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

1.1 Product identifier

Trade name: SHERPA 100 EC ; APHICAR 100 EC ; CYPERFOR 100 EC ; CYCLON 10 EC ; CARTEC ; CEKUMETHRIN 10 EC ; CITRON ; PICADOR ; CYPERPLAN 10 EC ; KONTAR . RALBI 10 ; CYPERFOR ; SELENE ; AGROCYDE 10 EC ; BARRACUDA ; CIPER ; IPER ; ALE 10 EC ; ASSIST 10 EC ; CYPERGAN 10 EC ; CYTHRIN 10 EC ; REBEL 10 EC
Product code: SBM 06/012/01

1.2 Relevant identified uses of the substance or mixture and uses advised against
Application of the substance / the mixture PPP - Insecticide

1.3 Details of the supplier of the safety data sheet
Manufacturer/Supplier:
SBM DEVELOPPEMENT SAS
60, Chemin des Mouilles, 69130 ECULLY - FRANCE
Telephone: +33 (0)4 67 35 50 50
Fax:+33 (0)4 67 35 50 35
E-mail: contact.cmpa@sbm-dev.com

1.4 Emergency telephone number: Call the European Emergency Number 112 or the nearest anti-poison centre.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008

Acute Tox. 4	H302 Harmful if swallowed.
Skin Irrit. 2	H315 Causes skin irritation.
Eye Dam. 1	H318 Causes serious eye damage.
STOT SE 3	H336 May cause drowsiness or dizziness.
STOT RE 2	H373 May cause damage to the nervous system through prolonged or repeated exposure.
Asp. Tox. 1	H304 May be fatal if swallowed and enters airways.
Aquatic Acute 1	H400 Very toxic to aquatic life.
Aquatic Chronic 1	H410 Very toxic to aquatic life with long lasting effects.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008
The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS05 GHS07 GHS08 GHS09

Signal word Danger

Hazard-determining components of labelling:
cypermethrin (ISO)
hydrocarbons, C10, aromatics, <1% naphthalene
benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts
2-ethyl-1-hexanol

Hazard statements
H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H336 May cause drowsiness or dizziness.
H373 May cause damage to the nervous system through prolonged or repeated exposure.
H304 May be fatal if swallowed and enters airways.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P102	Keep out of reach of children.
P261	Avoid breathing vapours/spray.

P262	Do not get in eyes, on skin, or on clothing.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves, protective clothing, eye protection/face protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331	Do NOT induce vomiting.
P391	Collect spillage.
P501	Dispose of contents/container in accordance with national regulations.

Additional information:
EUH210 Safety data sheet available on request.
EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

2.3 Other hazards
Results of PBT and vPvB assessment
The product contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
Determination of endocrine-disrupting properties
The product contains no components considered to have endocrine disrupting properties according to REACH Article 57(f), Regulation (EU) 2017/2100 or Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures
Description: Mixture of substances listed below with non-hazardous additions.

Dangerous components:		
CAS: 52315-07-8 EINECS: 257-842-9 Index number: 607-421-00-4	cypermethrin (ISO) STOT RE 2, H373; Aquatic Acute 1, H400 (M=100000); Aquatic Chronic 1, H410 (M=100000); Acute Tox. 4, H302; Acute Tox. 4, H332; STOT SE 3, H335	10 ≤ x % ≤ 12
EC number: 918-811-1 Reg.No.: 01-2119463583-34	hydrocarbons, C10, aromatics, <1% naphthalene Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H336, EUH066	75 ≤ x % ≤ 85
CAS: 68953-96-8 EINECS: 273-234-6 Reg.No.: 01-2119964467-24	benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts Eye Dam. 1, H318; Aquatic Chronic 2, H411; Acute Tox. 4, H312; Skin Irrit. 2, H315	2 ≤ x % ≤ 10
CAS: 104-76-7 EINECS: 203-234-3 Reg.No.: 01-2119487289-20	2-ethyl-1-hexanol Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	1 ≤ x % ≤ 5
CAS: 91-20-3 EINECS: 202-049-5 Index number: 601-052-00-2	naphthalene Carc. 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302	< 1%

Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures
General information:
In case of complaints or in case of doubts seek medical advice. If medical advice is needed, have packaging or label at hand.
Never give fluids or induce vomiting if patient is unconscious or is having convulsions.

