SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY

1.1. Product identifier

Product name: **MOXY**

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

Insecticide (biocide PT18) – professional use.

Ready-to-use solution, intended for insecticide treatments against mosquitos for internal use, to be used with equipment conform to the Nocospray/Nocomax concept.

Use descriptor system (REACH):

SU22 (Professional uses)

1.3. Details of the supplier of the safety data sheet

Registered company name:	OXY'PHARM
Address:	829 Rue Marcel Paul, 94500 Champigny sur Marne, FRANCE.
Phone:	+33.1.45.18.78.70
E-mail :	commercial@oxypharm.net

http://www.oxypharm.net/

1.4. Emergency telephone number:

Country	Emergency telephone number	Website
UK - England, Wales	111	http://www.nhs.uk/
UK - Scotland	111	http://www.nhs24.com/
UK - Northern Ireland	18000 or 999	http://www.gpoutofhours.hscni.net/
Ireland	01 809 2166	http://www.poisons.ie/

Other emergency numbers

In case of emergency, call nearest poison center or 112.

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

In compliance with Regulation (EC) No.1272/2008 and its amendments.

Hazardous to the aquatic environment - Acute hazard, Category 1 (Aquatic Acute 1, H400).

Hazardous to the aquatic environment - Chronic hazard, Category 1 (Aquatic Chronic 1, H410).

This mixture does not present a physical hazard. Refer to the recommendations regarding the other products present on the site.

This mixture does not present a health hazard with the exception of possible occupational exposure thresholds (see paragraphs 3 and 8).

2.2. Label elements

In compliance with Regulation (EC) No.1272/2008 and its amendments.

Hazard pictograms:	
Signal Word:	Warning
Hazard statements:	
H410	Very toxic to aquatic life with long lasting effects.
Precautionary statements:	
P261	Avoid breathing vapours.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.
P501	Dispose of the contents/container at a waste disposal site in accordance with local regulations.
Additional labelling:	
EUH208	Contains permethrin. May produce an allergic reaction.

2.3. Other hazards

The mixture does not contain any substances classified as 'Substances of Very High Concern' (SVHC) as defined by criteria of article 57 of REACH (Regulation EC No.1907/2006) at concentration ≥ 0.1% - list published by the European CHemicals Agency (ECHA) as per article 59 of REACH: (http://echa.europa.eu/fr/candidate-list-table).

The mixture does not contain any PBT or vPvB substances as defined in annex XIII of the REACH Regulation (EC) No.1907/2006.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable (mixture).

3.2. Mixtures

Composition:

INDEX	CAS No.	CE No.	Name	Pictogram	Classification	% w/w
613-058-00-2	52645-53-1	258-067-9	Permethrin	GHS07 GHS09	H302 H317 H332 H400 (M = 100) H410 (M = 10 000)	0.99
-	51-03-6	200-076-7	Piperonyl butoxide	GHS09	H400 H410	0.10
-	8003-34-7	232-319-8	Pyrethrins and pyrethroïds*	GHS07 GHS08 GHS09	H302 H304 H312 H332 H400 (M=100) H410 (M=100)	0.05

* Substance for which a workplace exposure limit exists.

Other data:

No data available.

SECTION 4: FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.

NEVER induce swallowing if the victim is unconscious.

4.1. Description of first aid measures

In the event of exposure by inhalation:

In case of discomfort, remove the exposed person to fresh air. Keep warm and at rest. Consult a doctor if symptoms appear.

In the event of splashes or contact with eyes:

Wash thoroughly with soft, clean water during several minutes holding the eyelids open. Consult an ophthalmologist.in case of pain, redness or visual impairment.

In the event of splashes or contact with skin:

Remove any soiled or splashed clothing immediately. Wash skin with soap and water.
Watch out for any remaining product between skin and clothing, watches, shoes, etc.
In the event of an allergic reaction, seek medical attention.

In the event of swallowing:

In the event of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water and consult a doctor.
Keep the exposed person at rest. Do not induce vomiting. Consult a doctor showing the label.

