

SAFETY DATA SHEET



VANTAL UPGRADE MITICIDE/INSECTICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	24.09.2024	50000658	Date of first issue: 24.09.2024

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : VANTAL UPGRADE MITICIDE/INSECTICIDE

Recommended use of the chemical and restrictions on use

Recommended use : Insecticide

Restrictions on use : Use as recommended by the label.

Manufacturer or supplier's details

Company : FMC Australasia Pty Ltd

Address : Building B, Suite G.01, 12 Julius Avenue
North Ryde NSW 2113
Australia

Telephone : 1 800 066 355

Telefax : (02) 9923 6011

E-mail address : SDS-Info@fmc.com

Emergency telephone number : For leak, fire, spill or accident emergencies, call:
1800 033 111 (Ixm)

Medical emergency:
1 800 033 111 (Transport and 24 h Medical information)

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 4

Acute toxicity (Oral) : Category 4

Reproductive toxicity : Category 2

Specific target organ toxicity - repeated exposure : Category 2 (Nervous system)

GHS label elements

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Hazard pictograms

:



Signal word

: Warning

Hazard statements

: H227 Combustible liquid.
H302 Harmful if swallowed.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs (Nervous system) through prolonged or repeated exposure.

Precautionary statements

: **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe mist or vapours.
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/ hearing protection.
Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Storage:
P403 Store in a well-ventilated place.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

Very toxic to aquatic life with long lasting effects.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture

: Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Abamectin	71751-41-2	>= 3 -< 10
Distillates (petroleum), hydrotreated light paraf-	64742-55-8	>= 1 -< 10

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finic; Baseoil — unspecified		
Oxirane, methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-[(trimethylsilyl)oxy]disiloxanyl]propyl] ether	134180-76-0	< 10
Tristyryl phenol-polyethylene glycol-phosphoric acid ester	114535-82-9	< 10
octan-1-ol	111-87-5	< 10

SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
- If inhaled : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.
- In case of skin contact : Wash off with soap and water.
If symptoms persist, call a physician.
Wash contaminated clothing before re-use.
- In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : Induce vomiting immediately and call a physician.
Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.
- Most important symptoms and effects, both acute and delayed : Exposure causes symptoms of nervous system depression, such as pupil dilation, vomiting, excitation, incoordination, tremors, lethargy, coma. High doses cause death by respiratory failure.
Harmful if swallowed.
Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure.
- Protection of first-aiders : Avoid inhalation, ingestion and contact with skin and eyes.
- Notes to physician : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Dry chemical, CO₂, water spray or regular foam.

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|---|--|
| Unsuitable extinguishing media | : High volume water jet |
| Specific hazards during fire-fighting | : Do not allow run-off from fire fighting to enter drains or water courses. |
| Hazardous combustion products | : Fire may produce irritating, corrosive and/or toxic gases.
Carbon oxides
Nitrogen oxides (NOx)
Oxides of phosphorus |
| Specific extinguishing methods | : Remove undamaged containers from fire area if it is safe to do so.
Use a water spray to cool fully closed containers.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. |
| Special protective equipment for firefighters | : Firefighters should wear protective clothing and self-contained breathing apparatus. |
| Hazchem Code | : •3Z |

SECTION 6. ACCIDENTAL RELEASE MEASURES

- | | |
|---|--|
| Personal precautions, protective equipment and emergency procedures | : Evacuate personnel to safe areas.
Use personal protective equipment.
If it can be safely done, stop the leak.
Do not touch or walk through the spilled material. |
| Environmental precautions | : Prevent further leakage or spillage if safe to do so.
Prevent product from entering drains.
If the product contaminates rivers and lakes or drains inform respective authorities. |
| Methods and materials for containment and cleaning up | : Never return spills in original containers for re-use.
Collect as much of the spill as possible with a suitable absorbent material.
Pick up and transfer to properly labelled containers.
Keep in suitable, closed containers for disposal. |

SECTION 7. HANDLING AND STORAGE

- | | |
|---|--|
| Advice on protection against fire and explosion | : Do not spray on a naked flame or any incandescent material.
Keep away from open flames, hot surfaces and sources of ignition. |
| Advice on safe handling | : Avoid formation of aerosol.
Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use. |

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Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.