After inhalation:
If a large quantity is inhaled, move the patient into the fresh air and keep him/her warm and still. If breathing is irregular or has stopped, effect mouth-to-mouth resuscitation and call a doctor. Do not give the patient anything orally.

After skin contact:
In the event of splashes or contact with skin: Remove contaminated clothing and wash the skin thoroughly with soap and water or a recognised cleaner. Do NOT use solvents or thinners. If the contaminated area is widespread and/or there is damage to the skin, a doctor must be consulted, or the patient transferred to hospital.

After eye contact:
Wash abundantly with fresh water and clean during several minutes by maintaining the eyelids open. Address the patient in an ophthalmologist, in particular if it appears a redness, a pain or a visual embarrassment.
After swallowing:
If the quantity is not very important, (not more than one mouthful), rinse the mouth with water and consult a doctor. In the event of accidental ingestion call a doctor to judge appropriateness of a monitoring and a secondary treatment in hospital, if needed. Show the label.

4.2 Most important symptoms and effects, both acute and delayed
Local symptoms: Paresthesia (local) can cause irritation to the skin and eyes. Inhalation may cause respiratory irritation and coughing.
Systemic symptoms: Excitement, gastrointestinal complaints, tremor, dizziness, headache, listlessness, nausea and vomiting, epigastric pain, muscle fasciculation of the limbs.

4.3 Indication of any immediate medical attention and special treatment needed
Local treatment: Initial treatment should be symptomatic and supportive.
After eye contact: Instillation with local anaesthetics, e.g. 1%. Amethocaine hydrochloride eye drops. Administer analgesics as required.
Systemic treatment: Endotracheal intubation and gastric lavage should be performed, followed by administration of activated charcoal.
Risks:
This product contains a pyrethroid. Pyrethroid poisoning should not be confused with carbamate or organophosphate poisoning.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents:
Carbon dioxide (CO2), dry chemical powder, foam or water spray
Use fire extinguishing methods suitable to surrounding conditions.
For safety reasons unsuitable extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture
The product may release toxic fumes in case of fire, containing nitrogen oxides and carbon oxides.

5.3 Advice for firefighters
Protective equipment:
In the case of fire wear self-contained respiratory equipment and protective suit. Do not inhale explosion gases or combustion gases.

Additional information
Evacuate area.
Cool endangered receptacles with water spray. Contain runoff to prevent entry into water or drainage systems. Dispose of fire debris and contaminated fire fighting water according to the regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Ensure adequate ventilation. Avoid
contact with skin and eyes. Use
personal protection equipment:
- suitable protective clothing and suitable protective gloves when handling the product/contaminated surfaces
- and respiratory protective equipment (FP1) when handling the product.
Remove soiled clothing immediately and use again only after a thorough cleaning.
Wash hands before breaks and immediately after handling the product.

6.2 Environmental precautions:
Do not allow to enter sewers, surface or ground water.

Advise water authority in case of seepage into water course or sewage system.
Do not contaminate water with the product or its container (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads).

6.3 Methods and material for containment and cleaning up:
Absorb with non-combustible absorbent material, (eg sand, diatomite, vermiculite).
Place into suitable and labelled containers for disposal.
Clean affected area preferably with a detergent, avoid the use of solvents.

6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Comply with instructions for use. When using the product do not eat, drink or smoke.
Wear personal protective equipment.
Avoid any contact with skin, eyes and clothes.
Use only in well ventilated areas.
Prevent formation of aerosols. Do not breathe fumes/aerosol.
Wash hands before break and at the end of work.

Information about fire - and explosion protection: Usual measures for fire prevention.

7.2 Conditions for safe storage, including any incompatibilities
Requirements to be met by storerooms and receptacles:
Store in tightly closed original containers in a well ventilated, cool and dry place.
Avoid direct sun exposure and heat.

