Standard solution
Cypermethrin 100ug/ml in cyclohexane

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
SDS Reference Number: P875080
Issue date: 03/06/2013 Revision date: 07/01/2025 Supersedes version of: 16/11/2017 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
Cypermethrin 100ug/ml in cyclohexane
Product code : P875080

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 : Laboratory chemical

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
Skin corrosion/irritation, Category 2	H315
Specific target organ toxicity – Single exposure, Category 3, Narcosis	H336
Aspiration hazard, Category 1	H304
Hazardous to the aquatic environment – Acute Hazard, Category 1	H400
Hazardous to the aquatic environment – Chronic Hazard, Category 1	H410

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

Adverse physicochemical, human health and environmental effects

Highly flammable liquid and vapour. May cause drowsiness or dizziness. Causes skin irritation. May be fatal if swallowed and enters airways. Very toxic to aquatic life with long lasting effects.

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS02 GHS07 GHS08 GHS09

Signal word (CLP) : Danger

Contains : cyclohexane

Hazard statements (CLP) : H225 - Highly flammable liquid and vapour.
H304 - May be fatal if swallowed and enters airways.
H315 - Causes skin irritation.
H336 - May cause drowsiness or dizziness.
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements (CLP) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310+P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting.
P312 - Call a POISON CENTRE or doctor if you feel unwell.
P391 - Collect spillage.

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	cyclohexane (110-82-7)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	cyclohexane (110-82-7)

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]
cyclohexane substance with national workplace exposure limit(s) (AT, BE, BG, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GI, GR, HR, HU, IE, IT, LT, LU, LV, MT, NL, PL, PT, RO, SE, SI, SK, AL, IS, MK, RS, CH, TR); substance with a Community workplace exposure limit	CAS-No.: 110-82-7 EC-No.: 203-806-2 EC Index-No.: 601-017-00-1	≥ 99	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
cypermethrin	CAS-No.: 52315-07-8 EC-No.: 257-842-9 EC Index-No.: 607-433-00-X	< 0.05	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Skin Sens. 1, H317 STOT SE 3, H335 STOT RE 2, H373 Aquatic Acute 1, H400 (M=1000) Aquatic Chronic 1, H410

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. 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 : Do not induce vomiting. 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 : May cause drowsiness or dizziness.
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 : Risk of lung oedema.

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 : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid breathing 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 : Collect spillage. 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 : 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. Use only outdoors or in a well-ventilated area. Avoid breathing 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. 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

cyclohexane (110-82-7)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Cyclohexane
IOEL TWA	700 mg/m³
	200 ppm
Regulatory reference	COMMISSION DIRECTIVE 2006/15/EC
Albania - Occupational Exposure Limits	
Local name	Ciklohekzan
OEL TWA	700 mg/m³
	200 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	Cyclohexan
MAK (OEL TWA)	700 mg/m³
	200 ppm
MAK (OEL STEL)	2800 mg/m³
	800 ppm
Regulatory reference	BGBl. II Nr. 186/2015
Belgium - Occupational Exposure Limits	
Local name	Cyclohexane # Cyclohexaan
OEL TWA	350 mg/m³
	100 ppm
Regulatory reference	Koninklijk besluit/Arrêté royal 02/09/2018

cyclohexane (110-82-7)	
Bulgaria - Occupational Exposure Limits	
Local name	Циклохексан
OEL TWA	700 mg/m³
	200 ppm
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.73 от 4 септември 2018 г.)
Croatia - Occupational Exposure Limits	
Local name	Cikloheksan
GVI (OEL TWA)	700 mg/m³
	200 ppm
Remark	EU** (naznaka da se radi o tvarima za koje su utvrđene indikativne granične vrijednosti izloženosti prema Direktivi 2006/15/ EC (druga lista)); F (lako zapaljivo); Xn (Štetno); N (opasno za okoliš)
Regulatory reference	Pravilnik o izmjenama i dopunama Pravilnika o graničnim vrijednostima izloženosti opasnim tvarima pri radu i o biološkim graničnim vrijednostima (NN, br. 75/13)
Croatia - Biological limit values	
Local name	Cikloheksan
BLV	150 mg/g creatinine Karakteristični pokazatelj: 1,2-cikloheksandiol - Biološki uzorak: mokraća - Vrijeme uzorkovanja: na kraju radne smjene (kod kronične izloženosti nakon nekolito uzastopnih smjena) 146 mmol/mol Creatinine Karakteristični pokazatelj: 1,2-cikloheksandiol - Biološki uzorak: mokraća - Vrijeme uzorkovanja: na kraju radne smjene (kod kronične izloženosti nakon nekolito uzastopnih smjena) 4.49 µmol/l Karakteristični pokazatelj: cikloheksanol - Biološki uzorak: krv - Vrijeme uzorkovanja: za vrijeme izloženosti 450 µg/l Karakteristični pokazatelj: cikloheksanol - Biološki uzorak: krv - Vrijeme uzorkovanja: za vrijeme izloženosti 3.61 mmol/mol Creatinine Karakteristični pokazatelj: cikloheksanol - Biološki uzorak: mokraća - Vrijeme uzorkovanja: za vrijeme druge polovice radne smjene 3.2 mg/g creatinine Karakteristični pokazatelj: cikloheksanol - Biološki uzorak: mokraća - Vrijeme uzorkovanja: za vrijeme druge polovice 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	Κυκλοεξάνιο
OEL TWA	7000 mg/m³
	200 ppm
Regulatory reference	Κανονισμοί του 2007 (Κ.Δ.Π. 295/2007)
Czech Republic - Occupational Exposure Limits	
Local name	Cyklohexan
PEL (OEL TWA)	700 mg/m³
	200 ppm

