

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

SDS Reference Number: F120111

Issue date: 19/12/2016 Revision date: 23/01/2026 Supersedes version of: 19/12/2016 Version: 1.2

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

1.1. Product identifier

Product form : Mixture
Product name : PCBs Standard Solution - Arochlor 1254 in Methyl-tert butylether
Product code : F120111
BIG No : 11340

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 : Reference material
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	Emergency number
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

Skin corrosion/irritation, Category 2 H315

Specific target organ toxicity – Repeated exposure, Category 2 H373

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

Adverse physicochemical, human health and environmental effects

Highly flammable liquid and vapour. May cause damage to organs through prolonged or repeated exposure. Causes skin irritation.

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2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Contains

: arochlor 1254

Hazard statements (CLP)

: H225 - Highly flammable liquid and vapour.

H315 - Causes skin irritation.

H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements (CLP)

: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

No smoking.

P264 - Wash hands, forearms and face thoroughly after handling.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P314 - Get medical advice/attention if you feel unwell.

2.3. Other hazards

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

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane (1634-04-4)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane (1634-04-4)

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]
tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane substance with national workplace exposure limit(s) (AT, BE, BG, CY, CZ, DE, EE, ES, FI, FR, GB, GI, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, AL, IS, NO, RS, CH, TR); substance with a Community workplace exposure limit	CAS-No.: 1634-04-4 EC-No.: 216-653-1 EC Index-No.: 603-181-00-X	≥ 99	Flam. Liq. 2, H225 Skin Irrit. 2, H315
arochlor 1254 substance with national workplace exposure limit(s) (AT, BE, BG, ES, FI, FR, GB, GR, IE, PT, RO, SI, MK)	CAS-No.: 11097-69-1 EC-No.: 215-648-1 EC Index-No.: 602-039-00-4	0.1 – 0.25	Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 STOT RE 2, H373 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410

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Specific concentration limits:		
Name	Product identifier	Specific concentration limits (%)
arochlor 1254	CAS-No.: 11097-69-1 EC-No.: 215-648-1 EC Index-No.: 602-039-00-4	(0.005 ≤ C < 100) STOT RE 2; H373

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	: Get medical advice/attention if you feel unwell.
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. If skin irritation occurs: Get medical advice/attention.
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.
Self protection of the first-aider	: First-aiders should pay attention to their own protection and use the recommended personal protective equipment (see section 8).

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

Symptoms/effects after inhalation	: None under normal conditions.
Symptoms/effects after skin contact	: Irritation.
Symptoms/effects after eye contact	: None under normal conditions.
Symptoms/effects after ingestion	: None under normal conditions.

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.
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For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
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Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

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.

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. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

Hygiene measures : 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.
Packaging materials : Always store 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

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

National occupational exposure and biological limit values

tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane (1634-04-4)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Tertiary-butyl-methyl ether
IOEL TWA	183.5 mg/m ³
	50 ppm
IOEL STEL	367 mg/m ³
	100 ppm
Regulatory reference	COMMISSION DIRECTIVE 2009/161/EU
Albania - Occupational Exposure Limits	
Local name	Eter metil-terc butilik
OEL TWA	183.5 mg/m ³
	50 ppm
OEL STEL	367 mg/m ³
	100 ppm
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	tert-Butylmethylether
MAK (OEL TWA)	180 mg/m ³
	50 ppm
MAK (OEL STEL)	360 mg/m ³ (4x 15(Miw) min)
	100 ppm (4x 15(Miw) min)
Regulatory reference	BGBI. II Nr. 156/2021
Belgium - Occupational Exposure Limits	
Local name	Oxyde de méthyle et de tert-butyle # Methyl tertiair butyl ether
OEL TWA	146 mg/m ³
	40 ppm
OEL STEL	367 mg/m ³
	100 ppm
Regulatory reference	Koninklijk besluit/Arrêté royal 16/11/2023
Bulgaria - Occupational Exposure Limits	
Local name	Метил-третичен-бутил-етер
OEL TWA	183.5 mg/m ³
	50 ppm
OEL STEL	367 mg/m ³
	100 ppm