- Hygiene measures : Avoid contact with skin, eyes and clothing.
Do not inhale aerosol.
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.
- Conditions for safe storage : No smoking.
Keep in a well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.
- Further information on storage stability : No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Distillates (petroleum), hydrotreated light paraffinic; Baseoil — unspecified	64742-55-8	TWA (Mist)	5 mg/m ³	AU OEL
		TWA (Inhalable particulate matter)	5 mg/m ³	ACGIH

Personal protective equipment

- Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.
- Hand protection
Material : Protective gloves
- Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
- Skin and body protection : Impervious clothing

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Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Protective measures : Plan first aid action before beginning work with this product.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Colour	: white, opaque
Odour	: aromatic, slight
Odour Threshold	: No data available
pH	: 6.5 (25 °C)
Melting point/ range	: No data available
Boiling point/boiling range	: No data available
Flash point	: 91.4 °C
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable
Self-ignition	: > 400 °C
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
Relative density	: 0.938
Density	: 947 g/l (20 °C)
Solubility(ies) Water solubility	: dispersible
Partition coefficient: n-	: No data available

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octanol/water

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity

Viscosity, dynamic : 1.88 Pas (20 °C)

1.37 Pas (40 °C)

Viscosity, kinematic : No data available

Explosive properties : Not explosive

Oxidizing properties : Non-oxidizing

Surface tension : 34.9 mN/m, 20 °C, (1% solution in water)

28.1 mN/m, 40 °C

Molecular weight : Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity : No decomposition if stored and applied as directed.

Chemical stability : No decomposition if stored and applied as directed.

Possibility of hazardous reactions : Vapours may form explosive mixture with air.
No decomposition if stored and applied as directed.

Conditions to avoid : Avoid extreme temperatures
Avoid formation of aerosol.
Heat, flames and sparks.

Incompatible materials : Avoid strong acids, bases, and oxidizers

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity : LD50 (Rat, female): > 300 - 2,000 mg/kg
Method: OECD Test Guideline 420
GLP: yes

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.51 mg/l
Exposure time: 4 h

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Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Symptoms: Tremors, Breathing difficulties
GLP: yes

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

LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

Components:**Abamectin:**

Acute oral toxicity : LD50 (Rat): 340 mg/kg
Method: OECD Test Guideline 425
Symptoms: Fatality

LD50 (Rat): 300 - 2,000 mg/kg
Method: OECD Test Guideline 423
Symptoms: ataxia, apathy, Tremors, Fatality

Acute inhalation toxicity : LC50 (Rat, male): 0.052 - 0.54 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rat, female): 1,414 mg/kg
Method: OECD Test Guideline 402
Symptoms: apathy, ataxia, Fatality

LD50 (Rat): 944 mg/kg
Method: OECD Test Guideline 402
Symptoms: apathy, ataxia, Breathing difficulties, Fatality

Distillates (petroleum), hydrotreated light paraffinic; Baseoil — unspecified:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.53 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
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit, male and female): > 5,000 mg/kg

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Method: OECD Test Guideline 402
Remarks: Based on data from similar materials

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Acute oral toxicity : LD50 (Rat): 3,200 mg/kg

Acute inhalation toxicity : LC50 (Rat): 1.08 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): 1,550 mg/kg
LD50 (Rat): > 2,000 mg/kg

Tristyryl phenol-polyethylene glycol-phosphoric acid ester:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 401

octan-1-ol:

Acute oral toxicity : LD50 (Rat, male): 1,800 mg/kg
LD50 (Rat, female): 720 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 2.05 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: US EPA Test Guideline OPPTS 870.1300
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit, male and female): > 1,500 - < 2,000 mg/kg

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Product:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Mild skin irritation
GLP : yes

Remarks : May cause skin irritation in susceptible persons.

Components:

Abamectin:

Species : Rabbit
Assessment : Not classified as irritant
Method : OECD Test Guideline 404

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Result : slight or no skin irritation.

