1)	
LC50 - Fish [1]	15400 mg/l Lepomis macrochirus (Bluegill)
EC50 - Crustacea [1]	> 10000 mg/l Daphnia magna (Water flea)
EC50 96h - Algae [1]	≈ 22000 mg/l Pseudokirchneriella subcapitata
NOEC (chronic)	208 mg/l Daphnia magna (Water flea)

1,3-butadiene, buta-1,3-diene (106-99-0)	
LC50 - Fish [2]	80 mg/l (LC50; 48 h)

12.2. Persistence and degradability

Standard solution 1,3-Butadiene 2000ug/ml in methanol	
Persistence and degradability	Rapidly degradable

methanol (67-56-1)	
Persistence and degradability	Readily biodegradable in water, Biodegradable in soil, Very mobile in soil.
Biochemical oxygen demand (BOD)	0.6 – 1.12 g O_2/g substance
Chemical oxygen demand (COD)	1.42 g O_2/g substance
ThOD	1.5 g O_2/g substance
BOD (% of ThOD)	0.8

1,3-butadiene, buta-1,3-diene (106-99-0)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

methanol (67-56-1)	
BCF - Fish [1]	< 10 Leuciscus idus (golden orfe)

methanol (67-56-1)	
Partition coefficient n-octanol/water (Log Pow)	-0.77
Bioaccumulative potential	Low bioaccumulation potential (BCF < 500).

1,3-butadiene, buta-1,3-diene (106-99-0)	
BCF - Fish [1]	19.1 (BCF)
BCF - Fish [2]	13 (BCF)
Partition coefficient n-octanol/water (Log Pow)	1.85 – 1.99

12.4. Mobility in soil

methanol (67-56-1)	
Mobility in soil	2.75
Surface tension	0.023 N/m (20 °C)

12.5. Results of PBT and vPvB assessment

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	methanol (67-56-1)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	methanol (67-56-1)

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

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Disposal must be done according to official regulations.
Additional information : Flammable vapours may accumulate in the container. Do not re-use empty containers.
Ecological waste information : Avoid release to the environment.
European List of Waste (LoW, EC 2000/532) : 16 05 06* - laboratory chemicals consisting of or containing dangerous substances including mixtures of laboratory chemicals

SECTION 14: Transport information

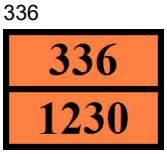
In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 1230	UN 1230	UN 1230	UN 1230	UN 1230

ADR	IMDG	IATA	ADN	RID
14.2. UN proper shipping name				
METHANOL	METHANOL	Methanol	METHANOL	METHANOL
Transport document description				
UN 1230 METHANOL, 3 (6.1), II, (D/E)	UN 1230 METHANOL, 3 (6.1), II (12°C c.c.)	UN 1230 Methanol, 3 (6.1), II	UN 1230 METHANOL, 3 (6.1), II	UN 1230 METHANOL, 3 (6.1), II
14.3. Transport hazard class(es)				
3 (6.1)	3 (6.1)	3 (6.1)	3 (6.1)	3 (6.1)
				
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)	:	FT1
Special provisions (ADR)	:	279
Limited quantities (ADR)	:	1l
Excepted quantities (ADR)	:	E2
Packing instructions (ADR)	:	P001, IBC02
Mixed packing provisions (ADR)	:	MP19
Portable tank and bulk container instructions (ADR)	:	T7
Portable tank and bulk container special provisions (ADR)	:	TP2
Tank code (ADR)	:	L4BH
Tank special provisions (ADR)	:	TU15
Vehicle for tank carriage	:	FL
Transport category (ADR)	:	2
Special provisions for carriage - Loading, unloading and handling (ADR)	:	CV13, CV28
Special provisions for carriage - Operation (ADR)	:	S2, S19
Hazard identification number (Kemler No.)	:	336
Orange plates	:	
Tunnel restriction code (ADR)	:	D/E
EAC code	:	•2WE
APP code	:	A(fl)

Transport by sea

Special provisions (IMDG)	:	279
Limited quantities (IMDG)	:	1 L

Excepted quantities (IMDG)	:	E2
Packing instructions (IMDG)	:	P001
IBC packing instructions (IMDG)	:	IBC02
Tank instructions (IMDG)	:	T7
Tank special provisions (IMDG)	:	TP2
Stowage category (IMDG)	:	B
Stowage and handling (IMDG)	:	SW2
Flash point (IMDG)	:	12°C c.c.
Properties and observations (IMDG)	:	Colourless, volatile liquid. Flashpoint: 12°C c.c. Explosive limits: 6% to 36.5%. Miscible with water. Toxic if swallowed; may cause blindness. Avoid skin contact.