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tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane (1634-04-4)	
Remark	• (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	MTBE; tert-butil-metil-eter; 2-metoksi-2-metil-propan
GVI (OEL TWA)	183.5 mg/m ³ 50 ppm
KGVI (OEL STEL)	367 mg/m ³ 100 ppm
Remark	Direktiva: 2009/161/EU. Napomena: Koža (razvrstana kao tvar koja nadražuje kožu (H315))
Regulatory reference	Pravilnik o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 148/2023)
Cyprus - Occupational Exposure Limits	
Local name	tert-βουτυλομεθυλαιθέρας
OEL TWA	183.5 mg/m ³ 50 ppm
OEL STEL	367 mg/m ³ 100 ppm
Regulatory reference	Κανονισμοί του 2012 (Κ.Δ.Π. 70/2012)
Czech Republic - Occupational Exposure Limits	
Local name	terc-Butylmethylether (2-Methoxy-2-methylpropan)
PEL (OEL TWA)	100 mg/m ³ 27.3 ppm
NPK-P (OEL C)	200 mg/m ³ 54.6 ppm
Remark	I - dráždí sliznice (oči, dýchací cesty), resp. kůži.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (Předpis 20/2025 Sb.)
Estonia - Occupational Exposure Limits	
Local name	Tertsiaarbutüülmetüüleeter
OEL TWA	183.5 mg/m ³ 50 ppm
OEL STEL	367 mg/m ³ 100 ppm
Regulatory reference	Vabariigi Valitsuse 20. märtsi 2001. a määruse nr 105 (RT I, 02.04.2024, 13)
Finland - Occupational Exposure Limits	
Local name	Metyyli-tert-butyylieetteri
HTP (OEL TWA)	180 mg/m ³ 50 ppm

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HTP (OEL STEL)	360 mg/m ³
	100 ppm
Regulatory reference	HTP-ARVOT 2025 (Sosiaali- ja terveystieteiden ministeriö)
France - Occupational Exposure Limits	
Local name	Oxyde de tert-butyle et de méthyle
VLEP 8h (OEL TWA)	183.5 mg/m ³ (Oxyde de tert-butyle et de méthyle; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
	50 ppm (Oxyde de tert-butyle et de méthyle; France; Time-weighted average exposure limit 8 h; VRC: Valeur réglementaire contraignante)
VLEP CT (OEL STEL)	367 mg/m ³ (Oxyde de tert-butyle et de méthyle; France; Short time value; VRC: Valeur réglementaire contraignante)
	100 ppm (Oxyde de tert-butyle et de méthyle; France; Short time value; VRC: Valeur réglementaire contraignante)
Remark	Valeurs réglementaires contraignantes
Regulatory reference	Article R4412-149 du Code du travail (réf.: INRS ED 6443, 2022; Outil65; Décret n° 2019-1487; Décret n° 2020-1546; Décret n° 2021-434; Décret n° 2021-1849; Décret n° 2024-307)
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	(tert-Butyl)methylether
AGW (OEL TWA)	180 mg/m ³
	50 ppm
Peak exposure limitation factor	1,5(I)
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); Y - Ein Risiko der Fruchtschädigung braucht bei Einhaltung des Arbeitsplatzgrenzwertes und des biologischen Grenzwertes (BGW) nicht befürchtet zu werden
Regulatory reference	TRGS900
Gibraltar - Occupational Exposure Limits	
Local name	Tertiary-butyl-methyl ether
OEL TWA	183.5 mg/m ³
	50 ppm
OEL STEL	367 mg/m ³
	100 ppm
Regulatory reference	Factories (Control of Chemical Agents at Work) Regulations 2003 (LN. 2018/181)
Greece - Occupational Exposure Limits	
Local name	Tert-Bουτυλομεθυλαιθέρας
OEL TWA	183.5 mg/m ³
	50 ppm
OEL STEL	367 mg/m ³
	100 ppm
Regulatory reference	Π.Δ. 12/2012 - Προστασία της υγείας των εργαζομένων που εκτίθενται σε ορισμένους χημικούς παράγοντες κατά τη διάρκεια της εργασίας τους

