

## Zeranol Formulation

Version 5.1      Revision Date: 30.09.2023      SDS Number: 682071-00015      Date of last issue: 04.04.2023  
Date of first issue: 19.05.2016

---

### Section 1: Identification

Product name : Zeranol Formulation

#### Manufacturer or supplier's details

Company : MSD

Address : 33 Whakatiki Street - Private Bag 908  
Upper Hutt - New Zealand

Telephone : 0800 800 543

Emergency telephone number : 0800 764 766 (0800 POISON)    0800 243 622 (0800 CHEMCALL)

E-mail address : EHSDATASTEWARD@msd.com

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

Recommended use : Veterinary product

Restrictions on use : Not applicable

---

### Section 2: Hazard identification

#### GHS Classification

Serious eye damage/eye irritation : Category 2

Carcinogenicity : Category 2

Reproductive toxicity : Category 1

Specific target organ toxicity - repeated exposure : Category 1 (Endocrine system, Liver)

#### GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H319 Causes serious eye irritation.  
H351 Suspected of causing cancer.  
H360FD May damage fertility. May damage the unborn child.  
H372 Causes damage to organs (Endocrine system, Liver) through prolonged or repeated exposure.

## Zeranol Formulation

Version 5.1      Revision Date: 30.09.2023      SDS Number: 682071-00015      Date of last issue: 04.04.2023  
Date of first issue: 19.05.2016

---

## Precautionary statements

:

**Prevention:**

P201 Obtain special instructions before use.  
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/ face protection.

**Response:**

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.

**Storage:**

P405 Store locked up.

**Disposal:**

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

**Other hazards which do not result in classification**

Dust contact with the eyes can lead to mechanical irritation.  
Contact with dust can cause mechanical irritation or drying of the skin.  
May form combustible dust concentrations in air.

---

**Section 3: Composition/information on ingredients**

Substance / Mixture : Mixture

**Components**

Chemical name	CAS-No.	Concentration (% w/w)
zeranol	26538-44-3	>= 70 -< 90
Magnesium stearate	557-04-0	>= 10 -< 20
Boric acid	10043-35-3	>= 10 -< 20

---

**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.

---

## Zeranol Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
5.1	30.09.2023	682071-00015	Date of first issue: 19.05.2016

---

In case of eye contact	:	Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse. If in eyes, rinse well with water.
If swallowed	:	Get medical attention if irritation develops and persists. If swallowed, DO NOT induce vomiting. Get medical attention. Rinse mouth thoroughly with water.
Most important symptoms and effects, both acute and delayed	:	Causes serious eye irritation. Suspected of causing cancer. May damage fertility. May damage the unborn child. Causes damage to organs through prolonged or repeated exposure. Contact with dust can cause mechanical irritation or drying of the skin.
Protection of first-aiders	:	Dust contact with the eyes can lead to mechanical irritation. 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	:	High volume water jet
Specific hazards during fire-fighting	:	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Do not use a solid water stream as it may scatter and spread fire. Exposure to combustion products may be a hazard to health.
Hazardous combustion products	:	Carbon oxides Boron oxides Metal oxides
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 firefighters	:	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	:	Use personal protective equipment. Follow safe handling advice (see section 7) and personal pro-
--	---	---



## Zeranol Formulation

Version 5.1      Revision Date: 30.09.2023      SDS Number: 682071-00015      Date of last issue: 04.04.2023  
 Date of first issue: 19.05.2016

- engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.
- Conditions for safe storage : Keep in properly labelled containers.  
 Store locked up.  
 Keep tightly closed.  
 Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:  
 Strong oxidizing agents

## Section 8: Exposure controls/personal protection

## Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
zeranol	26538-44-3	TWA	2 µg/m <sup>3</sup> (OEB 4)	Internal
		Wipe limit	20 µg/100 cm <sup>2</sup>	Internal
Boric acid	10043-35-3	TWA (Inhalable particulate matter)	2 mg/m <sup>3</sup> (Borate)	ACGIH
		STEL (Inhalable particulate matter)	6 mg/m <sup>3</sup> (Borate)	ACGIH
Magnesium stearate	557-04-0	WES-TWA	10 mg/m <sup>3</sup>	NZ OEL
		TWA (Inhalable particulate matter)	10 mg/m <sup>3</sup>	ACGIH
		TWA (Respirable particulate matter)	3 mg/m <sup>3</sup>	ACGIH

- Engineering measures** : Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., vacuum conveying from a closed system, packout head with inflatable seal from stationary container, ventilated enclosure, etc.).  
 All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.  
 Essentially no open handling permitted.  
 Use closed processing systems or containment technologies.