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

No data available for the product.

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

Specific and immediate treatment:

No data available.

Information for the doctor:

No data available.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

In case of fire, use specifically adapted extinguishing media.

Suitable methods of extinction

In the event of a fire, use:
- sprayed water or water mist
- foam
- multipurpose ABC powder / BC powder
- carbon dioxide (CO_2)

Unsuitable methods of extinction

In the event of a fire, do not use:
- water jet

5.2. Special hazards arising from the substance or mixture

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.
Do not breathe in smoke.
In the event of a fire, the following may be formed:
- carbon monoxide (CO)
- carbon dioxide (CO_2)

5.3. Advice for firefighters

No data available.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Consult safety advice of sections 7 and 8.

For non first aid worker

Avoid any contact with the skin.
In case of accidental release of large quantities, evacuate staff and allow access only to trained operators equipped with self-contained breathing apparatus.
Ensure adequate ventilation.

For first aid worker

First aid workers will be equipped with suitable personal protective equipment (See section 8).

6.2. Environmental precautions

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal.
Prevent any material from entering drains or waterways.

6.3. Methods and material for containment and cleaning up

Clean preferably with detergent, avoid the use of solvents.

6.4. Reference to other sections

Refer to sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the mixture is handled.
Individuals with a history of skin sensitisation should not, under any circumstance, handle this mixture.

7.1. Precautions for safe handling

Always wash hands after handling.
Remove and wash contaminated clothing before re-using.
Ensure adequate ventilation, especially in confined areas.

Fire prevention:

Handle in well-ventilated areas.
Prevent access by unauthorised personnel.

Recommended equipment and procedures:

For personal protection, see section 8.
Observe precautions stated on label and also industrial safety regulations.
Avoid any contact with the skin.
Packages which have been opened must be reclosed carefully and stored in an upright position.

Prohibited equipment and procedures:

No smoking, eating or drinking in areas where the mixture is used.

7.2. Conditions for safe storage, including any incompatibilities

Storage/Packaging

Keep in original container tightly closed in a dry, well-ventilated area at ambient temperature between 5° and 25°C.
Keep away from food, drink and animal feeding stuffs.
The floor of the premises will be impervious and will form a retention basin so that in the event of an accidental spill, the liquid can not spread outside.

7.3. Specific end use(s)

No data available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits:

CAS No.	CE No.	Name	Country	Occupational exposure limits	Source
8003-34-7	232-319-8	Pyrethrins and pyrethroids	UK	Limit value (8h) = 1 mg/m^3	GESTIS ILV
			Ireland	Limit value (8h) = 1 mg/m^3	GESTIS ILV
			EU	Limit value (8h) = 1 mg/m^3	2006/15/EC

Biological limits:

No data available.

Derived no effect level (DNEL) or derived minimum effect level (DMEL):

No data available.

Predicted no effect concentration (PNEC):

Permethrin (CAS No.52645-53-1):

PNEC surface water = 0.00047 µg/L
PNEC micro-organisms (STP) = 0.00495 mg/L
PNEC soil (wet weight) ≥ 0.0876 mg/kg
PNEC sediment = 0.001mg/kg (dry weight)
PNEC oral bird ≥ 16.7 mg/kg food
PNEC oral small mammals = 120 mg/kg food.

8.2. Exposure controls

Suitable technical inspections:

Ensure adequate ventilation, especially in confined areas.

Personal protection measures, such as personal protective equipment

Use personal protective equipment that is clean and has been properly maintained.

Store personal protective equipment in a clean place, away from the work area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using.

Ensure adequate ventilation, especially in confined areas.

- Eye / face protection

Avoid contact with eyes.

Use eye protectors designed to protect against liquid splashes.

Before handling large quantities, wear safety goggles with protective sides accordance with standard EN166.

- Hand protection

Use suitable protective gloves that are resistant to chemical agents in accordance with standard EN374.
Gloves must be selected according to the application and duration of use at the workstation.
Protective gloves need to be selected according to their suitability for the workstation in question: other chemical products that may be handled, necessary physical protections (cutting, pricking, heat protection), level of dexterity required.

