

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Levamisole / Oxyclozanide Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/04/2023
1.9	09/30/2023	5360104-00010	Date of first issue: 12/19/2019

### SECTION 1. IDENTIFICATION

Product name : Levamisole / Oxyclozanide Formulation

#### Manufacturer or supplier's details

Company name of supplier : Merck & Co., Inc  
Address : 126 E. Lincoln Avenue  
Rahway, New Jersey U.S.A. 07065  
Telephone : 908-740-4000  
Emergency telephone : 1-908-423-6000  
E-mail address : EHSDATASTEWARD@merck.com

#### Recommended use of the chemical and restrictions on use

Recommended use : Veterinary product  
Restrictions on use : Not applicable

### SECTION 2. HAZARDS IDENTIFICATION

#### GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Reproductive toxicity : Category 2  
Specific target organ toxicity : Category 2 (Central nervous system)  
- single exposure (Oral)  
Specific target organ toxicity : Category 2 (Brain, Liver)  
- repeated exposure  
Specific target organ toxicity : Category 2 (Blood, Testis)  
- repeated exposure (Oral)

#### GHS label elements

Hazard pictograms :



Signal Word : Warning

Hazard Statements : H361d Suspected of damaging the unborn child.  
H371 May cause damage to organs (Central nervous system) if swallowed.  
H373 May cause damage to organs (Brain, Liver) through prolonged or repeated exposure.  
H373 May cause damage to organs (Blood, Testis) through prolonged or repeated exposure if swallowed.

Precautionary Statements : **Prevention:**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Levamisole / Oxyclozanide Formulation

Version 1.9      Revision Date: 09/30/2023      SDS Number: 5360104-00010      Date of last issue: 04/04/2023  
Date of first issue: 12/19/2019

and understood.  
P260 Do not breathe mist or vapors.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P280 Wear protective gloves, protective clothing, eye protection and face protection.

### Response:

P308 + P311 IF exposed or concerned: Call a doctor.  
P308 + P313 IF exposed or concerned: Get medical attention.

### Storage:

P405 Store locked up.

### Disposal:

P501 Dispose of contents and container to an approved waste disposal plant.

### Other hazards

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Components

Chemical name	CAS-No.	Concentration (% w/w)
Kaolin	1332-58-7	6
Oxyclozanide	2277-92-1	3
Levamisole hydrochloride	16595-80-5	1.5
Citric acid	77-92-9	1.37

## SECTION 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.  
When symptoms persist or in all cases of doubt seek medical advice.

If inhaled : If inhaled, remove to fresh air.  
Get medical attention.

In case of skin contact : In case of contact, immediately flush skin with soap and plenty of water.  
Remove contaminated clothing and shoes.  
Get medical attention.  
Wash clothing before reuse.  
Thoroughly clean shoes before reuse.

In case of eye contact : Flush eyes with water as a precaution.  
Get medical attention if irritation develops and persists.

If swallowed : If swallowed, DO NOT induce vomiting.  
Get medical attention.  
Rinse mouth thoroughly with water.  
Never give anything by mouth to an unconscious person.

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Levamisole / Oxyclozanide Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/04/2023
1.9	09/30/2023	5360104-00010	Date of first issue: 12/19/2019

Most important symptoms and effects, both acute and delayed	: Suspected of damaging the unborn child. May cause damage to organs if swallowed. May cause damage to organs through prolonged or repeated exposure.
Protection of first-aiders	: First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
Notes to physician	: Treat symptomatically and supportively.

### SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	: Water spray Alcohol-resistant foam Carbon dioxide (CO <sub>2</sub> ) Dry chemical
Unsuitable extinguishing media	: None known.
Specific hazards during fire fighting	: Exposure to combustion products may be a hazard to health.
Hazardous combustion products	: Carbon oxides Silicon oxides Metal oxides Chlorine compounds Nitrogen oxides (NO <sub>x</sub> )
Specific extinguishing methods	: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
Special protective equipment for fire-fighters	: In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	: Use personal protective equipment. Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
Environmental precautions	: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g., by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	: Soak up with inert absorbent material. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Levamisole / Oxyclozanide Formulation

Version 1.9      Revision Date: 09/30/2023      SDS Number: 5360104-00010      Date of last issue: 04/04/2023  
Date of first issue: 12/19/2019

absorbent.  
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.  
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