Air transport

PCA Excepted quantities (IATA)	:	E2
PCA Limited quantities (IATA)	:	Y341
PCA limited quantity max net quantity (IATA)	:	1L
PCA packing instructions (IATA)	:	352
PCA max net quantity (IATA)	:	1L
CAO packing instructions (IATA)	:	364
CAO max net quantity (IATA)	:	60L
Special provisions (IATA)	:	A113
ERG code (IATA)	:	3L

Inland waterway transport

Classification code (ADN)	:	FT1
Special provisions (ADN)	:	279, 802
Limited quantities (ADN)	:	1 L
Excepted quantities (ADN)	:	E2
Carriage permitted (ADN)	:	T
Equipment required (ADN)	:	PP, EP, EX, TOX, A
Ventilation (ADN)	:	VE01, VE02
Number of blue cones/lights (ADN)	:	2

Rail transport

Classification code (RID)	:	FT1
Special provisions (RID)	:	279
Limited quantities (RID)	:	1L
Excepted quantities (RID)	:	E2
Packing instructions (RID)	:	P001, IBC02
Mixed packing provisions (RID)	:	MP19
Portable tank and bulk container instructions (RID)	:	T7
Portable tank and bulk container special provisions (RID)	:	TP2
Tank codes for RID tanks (RID)	:	L4BH
Special provisions for RID tanks (RID)	:	TU15
Transport category (RID)	:	2
Special provisions for carriage - Loading, unloading and handling (RID)	:	CW13, CW28
Colis express (express parcels) (RID)	:	CE7
Hazard identification number (RID)	:	336

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)

EU restriction list (REACH Annex XVII)		
Reference code	**Applicable on**	**Entry title or description**
28.	1,3-butadiene, buta-1,3-diene	Substances which are classified as carcinogen category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 1 or Appendix 2, respectively.
29.	1,3-butadiene, buta-1,3-diene	Substances which are classified as germ cell mutagen category 1A or 1B in Part 3 of Annex VI to Regulation (EC) No 1272/2008 and are listed in Appendix 3 or Appendix 4, respectively.
3(a)	Standard solution 1,3-Butadiene 2000ug/ml in methanol ; methanol	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: 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
3(b)	Standard solution 1,3-Butadiene 2000ug/ml in methanol ; methanol	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: 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
40.	methanol ; 1,3-butadiene, buta-1,3-diene	Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.
69.	methanol	Methanol

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 (2024/590)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 2024/590 on substances that deplete the ozone layer)

Council Regulation (EC) for the control of dual-use items

Contains no substance subject to the COUNCIL REGULATION (EC) for the control of dual-use items

VOC Directive (2004/42)

Organic solvent : Yes

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)

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
RG 99	Hemic diseases caused by 1,3-butadiene and all products containing it

Germany

VOC ordinance (ChemVOCFarbV) :

Water hazard class (WGK) : WGK 2, Significantly hazardous to water (Classification according to AwSV, Annex 1).

Chemicals Prohibition Ordinance (ChemVerbotsV) : This product is subject to ChemVerbotsV Annex 2 Entry 1. The following requirements must be observed: authorization requirement (according to § 6 paragraph 1 sentence 1), basic requirements for carrying out the delivery (according to § 8 paragraph 1, 3 and 4), identification and documentation (according to § 9 paragraph 1 to 3) and exclusion of the shipping route (according to § 10).

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

Netherlands

ABM category : Z(2) - biodegradable substances with hazardous properties for humans and the environment (carcinogenicity/ mutagenicity/reprotoxicity/bioacumulative potential or toxicity)

SZW-lijst van kankerverwekkende stoffen : 1,3-butadiene, buta-1,3-diene is listed

SZW-lijst van mutagene stoffen : 1,3-butadiene, buta-1,3-diene is 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

Class for fire hazard : Class I-1

Store unit : 1 liter

Classification remarks : F <Flam. Liq. 2>; Emergency management guidelines for the storage of flammable liquids must be followed

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product
The requirements from the Danish Working Environment Authorities regarding work with carcinogens must be followed during use and disposal