cyclohexane (110-82-7)	
NPK-P (OEL C)	2000 mg/m³
	580 ppm
Remark	I - dráždí sliznice (oči, dýchací cesty) resp. kůži.
Regulatory reference	Nařízení vlády č. 361/2007 Sb. (zapracovány změny č. 246/2018 Sb.)
Denmark - Occupational Exposure Limits	
Local name	Cyclohexan
OEL TWA	172 mg/m³
	50 ppm
Remark	E (betyder, at stoffet har en EF-grænseværdi)
Regulatory reference	BEK nr 655 af 31/05/2018
Estonia - Occupational Exposure Limits	
Local name	Tsükloheksaan
OEL TWA	700 mg/m³
	200 ppm
Regulatory reference	Vabariigi Valitsuse 18. septembri 2001. a määruse nr 293 (RT I, 30.11.2011, 5)
Finland - Occupational Exposure Limits	
Local name	Sykloheksaani
HTP (OEL TWA)	350 mg/m³
	100 ppm
HTP (OEL STEL)	875 mg/m³
	250 ppm
Regulatory reference	HTP-ARVOT 2018 (Sosiaali- ja terveysministeriö)
France - Occupational Exposure Limits	
Local name	Cyclohexane
VME (OEL TWA)	700 mg/m³
	200 ppm
VLE (OEL C/STEL)	1300 mg/m³
	375 ppm
Remark	VME règlementaire contraignante; la VLE n'est pas réglementaire et provient d'une circulaire du ministère chargé du travail
Regulatory reference	Article R4412-149 du Code du travail (réf.: INRS ED 984, 2016)
Germany - Occupational Exposure Limits (TRGS 900)	
Local name	Cyclohexan
AGW (OEL TWA)	700 mg/m³
	200 ppm
Peak exposure limitation factor	4(II)
Remark	DFG;EU
Regulatory reference	TRGS900

cyclohexane (110-82-7)	
Germany - Biological limit values (TRGS 903)	
Local name	Cyclohexan
Biological limit value	150 mg/g creatinine Parameter: 1,2-Cyclohexandiol (nach Hydrolyse) - Untersuchungsmaterial: U = Urin - Probenahmezeitpunkt: c) am Schichtende, bei Langzeitexposition nach mehreren vorangegangenen Schichten - Festlegung/Begründung: 05/2024 DFG
Regulatory reference	TRGS 903
Gibraltar - Occupational Exposure Limits	
Local name	Cyclohexane
OEL TWA	700 mg/m³
	200 ppm
Regulatory reference	Factories (Control of Chemical Agents at Work) Regulations 2003 (LN. 2018/181)
Greece - Occupational Exposure Limits	
Local name	Κυκλοεξάνιο
OEL TWA	700 mg/m³
	200 ppm
Regulatory reference	Π.Δ. 162/2007
Hungary - Occupational Exposure Limits	
Local name	CIKLOHEXÁN
AK (OEL TWA)	700 mg/m³
	200 ppm
Remark	EU2 (2006/15/EK irányelvben közölt érték); N (Irritáló anyagok, egyszerű fojtógázok, csekély egészségkárosító hatással bíró anyagok)
Regulatory reference	25/2000. (IX. 30.) EüM–SZCSM együttes rendelet a munkahelyek kémiai biztonságáról
Ireland - Occupational Exposure Limits	
Local name	Cyclohexane
OEL TWA	700 mg/m³
	200 ppm
Remark	IOELV (Indicative Occupational Exposure Limit Values)
Regulatory reference	Code of Practice for the Chemical Agents Regulations 2018
Italy - Occupational Exposure Limits	
Local name	Cicloesano
OEL TWA	350 mg/m³
	100 ppm
Regulatory reference	Allegato XXXVIII del D.Lgs. 9 aprile 2008, n. 81 e s.m.i.
Latvia - Occupational Exposure Limits	
Local name	Cikloheksāns
OEL TWA	80 mg/m³
	23 ppm