**Personal protective equipment**

- Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
- Filter type : Particulates type

## Zeranol Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
5.1	30.09.2023	682071-00015	Date of first issue: 19.05.2016

---

## 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.

---

**Section 9: Physical and chemical properties**

Appearance : powder

Colour : yellow

Odour : odourless

Odour 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 : Not applicable

Evaporation rate : No data available

Flammability (solid, gas) : May form combustible dust concentrations in air.

Flammability (liquids) : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapour pressure : No data available

Relative vapour density : No data available

**Zeranol Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
5.1	30.09.2023	682071-00015	Date of first issue: 19.05.2016

---

Relative density	:	No data available
Density	:	No data available
Solubility(ies)	:	
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	No data available
Dust deflagration index (Kst)	:	180 m.b_/s
Minimum ignition energy	:	5 - 10 mJ
Particle size	:	No data available

---

**Section 10: Stability and reactivity**

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	May form combustible dust concentrations in air. Can react with strong oxidizing agents.
Conditions to avoid	:	Heat, flames and sparks. Avoid dust formation.
Incompatible materials	:	Oxidizing agents
Hazardous decomposition products	:	No hazardous decomposition products are known.

---

**Section 11: Toxicological information**

Exposure routes	:	Inhalation Skin contact Ingestion Eye contact
-----------------	---	--

**Acute toxicity**

Not classified based on available information.

## Zeranol Formulation

Version 5.1      Revision Date: 30.09.2023      SDS Number: 682071-00015      Date of last issue: 04.04.2023  
Date of first issue: 19.05.2016

---

**Components:****zeranol:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Acute inhalation toxicity : Remarks: No data available  
Acute dermal toxicity : Remarks: No data available

**Magnesium stearate:**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 423  
Assessment: The substance or mixture has no acute oral toxicity  
Remarks: Based on data from similar materials  
Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
Remarks: Based on data from similar materials

**Boric acid:**

Acute oral toxicity : LD50 (Rat): 3,450 mg/kg  
Acute inhalation toxicity : LC50 (Rat): > 2.03 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 403  
Assessment: The substance or mixture has no acute inhalation toxicity  
Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

**Skin corrosion/irritation**

Not classified based on available information.

**Components:****zeranol:**

Remarks : No data available

**Magnesium stearate:**

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

**Boric acid:**

Species : Rabbit  
Result : No skin irritation



**Zeranol Formulation**

Version 5.1      Revision Date: 30.09.2023      SDS Number: 682071-00015      Date of last issue: 04.04.2023  
Date of first issue: 19.05.2016

---

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Components:****zeranol:**

Remarks : No data available

**Magnesium stearate:**

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

**Boric acid:**

Result : Irritation to eyes, reversing within 21 days  
Remarks : Based on national or regional regulation.

**Respiratory or skin sensitisation****Skin sensitisation**

Not classified based on available information.

**Respiratory sensitisation**

Not classified based on available information.

**Components:****zeranol:**

Remarks : No data available

**Magnesium stearate:**

Test Type : Maximisation Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : negative  
Remarks : Based on data from similar materials

**Boric acid:**

Test Type : Buehler Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : negative

## Zeranol Formulation

Version 5.1      Revision Date: 30.09.2023      SDS Number: 682071-00015      Date of last issue: 04.04.2023  
Date of first issue: 19.05.2016

---

**Chronic toxicity****Germ cell mutagenicity**

Not classified based on available information.

**Components:****zeranol:**

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

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)  
Test system: rat hepatocytes  
Result: negative

Genotoxicity in vivo : Test Type: Cytogenetic assay  
Species: Mouse  
Cell type: Bone marrow  
Result: negative

**Magnesium stearate:**

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test  
Result: negative  
Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: negative  
Remarks: Based on data from similar materials

Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative  
Remarks: Based on data from similar materials

**Boric acid:**

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

Test Type: In vitro mammalian cell gene mutation test  
Result: equivocal

Test Type: Chromosome aberration test in vitro  
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Ingestion  
Result: negative

**Zeranol Formulation**

Version 5.1      Revision Date: 30.09.2023      SDS Number: 682071-00015      Date of last issue: 04.04.2023  
Date of first issue: 19.05.2016

---

**Carcinogenicity**

Suspected of causing cancer.

**Components:****zeranol:**

Species : Mouse  
Application Route : Oral  
Exposure time : 2 Years  
Result : positive  
Target Organs : female reproductive organs, Pituitary gland

Species : Rat  
Application Route : Oral  
Exposure time : 2 Years  
Result : negative

Species : Dog  
Application Route : Oral  
Exposure time : 2 Years  
Result : negative

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

**Boric acid:**

Species : Mouse  
Application Route : Ingestion  
Exposure time : 103 weeks  
Result : negative

**Reproductive toxicity**

May damage fertility. May damage the unborn child.