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tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane (1634-04-4)	
Hungary - Occupational Exposure Limits	
Local name	terc-BUTIL-METIL-ÉTER
AK (OEL TWA)	183.5 mg/m ³
	50 ppm
CK (OEL STEL)	367 mg/m ³
	100 ppm
Remark	EU3 (2009/161/EK irányelvben közölt érték); N (Irritáló anyagok, egyszerű fojtógázok, csekély egészségkárosító hatással bíró anyagok)
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	Tert-Butyl-methyl ether
OEL TWA	183.5 mg/m ³
	50 ppm
OEL STEL	367 mg/m ³
	100 ppm
Remark	IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Chemical Agents Code of Practice 2024
Italy - Occupational Exposure Limits	
Local name	Ossido di terz-butile e metile
OEL TWA	183.5 mg/m ³
	50 ppm
OEL STEL	367 mg/m ³
	100 ppm
Regulatory reference	Allegato XXXVIII del D.Lgs. 9 aprile 2008, n. 81 e s.m.i. (D.Lgs. 4 settembre 2024, n. 135)
Latvia - Occupational Exposure Limits	
Local name	Tercbutilmetilēteris
OEL TWA	183.5 mg/m ³
	50 ppm
OEL STEL	367 mg/m ³
	100 ppm
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	Tret-butil-metil-eteris
IPRV (OEL TWA)	183.5 mg/m ³
	50 ppm
TPRV (OEL STEL)	367 mg/m ³
	100 ppm
Remark	Ū (ūmus poveikis)

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tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane (1634-04-4)	
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
Luxembourg - Occupational Exposure Limits	
Local name	Ether butylique tertiaire de méthyle
OEL TWA	183.5 mg/m ³ 50 ppm
OEL STEL	367 mg/m ³ 100 ppm
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	Tert-Butyl methyl ether
OEL TWA	183.5 mg/m ³ 50 ppm
OEL STEL	367 mg/m ³ 100 ppm
Regulatory reference	S.L. 424.24 - Chemical Agents at Work Regulations (L.N. 356 of 2021) # L.S. 424.24 - Regolamenti dwar Agenti Kimiċi fuq il-Post tax-Xogħol (A.L. 356 tal-2021)
Netherlands - Occupational Exposure Limits	
Local name	tert-Butylmethylether
TGG-8u (OEL TWA)	180 mg/m ³ 49 ppm (tert-Butylmethylether; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
TGG-15min (OEL STEL)	360 mg/m ³ 98 ppm (tert-Butylmethylether; Netherlands; Short time value; Public occupational exposure limit value)
Regulatory reference	Arbeidsomstandighedenregeling 2024
Poland - Occupational Exposure Limits	
Local name	Eter tert-butylometylowy
NDS (OEL TWA)	180 mg/m ³
NDSCh (OEL STEL)	270 mg/m ³
Regulatory reference	Dz. U. 2024 poz. 1017 wraz z późn. zm.
Portugal - Indicative Occupational Exposure Limit (IOEL)	
Local name	Éter terc-butílico e metílico
IOEL TWA	183.5 mg/m ³ 50 ppm
IOEL STEL	367 mg/m ³ 100 ppm
Regulatory reference	Decreto-Lei n.º 1/2021 de 6 de janeiro
Portugal - Occupational Exposure Limits	
Local name	Éter metil-terc-butílico (MTBE)

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tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane (1634-04-4)	
OEL TWA	50 ppm
Remark	A3 (Agente carcinogénico confirmado nos animais de laboratorio con relevância desconhecida no Homem)
Regulatory reference	Norma Portuguesa NP 1796:2014
Romania - Occupational Exposure Limits	
Local name	Terț-butil metil eter/2-metoxi-2-metilpropan
OEL TWA	183.5 mg/m ³ 50 ppm
OEL STEL	367 mg/m ³ 100 ppm
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 179/2024)
Serbia - Occupational Exposure Limits	
Local name	терц-бутил метил етар
OEL TWA	184 mg/m ³ 50 ppm
OEL STEL	367 mg/m ³ 100 ppm
Remark	ЕУ*** – напомена да се ради о хемијским материјама за које су утврђене индикативне граничне вредности изложености према Директиви 2009/161/ЕУ (трећа листа)
Regulatory reference	ПРАВИЛНИК о превентивним мерама за безбедан и здрав рад при излагању хемијским материјама („Службени гласник РС”, бр. 106/09, 117/17 и 107/21)
Slovakia - Occupational Exposure Limits	
Local name	terc-Butyl-metyl-éter
NPHV (OEL TWA)	183.5 mg/m ³ 50 ppm
NPHV (OEL STEL)	367 mg/m ³ 100 ppm
Regulatory reference	Nariadenie vlády č. 355/2006 Z. z. (122/2024 Z. z.)
Slovenia - Occupational Exposure Limits	
Local name	terc-butilmetileter
OEL TWA	183.5 mg/m ³ 50 ppm
OEL STEL	367 mg/m ³ 100 ppm
Remark	Y (Snovi, pri katerih ni nevarnosti za zarodek ob upoštevanju mejnih vrednosti in bat vrednosti), EU
Regulatory reference	Uradni list RS, št. 26/2025 z dne 18.4.2025 - Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu
Spain - Occupational Exposure Limits	
Local name	Metil terc-butiléter (Éter metil-terc-butílico)