cyclohexane (110-82-7)	
Regulatory reference	Ministru kabineta 2007.gada 15.maija noteikumiem Nr.325
Lithuania - Occupational Exposure Limits	
Local name	Cikloheksanas
IPRV (OEL TWA)	700 mg/m³
	200 ppm
Regulatory reference	LIETUVOS HIGIENOS NORMA HN 23:2011 (Nr. V-695/A1-272, 2018-06-12)
Luxembourg - Occupational Exposure Limits	
Local name	Cyclohexane
OEL TWA	700 mg/m³
	200 ppm
Regulatory reference	Mémorial A Nº 684 de 2018
Malta - Occupational Exposure Limits	
Local name	Cyclohexane
OEL TWA	700 mg/m³
	200 ppm
Regulatory reference	S.L.424.24 (L.N.57 of 2018)
Netherlands - Occupational Exposure Limits	
Local name	Cyclohexaan
TGG-8u (OEL TWA)	700 mg/m³
	200 ppm (Cyclohexaan; Netherlands; Time-weighted average exposure limit 8 h; Public occupational exposure limit value)
TGG-15min (OEL STEL)	1400 mg/m³
	400 ppm (Cyclohexaan; Netherlands; Short time value; Public occupational exposure limit value)
Regulatory reference	Arbeidsomstandighedenregeling 2018
Poland - Occupational Exposure Limits	
Local name	Cykloheksan
NDS (OEL TWA)	300 mg/m³
NDSCh (OEL STEL)	1000 mg/m³
Remark	Skóra (Oznakowanie substancji notacją „skóra” oznacza, że wchłanianie substancji przez skórę może być tak samo istotne jak przy narażeniu drogą oddechową).
Regulatory reference	Dz. U. 2018 poz. 1286
Portugal - Indicative Occupational Exposure Limit (IOEL)	
Local name	Ciclo-hexano
IOEL TWA	700 mg/m³
	200 ppm
Regulatory reference	Decreto-Lei n.º 1/2021 de 6 de janeiro
Portugal - Occupational Exposure Limits	
Local name	Ciclo-hexano

cyclohexane (110-82-7)	
OEL TWA	100 ppm
Regulatory reference	Norma Portuguesa NP 1796:2014
Romania - Occupational Exposure Limits	
Local name	Ciclohexan
OEL TWA	700 mg/m³
	200 ppm
Regulatory reference	Hotărârea nr. 584/2018
Serbia - Occupational Exposure Limits	
Local name	циклохексан
OEL TWA	700 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)
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	Cyklohexán
NPHV (OEL TWA)	700 mg/m³
	200 ppm
Regulatory reference	Nariadenie vlády č. 33/2018 Z.z.
Slovenia - Occupational Exposure Limits	
Local name	cikloheksan
OEL TWA	700 mg/m³
	200 ppm
OEL STEL	2800 mg/m³
	800 ppm
Remark	BAT (Biološka mejna vrednost), EU
Regulatory reference	Uradni list RS, št. 38/2015 z dne 4.6.2015
Slovenia - Biological limit values	
Local name	cikloheksan
BLV	150 mg/g creatinine Parameter: 1,2-cikloheksandiol (po hidrolizi) - Biološki vzorec: urin - Čas vzorčenja: ob koncu delovne izmene, pri dolgotrajni izpostavljenosti: ob koncu delovne izmene po več zaporednih delavnikih
Regulatory reference	Uradni list RS, št. 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	Ciclohexano
VLA-ED (OEL TWA)	700 mg/m³
	200 ppm