Information about storage in one common storage facility:
Do not store food, beverages and animal feeding stuffs in the storage area.

Further information about storage conditions: Keep container tightly sealed.

7.3 Specific end use(s) Use only according to instructions.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:	
CAS: 104-76-7 2-ethyl-1-hexanol	
IOELV (EU)	Long-term value: 5.4 mg/m³, 1 ppm
MAK (Austria)	Short-term value: 10.8 mg/m³, 2 ppm; Long-term value: 5.4 mg/m³, 1 ppm
VL (Belgium)	Long-term value: 5.4 mg/m³, 1 ppm
GS (Bulgaria)	Long-term value: 5.4 mg/m³, 1 ppm
GVI (Croatia)	Long-term value: 5.4 mg/m³, 1 ppm
NPK (Czechia)	Short-term value: 11 mg/m³; Long-term value: 5.4 mg/m³; I
GV (Denmark)	Long-term value: 5.4 mg/m³, 1 ppm; E
TKOP (Estonia)	Long-term value: 5.4 mg/m³, 1 ppm
HTP (Finland)	Long-term value: 5.4 mg/m³, 1 ppm
VLEP (France)	Long-term value: 5.4 mg/m³, 1 ppm
AGW (Germany)	Long-term value: 54 mg/m³, 10 ppm; 1(I);DFG, Y, 11
TWA (Greece)	Long-term value: 5.4 mg/m³, 1 ppm
OELV (Hungary)	Long-term value: 5.4 mg/m³; i
OEL (Ireland)	Long-term value: 5.4 mg/m³, 1 ppm; IOELV
VL (Italy)	Long-term value: 5.4 mg/m³, 1 ppm
AER (Latvia)	Long-term value: 5.4 mg/m³, 1 ppm
PRD (Lithuania)	Long-term value: 5.4 mg/m³, 1 ppm
WGW (Netherland)	Long-term value: 5.4 mg/m³
NDS (Poland)	Short-term value: 10.8 mg/m³; Long-term value: 5.4 mg/m³
VLM (Romania)	Long-term value: 5.4 mg/m³, 1 ppm
NPEL (Slovakia)	Long-term value: 5.4 mg/m³, 1 ppm
MV (Slovenia)	Short-term value: 5.4 mg/m³, 1 ppm; Long-term value: 5.4 mg/m³, 1 ppm; Y, EU****
LEP (Spain)	Long-term value: 5.4 mg/m³, 1 ppm; VLI
OEL (Sweden)	Long-term value: 5.4 mg/m³, 1 ppm

CAS: 91-20-3 naphthalene	
IOELV (EU)	Long-term value: 30 mg/m³, 10 ppm
MAK (Austria)	Long-term value: 50 mg/m³, 10 ppm; siehe Anhang III B
VL (Belgium)	Short-term value: 80 mg/m³, 15 ppm; Long-term value: 53 mg/m³, 10 ppm; D
GS (Bulgaria)	Short-term value: 75.0 mg/m³; Long-term value: 50.0 mg/m³
GVI (Croatia)	Long-term value: 50 mg/m³, 10 ppm
NPK (Czechia)	Short-term value: 100 mg/m³; Long-term value: 50 mg/m³
GV (Denmark)	Long-term value: 50 mg/m³, 10 ppm; EK
TKOP (Estonia)	Long-term value: 50 mg/m³, 10 ppm
HTP (Finland)	Short-term value: 10 mg/m³, 2 ppm; Long-term value: 5 mg/m³, 1 ppm
VLEP (France)	Long-term value: 50 mg/m³, 10 ppm; C2
AGW (Germany)	Long-term value: 2 mg/m³, 0.4 ppm; 4(I);AGS, H, Y, 11, 27
TWA (Greece)	Long-term value: 50 mg/m³, 10 ppm
OELV (Hungary)	Long-term value: 50 mg/m³; i
OEL (Ireland)	Long-term value: 50 mg/m³, 10 ppm; IOELV
TWA (Italy)	Short-term value: (79) mg/m³, (15) ppm; Long-term value: (52) mg/m³, (10) ppm; Cute, (A4)
AER (Latvia)	Long-term value: 50 mg/m³, 10 ppm; K