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tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane (1634-04-4)	
VLA-ED (OEL TWA)	183.5 mg/m ³
	50 ppm
VLA-EC (OEL STEL)	367 mg/m ³
	100 ppm
Remark	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 2025. INSHT
Sweden - Occupational Exposure Limits	
Local name	Metyltertiärbutyleter (MTBE)
NGV (OEL TWA)	110 mg/m ³
	30 ppm
KGV (OEL STEL)	367 mg/m ³
	100 ppm
Regulatory reference	Arbetsmiljöverkets föreskrifter och allmänna råd (AFS 2023:14) om gränsvärden för luftvägsexponering i arbetsmiljön
United Kingdom - Occupational Exposure Limits	
Local name	Methyl-tert-butyl-ether (Tertiary-butyl-methyl-ether)
WEL TWA (OEL TWA)	183.5 mg/m ³
	50 ppm
WEL STEL (OEL STEL)	367 mg/m ³
	100 ppm
Regulatory reference	EH40/2005 (Fourth edition, 2020). HSE
Iceland - Occupational Exposure Limits	
Local name	Bútyl-metyleter, þrígreindur
OEL TWA	183.5 mg/m ³
	50 ppm
OEL STEL	367 mg/m ³
	100 ppm
Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 1296/2012)
Norway - Occupational Exposure Limits	
Local name	tert-butylmetyleter (MTBE)
Grenseverdi (OEL TWA)	183.5 mg/m ³
	50 ppm
Korttidsverdi (OEL STEL)	367 mg/m ³
	100 ppm
Remark	E: EU har en veiledende grenseverdi og/eller anmerkning for stoffet.
Regulatory reference	FOR-2024-04-05-581
Switzerland - Occupational Exposure Limits	
Local name	Méthoxy-2-méthylpropane / Methyl-tert-butylether
MAK (OEL TWA)	180 mg/m ³

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tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane (1634-04-4)	
	50 ppm
KZGW (OEL STEL)	270 mg/m ³
	75 ppm
Notation	SS _C / SS _C
Remark	NIOSH
Regulatory reference	www.suva.ch, 18.06.2025
USA - ACGIH® - Threshold Limit Values	
Local name	Methyl tert-butyl ether
ACGIH® TLV® TWA	180 mg/m ³
	50 ppm
Remark (ACGIH®)	TLV® Basis: URT irr; kidney dam. Notations: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
Regulatory reference	ACGIH 2025
arochlor 1254 (11097-69-1)	
Austria - Occupational Exposure Limits	
Local name	Chlorierte Biphenyle (Biphenyle, chlorierte; PCB)
MAK (OEL TWA)	0.5 mg/m ³ (Chlorgehalt 54%)
	0.05 ppm (Chlorgehalt 54%)
MAK (OEL STEL)	5 mg/m ³ (Chlorgehalt 54%, 1x 30(Miw) min)
	0.5 ppm (Chlorgehalt 54%, 1x 30(Miw) min)
Remark	H. Fortpflanzungsgefährdend: F, D. Krebs erzeugend: III B
Regulatory reference	BGBl. II Nr. 330/2024
Belgium - Occupational Exposure Limits	
Local name	Biphényles chlorés (54 % Cl) # Chloorbifenyli (54 % Cl)
OEL TWA	0.5 mg/m ³
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	Полихлорирани бифенили (54 % хлор)
OEL TWA	0.5 mg/m ³
OEL STEL	1 mg/m ³
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.)
Finland - Occupational Exposure Limits	
Local name	Klooribifenylyli (54 % klooria)
HTP (OEL TWA)	0.003 mg/m ³