**Components:****zeranol:**

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

Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: Oral  
General Toxicity F1: LOAEL: 3 mg/kg body weight  
Symptoms: Reduced body weight  
Result: Effects on reproduction parameters

Test Type: Fertility  
Species: Rat, males  
Application Route: Oral  
Fertility: LOAEL: 1.25 mg/kg body weight

## Zeranol Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
5.1	30.09.2023	682071-00015	Date of first issue: 19.05.2016

---

Symptoms: Reduced fertility

Effects on foetal development : Test Type: Embryo-foetal development  
 Species: Rat  
 Application Route: Oral  
 Developmental Toxicity: LOAEL: 2 mg/kg body weight  
 Symptoms: Reduced number of viable fetuses  
 Result: Embryolethal effects, No teratogenic effects

Test Type: Embryo-foetal development  
 Species: Rabbit  
 Application Route: Oral  
 Developmental Toxicity: NOAEL:  $\geq$  5 mg/kg body weight  
 Result: No significant adverse effects were reported

Reproductive toxicity - Assessment : Clear evidence of adverse effects on sexual function and fertility, based on animal experiments., Clear evidence of adverse effects on development, based on animal experiments.

**Magnesium stearate:**

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test  
 Species: Rat  
 Application Route: Ingestion  
 Method: OECD Test Guideline 422  
 Result: negative  
 Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development  
 Species: Rat  
 Application Route: Ingestion  
 Result: negative  
 Remarks: Based on data from similar materials

**Boric acid:**

Effects on fertility : Test Type: Three-generation reproduction toxicity study  
 Species: Rat  
 Application Route: Ingestion  
 Result: positive

Effects on foetal development : Test Type: Embryo-foetal development  
 Species: Rabbit  
 Application Route: Ingestion  
 Result: positive

Reproductive toxicity - Assessment : Clear evidence of adverse effects on sexual function and fertility, based on animal experiments., Clear evidence of adverse effects on development, based on animal experiments.

## Zeranol Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
5.1	30.09.2023	682071-00015	Date of first issue: 19.05.2016

---

**STOT - single exposure**

Not classified based on available information.

**STOT - repeated exposure**

Causes damage to organs (Endocrine system, Liver) through prolonged or repeated exposure.

**Components:****zeranol:**

Target Organs	:	Endocrine system, Liver
Assessment	:	Causes damage to organs through prolonged or repeated exposure.

**Repeated dose toxicity****Components:****zeranol:**

Species	:	Rat
NOAEL	:	0.175 mg/kg
LOAEL	:	1.225 mg/kg
Application Route	:	Oral
Exposure time	:	13 Weeks
Target Organs	:	Liver

Species	:	Dog
NOAEL	:	0.25 mg/kg
LOAEL	:	1.25 mg/kg
Application Route	:	Oral
Exposure time	:	14 Weeks
Target Organs	:	male reproductive organs

Species	:	Rat
NOAEL	:	0.1 mg/kg
LOAEL	:	0.8 mg/kg
Application Route	:	Oral
Exposure time	:	26 Weeks
Symptoms	:	Liver disorders

Species	:	Dog
NOAEL	:	0.025 mg/kg
LOAEL	:	2.5 mg/kg
Application Route	:	Oral
Exposure time	:	29 Weeks
Target Organs	:	Reproductive organs, Bone marrow, Bladder
Symptoms	:	hair loss

Species	:	Dog, female
LOAEL	:	15 mg/kg
Application Route	:	Oral
Exposure time	:	7 yr
Target Organs	:	female reproductive organs
Symptoms	:	Changes in the blood count

## Zeranol Formulation

Version 5.1      Revision Date: 30.09.2023      SDS Number: 682071-00015      Date of last issue: 04.04.2023  
Date of first issue: 19.05.2016

---

Species : Monkey, female  
Application Route : Oral  
Exposure time : 10 yr  
Target Organs : female reproductive organs

**Magnesium stearate:**

Species : Rat  
NOAEL : > 100 mg/kg  
Application Route : Ingestion  
Exposure time : 90 Days  
Remarks : Based on data from similar materials

**Boric acid:**

Species : Rat  
NOAEL : 100 mg/kg  
LOAEL : 334 mg/kg  
Application Route : Ingestion  
Exposure time : 2 yr

**Aspiration toxicity**

Not classified based on available information.

**Experience with human exposure****Components:****zeranol:**

Ingestion : Remarks: May cause adverse reproductive effects.