CAS: 91-20-3 naphthalene	
PRD (Lithuania)	Long-term value: 50 mg/m³, 10 ppm; K
WGW (Netherlands)	Short-term value: 80 mg/m³, 15 ppm; Long-term value: 50 mg/m³, 10 ppm
NDS (Poland)	Short-term value: 50 mg/m³; Long-term value: 20 mg/m³; skóra
VLE (Portugal)	Long-term value: 10 ppm; P;A3;irrit.TRS;cataratas;anemia hemolítica
VLM (Romania)	Long-term value: 50 mg/m³, 10 ppm; C2
NPEL (Slovakia)	Short-term value: 80 mg/m³, 15 ppm; Long-term value: 50 mg/m³, 10 ppm; K
MV (Slovenia)	Short-term value: 50* mg/m³, 10 ppm; Long-term value: 50* mg/m³, 10 ppm Inhalabilna frakcija, K, Y, EU
LEP (Spain)	Short-term value: 80 mg/m³, 15 ppm; Long-term value: 53 mg/m³, 10 ppm; vía dérmica, VLI
OEL (Sweden)	Short-term value: 80 mg/m³, 15 ppm; Long-term value: 50 mg/m³, 10 ppm; V

Regulatory information
MAK (Austria): GKV 2020, 156. Verordnung, 09.04.2021, Teil II
VL (Belgium): Moniteur belge no 148, 27.05.21
GS (Bulgaria): Äúðæàâàí âåñòíèê, áðîé: 47, 04.06.2021 ã.
GVI (Croatia): Narodne novine br.: 1, 04.01.2021
NPK (Czechia): 195/2021 Sb., 17.05.2021
GV (Denmark): BEK nr 1426 af 28/06/2021
TKOP (Estonia): Töökeskkonna keemiliste ohutegurite piirnormid
HTP (Finland): 654/2020
VLEP (France): ED 1487 05.2021
AGW (Germany): TRGS 900
TWA (Greece): Ð.Ä. 26/2020
OELV (Hungary): 32/2021. (VII. 26.) ITM rendelet
OEL (Ireland): 2021 CoP for the Safety, Health and Welfare at Work
TWA (Italy): Valori Limite di Soglia
AER (Latvia): MK noteikumi Nr. 110, 23.02.2021
PRD (Lithuania): HN 23:2011
WGW (Netherlands): Grenswaarden gezondheidsschadelijke stoffen
NDS (Poland): Dz.U. 2021 poz. 325, 18.02.21
VLE (Portugal): NP 1796:2014
VLM (Romania): Hotărârea nr. 53/2021
NPEL (Slovakia): Nariadenie 236/2020
MV (Slovenia): UL št. 72, 11. 5. 2021
LEP (Spain): Límites de exposición profesional para agentes químicos
OEL (Sweden): AFS 2021:3

8.2 Exposure controls
Appropriate engineering controls Provide good ventilation or exhaust at work, particularly in closed areas.

Individual protection measures, such as personal protective equipment
General protective and hygienic measures:
Avoid unnecessary contact with the product. Do not eat, drink or smoke at workplace.
Remove contaminated clothing immediately and wash carefully before reuse.
Do not breathe gas/vapours/spray.
Wash hands and exposed skin after use and before breaks.

Respiratory protection:
Ensure adequate ventilation, if possible with extractor fans at work posts and appropriate general extraction.
Where workers encounter concentrations higher than the exposure limits, they must wear suitable, approved masks (ex: masks type A filter cartridge against the vapors of organic compounds).
In case of insufficient ventilation, wear a half-mask according to EN 140, with a A2B2 filter according to EN 141 in conjunction with a particle filter P3 according to EN 143.