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arochlor 1254 (11097-69-1)	
Remark	Iho, kokonais-PCB = 5 × ([PCB 28] + [PCB 52] + [PCB 101] + [PCB 138] + [PCB 153] + [PCB 180])
Regulatory reference	HTP-ARVOT 2025 (Sosiaali- ja terveysministeriö)
France - Occupational Exposure Limits	
Local name	Biphényle chloré (54% Cl)
VLEP 8h (OEL TWA)	0.5 mg/m ³
Remark	Valeurs recommandées/admises. Risque de pénétration percutanée
Regulatory reference	Circulaire du Ministère du travail (réf.: INRS ED 6443, 2022; Outil65)
Greece - Occupational Exposure Limits	
Local name	Χλωρο-διφαινύλια (54% ως χλώριο)
OEL TWA	0.5 mg/m ³
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
Ireland - Occupational Exposure Limits	
Local name	Chlorinated biphenyls (54% chlorine) [Polychlorinated biphenyls (PCBs)]
OEL TWA	0.5 mg/m ³
Remark	Advisory OELV (Advisory 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
Portugal - Occupational Exposure Limits	
Local name	Clorodifenilo (54% de cloro)
OEL TWA	0.5 mg/m ³
Remark	P (Toxicidade percutânea); A3 (Agente carcinogénico confirmado nos animais de laboratorio con relevância desconhecida no Homem)
Regulatory reference	Norma Portuguesa NP 1796:2014
Romania - Occupational Exposure Limits	
Local name	Clorodifenil (54% clor)
OEL STEL	0.5 mg/m ³
Remark	P - posibilitatea unei penetrări cutanate importante
Regulatory reference	Hotărârea Guvernului nr. 1.218/2006 (Hotărârea nr. 179/2024)
Slovenia - Occupational Exposure Limits	
OEL STEL	2.8 mg/m ³ 0.2 ppm
Spain - Occupational Exposure Limits	
Local name	Clorodifenilo (54% de cloro)
VLA-ED (OEL TWA)	0.7 mg/m ³

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arochlor 1254 (11097-69-1)	
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), ae (Alterador endocrino. Hay una serie de sustancias utilizadas en la industria, la agricultura y los bienes de consumo de las que se sospecha que interfieren con los sistemas endocrinos de los seres humanos y de los animales y que son causantes de perjuicios para la salud como el cáncer, alteraciones del comportamiento y anomalías en la reproducción. Tales sustancias se denominan "alteradores endocrinos". [Aplicación de la estrategia comunitaria en materia de alteradores endocrinos-sustancias de las que se sospecha interfieren en los sistemas hormonales de seres humanos y animales-COM (1999) 706. Comisión de las Comunidades Europeas, COM (2001) 262 final, Bruselas 14.06.2001]. En el caso del ser humano, algunas vías posibles de exposición a alteradores endocrinos son la exposición directa en el lugar de trabajo o a través de productos de consumo como alimentos, ciertos plásticos, pinturas, detergentes y cosméticos, o indirecta a través del medio ambiente (aire, agua y suelo). [Estrategia comunitaria en materia de alteradores endocrinos (sustancias de las que se sospecha interfieren en los sistemas hormonales de seres humanos y animales). Comisión de las Comunidades Europeas, COM (1999) 706 final, Bruselas 17.12.1999]. Los valores límite asignados a estos agentes no se han establecido para prevenir los posibles efectos de alteración endocrina, lo cual justifica una vigilancia adecuada de la salud), 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).
Regulatory reference	Límites de Exposición Profesional para Agentes Químicos en España 2025. INSHT
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	0.1 mg/m ³ Polychlorinated biphenyls (PCB); United Kingdom; Time-weighted average exposure limit 8 h; Workplace exposure limit (EH40/2005)
WEL STEL (OEL STEL)*	0.3 mg/m ³
North Macedonia - Occupational Exposure Limits	
Local name	дифенил - хлорирани (54% хлор)
OEL TWA	0.7 mg/m ³ 0.05 ppm
KTV	4
OEL STEL*	2.8 mg/m ³ 0.2 ppm
Remark	(KTV) краткотрајна вредност (КТВ) значи концентрација на опасни хемиски супстанции во воздухот на работното место внатре во зона на дишење, на која работникот без опасност по здравјето може да е изложен на покусо време. Изложеноста на краткотрајни вредности може да трае највеќе 15 минути и не смее да се повтори повеќе од четирипати во работната смена, при што меѓу две изложености на оваа концентрација мора да измине најмалку 60 минути. Краткотрајната вредност е изразена во mg/m ³ или во ml/m ³ (ppm) а е дадена како многукратни дозволени пречекорувања на граничната вредност; (K) својство на полесно пренесување на супстанците во организмот преку кожата
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)