Distillates (petroleum), hydrotreated light paraffinic; Baseoil — unspecified:

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

Oxirane, methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-[(trimethylsilyl)oxy]disiloxanyl]propyl] ether:

Result : slight irritation

Tristyryl phenol-polyethylene glycol-phosphoric acid ester:

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

octan-1-ol:

Species	: Rabbit
Method	: OECD Test Guideline 404
Result	: Mild skin irritation

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Product:

Species	: Bovine cornea
Result	: not corrosive
Method	: OECD Test Guideline 437
GLP	: yes
Species	: Rabbit
Result	: No eye irritation
Method	: OECD Test Guideline 405
GLP	: yes
Remarks	: Minimal effects that do not meet the threshold for classification.
Remarks	: Vapours may cause irritation to the eyes, respiratory system and the skin.

Components:

Abamectin:

Species	: Rabbit
Result	: Slight or no eye irritation
Assessment	: Not classified as irritant
Method	: OECD Test Guideline 405

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Distillates (petroleum), hydrotreated light paraffinic; Baseoil — unspecified:

Species	: Rabbit
Result	: No eye irritation
Method	: OECD Test Guideline 405
Remarks	: Based on data from similar materials

Oxirane, methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-[(trimethylsilyl)oxy]disiloxanyl]propyl] ether:

Species	: Rabbit
Result	: Moderate eye irritation

Tristyryl phenol-polyethylene glycol-phosphoric acid ester:

Species	: Rabbit
Result	: Eye irritation
Method	: OECD Test Guideline 405

octan-1-ol:

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

Respiratory or skin sensitisation

Skin sensitisation

Based on available data, the classification criteria are not met.

Respiratory sensitisation

Based on available data, the classification criteria are not met.

Product:

Test Type	: Local lymph node assay (LLNA)
Exposure routes	: Skin contact
Species	: Mouse
Method	: OECD Test Guideline 429
Result	: Not a skin sensitizer.
GLP	: yes

Components:

Abamectin:

Exposure routes	: Skin contact
Species	: Guinea pig
Method	: OECD Test Guideline 406
Result	: Not a skin sensitizer.

Distillates (petroleum), hydrotreated light paraffinic; Baseoil — unspecified:

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

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Result : Not a skin sensitizer.
Remarks : Based on data from similar materials

Oxirane, methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-[(trimethylsilyl)oxy]disiloxanyl]propyl] ether:

Species : Guinea pig
Result : Not a skin sensitizer.

octan-1-ol:

Test Type : Maximisation Test
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Does not cause skin sensitisation.
Remarks : Based on data from similar materials

Chronic toxicity

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Components:

Abamectin:

Genotoxicity in vitro : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Genotoxicity in vivo : Test Type: Micronucleus test
Species: mice
Result: negative
GLP: yes

Germ cell mutagenicity - Assessment : No genotoxic potential

Distillates (petroleum), hydrotreated light paraffinic; Baseoil — unspecified:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Result: negative
Remarks: Based on data from similar materials

Test Type: reverse mutation assay
Test system: TA98
Metabolic activation: Metabolic activation
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Species: Mouse (male and female)
Application Route: Intraperitoneal injection

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Method: OECD Test Guideline 474
Result: negative
Remarks: Based on data from similar materials

Oxirane, methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-[(trimethylsilyl)oxy]disiloxanyl]propyl] ether:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Method: OECD Test Guideline 473
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Cell type: Bone marrow
Application Route: Intraperitoneal injection
Result: negative

octan-1-ol:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Test Type: reverse mutation assay
Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative

Germ cell mutagenicity - Assessment : Weight of evidence does not support classification as a germ cell mutagen.

Carcinogenicity

Based on available data, the classification criteria are not met.

Components:**Abamectin:**

Method : OECD Test Guideline 451
Remarks : Not classified

Method : OECD Test Guideline 453
Remarks : Not classified

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

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Distillates (petroleum), hydrotreated light paraffinic; Baseoil — unspecified:

Species	: Mouse
Application Route	: Dermal
Exposure time	: 78 weeks
Result	: negative
Remarks	: Based on data from similar materials

Reproductive toxicity

Suspected of damaging fertility or the unborn child.