Hand protection
Neoprene or nitrile protective gloves (EN 374)
Wash when contaminated. Dispose of when contaminated inside, when perforated or when contamination outside cannot be removed.
Protective creams may be used for exposed skin, but they should not be applied after contact with the product.
Material of gloves
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
Penetration time of glove material
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye/face protection
Wear safety glasses with side shields in accordance with EN 166 or equivalent. If exposure causes eye discomfort, use a respirator with a full facepiece. Ensure eye bath is to hand.

Body protection:
Impervious protective clothing
- In case of heavy splashing, wear chemical protective clothing impervious to liquids (type 3) in accordance with EN14605 to prevent skin contact.
- If risk of splashing, wear chemical protective clothing (type 6) conforming to NF EN13034 to prevent skin contact.
Protective clothing should be professionally laundered regularly.

Environmental exposure controls
Do not allow to enter sewers/ surface or ground water. Inform respective authorities in case of seepage into water course or sewage system.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Fluid
Form:	Clear liquid
Colour:	Yellow
Odour:	Characteristic
Odour threshold:	No data available
Boiling point or initial boiling point and boiling range:	No data available
Flammability:	Not applicable.
Lower and upper explosion limit:	No data available.
Flash point:	63 ± 2 °C
Decomposition temperature:	No data available.
pH:	6 - 7 (1%)
Viscosity	
kinematic at 40 °C:	2.13 mm²/s
Solubility	
water:	Emulsifiable.
Partition coefficient, n-octanol/water:	No data available.
Vapour pressure:	No data available.
Evaporation rate:	Not determined
Vapour density:	No data available.
Density at 20 °C:	0.925 - 0.935 g/cm³

9.2 Other information

Information with regard to physical hazard classes

Explosives	Not explosive.
Flammable gases	Not applicable.
Aerosols	Not applicable.
Oxidising gases	Not applicable.
Gases under pressure	Not applicable.
Flammable liquids	Void

Flammable solids	Not applicable.
Self-reactive substances and mixtures	Void
Pyrophoric liquids	Void
Pyrophoric solids	Not applicable.
Self-heating substances and mixtures	Auto-ignition temperature: > 400 ° C
Substances and mixtures, which emit flammable gases in contact with water	Void
Oxidising liquids	Non-oxidising.
Oxidising solids	Not applicable.
Organic peroxides	Not relevant.
Corrosive to metals	Not applicable.
Desensitised explosives	Void

SECTION 10: Stability and reactivity

10.1 Reactivity No hazardous reaction when handled and stored according to provisions.

10.2 Chemical stability Stable under usual conditions.

10.3 Possibility of hazardous reactions No hazardous reactions known if used according to specifications.

10.4 Conditions to avoid Heat, direct sun exposure

10.5 Incompatible materials: Bases, strong acids, strong oxidizing and reducing agents.

10.6 Hazardous decomposition products:
Combustion products may contain toxic gases: Nitrogen oxides, carbon oxides.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
Acute toxicity Harmful if swallowed.

LD/LC50 values relevant for classification:		
SBM 06/012/01		
oral	LD50	300 < x < 2000 mg/kg (rat)
dermal	LD50	> 2,000 mg/kg (rat)
inhalative	LC50/4h	> 5.02 mg/l (rat)
CAS: 52315-07-8 cypermethrin (ISO)		
oral	LD50	287 - 500 mg/kg (rat)
	ATE	500 mg/kg (rat)
dermal	LD50	> 2,000 mg/kg (rat)
inhalative	ATE	3.3 mg/l (rat)
	LC50/4h	3.56 mg/l (rat)

Skin corrosion/irritation: Mild irritant (rabbit)
Cypermethrin: Non irritant.
Serious eye damage/irritation: Causes serious eye damage (rabbit)
Cypermethrin: Cypermethrin is unlikely to pose a hazard to humans
Respiratory or skin sensitisation: not sensitizing (Local Lymph Node Assay in the Mouse)
Cypermethrin: Not sensitizer (guinea-pig, Magnus-Kligman-Test)