### SECTION 7. HANDLING AND STORAGE

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : Use only with adequate ventilation.
- Advice on safe handling : Do not breathe mist or vapors.  
Do not swallow.  
Avoid contact with eyes.  
Avoid prolonged or repeated contact with skin.  
Wash skin thoroughly after handling.  
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment  
Do not eat, drink or smoke when using this product.  
Take care to prevent spills, waste and minimize release to the environment.
- Conditions for safe storage : Keep in properly labeled containers.  
Store locked up.  
Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:  
Strong oxidizing agents  
Gases

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Kaolin	1332-58-7	TWA (Respirable particulate matter)	2 mg/m <sup>3</sup>	ACGIH
		TWA (Respirable)	5 mg/m <sup>3</sup>	NIOSH REL
		TWA (total)	10 mg/m <sup>3</sup>	NIOSH REL
		TWA (total dust)	15 mg/m <sup>3</sup>	OSHA Z-1
		TWA (respirable fraction)	5 mg/m <sup>3</sup>	OSHA Z-1
Oxyclozanide	2277-92-1	TWA	0.4 mg/m <sup>3</sup> (OEB 2)	Internal
Levamisole hydrochloride	16595-80-5	TWA	20 µg/m <sup>3</sup> (OEB 3)	Internal

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Levamisole / Oxyclozanide Formulation

Version 1.9      Revision Date: 09/30/2023      SDS Number: 5360104-00010      Date of last issue: 04/04/2023  
Date of first issue: 12/19/2019

	Further information: Skin			
		Wipe limit	200 µg/100 cm <sup>2</sup>	Internal

**Engineering measures** : Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-less quick connections).  
All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.  
Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices).  
Minimize open handling.

### Personal protective equipment

**Respiratory protection** : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

### Hand protection

**Material** : Chemical-resistant gloves

**Remarks** : Consider double gloving.

**Eye protection** : Wear safety glasses with side shields or goggles.  
If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.  
Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

**Skin and body protection** : Work uniform or laboratory coat.  
Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.  
Use appropriate degowning techniques to remove potentially contaminated clothing.

**Hygiene measures** : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.  
When using do not eat, drink or smoke.  
Wash contaminated clothing before re-use.  
The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Levamisole / Oxyclozanide Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/04/2023
1.9	09/30/2023	5360104-00010	Date of first issue: 12/19/2019

use of administrative controls.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Color	: No data available
Odor	: No data available
Odor Threshold	: No data available
pH	: No data available
Melting point/freezing point	: No data available
Initial boiling point and boiling range	: No data available
Flash point	: No data available
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable
Flammability (liquids)	: No data available
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Vapor pressure	: No data available
Relative vapor density	: No data available
Relative density	: No data available
Density	: No data available
Solubility(ies) Water solubility	: No data available
Partition coefficient: n-octanol/water	: Not applicable
Autoignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity Viscosity, kinematic	: No data available
Explosive properties	: Not explosive

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Levamisole / Oxyclozanide Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/04/2023
1.9	09/30/2023	5360104-00010	Date of first issue: 12/19/2019

Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	No data available
Particle size	:	Not applicable

### SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Can react with strong oxidizing agents.
Conditions to avoid	:	None known.
Incompatible materials	:	Oxidizing agents
Hazardous decomposition products	:	No hazardous decomposition products are known.

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure

Inhalation  
Skin contact  
Ingestion  
Eye contact

#### Acute toxicity

Not classified based on available information.

#### Product:

Acute oral toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method
---------------------	---	--

#### Components:

##### **Kaolin:**

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg Remarks: Based on data from similar materials
Acute inhalation toxicity	:	LC50 (Rat): > 2.07 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity Remarks: Based on data from similar materials
Acute dermal toxicity	:	LD50 (Rat): > 5,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity Remarks: Based on data from similar materials

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Levamisole / Oxytoclozanide Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/04/2023
1.9	09/30/2023	5360104-00010	Date of first issue: 12/19/2019

### Oxytoclozanide:

Acute oral toxicity : LD50 (Rat): 3,519 mg/kg  
Target Organs: Central nervous system

Acute toxicity (other routes of administration) : LDLo (sheep): 10 mg/kg  
Application Route: Intravenous

### Levamisole hydrochloride:

Acute oral toxicity : LD50 (Rat): 180 mg/kg

LD50 (Mouse): 223 mg/kg

LD50 (Rabbit): 458 mg/kg

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : Remarks: No data available

### Citric acid:

Acute oral toxicity : LD50 (Mouse): 5,400 mg/kg

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

### Skin corrosion/irritation

Not classified based on available information.