Components:**Abamectin:**

Reproductive toxicity - Assessment	: Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.
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Distillates (petroleum), hydrotreated light paraffinic; Baseoil — unspecified:

Effects on fertility	: Test Type: reproductive and developmental toxicity study Species: Rat, male and female Application Route: Oral Early Embryonic Development: NOAEL: 1,000 mg/kg bw/day Method: OECD Test Guideline 421 Result: negative Remarks: Based on data from similar materials
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Effects on foetal development	: Test Type: Pre-natal Species: Rat Application Route: Dermal Teratogenicity: NOAEL: 2,000 mg/kg bw/day Symptoms: Maternal effects Result: negative Remarks: Based on data from similar materials
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octan-1-ol:

Effects on fertility	: Test Type: one-generation reproductive toxicity Species: Rat, male and female Application Route: Oral Dose: 10, 100, 1000 mg/kg bw/day General Toxicity - Parent: NOAEL: 1,000 mg/kg bw/day General Toxicity F1: NOAEL: 1,000 mg/kg bw/day Result: negative
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Effects on foetal development	: Species: Rat Application Route: Oral Dose: 0,130,650,975,1300 mg/kg bw/day Duration of Single Treatment: 20 d General Toxicity Maternal: LOAEL: 650 mg/kg bw/day Embryo-foetal toxicity: NOAEL: 1,300 mg/kg bw/day Symptoms: Maternal effects Method: OECD Test Guideline 414
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Reproductive toxicity - Assessment	: Weight of evidence does not support classification for repro-
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assessment

ductive toxicity

STOT - single exposure

Based on available data, the classification criteria are not met.

STOT - repeated exposure

May cause damage to organs (Nervous system) through prolonged or repeated exposure.

Components:

Abamectin:

Target Organs	:	Nervous system
Assessment	:	The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

octan-1-ol:

Assessment	:	The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
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Repeated dose toxicity

Components:

Abamectin:

Species	:	Dog
LOEL	:	0.5 mg/kg
Application Route	:	Oral
Exposure time	:	18 weeks
Method	:	OECD Test Guideline 409

Species	:	Rat
LOAEC	:	0.0027 mg/l
Application Route	:	Inhalation
Exposure time	:	30 d

Species	:	Rat, female
NOAEL	:	3.0 mg/kg
LOAEL	:	6.7 mg/kg
Application Route	:	Oral
Exposure time	:	28 d
Dose	:	0, 3, 6.7, 8.9, 11.5 mg/kg bw/day
Method	:	OECD Test Guideline 407
GLP	:	yes
Symptoms	:	Tremors, Fatality

Species	:	Rat, female
NOAEL	:	3.8 mg/kg
LOAEL	:	9.3 mg/kg
Application Route	:	Oral
Exposure time	:	90 d
Dose	:	0, 1.8, 3.8, 9.3, 9.6 mg/kg bw/day
Method	:	OECD Test Guideline 408
GLP	:	yes

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Distillates (petroleum), hydrotreated light paraffinic; Baseoil — unspecified:

Species	: Rat, male
LOAEL	: 125 mg/kg
Application Route	: Oral - gavage
Exposure time	: 13 weeks
Remarks	: Effects are of limited toxicological significance. Based on data from similar materials

Species	: Rat, male and female
NOAEC	: > 0.98 mg/l
Application Route	: inhalation (dust/mist/fume)
Exposure time	: 4 weeks
Remarks	: No significant adverse effects were reported Based on data from similar materials

Oxirane, methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-[(trimethylsilyl)oxy]disiloxanyl]propyl] ether:

Species	: Rat
NOAEL	: 200 mg/kg
Application Route	: Oral
Exposure time	: 28 d
Method	: OECD Test Guideline 407

octan-1-ol:

Species	: Rat, male
NOAEL	: 1127 mg/kg bw/day
Application Route	: Oral
Exposure time	: 13 Weeks
Dose	: 182, 374, 1127 mg/kg bw/day

Species	: Rat, female
NOAEL	: 1243 mg/kg bw/day
Application Route	: Oral
Exposure time	: 13 Weeks
Dose	: 216, 427, 1243 mg/kg bw/day

Aspiration toxicity

Based on available data, the classification criteria are not met.

Components:**Abamectin:**

No aspiration toxicity classification

Distillates (petroleum), hydrotreated light paraffinic; Baseoil — unspecified:

May be fatal if swallowed and enters airways.

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Further information**Product:**

Remarks : No data available

Components:**Abamectin:**

Remarks : Exposure causes symptoms of nervous system depression, such as pupil dilation, vomiting, excitation, incoordination, tremors, lethargy, coma. High doses cause death by respiratory failure.