Germ cell mutagenicity
Based on available data, the classification criteria are not met.
Cypermethrin: Studies showed no mutagenic effects.
Carcinogenicity
Based on available data, the classification criteria are not met.
Cypermethrin: Unlikely to pose a hazard to humans.
Relevant NOAEL: 2-year, rat: 50 mg/kg bw per day; 2-year, mouse: 240 mg/kg bw per day
Reproductive toxicity
Based on available data, the classification criteria are not met.
Cypermethrin: Not considered as toxic for reproduction, but at parental toxic dose in the rat, reduced litter size and pup and dam weight were observed (rat). No observation on rabbit.
NOAEL: 10 mg/kg bw per day (rat)
Maternal/developmental NOAEL: < 5 mg/kg bw per day (rat) ; 120 mg/kg bw per day (rabbit)
Developmental toxicity:
Based on available data, the classification criteria are not met.
Cypermethrin: No sign of teratogenicity.

STOT-single exposure May cause drowsiness or dizziness.
STOT-repeated exposure May cause damage to the nervous system through prolonged or repeated exposure.

Aspiration hazard May be fatal if swallowed and enters airways.

Additional toxicological information:
Symptoms related to the physical, chemical and toxicological characteristics
Cypermethrin:
Oral: Nausea, vomiting, diarrhoea within one hour following exposure. In case of severe poisoning, convulsions, pulmonary oedema. The prognosis is good if treated, with usually full recovery even in severely poisoned patients.
Dermal: In humans, skin contact with pyrethroid pesticides induces paresthesia (sensitivity disorder, numbness), with characteristic abnormal facial sensations (transient burning, itching, tingling), exacerbated by sweating or warm water. These symptoms, together with dizziness, headaches, fatigue, appear within 4 to 6 h following exposure (early facial reaction within 30 min, and up to 48 h for systemic effects), and generally do not last more than 24 h.
Inhalation: Dizziness, headaches, nausea. Irritating effects: sneezing, scratchy throat, even oedema of upper respiratory tract with respiratory difficulties. Might cause exacerbation of symptoms in persons with chronic respiratory disease such as asthma.

Delayed and immediate effects as well as chronic effects from short and long-term exposure
Cypermethrin:
Oral NOAEL
35-day dog: 3.75 mg/kg bw per day; 2-year, dog: 7.5 mg/kg bw per day
90-day, dog: 12.5 mg/kg bw per day; rat: 24 mg/kg bw per day
Dermal NOAEL
15-day, rabbit: 20 mg/kg bw per day
Other toxicological studies: Weak liver and kidney enzyme inducer (hypertrophy) and neurotoxic clinical signs in all species.
Medical data: Paresthesiae and peripheral sensory phenomena; irritation of respiratory tract.