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arochlor 1254 (11097-69-1)	
USA - ACGIH® - Threshold Limit Values	
Local name	Chlorodiphenyl (54% chlorine)
ACGIH® TLV® TWA	0.5 mg/m ³
Remark (ACGIH®)	TLV® Basis: URT irr; liver dam; chloracne. Notations: Skin; A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
Regulatory reference	ACGIH 2025

*STEL value is calculated based on the TWA limit

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 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	: Colourless.
Odour	: Camphor odour. Ether-like odour. Peppermint odour.
Odour threshold	: Not available
Melting point	: Not applicable
Freezing point	: -109 °C
Boiling point	: 55 °C
Flammability	: Highly flammable liquid and vapour.
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: -28 °C

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Auto-ignition temperature	: > 375 °C
Decomposition temperature	: Not available
pH	: Not available
Viscosity, kinematic	: Not available
Viscosity, dynamic	: 0 Pa·s (20 °C)
Solubility	: Moderately soluble in water. Substance floats in water. Soluble in ethanol. Soluble in ether. Soluble in gasoline.
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: 268 hPa (20 °C)
Vapour pressure at 50°C	: 850 hPa
Density	: Not available
Relative density	: 0.74
Relative vapour density at 20°C	: 3
Particle characteristics	: Not applicable

9.2. Other information

Information with regard to physical hazard classes

Explosion limits	: 1.6 – 8.5 vol %
Critical temperature	: 224 °C

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

tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane (1634-04-4)

LD50 oral rat	> 2000 mg/kg bodyweight
LD50 dermal rat	> 2000 mg/kg bodyweight
LD50 dermal rabbit	> 10000 mg/kg
LC50 Inhalation - Rat	85 mg/l/4h
LC50 Inhalation - Rat [ppm]	23576 ppm/4h

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arochlor 1254 (11097-69-1)

LD50 oral rat	1010 mg/kg
LD50 dermal rabbit	800 mg/kg

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane (1634-04-4)

IARC group	3 - Not classifiable
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Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.

arochlor 1254 (11097-69-1)

STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
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Aspiration hazard	: Not classified
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tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane (1634-04-4)

Viscosity, kinematic	0.405 mm ² /s
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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

tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane (1634-04-4)

LC50 - Fish [1]	672 – 706 mg/l Pimephales promelas (Fathead minnow)
EC50 - Crustacea [1]	472 mg/l Daphnia magna (Water flea)

arochlor 1254 (11097-69-1)

LC50 - Fish [1]	0.0077 mg/l Pimephales promelas (Fathead minnow)
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12.2. Persistence and degradability

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Persistence and degradability	Rapidly degradable
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tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane (1634-04-4)

Persistence and degradability	Not readily biodegradable in water.
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arochlor 1254 (11097-69-1)

Persistence and degradability	Not readily biodegradable in water, Not degradable in the soil, Adsorbs into the soil.
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12.3. Bioaccumulative potential

tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane (1634-04-4)

Partition coefficient n-octanol/water (Log Pow)	1.06
Bioaccumulative potential	Low bioaccumulation potential (BCF < 500).

arochlor 1254 (11097-69-1)

Partition coefficient n-octanol/water (Log Pow)	6.03
Bioaccumulative potential	High potential for bioaccumulation (BCF > 5000).

12.4. Mobility in soil

tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane (1634-04-4)

Surface tension	0.02 N/m (20 °C)
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12.5. Results of PBT and vPvB assessment

Component

Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane (1634-04-4)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane (1634-04-4)

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	: The waste of the product should be considered as hazardous as the product itself, with the likelihood of impacting the environment in the same way. Consider the handling and disposal of the waste as defined by the product itself.