### Components:

#### Kaolin:

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : No skin irritation  
Remarks : Based on data from similar materials

#### Oxytoclozanide:

Remarks : Not classified due to lack of data.

#### Levamisole hydrochloride:

Remarks : No data available

#### Citric acid:

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : No skin irritation



# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Levamisole / Oxytoclozanide Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/04/2023
1.9	09/30/2023	5360104-00010	Date of first issue: 12/19/2019

### Serious eye damage/eye irritation

Not classified based on available information.

#### Components:

##### **Kaolin:**

Species	:	Rabbit
Result	:	No eye irritation
Remarks	:	Based on data from similar materials

##### **Oxytoclozanide:**

Remarks	:	Not classified due to lack of data.
---------	---	-------------------------------------

##### **Levamisole hydrochloride:**

Remarks	:	No data available
---------	---	-------------------

##### **Citric acid:**

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days
Method	:	OECD Test Guideline 405

### Respiratory or skin sensitization

#### **Skin sensitization**

Not classified based on available information.

#### **Respiratory sensitization**

Not classified based on available information.

#### Components:

##### **Oxytoclozanide:**

Routes of exposure	:	Dermal
Remarks	:	Not classified due to lack of data.

##### **Levamisole hydrochloride:**

Remarks	:	No data available
---------	---	-------------------

### Germ cell mutagenicity

Not classified based on available information.

#### Components:

##### **Oxytoclozanide:**

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Result: negative
		Test Type: Chromosomal aberration Test system: Human lymphocytes Result: positive

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Levamisole / Oxytoclozanide Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/04/2023
1.9	09/30/2023	5360104-00010	Date of first issue: 12/19/2019

	Test Type: Mouse Lymphoma Result: positive
Genotoxicity in vivo	: Test Type: Micronucleus test Species: Mouse Application Route: Oral Result: negative
	Test Type: unscheduled DNA synthesis assay Species: Rat Cell type: Liver cells Application Route: Oral Result: negative
Germ cell mutagenicity - Assessment	: Weight of evidence does not support classification as a germ cell mutagen.

### Levamisole hydrochloride:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Result: negative
	Test Type: Chromosome aberration test in vitro Result: negative

### Citric acid:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Result: negative
	Test Type: in vitro micronucleus test Result: positive
	Test Type: Bacterial reverse mutation assay (AMES) Result: negative
Genotoxicity in vivo	: Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis) Species: Rat Application Route: Ingestion Result: negative

### Carcinogenicity

Not classified based on available information.

### Components:

#### Oxytoclozanide:

Remarks	: Not classified due to lack of data.
---------	---------------------------------------

#### Levamisole hydrochloride:

Species	: Mouse
Application Route	: Oral

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Levamisole / Oxiclozanide Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/04/2023
1.9	09/30/2023	5360104-00010	Date of first issue: 12/19/2019

Exposure time : 2 Years  
NOAEL : 80 mg/kg body weight  
Remarks : No significant adverse effects were reported

Species : Rat  
Application Route : Oral  
Exposure time : 2 Years  
NOAEL : 40 mg/kg body weight  
Remarks : No significant adverse effects were reported

**IARC** No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**NTP** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

### Reproductive toxicity

Suspected of damaging the unborn child.

### Components:

#### Oxiclozanide:

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Rat, male and female  
Application Route: Oral  
General Toxicity Parent: NOAEL: 25 - 35 mg/kg body weight  
Symptoms: Reduced body weight, No effects on embryofetal and postnatal development.  
Result: No effects on fertility.

Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: Oral  
General Toxicity Parent: LOAEL: 75 - 100 mg/kg body weight  
Symptoms: Reduced body weight, No effects on embryofetal and postnatal development.  
Result: No effects on fertility.

Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: Oral  
Early Embryonic Development: LOAEL: 75 - 100 mg/kg body weight  
Result: No fetotoxicity., No teratogenic effects.

Test Type: One-generation reproduction toxicity study  
Species: Rat  
Application Route: Oral  
General Toxicity Parent: LOAEL: 80 - 160 mg/kg body weight  
Result: No fetotoxicity., No teratogenic effects., No effects on fertility.

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Levamisole / Oxyclozanide Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/04/2023
1.9	09/30/2023	5360104-00010	Date of first issue: 12/19/2019

Effects on fetal development : Test Type: Development  
Species: Rat  
Application Route: Oral  
Developmental Toxicity: NOAEL: 200 mg/kg body weight  
Result: No fetotoxicity., No teratogenic effects.