11.2 Information on other hazards
Endocrine disrupting properties None of the ingredients is listed.
Other information
Cypermethrin: Orally cypermethrin is significantly absorbed (50% in 24 hours), and distributed throughout the body, mainly in the skin and fat, before being metabolised (50% hydrolysed in non-active acid and alcohol derivatives). It is almost completely eliminated (> 90%) in 72 hours by the urine and faeces.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:	
SBM 06/012/01	
EC50/48h	0.84 µg/l (water flea, Daphnia magna)
CAS: 52315-07-8 cypermethrin (ISO)	
LC50/96h	3.45 µg/l (sheepshead minnow, Cyprinodon variegatus)
	2.83 µg/l (rainbow trout, Oncorhynchus mykiss)
EC50/48h	4.71 µg/l (water flea, Daphnia magna)
	0.0053 µg/l (amphipod, Hyalella azteca)
ErC50/96h	> 33 µg/l (alga, Pseudokirchneriella subcapitata)
NOEC/21d	0.05 µg/l (water flea, Daphnia magna)
NOEC/28d	63.6 µg/l (harlequin fly, Chironomus riparius)
NOEC/300d	0.077 µg/l (flathead minnow, Pimephales promelas)
Toxicity for birds:	
CAS: 52315-07-8 cypermethrin (ISO)	
LD50 acute	> 1,420 mg a.s/kg bw (Japanese quail, Coturnix japonica)
LC50 acute	> 2,000 mg a.s/kg bw (pigeon, Columba livia)
NOEL	92 mg a.s/kg bw/d (bobwhite, Colinus virginianus)
Bees:	
CAS: 52315-07-8 cypermethrin (ISO)	
NOED/7d	0.06 µg a.s./larva (Apis mellifera)
LD50/oral	0.4592 µg a.s./Biene (Apis mellifera)
LD50/contact	0.0206 µg a.s./Biene (Apis mellifera)
Non target arthropods:	
SBM 06/012/01	
LR50	0.0029 g a.s./ha (0.0309 mL f.p./ha)
ER50	> 0.00176 g a.s./ha ; 15.3% effects on reproduction at 0.0178 mL P.F./ha (Typhlodromus pyri, Laboratory test glass plates 2D)
LR50	0.83 g a.s./ha (8.86 mL f.p./ha)
ER50	> 0.0416 g a.s./ha ; 27.9% effects on reproduction at 0.42 mL P.F./ha (Aphidius rhopalosphi, Laboratory test glass plates 2D)
Earthworms:	
CAS: 52315-07-8 cypermethrin (ISO)	
EC10	7.9 mg a.s./kg d.w. soil (earthworm, Eisenia foetida) (EC10, CORR = 3,95 mg a.s./kg d.w. soil)
EC20	10.6 mg a.s./kg d.w. soil (earthworm, Eisenia foetida) (EC20,CORR = 5,3 mg a.s./kg d.w. soil)
NOEC	5.2 mg/kg d.w. soil (earthworm, Eisenia foetida) (NOEC,CORR = 2.6 mg a.s./kg d.w.soil)

Additional information:
Cypermethrin: Toxic to non-target organisms; Highly toxic to bees.
Cypermethrin readily penetrates insect cuticle, and acts by keeping open sodium channel.

12.2 Persistence and degradability
Cypermethrin does not meet the CLP criteria and is considered as non rapidly degradable.
Cypermethrin exhibited low to moderate persistence, forming the major (> 10% AR) metabolites DCVA (cis- and trans-isomer) (max. 47.4% AR), 3-PBA (max. 10.2% AR).
The persistency of cypermethrin was thus considered to be most adequately reflected by the FOMC fit model, resulting in DT50 and DT90 values of 41.1 days and 188.1 days (under anaerobic conditions).
Aerobic degradation in soil: DT50 range 2.01- 24.2 days and DT90 range 23.3 - 412 days (laboratory studies, aerobic conditions at 20 °C, 12.5 - 40% MWHC soil moisture)
In anaerobic soil incubations, degradation of cypermethrin was similar to aerobic conditions, with a similar degradation pathway.
DT50: period required for 50% dissipation; DT90: period required for 90% dissipation

(MWHC: maximum water-holding capacity) Soil dissipation : Max. DT50 31.2 days and Max. DT90 103.6 days (aerobic degradation, field studies) Photochemical oxidative degradation in air: DT50: 5.99 hours derived by the Atkinson model (AOPWIN version 4.11).
OH (12h) concentration assumed = 1.5 x 10^6 OH/cm^3
Wastewater treatment: Inhibition of respiration of activated sludge: LC50 = 163 mg/L

12.3 Bioaccumulative potential
Cypermethrin: Based on the measured BCF value (BCFfish = 331 L/kg), low risk for bioaccumulation.

12.4 Mobility in soil
Cypermethrin: cis-cypermethrin and trans-cypermethrin classified as nearly immobile.
Kdoc: 194,425 mL/g
Degradation in water/sediment (cypermethrin distribution max. in water 72.9% after 0 d, max. in sed 68.1% after 1 d):
- DegT50 values for individual isomers : range of 0.6 to 51.8 days considering both total systems.
- DT50 values for the sediment varied between 2.1 and 56.2 days
- DisT50 values for water phases accounted for 0.33 to 0.78 days.

Volatility: Non-volatile
Vapour pressure: 6.78 x 10-6 Pa at 20 °C; Cypermethrin is not considered a VOC substance.
Henry's law constant, H ≥ 0.31 Pa.m^3/mol at 20 °C; no volatilisation.