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Product:**

Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): 0.14 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 NOEC (Oncorhynchus mykiss (rainbow trout)): 0.04 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): , 8 µg/l End point: Immobilization Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	: ErC50 (Pseudokirchneriella subcapitata (algae)): 57.4 mg/l Exposure time: 96 h Method: OECD Test Guideline 201 EyC50 (Pseudokirchneriella subcapitata (green algae)): 22.4 mg/l Exposure time: 96 h Method: OECD Test Guideline 201
Toxicity to soil dwelling organisms	: LC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg Exposure time: 14 d Method: OECD Test Guideline 207
Toxicity to terrestrial organisms	: LC50 (Apis mellifera (bees)): 0.0092 Exposure time: 48 h Method: OECD Test Guideline 213 Remarks: Oral LC50 (Apis mellifera (bees)): 0.0035 Exposure time: 48 h Method: OECD Test Guideline 214

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Remarks: Contact

Components:**Abamectin:**

- Toxicity to fish : LC50 (Danio rerio (zebra fish)): 0.027 - 0.044 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203
GLP: yes
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.0008 - 0.0015 mg/l
End point: Immobilization
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes
- EC50 (Daphnia magna (Water flea)): 0.0002 - 0.00028 mg/l
End point: Immobilization
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes
- EC50 (Daphnia pulex (Water flea)): 0.000159 mg/l
End point: Immobilization
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes
- NOEC (Daphnia pulex (Water flea)): 0.000089 mg/l
End point: Immobilization
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes
- Toxicity to algae/aquatic plants : EC50 (Scenedesmus capricornutum (fresh water algae)): 56.68 - 85.41 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: yes
- Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 0.0044 mg/l
Exposure time: 28 d
Method: OECD Test Guideline 210
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.00003 mg/l
End point: reproduction
Exposure time: 21 d
Method: OECD Test Guideline 202
- Toxicity to soil dwelling organisms : LC50 (Eisenia fetida (earthworms)): 14.24 - 18.37 mg/kg
Exposure time: 14 d
Method: OECD Test Guideline 207

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Method: OECD Test Guideline 216
Remarks: No significant adverse effect on nitrogen mineralization.

Method: OECD Test Guideline 217
Remarks: No significant adverse effect on carbon mineralization.

Toxicity to terrestrial organisms : LD50 (Apis mellifera (bees)): 0.00071 - 0.00099 µg/bee
Exposure time: 48 h
End point: Acute contact toxicity
Method: OECD Test Guideline 214

LD50 (Coturnix japonica (Japanese quail)): > 5000 ppm
Remarks: Dietary

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

Distillates (petroleum), hydrotreated light paraffinic; Baseoil — unspecified:

Toxicity to fish : LL50 (Pimephales promelas (fathead minnow)): > 100 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 24 h
Test Type: static test
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : NOELR (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOELR (Oncorhynchus mykiss (rainbow trout)): > 1,000 mg/l
Exposure time: 14 d
Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR (Daphnia magna (Water flea)): 10 mg/l
Exposure time: 21 d
Test Type: semi-static test
Method: OECD Test Guideline 211

Toxicity to microorganisms : NOEL: > 1.93 mg/l
Exposure time: 0.16 h

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Oxirane, methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-[(trimethylsilyl)oxy]disiloxanyl]propyl] ether:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2.1 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 1.1 mg/l
aquatic invertebrates Exposure time: 48 h

Toxicity to algae/aquatic : EC50 (Scenedesmus subspicatus): 28.2 mg/l
plants Exposure time: 72 h

EC50 (Scenedesmus subspicatus): 152.2 mg/l
Exposure time: 72 h

Tristyryl phenol-polyethylene glycol-phosphoric acid ester:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 100 - 500 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 100 mg/l
aquatic invertebrates Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic : NOEC (Desmodesmus subspicatus (green algae)): > 100 mg/l
plants Exposure time: 72 h
Method: OECD Test Guideline 201

EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

octan-1-ol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 13.3 mg/l
Exposure time: 96 h
Test Type: flow-through test

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 20 mg/l
aquatic invertebrates Exposure time: 24 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic : EC10 (Desmodesmus subspicatus (green algae)): 4.2 mg/l
plants Exposure time: 48 h
Test Type: static test

EC50 (Desmodesmus subspicatus (green algae)): 6.5 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to daphnia and other : NOEC (Daphnia magna (Water flea)): 1 mg/l
aquatic invertebrates (Chronic toxicity) Exposure time: 21 d
Method: OECD Test Guideline 211

Toxicity to microorganisms : (Protozoa): 44 mg/l

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Exposure time: 72 h
Test Type: Cell multiplication inhibition test
Remarks: Based on data from similar materials

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

Biodegradability : Result: Not readily biodegradable.
Remarks: It undergoes degradation in the environment and in waste water treatment plants.