- Body protection

Avoid skin contact.
Work clothing worn by personnel shall be laundered regularly.
After contact with the product, all parts of the body that have been soiled must be washed.

- Respiratory protection

Ensure adequate ventilation, especially in confined areas.

- Thermal risks

Not applicable.

Exposure controls linked to environmental protection

No data available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

General information:

Physical state:	Liquid (fluid)
Odour:	Slight solvent odour
Colour:	Milky white

Important health, safety and environmental information

pH (mixture):	6.0 ± 0.5
Melting point/melting range:	Not determined
Freezing point:	Not determined
Boiling point/boiling range:	Not determined
Flash point:	Not determined
Evaporation rate:	Not determined
Flammability:	Not determined
Lower/upper flammability limits:	Not determined
Lower/upper explosive limits:	Not determined
Vapour pressure:	Not determined
Vapour density:	Not determined
Density:	Not determined
Solubility:	Not determined
Octanol/water partition coefficient:	Not determined
Self-ignition temperature:	Not determined
Decomposition point:	Not determined
Viscosity:	Not determined
Explosive properties:	Not determined
Oxidising properties:	Not determined

9.2. Other information

No data available.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
No data available.

10.2. Chemical stability
This mixture is stable under the recommended handling and storage conditions in section 7.

10.3. Possibility of hazardous reactions
When exposed to high temperatures, the mixture can release hazardous decomposition products, such as carbon monoxide, carbon dioxide and fumes.

10.4. Conditions to avoid
No data available.

10.5. Incompatible materials
No data available.

10.6. Hazardous decomposition products
The thermal decomposition may release/form
- carbon monoxide (CO)
- carbon dioxide (CO_2)

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

11.1.1. Substances
Not applicable (mixture).

11.1.2. Mixture
No toxicological data available for the mixture.

The product is not classified for health hazards (classification by conventional calculation method). However, the product contains a substance classified as skin sensitising (Skin sensitisation, Category 1 (Skin Sens. 1, H317)) at a concentration higher than 0.1% w/w.

Acute toxicity:
The product is not classified (conventional method by calculation).

Permethrin (CAS No.52645-53-1):
Oral acute toxicity: LD_{50} = 480 - 554 mg/kg b.w. (rat)
Dermal acute toxicity: LD_{50} > 2 000 mg/kg b.w. (rat)
Acute inhalation toxicity: LC_{50} > 4.638 mg/L – 23.5 mg/L (4h) (rat)

Pyrethrins and pyrethroids (CAS No.8003-34-7):
Oral acute toxicity: LD_{50} = 1030 mg/kg p.c. (rat)
Dermal acute toxicity: LD_{50} > 2 000 mg/kg p.c. (rat)
Acute inhalation toxicity: LC_{50} = 2.3 mg/L (4h) (rat)

Skin corrosion/skin irritation:
The product is not classified (conventional method by calculation).

Serious damage to eyes/eye irritation:
The product is not classified (conventional method by calculation).

Respiratory or skin sensitisation:
The product is not classified as skin sensitising (Skin sensitisation, Category 1 (Skin Sens. 1, H317), classification by conventional calculation method).
However, the product contains a substance classified as skin sensitising (Skin sensitisation, Category 1 (Skin Sens. 1, H317)) at a concentration higher than 0.1% w/w.
Contains permethrin. May produce an allergic reaction.

Germ cell mutagenicity:
The product does not contain any substance classified for this hazard.
The product is not classified (conventional method by calculation).

Carcinogenicity:
The product does not contain any substance classified for this hazard.
The product is not classified (conventional method by calculation).

Reproductive toxicant:
The product does not contain any substance classified for this hazard.
The product is not classified (conventional method by calculation).

Specific target organ systemic toxicity - single exposure:
The product does not contain any substance classified for this hazard.

The product is not classified (conventional method by calculation).