Test Type: Development  
Species: Rat  
Application Route: Oral  
General Toxicity Maternal: LOAEL: 100 mg/kg body weight  
Result: No fetotoxicity., No teratogenic effects.

Test Type: Development  
Species: Rabbit  
Application Route: Oral  
Developmental Toxicity: NOAEL: 32 mg/kg body weight  
Result: Fetotoxicity., Skeletal malformations.

Reproductive toxicity - Assessment : Suspected of damaging the unborn child.

### Levamisole hydrochloride:

Effects on fertility : Test Type: Three-generation reproduction toxicity study  
Species: Rat  
Application Route: Oral  
Result: No significant adverse effects were reported

Effects on fetal development : Test Type: Embryo-fetal development  
Species: Rat  
Application Route: Oral  
Developmental Toxicity: NOAEL: 20 mg/kg body weight  
Result: Fetotoxicity.

Test Type: Embryo-fetal development  
Species: Rabbit  
Application Route: Oral  
Developmental Toxicity: LOAEL: 40 mg/kg body weight  
Result: Fetotoxicity.

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

### Citric acid:

Effects on fetal development : Test Type: One-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Result: negative

### STOT-single exposure

May cause damage to organs (Central nervous system) if swallowed.

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Levamisole / Oxyclozanide Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/04/2023
1.9	09/30/2023	5360104-00010	Date of first issue: 12/19/2019

### Components:

#### **Oxyclozanide:**

Routes of exposure	:	Oral
Target Organs	:	Central nervous system
Assessment	:	May cause damage to organs.

#### **Citric acid:**

Assessment	:	May cause respiratory irritation.
------------	---	-----------------------------------

### **STOT-repeated exposure**

May cause damage to organs (Brain, Liver) through prolonged or repeated exposure.  
May cause damage to organs (Blood, Testis) through prolonged or repeated exposure if swallowed.

### Components:

#### **Oxyclozanide:**

Target Organs	:	Brain, Liver
Assessment	:	May cause damage to organs through prolonged or repeated exposure.

#### **Levamisole hydrochloride:**

Target Organs	:	Blood, Testis
Assessment	:	May cause damage to organs through prolonged or repeated exposure.

### **Repeated dose toxicity**

### Components:

#### **Oxyclozanide:**

Species	:	Rat
NOAEL	:	9 mg/kg
LOAEL	:	44.5 mg/kg
Application Route	:	Oral
Exposure time	:	3 Months
Target Organs	:	Brain, Liver, spleen, Adrenal gland
Symptoms	:	Liver effects
Species	:	Dog
NOAEL	:	5 mg/kg
LOAEL	:	25 mg/kg
Application Route	:	Oral
Exposure time	:	3 Months
Target Organs	:	Brain, Liver
Symptoms	:	blood effects, alteration in liver enzymes

#### **Levamisole hydrochloride:**

Species	:	Rat
NOAEL	:	2.5 mg/kg

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Levamisole / Oxcyclozanide Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/04/2023
1.9	09/30/2023	5360104-00010	Date of first issue: 12/19/2019

Application Route : Oral  
Exposure time : 18 Months  
Target Organs : Testis

Species : Dog  
LOAEL : 20 mg/kg  
Application Route : Oral  
Exposure time : 18 Months  
Target Organs : Blood

Species : Dog  
LOAEL : 40 mg/kg  
Application Route : Oral  
Exposure time : 3 Months

### Citric acid:

Species : Rat  
NOAEL : 4,000 mg/kg  
LOAEL : 8,000 mg/kg  
Application Route : Ingestion  
Exposure time : 10 Days

### Aspiration toxicity

Not classified based on available information.

### Components:

#### Oxcyclozanide:

Not applicable

### Experience with human exposure

### Components:

#### Oxcyclozanide:

Ingestion : Symptoms: May cause, Gastrointestinal disturbance, Central nervous system depression

#### Levamisole hydrochloride:

Ingestion : Symptoms: Nausea, Vomiting, Headache, Dizziness, hypotension

## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

### Components:

#### Kaolin:

Toxicity to fish (Chronic toxicity) : NOELR (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l  
Exposure time: 30 d

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Levamisole / Oxyclozanide Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/04/2023
1.9	09/30/2023	5360104-00010	Date of first issue: 12/19/2019

### Oxyclozanide:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.69 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

### Levamisole hydrochloride:

Toxicity to fish : LC50 (Oryzias latipes (Japanese medaka)): 37.3 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 64 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

