

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

1.1. Product identifier

Product form	: Substance
Substance name	: Permethrin Tech min 93%
IUPAC name	: 3-phenoxybenzyl (1RS,3RS;1RS,3SR)-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate Roth: 3-phenoxybenzyl (1RS)-cis-trans-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate
EC index no	: 613-058-00-2
EC no	: 258-067-9
CAS No	: 52645-53-1
Type of product	: Biocide
Formula	: C21H20Cl2O3

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

1.2.1. Relevant identified uses

Main use category	: Professional use
Use of the substance/mixture	: Insecticide

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Simonis B.V.
 7000 AP Doetinchem - The Netherlands
 T +31 314 333 700 - F +31 314 344 167
agrochem@simonisbv.nl - <http://www.simonisbv.nl/>

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Remark
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA Belfast	0344 892 0111	Only for the purpose of informing medical personnel in cases of acute intoxications
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	0344 892 0111	Only for the purpose of informing medical personnel in cases of acute intoxications

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Acute toxicity (oral), Category 4	H302
Acute toxicity (inhalation:dust,mist) Category 4	H332
Sensitisation — Skin, Category 1	H317
Hazardous to the aquatic environment — Acute Hazard, Category 1	H400
Hazardous to the aquatic environment — Chronic Hazard, Category 1	H410

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects. May cause an allergic skin reaction. Harmful if inhaled. Harmful if swallowed.

Permethrin Tech min 93%

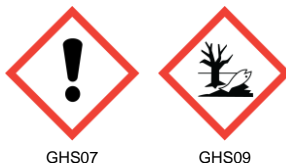
Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

2.2. Label elements

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

Hazard pictograms (CLP) :



GHS07

GHS09

Signal word (CLP) :

Warning

Hazard statements (CLP) :

H302+H332 - Harmful if swallowed or if inhaled
H317 - May cause an allergic skin reaction
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (CLP) :

P261 - Avoid breathing vapours, mist
P270 - Do not eat, drink or smoke when using this product
P273 - Avoid release to the environment
P280 - Wear protective clothing, protective gloves, eye protection
P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : Permethrin Tech min 93%
CAS No : 52645-53-1
EC no : 258-067-9
EC index no : 613-058-00-2

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Permethrin	(CAS No) 52645-53-1 (EC no) 258-067-9 (EC index no) 613-058-00-2	>= 90	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-phrases: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or a doctor if you feel unwell.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persists.

First-aid measures after ingestion : Rinse mouth. Do not induce vomiting without medical advice. Call a poison center or a doctor if you feel unwell.

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

Symptoms/injuries after inhalation : Harmful if inhaled.
Symptoms/injuries after skin contact : May cause an allergic skin reaction.

Permethrin Tech min 93%

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Symptoms/injuries after eye contact : May cause eye irritation.

Symptoms/injuries after ingestion : Harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Non flammable.

Explosion hazard : No direct explosion hazard.

Hazardous decomposition products in case of fire : For further information, refer to section 10 : "Stability and Reactivity".

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel. Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection. For further information refer to section 8 : "Exposure-controls/personal protection".

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Do not allow to enter drains or water courses. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Take up liquid spill into absorbent material. Mechanically recover the product.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 8 : "Exposure-controls/personal protection". Concerning disposal elimination after cleaning, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Provide good ventilation in process area to prevent formation of vapour. Use only outdoors or in a well-ventilated area. Avoid breathing gas, vapours, spray. Avoid contact with skin and eyes. Wear personal protective equipment. Concerning personal protective equipment to use, see item 8.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool well ventilated place. Keep container closed when not in use.

Storage temperature : 0 - 30 °C

Heat and ignition sources : Keep away from heat and direct sunlight.

7.3. Specific end use(s)

Insecticide.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

Permethrin Tech min 93%

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protective equipment:

Gloves. Protective goggles. Protective clothing. Dust/aerosol mask with filter type P2.