Specific target organ systemic toxicity - repeated exposure:
The product does not contain any substance classified for this hazard.

The product is not classified (conventional method by calculation).

Aspiration hazard:
The product is not classified (conventional method by calculation).

Symptoms related to the physical, chemical and toxicological characteristics
No data available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure
No data available.

Interactive effects
No data available.

Absence of specific data
No data available.

Other information
No data available.

IARC Monograph (s) (International Agency for Research on Cancer):
Permethrin (CAS No. 52645-53-1): IARC Group 3: The agent is not classifiable as to its carcinogenicity to humans.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

12.1.1. Substances
Not applicable (mixture).

12.1.2. Mixture
No aquatic toxicity information is available for the mixture.

This mixture is classified as hazardous for the environment (classification by calculation):

Hazardous to the aquatic environment - Acute hazard, Category 1 (Aquatic Acute 1, H400).

Hazardous to the aquatic environment - Chronic hazard, Category 1 (Aquatic Chronic 1, H410).

The product must not be allowed to run into drains or waterways.

Permethrin (CAS No.52645-53-1): Aquatic Acute 1, H400) (M = 100) - Aquatic Chronic 1, H410 (M = 10 000)

Acute toxicity:

Fish: *Oncorhynchus mykiss*:	LC_{50} = 5.1*10^{-3} mg/L (96 h)
Aquatic invertebrates: *Daphnia Magna*:	EC_{50} = 1.27*10^{-3} mg/L (48 h)
Algae: *Pseudokirchneriella subcapitata*:	E_rC_{50} > 1.13 mg/L (72 h)

Chronic toxicity:

Fish: *Oncorhynchus mykiss*:	NOEC = 4.1*10^{-4} mg/L (35 d)
Aquatic invertebrates: *Daphnia Magna* :	NOEC = 4.7*10^{-6} mg/L (21 d)
Algae: *Pseudokirchneriella subcapitata*:	NOEC < 1.31*10^{-2} mg/L (72 h)

Piperonyl butoxide (CAS No.51-03-6):

Acute toxicity:

Fish: *Cyprinodon variegatus*:	LC_{50} = 3.94 mg/L (96 h)
Aquatic invertebrates: *Daphnia Magna*:	EC_{50} = 0.51 mg/L (48 h)
Aquatic invertebrates: *Americamysis bahia*:	EC_{50} = 0.32 mg/L (48 h)
Aquatic invertebrates: *Crassostrea virginica*:	EC_{50} = 0.23 mg/L (48 h)
Algae: *Selenastrum capricornutum*:	E_rC_{50} = 3.89 mg/L (48 h)

Chronic toxicity:

Fish: *Pimephales promelas*:	NOEC = 0.18 mg/L (35 days)
Aquatic invertebrates: *Daphnia magna*:	NOEC = 0.030 mg/L (21 days)
Algae: *Selenastrum capricornutum*:	NOE_rC = 0.824 mg/L

Pyrethrins and pyrethroids (CAS No.8003-34-7): Aquatic Acute 1, H400 (M=100) - Aquatic Chronic 1, H410 (M=100)

Acute toxicity:

Fish: *Salmo gairdneri*:	LC_{50} = 0.0052 mg/L (96 h)
Aquatic invertebrates: *Daphnia Magna*:	EC_{50} = 0.012 mg/L (48 h)

Chronic toxicity:

Fish: *Pimephales promelas*:	NOEC = 0,019 mg/L (35 days)
Aquatic invertebrates: *Daphnia magna*:	NOEC = 0.00086 mg/L (21 days)

12.2. Persistence and degradability
No data available for the mixture.

Permethrin (CAS No.52645-53-1): not readily degradable.

Piperonyl butoxide (CAS No.51-03-6): not readily degradable.

Pyrethrins and pyrethroids (CAS No.8003-34-7): not readily degradable.

12.3. Bioaccumulative potential

No data available for the mixture.