---

**Section 12: Ecological information****Ecotoxicity****Components:****Magnesium stearate:**

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): > 100 mg/l  
Exposure time: 48 h  
Method: DIN 38412  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 1 mg/l  
Exposure time: 47 h  
Test substance: Water Accommodated Fraction  
Method: Directive 67/548/EEC, Annex V, C.2.  
Remarks: Based on data from similar materials  
No toxicity at the limit of solubility

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l

## Zeranol Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
5.1	30.09.2023	682071-00015	Date of first issue: 19.05.2016

---

Exposure time: 72 h  
 Test substance: Water Accommodated Fraction  
 Method: OECD Test Guideline 201  
 Remarks: Based on data from similar materials  
 No toxicity at the limit of solubility

NOELR (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l

Exposure time: 72 h  
 Test substance: Water Accommodated Fraction  
 Method: OECD Test Guideline 201  
 Remarks: Based on data from similar materials

Toxicity to microorganisms : EC10 (Pseudomonas putida): > 100 mg/l  
 Exposure time: 16 h  
 Test substance: Water Accommodated Fraction  
 Remarks: Based on data from similar materials

**Boric acid:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 74 mg/l  
 Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): 102 mg/l  
 Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 52.4 mg/l  
 Exposure time: 72 h  
 Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 17.5 mg/l

Exposure time: 72 h  
 Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOEC (Danio rerio (zebra fish)): 6.4 mg/l  
 Exposure time: 34 d  
 Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 10.8 mg/l  
 Exposure time: 21 d

Toxicity to microorganisms : EC10: 35.4 mg/l  
 Exposure time: 3 h  
 Method: OECD Test Guideline 209

**Persistence and degradability****Components:**

zeranol:

## Zeranol Formulation

Version 5.1      Revision Date: 30.09.2023      SDS Number: 682071-00015      Date of last issue: 04.04.2023  
Date of first issue: 19.05.2016

---

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 50 %  
Exposure time: 91 d

**Magnesium stearate:**

Biodegradability : Result: Not biodegradable  
Remarks: Based on data from similar materials

**Bioaccumulative potential****Components:****zeranol:**

Partition coefficient: n-octanol/water : log Pow: 3.13

**Magnesium stearate:**

Partition coefficient: n-octanol/water : log Pow: > 4

**Boric acid:**

Bioaccumulation : Species: Cyprinus carpio (Carp)  
Bioconcentration factor (BCF): <= 3.2  
Method: OECD Test Guideline 305

Partition coefficient: n-octanol/water : log Pow: -1.09

**Mobility in soil****Components:****zeranol:**

Distribution among environmental compartments : log Koc: 2.95

**Other adverse effects**

No data available

---

**Section 13: Disposal considerations****Disposal methods**

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



## Zeranol Formulation

Version 5.1      Revision Date: 30.09.2023      SDS Number: 682071-00015      Date of last issue: 04.04.2023  
Date of first issue: 19.05.2016

---

### UNRTDG

UN number : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable  
Packing group : Not applicable  
Labels : Not applicable

### IATA-DGR

UN/ID No. : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable  
Packing group : Not applicable  
Labels : Not applicable  
Packing instruction (cargo aircraft) : Not applicable  
Packing instruction (passenger aircraft) : Not applicable

### IMDG-Code

UN number : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable  
Packing group : Not applicable  
Labels : Not applicable  
EmS Code : Not applicable  
Marine pollutant : Not applicable

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

Not applicable for product as supplied.

### National Regulations

#### NZS 5433

UN number : Not applicable  
Proper shipping name : Not applicable  
Class : Not applicable  
Subsidiary risk : Not applicable  
Packing group : Not applicable  
Labels : Not applicable  
Hazchem Code : Not applicable

### Special precautions for user

Not applicable

---

## Section 15: Regulatory information

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

### HSNO Approval Number

HSR100759 Veterinary Medicines Non dispersive Open System Application Group Standard

---

## Zeranol Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
5.1	30.09.2023	682071-00015	Date of first issue: 19.05.2016

---

**HSW Controls**

Certified handler certificate not required.  
 Tracking hazardous substance not required.  
 Refer to the Health and Safety at Work (Hazardous Substances) Regulations 2017, for further information.

**The components of this product are reported in the following inventories:**

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

**Section 16: Other information**

Revision Date : 30.09.2023

**Further information**

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

Date format : dd.mm.yyyy

**Full text of other abbreviations**

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NZ OEL	:	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
NZ OEL / WES-TWA	:	Workplace Exposure Standard - Time Weighted average

AllC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; 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; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect

## Zeranol Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
5.1	30.09.2023	682071-00015	Date of first issue: 19.05.2016

---

Loading Rate; NOM - Official Mexican Norm; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

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.

NZ / EN