Materials for protective clothing:

Condition	Material	Standard
Overall.	Nitrile rubber/PVC	EN 13034

Hand protection:

Wear suitable gloves resistant to chemical penetration. Chemical resistant gloves (according to European standard NF EN 374 or equivalent)

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
	nitrile rubber (NBR)	6 (> 480 minutes)	0.11		EN 374

Eye protection:

Safety glasses. DIN EN 166

Skin and body protection:

Wear suitable protective clothing. CEN : EN 340; EN 368; EN 369; EN 467. EN 13034

Respiratory protection:

Wear respiratory protection. EN 149

Device	Filter type	Condition	Standard
Aerosol mask	Type P2	Protection for Liquid particles, Vapour protection	EN 149



Environmental exposure controls:

Avoid release to the environment.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Viscous.
Molecular mass	: 391,29 g/mol
Colour	: slight yellow. light brown.
Odour	: characteristic.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 34 - 35 °C
Freezing point	: No data available
Boiling point	: 200 °C @ 0.1 mmHg; >290 °C @ 760 mmHg
Flash point	: > 70 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 0,002 mPa 20°C
Relative vapour density at 20 °C	: No data available
Relative density	: No data available

Permethrin Tech min 93%

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Density	: 1,29 g/cm ³ 20°C
Solubility	: Water: 0,006 mg/l pH 7 Organic solvent:> 100 g/100ml xylene, hexane; 258 g/kg methanol (25°C)
Log Pow	: 6,5
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions of use.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known.

10.4. Conditions to avoid

Keep out of direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Combustion generates : Carbon oxides (CO, CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Inhalation:dust,mist: Harmful if inhaled.

Permethrin (52645-53-1)	
LD50 oral rat	500
LD50 dermal rat	> 2000 mg/kg/d
LC50 inhalation rat (mg/l)	> 2,65 mg/l/4h

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

Permethrin Tech min 93% (52645-53-1)	
Log Pow	6,5

12.4. Mobility in soil

No additional information available

Permethrin Tech min 93%

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

12.5. Results of PBT and vPvB assessment

Permethrin Tech min 93% (52645-53-1)

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

Additional information : Avoid release to the environment

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Additional information : Empty containers should be taken for recycle, recovery or waste in accordance with local regulation.

Ecology - waste materials : Avoid release to the environment.

European List of Waste (LoW) code : 02 01 08* - agrochemical waste containing dangerous substances

SECTION 14: Transport information

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

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
3352	3352	3352	3352	3352
14.2. UN proper shipping name				
PYRETHROID PESTICIDE, LIQUID, TOXIC (Permethrin)	PYRETHROID PESTICIDE, LIQUID, TOXIC (Permethrin)	Pyrethroid pesticide, liquid, toxic (Permethrin)	PYRETHROID PESTICIDE, LIQUID, TOXIC (Permethrin)	PYRETHROID PESTICIDE, LIQUID, TOXIC (Permethrin)
Transport document description				
UN 3352 PYRETHROID PESTICIDE, LIQUID, TOXIC (Permethrin), 6.1, III, (E), ENVIRONMENTALLY HAZARDOUS	UN 3352 PYRETHROID PESTICIDE, LIQUID, TOXIC (Permethrin), 6.1, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS	UN 3352 Pyrethroid pesticide, liquid, toxic (Permethrin), 6.1, III, ENVIRONMENTALLY HAZARDOUS	UN 3352 PYRETHROID PESTICIDE, LIQUID, TOXIC (Permethrin), 6.1, III, ENVIRONMENTALLY HAZARDOUS	UN 3352 PYRETHROID PESTICIDE, LIQUID, TOXIC (Permethrin), 6.1, III, ENVIRONMENTALLY HAZARDOUS
14.3. Transport hazard class(es)				
6.1	6.1	6.1	6.1	6.1
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	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) : T6
Special provisions (ADR) : 61, 274, 648
Limited quantities (ADR) : 5I
Excepted quantities (ADR) : E1
Packing instructions (ADR) : P001, IBC03, LP01, R001
Mixed packing provisions (ADR) : MP19
Portable tank and bulk container instructions (ADR) : T7
Portable tank and bulk container special provisions (ADR) : TP2, TP28
Tank code (ADR) : L4BH
Tank special provisions (ADR) : TU15, TE19

Permethrin Tech min 93%

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Vehicle for tank carriage	: AT
Transport category (ADR)	: 2
Special provisions for carriage - Packages (ADR)	: V12
Special provisions for carriage - Loading, unloading and handling (ADR)	: CV13, CV28
Special provisions for carriage - Operation (ADR)	: S9
Hazard identification number (Kemler No.)	: 60
Orange plates	:



Tunnel restriction code (ADR)	: E
EAC code	: 2X
APP code	: B

- Transport by sea

Special provisions (IMDG)	: 61, 223, 274
Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001, LP01
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T7
Tank special provisions (IMDG)	: TP2, TP28
EmS-No. (Fire)	: F-A
EmS-No. (Spillage)	: S-A
Stowage category (IMDG)	: A
Stowage and handling (IMDG)	: SW2
Properties and observations (IMDG)	: Liquid pesticides which present a very wide range of toxic hazard. Miscibility with water depends upon the composition. Toxic if swallowed, by skin contact or by inhalation.
MFAG-No	: 151