### Citric acid:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,535 mg/l  
Exposure time: 24 h

### Persistence and degradability

#### Components:

##### Oxyclozanide:

Stability in water : Hydrolysis: 50 %(156 d)  
Method: OECD Test Guideline 111

##### Citric acid:

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 97 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

### Bioaccumulative potential

#### Components:

##### Oxyclozanide:

Partition coefficient: n-octanol/water : log Pow: 3.99  
pH: 7  
Method: OECD Test Guideline 107

##### Citric acid:

Partition coefficient: n-octanol/water : log Pow: -1.72

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Levamisole / Oxyclozanide Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/04/2023
1.9	09/30/2023	5360104-00010	Date of first issue: 12/19/2019

### Mobility in soil

#### Components:

##### **Oxyclozanide:**

Distribution among environmental compartments : log K<sub>oc</sub>: 4.83  
Method: OECD Test Guideline 106

##### **Other adverse effects**

No data available

## SECTION 13. DISPOSAL CONSIDERATIONS

### **Disposal methods**

Waste from residues : Dispose of in accordance with local regulations.  
Do not dispose of waste into sewer.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.  
If not otherwise specified: Dispose of as unused product.

## SECTION 14. TRANSPORT INFORMATION

### **International Regulations**

#### **UNRTDG**

UN number : UN 3082

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(oxyclozanide)

Class : 9

Packing group : III

Labels : 9

Environmentally hazardous : yes

#### **IATA-DGR**

UN/ID No. : UN 3082

Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.  
(Oxyclozanide)

Class : 9

Packing group : III

Labels : Miscellaneous

Packing instruction (cargo aircraft) : 964

Packing instruction (passenger aircraft) : 964

Environmentally hazardous : yes

#### **IMDG-Code**

UN number : UN 3082

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Oxyclozanide)

Class : 9

Packing group : III



# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Levamisole / Oxyclozanide Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/04/2023
1.9	09/30/2023	5360104-00010	Date of first issue: 12/19/2019

Labels : 9  
EmS Code : F-A, S-F  
Marine pollutant : yes

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### Domestic regulation

#### 49 CFR

UN/ID/NA number : UN 3082  
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.  
(Oxyclozanide)  
Class : 9  
Packing group : III  
Labels : CLASS 9  
ERG Code : 171  
Marine pollutant : yes(Oxyclozanide)  
Remarks : Above applies only to containers over 119 gallons or 450  
liters.  
Shipment by ground under DOT is non-regulated; however it  
may be shipped per the applicable hazard classification to  
facilitate multi-modal transport involving ICAO (IATA) or IMO.

### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## SECTION 15. REGULATORY INFORMATION

### CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Reproductive toxicity  
Specific target organ toxicity (single or repeated exposure)

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### US State Regulations

#### Pennsylvania Right To Know

Water	7732-18-5
Kaolin	1332-58-7
Oxyclozanide	2277-92-1

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Levamisole / Oxyclozanide Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/04/2023
1.9	09/30/2023	5360104-00010	Date of first issue: 12/19/2019

### California Permissible Exposure Limits for Chemical Contaminants

Kaolin

1332-58-7

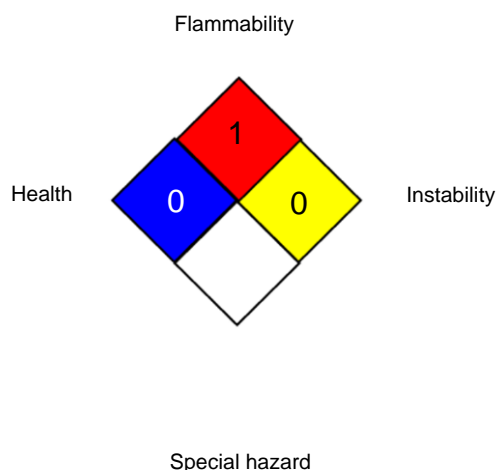
The ingredients of this product are reported in the following inventories:

AICS	:	not determined
DSL	:	not determined
IECSC	:	not determined

## SECTION 16. OTHER INFORMATION

### Further information

#### NFPA 704:



#### HMIS® IV:

HEALTH	*	3
FLAMMABILITY		1
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

### Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA	:	8-hour, time-weighted average
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
OSHA Z-1 / TWA	:	8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Levamisole / Oxyclozanide Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04/04/2023
1.9	09/30/2023	5360104-00010	Date of first issue: 12/19/2019

x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECL - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Material Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Revision Date : 09/30/2023

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

US / Z8