Distillates (petroleum), hydrotreated light paraffinic; Baseoil — unspecified:

Biodegradability : Result: Inherently biodegradable.
Biodegradation: 31 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

Tristyryl phenol-polyethylene glycol-phosphoric acid ester:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 30 - 40 %
Method: OECD Test Guideline 302B

octan-1-ol:

Biodegradability : Inoculum: activated sludge
Result: Readily biodegradable.
Biodegradation: 82.2 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

Bioaccumulative potential**Product:**

Bioaccumulation : Remarks: No data available

Remarks: No data available

Components:**Abamectin:**

Bioaccumulation : Species: Danio rerio (zebra fish)
Bioconcentration factor (BCF): 54
Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water : log Pow: 5.5

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octan-1-ol:

Partition coefficient: n-octanol/water : log Pow: 3.5 (23 °C)
pH: 5.7

Mobility in soil

Components:

Abamectin:

Distribution among environmental compartments : Remarks: Mobile in soils

Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Abamectin)
Class : 9
Packing group : III
Labels : 9
Environmentally hazardous : no

IATA-DGR

UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
(Abamectin)

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Class : 9
Packing group : III
Labels : Miscellaneous
Packing instruction (cargo aircraft) : 964
Packing instruction (passenger aircraft) : 964

IMDG-Code

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Abamectin)

Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes
Remarks : Environmentally hazardous substances/Marine Pollutants in single or combination packaging containing a net quantity per single or inner packaging of 5 kg or less for solids, or having a net quantity per single or inner packaging of 5 L or less for liquids may be transported as non-dangerous goods as provided in special provision A197 of the IATA and section 2.10.2.7 of IMDG code.

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

Not applicable for product as supplied.

National Regulations

ADG

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Abamectin)
Class : 9
Packing group : III
Labels : 9
Hazchem Code : •3Z
Environmentally hazardous : no
Remarks : Environmentally hazardous substances meeting the descriptions of UN 3077 or UN 3082 are not subject to the ADG Code when transported by road or rail in packagings that do not incorporate a receptacle exceeding 500 kg / liters, or IBCs

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.

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SECTION 15. REGULATORY INFORMATION

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

Therapeutic Goods (Poisons Standard) Instrument : No poison schedule number allocated (Please use the original publication to check for specific uses, specific conditions or threshold limits that might apply for this chemical)

APVMA Code: 67524

Prohibition/Licensing Requirements : There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.

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

TCSI	: Not in compliance with the inventory
TSCA	: Product contains substance(s) not listed on TSCA inventory.
AIIC	: Not in compliance with the inventory
DSL	: This product contains the following components that are not on the Canadian DSL nor NDSL. Poly(oxy-1,2-ethanediyl), .alpha.-[2,4,6-tris(1-phenylethyl)phenyl]-.omega.-hydroxy-, phosphate, potassium salt Abamectin mixture of polyorganosiloxanes and fillers Oxirane, methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-[(trimethylsilyl)oxy]disiloxanyl]propyl] ether
ENCS	: Not in compliance with the inventory
ISHL	: Not in compliance with the inventory
KECI	: Not in compliance with the inventory
PICCS	: Not in compliance with the inventory
IECSC	: Not in compliance with the inventory
NZIoC	: Not in compliance with the inventory
TECI	: Not in compliance with the inventory

SECTION 16: ANY OTHER RELEVANT INFORMATION

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Full text of other abbreviations

ACGIH	: USA. ACGIH Threshold Limit Values (TLV)
AU OEL	: Australia. Workplace Exposure Standards for Airborne Contaminants.
ACGIH / TWA	: 8-hour, time-weighted average
AU OEL / TWA	: Exposure standard - time weighted average

AIIC - 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 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; TECI - 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

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