- Air transport

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y642
PCA limited quantity max net quantity (IATA)	: 2L
PCA packing instructions (IATA)	: 655
PCA max net quantity (IATA)	: 60L
CAO packing instructions (IATA)	: 663
CAO max net quantity (IATA)	: 220L
Special provisions (IATA)	: A3, A4
ERG code (IATA)	: 6L

- Inland waterway transport

Classification code (ADN)	: T6
Special provisions (ADN)	: 61, 274, 648, 802
Limited quantities (ADN)	: 5 L
Excepted quantities (ADN)	: E1
Equipment required (ADN)	: PP, EP, TOX, A
Ventilation (ADN)	: VE02
Number of blue cones/lights (ADN)	: 0

- Rail transport

Classification code (RID)	: T6
Special provisions (RID)	: 61, 274, 648
Limited quantities (RID)	: 5L
Excepted quantities (RID)	: E1
Packing instructions (RID)	: P001, IBC03, LP01, R001
Mixed packing provisions (RID)	: MP19

Permethrin Tech min 93%

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Portable tank and bulk container instructions (RID)	: T7
Portable tank and bulk container special provisions (RID)	: TP2, TP28
Tank codes for RID tanks (RID)	: L4BH
Special provisions for RID tanks (RID)	: TU15
Transport category (RID)	: 2
Special provisions for carriage – Packages (RID)	: W12
Special provisions for carriage - Loading, unloading and handling (RID)	: CW13, CW28, CW31
Colis express (express parcels) (RID)	: CE8, CE12
Hazard identification number (RID)	: 60

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

3. Liquid substances or mixtures which are regarded as dangerous in accordance with Directive 1999/45/EC or are fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008	Permethrin
--	------------

Permethrin Tech min 93% is not on the REACH Candidate List

Permethrin Tech min 93% is not on the REACH Annex XIV List

Type of product (Biocide)	18 - Insecticides, acaricides and products to control other arthropods
Seveso Information	: E1 Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:

Section	Changed item	Change	Comments
14.1	UN-No. (ADR)	Modified	
14.1	UN-No. (ADN)	Modified	
14.1	UN-No. (IATA)	Modified	
14.1	UN-No. (IMDG)	Modified	
14.2	Proper Shipping Name (ADN)	Modified	
14.2	Proper Shipping Name (ADR)	Modified	
14.3	Danger labels (RID)	Modified	
14.3	Danger labels (ADR)	Modified	
14.6	Special packing provisions (IMDG)	Added	
14.6	APP code	Removed	
14.6	EAC code	Removed	
14.6	Special provisions (ADN)	Modified	
14.6	Transport category (ADR)	Modified	
14.6	MFAG-No	Modified	
14.6	Special provisions (ADR)	Modified	
14.6	Hazard identification number (Kemler No.)	Modified	
14.6	Classification code (ADR)	Modified	

Abbreviations and acronyms:

SDS	Safety Data Sheet
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
PBT	Persistent Bioaccumulative Toxic

Permethrin Tech min 93%

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

vPvB	Very Persistent and Very Bioaccumulative
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
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
ICAO	International Civil Aviation Organization
LC50	Median lethal concentration
LD50	Median lethal dose
CAS	CAS (Chemical Abstracts Service) number
	EG-nr.: EINECS- en ELINCS-number
	EINECS: European Inventory of Existing Commercial Substances
NOEC	No-Observed Effect Concentration
	STOT: Specific Target Organ Toxicity
PNEC	Predicted No-Effect Concentration
	PEC: Predicted Environmental Concentration
	OEL: Occupational Exposure Limit

Data sources : according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830.

Other information : REACH Disclaimer:
 This information is based on current knowledge. Consistency of data in the SDS with CSR is considered, as far as the information is available at the time of compilation (cfr Revision date and Version number). **DISCLAIMER OF LIABILITY** The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.

Full text of H- and EUH-statements:

Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
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
Skin Sens. 1	Sensitisation — Skin, Category 1
H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H332	Harmful if inhaled
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Safety Data Sheet applicable for regions : GB - United Kingdom

This Safety Data Sheet is compiled by :
 Trade Wind B.V. (info@twnl.com)

SDS EU (REACH Annex II)

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