12.5 Results of PBT and vPvB assessment Not applicable.

12.6 Endocrine disrupting properties
For information on endocrine disrupting properties see section 11.
The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects
Cypermethrin: Effects of cypermethrin on soil nitrogen transformation: Cypermethrin has no adverse effect of > 25% on soil nitrogen turnover at concentrations of up to 93.6 mg a.s./kg soil dry weight (LOEC) after 28 days (only reduction by 21% compared to the water control).

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Recommendation
Do not dispose waste or remains together with domestic waste, do not empty into sink or toilet, hand over to hazardous waste disposers.
To dispose of unusable products, contact a company approved to collect and dispose of hazardous products. The product must be incinerated in an installation approved by the appropriate authorities. Use drums to dispose of waste recovered in accordance with applicable regulations.
Prevent any material from entering drains or waterways. If the product contaminates waterways, rivers or drains, alert the relevant authorities in accordance with statutory procedures.

European waste catalogue
02 01 08: agrochemical waste containing dangerous substances
07 04 99: wastes not otherwise specified
15 01 10: Packaging containing residues of or contaminated by dangerous substances

Uncleaned packaging
Recommendation:
Disposal must be made according to official regulations.
The packaging must not be re-used: after using the product, ensure it is empty.
Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company or give to a certified disposal contractor.

SECTION 14: Transport information

14.1 UN number or ID number
ADR, IMDG, IATA UN3082

14.2 UN proper shipping name

ADR	3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (cypermethrin)
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (cypermethrin), MARINE POLLUTANT
IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (cypermethrin)

14.3 Transport hazard class(es)

ADR



Class	9 (M6) Miscellaneous dangerous substances and articles.
Label	9

IMDG, IATA



Class	9 Miscellaneous dangerous substances and articles.
Label	9

14.4 Packing group

ADR, IMDG, IATA	III

14.5 Environmental hazards:

Special marking (ADR):	Symbol (fish and tree)

14.6 Special precautions for user	Warning: Miscellaneous dangerous substances and articles.
Hazard identification number (Kemler code):	90
EMS Number:	F-A,S-F

14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
UN "Model Regulation":	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CYPERMETHRIN), 9, III

SECTION 15: Regulatory information

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

Seveso category E1 Hazardous to the Aquatic Environment

Regulation (EC) No 1907/2006 Annex XVII Conditions of restriction: 3

National regulations: For further information please refer to the approval conditions laid down on the product label.

Substances of very high concern (SVHC) according to REACH, Article 59 Not listed

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.
The product must not be used for any purposes other than those specified under Section 1 without first obtaining written handling instructions.
It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.
The information given on this safety data sheet must be regarded as a description of the safety requirements relating to our product and not a guarantee of its properties.

Relevant phrases
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
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.
H411 Toxic to aquatic life with long lasting effects.
EUH066 Repeated exposure may cause skin dryness or cracking.

Training hints:
Minimal training is recommended to prevent industrial risks for staff using this product, in order to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Further information:
Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008: On basis of product test data as well as calculation method

Date of previous version: 22.12.2020

Abbreviations and acronyms:
CLP: REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CAS: Chemical Abstracts Service (division of the American Chemical Society)
EC-Number: European Community number
ATE: Acute Toxicity Estimates
BCF: bioconcentration factor
EC50: maximal effective concentration, 50%
ErC50: median effective concentration for growth rate (algae)
LC50: lethal concentration, 50%
LD50: lethal dose, 50%
LOAEL: Lowest observed adverse effect level
Kdoc: organic carbon linear adsorption coefficient
Koc: partition coefficient between organic carbon and water
NOEL/NOEC: No Observed Effect Concentration PBT:
persistent, bioaccumulative and toxic properties vPvB:
very persistent and very bioaccumulative properties
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IATA: International Air Transport Association
IMDG: International Maritime Code for Dangerous Goods
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Carc. 2: Carcinogenicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Asp. Tox. 1: Aspiration hazard – Category 1
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

Data compared to the previous version altered: Section 1 - 16