Poland

Polish National Regulations : Act of 25 February 2011 on chemical substances and their mixtures (J. o L. No. 63, item 322 as amended; consolidated text J. o L. 2019, item 1225).
Act of 14 December 2012 on waste (J. o L. 2013, item 322 as amended; consolidated text J. o L. 2020, item 797).
The announcement of Marshal of the Sejm of the Republic of Poland dated 19 October 2016 concerning the consolidated text announcement of the decree on the management of packaging and packaging waste (J. o L. 2016, item 1863 as amended).
Decree of the Minister of Environment of 14 December 2014 on the catalogue of waste (J. o L. 2014, item 1923).
Act of 19 August 2011 on the Carriage of Dangerous Goods (J. o L. 2011 No. 227, item 1367 as amended; consolidated text J. o L. 2020, item 154).
Regulation of the Minister of Family, Labour and Social Policy of 12 June 2018 on the highest permissible concentration and intensity of noxious agents for health at work environment (J. o L. item 1286 as amended).
The announcement of Minister of Health dated 9 September 2016 concerning the consolidated text announcement of the decree of the Minister of Health of 30 December 2004 on health and safety at work related to exposure to chemical agents at work (J. o L. of 16 September 2016, item 1488)
Regulation of the Minister of Health of 2 February 2011 on tests and measurements of the noxious agents for health at work environment (J. o L. No. 33, item 166 as amended).
Regulation of the Minister of Environment of 9 December 2003 on particularly hazardous substances to the environment (J. o L. No. 217, item 2141).
ADR Agreement: Government Statement of 13 March 2023 on the entry into force of amendments to Annexes A and B to the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), signed in Geneva on 30 September 1957 (J. o. L. 2023, item 891)

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes

Section	Changed item	Comments
1.2	Main use category	**Modified**
4.1	First-aid measures for first aider	**Added**
4.2	Symptoms/effects after skin contact	**Added**
4.2	Symptoms/effects after ingestion	**Added**
4.2	Symptoms/effects after inhalation	**Added**
4.2	Symptoms/effects after eye contact	**Added**
5.1	Unsuitable extinguishing media	**Added**
5.2	Explosion hazard	**Added**
5.3	Firefighting instructions	**Added**
6.1	Emergency procedures	**Added**
6.1	Protective equipment	**Added**
6.1	General measures	**Added**
6.3	For containment	**Added**
7.1	Additional hazards when processed	**Added**

Indication of changes		
Section	**Changed item**	**Comments**
7.2	Packaging materials	**Added**
8.2	Appropriate engineering controls	**Modified**
8.2	Personal protective equipment	**Modified**
9	Flammability	**Modified**
9	Viscosity, dynamic	**Modified**
9	Relative density	**Modified**
9	Vapour pressure at 50°C	**Modified**
9	Vapour pressure	**Modified**
9	Flash point	**Modified**
9	Boiling point	**Modified**
11.1	ATE CLP (dermal)	**Modified**
11.1	ATE CLP (oral)	**Modified**
13.1	Product/Packaging disposal recommendations	**Added**
13.1	Sewage disposal recommendations	**Added**
13.1	Regional waste regulation	**Added**
13.1	Additional information	**Modified**
15.1	REACH Annex XVII	**Modified**
16	Abbreviations and acronyms	**Added**

Abbreviations and acronyms:	
ACGIH	American Conference of Government Industrial Hygienists
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)
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
CSA	Chemical safety assessment
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
ED	Endocrine disruptor

Abbreviations and acronyms:	
EN	European Standard
EWC	European waste catalogue
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
Log Kow	Partition coefficient n-octanol/water (Log Kow)
Log Pow	Partition coefficient n-octanol/water (Log Pow)
MAK	maximum workplace concentration
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
N.O.S.	Not Otherwise Specified
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
OSHA	Occupational Safety Health Administration
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
PPE	Personal protection equipment
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TF	Technical function
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TWA	Time Weighted Average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
UFI	Unique Formula Identifier

Full text of H- and EUH-statements:	
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Carc. 1A	Carcinogenicity, Category 1A
Flam. Gas 1A	Flammable gases, Category 1A

Full text of H- and EUH-statements:	
Flam. Liq. 2	Flammable liquids, Category 2
Muta. 1B	Germ cell mutagenicity, Category 1B
Press. Gas	Gases under pressure
STOT SE 1	Specific target organ toxicity – single exposure, Category 1
STOT SE 2	Specific target organ toxicity – Single exposure, Category 2
H220	Extremely flammable gas.
H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H340	May cause genetic defects.
H350	May cause cancer.
H370	Causes damage to organs.
H371	May cause damage to organs.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:		
Flam. Liq. 2	H225	On basis of test data
Acute Tox. 3 (Oral)	H301	Calculation method
Acute Tox. 3 (Dermal)	H311	Calculation method
Muta. 1B	H340	Calculation method
Carc. 1A	H350	Calculation method
STOT SE 1	H370	Calculation method

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.