Permethrin (CAS No.52645-53-1):

no bioaccumulation potential (BCF_{fish} = 570 L/kg - 28 d - *Bluegill sunfish*)

bioaccumulation potential for terrestrial organisms ($BCF_{earthworm}$ = 23.8 - 15108 L/kg – prediction ; BCF_{snail} = 800 L/kg – 30 d

Piperonyl butoxide (CAS No.51-03-6):

bioaccumulation potential for aquatic organisms (BCF_{fish} = 290 L/kg)

bioaccumulation potential for terrestrial organisms ($BCF_{earthworm}$ = 757 mg/kg – prediction)

Pyrethrins and pyrethroids (CAS No.8003-34-7):

high bioaccumulation potential for aquatic organisms (BCF_{fish} = 471)

very high bioaccumulation potential for terrestrial organisms ($BCF_{earthworm}$ = 9533)

12.4. Mobility in soil

No data available for the mixture.

Permethrin (CAS No.52645-53-1): high soil adsorption: Kfoc = 73441 L/kg, Koc 26930 (n = 9)

Piperonyl butoxide (CAS No.51-03-6): Koc = 3745.3 L/kg (4 soil types)

Pyrethrins and pyrethroids (CAS No.8003-34-7): Low soil mobility

12.5. Results of PBT and vPvB assessment

The mixture does not contain any PBT nor vPvB substance.

12.6. Other adverse effects

No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC, Decision 2014/955/EU and Directive (EU) 2015/1127.

13.1. Waste treatment methods

Do not pour into drains or waterways.

Waste:

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

Soiled packaging:

Completely empty container. Keep label(s) on container. Give to a certified disposal contractor.

SECTION 14: TRANSPORT INFORMATION

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2017 - IMDG 2016 - ICAO/IATA 2017).

14.1. UN number

3082

14.2. UN proper shipping name

UN3082 = ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (permethrin, pyrethrins et pyrethroids)

14.3. Transport hazard class(es)

- Classification: 9

14.4. Packing group

III

14.5. Environmental hazards

- Environmentally hazardous material:

14.6. Special precautions for user

ADR/RID	Class	Code	Pack gr.	Label	Ident.	LQ	Provis.	EQ	Cat.	Tunnel
	9	M6	III	9	90	5 L	274 335 375 601	E1	3	E

IMDG	Class	2° Label.	Pack gr.	LQ	EMS	Provis.	EQ
	9	-	III	5 L	F-A,S-F	274 335 969	E1

IATA	Class	2° Label.	Pack gr.	Passager	Passager	Cargo	Cargo	Note	EQ
	9	-	III	964	450 L	964	450 L	A97 A158 A197	E1
	9	-	III	Y964	30 kg G	-		A97 A158 A197	E1

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.

For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.

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

No data available.

SECTION 15: REGULATORY INFORMATION

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

Classification and labelling information included in section 2:

The following regulations have been used:
- Regulation EC No.1272/2008 and its modifications

Biocidal regulation (EU) No. 528/2012

Insecticide (biocide PT18) – professional use.

Permethrin (CAS No.52645-53-1): 0.99% m/m

Piperonyl butoxide (CAS No.51-03-6): 0.10% m/m

Pyrethrins and pyrethroids (CAS No.8003-34-7): 0.05% m/m

Container information:

No data available.

Particular provisions:

No data available.

15.2. Chemical safety assessment

No data available.

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 mixture must not be used for other uses than those specified in section 1 without having first obtained 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 in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.

Wording of the phrases mentioned in section 3:

H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
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.

Abbreviations:

ADR: European agreement concerning the international carriage of dangerous goods by Road.

IMDG: International Maritime Dangerous Goods.

IATA: International Air Transport Association.

ICAO: International Civil Aviation Organisation

RID: Regulations concerning the International carriage of Dangerous goods by rail.

PBT: Persistent, bioaccumulable and toxic.

vPvB: Very persistent, very bioaccumulable.

SVHC: Substances of very high concern.

Revision:

A vertical line in the left margin indicates a change to the previous version.
This version replaces all previous versions.