cyclohexane (110-82-7)	
Remark	VLI (Agente químico para el que la U.E. estableció en su día un valor límite indicativo), 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 2018. INSHT
Sweden - Occupational Exposure Limits	
Local name	Cyklohexan
NGV (OEL TWA)	700 mg/m³
	200 ppm
Regulatory reference	Hygieniska gränsvärden (AFS 2018:1)
United Kingdom - Occupational Exposure Limits	
Local name	Cyclohexane
WEL TWA (OEL TWA)	350 mg/m³
	100 ppm
WEL STEL (OEL STEL)	1050 mg/m³
	300 ppm
Regulatory reference	EH40/2005 (Third edition, 2018). HSE
Iceland - Occupational Exposure Limits	
Local name	Sýklóhexan
OEL TWA	175 mg/m³
	50 ppm
Regulatory reference	Reglugerð um mengunarmörk og aðgerðir til að draga úr mengun á vinnustöðum (Nr. 390/2009)
North Macedonia - Occupational Exposure Limits	
Local name	циклохексан
OEL TWA	700 mg/m³
	200 ppm
Remark	(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	Cyclohexane / Cyclohexan
MAK (OEL TWA)	700 mg/m³

cyclohexane (110-82-7)	
	200 ppm
KZGW (OEL STEL)	2800 mg/m³
	800 ppm
Notation	B / B
Remark	NIOSH
Regulatory reference	www.suva.ch, 01.11.2018
Switzerland - BAT	
Local name	Cyclohexane / Cyclohexan
BAT	150 mg/g creatinine (146 µmol/mmol cr.; Paramètre biologique: 1,2-Cyclohexanediol total; 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.) / (146 µmol/mmol cr.; Biologischer Parameter: Gesamt-1,2-Cyclohexandiol; 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	Cyclohexane
ACGIH OEL TWA	100 ppm
Remark (ACGIH)	TLV® Basis: CNS impair
Regulatory reference	ACGIH 2018

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	:	Not available
Odour	:	Mild odour. Sweet odour. Petroleum-like odour.
Odour threshold	:	Not available
Melting point	:	Not applicable
Freezing point	:	Not available
Boiling point	:	81 °C
Flammability	:	Highly flammable liquid and vapour.
Lower explosion limit	:	Not available
Upper explosion limit	:	Not available
Flash point	:	-20 °C (Closed cup; 1013 hPa)
Auto-ignition temperature	:	260 °C
Decomposition temperature	:	Not available
pH	:	Not available
Viscosity, kinematic	:	1.26 mm²/s
Viscosity, dynamic	:	0.001 Pa·s (17 °C; 0.000894 mPa.s; 25 °C)
Solubility	:	Insoluble in water. Substance floats in water. Soluble in ethanol. Soluble in ether. Soluble in acetone. Soluble in tetrachloromethane. Soluble in ligroin. Soluble in oils/fats. Soluble in methanol.
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	104 hPa (20 °C)
Vapour pressure at 50°C	:	124 hPa (24 °C)
Density	:	Not available
Relative density	:	0.77 (25 °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	:	1.2 – 8.4 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) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

cypermethrin (52315-07-8)	
LD50 oral rat	57.5 mg/kg
LD50 dermal rabbit	> 2400 mg/kg
LC50 Inhalation - Rat	7.89 mg/l/4h

cyclohexane (110-82-7)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg bodyweight
LC50 Inhalation - Rat	> 32.88 mg/l/4h

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
Reproductive toxicity : Not classified
STOT-single exposure : May cause drowsiness or dizziness.

cypermethrin (52315-07-8)	
STOT-single exposure	May cause respiratory irritation.

cyclohexane (110-82-7)	
STOT-single exposure	May cause drowsiness or dizziness.

STOT-repeated exposure : Not classified

cypermethrin (52315-07-8)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : May be fatal if swallowed and enters airways.

Standard solution Cypermethrin 100ug/ml in cyclohexane	
Viscosity, kinematic	1.26 mm²/s

cyclohexane (110-82-7)	
Viscosity, kinematic	1.26 mm²/s

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short–term (acute) : Very toxic to aquatic life.
Hazardous to the aquatic environment, long–term (chronic) : Very toxic to aquatic life with long lasting effects.

cypermethrin (52315-07-8)	
LC50 - Fish [1]	0.00317 (0.00023 – 36.3) mg/l
LC50 - Other aquatic organisms [1]	0.00027 (0.0000119 – 2) mg/l
EC50 - Other aquatic organisms [1]	0.000735 (0.000007 – 111) mg/l
EC50 72h - Algae [1]	120 mg/l

cyclohexane (110-82-7)	
LC50 - Fish [1]	4.53 mg/l Pimephales promelas (Fathead minnow)
EC50 - Crustacea [1]	0.9 mg/l Daphnia magna (Water flea)

12.2. Persistence and degradability

Standard solution Cypermethrin 100ug/ml in cyclohexane	
Persistence and degradability	Rapidly degradable

cypermethrin (52315-07-8)	
Persistence and degradability	Rapidly degradable

cyclohexane (110-82-7)	
Persistence and degradability	Readily biodegradable in water, Not degradable in the soil, Low potential for adsorption in soil.
Biochemical oxygen demand (BOD)	0.22 g O_2/g substance
ThOD	3.425 g O_2/g substance
BOD (% of ThOD)	< 0.5

12.3. Bioaccumulative potential

cyclohexane (110-82-7)	
Partition coefficient n-octanol/water (Log Pow)	3.44
Bioaccumulative potential	Low bioaccumulation potential (BCF < 500).