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 2398	UN 2398	UN 2398	UN 2398	UN 2398
14.2. UN proper shipping name				
METHYL tert-BUTYL ETHER	METHYL tert-BUTYL ETHER	Methyl tert-butyl ether	METHYL TERT-BUTYL ETHER	METHYL tert-BUTYL ETHER

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ADR	IMDG	IATA	ADN	RID
Transport document description				
UN 2398 METHYL tert-BUTYL ETHER, 3, II, (D/E)	UN 2398 METHYL tert-BUTYL ETHER, 3, II (< -18°C c.c.)	UN 2398 Methyl tert-butyl ether, 3, II	UN 2398 METHYL TERT-BUTYL ETHER, 3, II	UN 2398 METHYL tert-BUTYL ETHER, 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
 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) : T7
 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 : •3YE

Transport by sea

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) : TP1
 Stowage category (IMDG) : E
 Flash point (IMDG) : below -18°C c.c.

Air transport

PCA Excepted quantities (IATA) : E2

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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
ERG code (IATA)	: 3L

Inland waterway transport

Classification code (ADN)	: F1
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
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)	: T7
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)

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
3(a)	PCBs Standard Solution - Arochlor 1254 in Methyl-tert butylether ; tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	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)	PCBs Standard Solution - Arochlor 1254 in Methyl-tert butylether ; tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane ; arochlor 1254	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
3(c)	arochlor 1254	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 class 4.1

REACH Annex XIV (Authorisation List)

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

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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)

Not listed on the Ozone Depletion list (Regulation EU 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 (EU 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 (EC 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

Denmark

Classification remarks : 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 it.
If an employee is pregnant or breastfeeding and the person in question uses or is exposed to this product at work, the employer must always carry out a risk assessment of the work. The assessment must both deal with the dangerousness of the impact and its strength and duration. The employer's decision that a pregnant or lactating woman can perform a specific work task must therefore be made in the context of her specific working conditions. See also WEA-Guideline A.1.8-7 on the working environment of pregnant and breastfeeding workers.

Finland

France

Occupational diseases	
Code	Description
RG 9	Diseases caused by halogenated derivatives of aromatic hydrocarbons
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

Water hazard class (WGK) : WGK 3, Highly hazardous to water (Classification according to AwSV, Annex 1).

Netherlands

ABM category : A(2) - toxic for aquatic organisms, may have longterm hazardous effects in aquatic environment
SZW-lijst van kankerverwekkende stoffen : None of the components are listed
SZW-lijst van mutagene stoffen : None of the components are listed

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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

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)
Regulation of the Minister of Health of 25 August 2015 on the method of marking places, pipelines, and containers and tanks used for storing or containing hazardous substances or hazardous mixtures (J.o.L. 2015, item 1368 as amended)

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes		
Section	Changed item	Comments
1.1	Name	Modified
1.1	Product code	Modified
1.2	Main use category	Modified
2.1	Adverse physicochemical, human health and environmental effects	Modified
2.1	Classification according to Regulation (EC) No. 1272/2008 [CLP]	Modified
2.2	Hazard pictograms (CLP)	Modified
2.2	Precautionary statements (CLP)	Modified
2.2	Hazard statements (CLP)	Modified
4	Self protection of the first-aider	Added
4.1	First-aid measures general	Added

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Indication of changes		
Section	Changed item	Comments
4.2	Symptoms/effects after eye contact	Added
4.2	Symptoms/effects after inhalation	Added
4.2	Symptoms/effects after ingestion	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
6.1	Emergency procedures	Modified
6.3	For containment	Modified
7.1	Additional hazards when processed	Added
7.1	Precautions for safe handling	Modified
7.2	Packaging materials	Added
8.2	Personal protective equipment	Modified
9	Flammability	Modified
9	Freezing point	Added
9	Vapour pressure at 50°C	Modified
9	Vapour pressure	Modified
12.1	Ecology - general	Modified
13.1	Product/Packaging disposal recommendations	Added
13.1	Sewage disposal recommendations	Added
13.1	Regional waste regulation	Added
13.1	Ecological waste information	Added
13.1	Additional information	Modified
15.1	REACH Annex XVII	Modified
16	Abbreviations and acronyms	Added

Abbreviations and acronyms:	
ACGIH	American Conference of Governmental 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 Abstracts Service number

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Abbreviations and acronyms:	
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
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

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Full text of H- and EUH-statements:	
Acute Tox. 3 (Dermal)	Acute toxicity (dermal), Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
Flam. Liq. 2	Flammable liquids, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

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
Skin Irrit. 2	H315	Calculation method
STOT RE 2	H373	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.