12.4. Mobility in soil

cyclohexane (110-82-7)	
Surface tension	0.025 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	cyclohexane (110-82-7)

Component	
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	cyclohexane (110-82-7)

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.
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

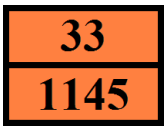
ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 1145	UN 1145	UN 1145	UN 1145	UN 1145
14.2. UN proper shipping name				
CYCLOHEXANE	CYCLOHEXANE	Cyclohexane	CYCLOHEXANE	CYCLOHEXANE
Transport document description				
UN 1145 CYCLOHEXANE, 3, II, (D/E), ENVIRONMENTALLY HAZARDOUS	UN 1145 CYCLOHEXANE, 3, II, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS (-18°C c.c.)	UN 1145 Cyclohexane, 3, II, ENVIRONMENTALLY HAZARDOUS	UN 1145 CYCLOHEXANE, 3, II, ENVIRONMENTALLY HAZARDOUS	UN 1145 CYCLOHEXANE, 3, II, ENVIRONMENTALLY HAZARDOUS
14.3. Transport hazard class(es)				
3	3	3	3	3
				
14.4. Packing group				
II	II	II	II	II

ADR	IMDG	IATA	ADN	RID
14.5. Environmental hazards				
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes EmS-No. (Fire): F-E EmS-No. (Spillage): S-D	Dangerous for the environment: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes
No supplementary information available				

14.6. Special precautions for user

Overland transport

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



Tunnel restriction code (ADR) : D/E
EAC code : 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) : T4
Tank special provisions (IMDG) : TP1
Stowage category (IMDG) : E
Flash point (IMDG) : -18°C c.c.
Properties and observations (IMDG) : Colourless, mobile liquid with a sweet aromatic odour. Flashpoint: -18°C c.c. Explosive limits: 1.2% to 8.4%. Immiscible with water. Slightly irritating to skin, eyes and mucous membranes. Narcotic in high concentrations.

Air transport

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

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)	:	T4
Portable tank and bulk container special provisions (RID)	:	TP1
Tank codes for RID tanks (RID)	:	LGBF
Transport category (RID)	:	2
Colis express (express parcels) (RID)	:	CE7
Hazard identification number (RID)	:	33

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

EU-Regulations

REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	**Applicable on**	**Entry title or description**
3(a)	Standard solution Cypermethrin 100ug/ml in cyclohexane ; cyclohexane	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 Cypermethrin 100ug/ml in cyclohexane ; cyclohexane	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)	Standard solution Cypermethrin 100ug/ml in cyclohexane ; cyclohexane	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
40.	cyclohexane	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.
57.	cyclohexane	Cyclohexane

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

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

Germany

VOC ordinance (ChemVOCFarbV) :

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

Netherlands

ABM category : A(1) - highly 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
SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed
SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : None of the components are listed
SZW-lijst van reprotoxische stoffen – Ontwikkeling : None of the components are listed

Denmark

Classification remarks : Emergency management guidelines for the storage of flammable liquids must be followed
Danish National Regulations : 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

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**
2.2	Precautionary statements (CLP)	**Modified**
4.1	First-aid measures for first aider	**Added**
4.2	Symptoms/effects after eye contact	**Added**
4.2	Symptoms/effects after inhalation	**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	**Modified**
7.1	Additional hazards when processed	**Added**
7.2	Packaging materials	**Added**

Indication of changes		
Section	**Changed item**	**Comments**
8.2	Personal protective equipment	**Added**
9	Flammability	**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
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)

Abbreviations and acronyms:	
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. 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
Asp. Tox. 1	Aspiration hazard, Category 1
Flam. Liq. 2	Flammable liquids, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.

Full text of H- and EUH-statements:	
H336	May cause drowsiness or dizziness.
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 SE 3	H336	Calculation method
Asp. Tox. 1	H304	Calculation method
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 1	H410	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.