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Abamectin (with Propylene Glycol) Formulation

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Abamectin (with Propylene Glycol) Formulation

Manufacturer or supplier's details

Company : MSD

Address : Briahnager - Off Pune Nagar Road

Wagholi - Pune - India 412 207

Telephone : +1-908-740-4000

Emergency telephone number: +1-908-423-6000

E-mail address : EHSDATASTEWARD@msd.com

Recommended use of the chemical and restrictions on use

Recommended use : Veterinary product Restrictions on use : Not applicable

2. HAZARDS IDENTIFICATION

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989

Classification

Very highly flammable liquids

GHS Classification

Flammable liquids : Category 2

Acute toxicity (Oral) : Category 5

Acute toxicity (Inhalation) : Category 4

Serious eye damage/eye irri-

tation

Category 2A

Specific target organ toxicity - :

repeated exposure

Category 2 (Central nervous system)

Aspiration hazard : Category 2

Short-term (acute) aquatic

hazard

Category 1

Long-term (chronic) aquatic

hazard

Category 1

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GHS label elements

Hazard pictograms









Signal word : Danger

Hazard statements : H225 Highly flammable liquid and vapour.

H303 May be harmful if swallowed.

H305 May be harmful if swallowed and enters airways.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H373 May cause damage to organs (Central nervous system)

through prolonged or repeated exposure.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P260 Do not breathe mist or vapours.

P264+P265 Wash hands thoroughly after handling. Do not

touch eyes.

P271 Use only outdoors or with adequate ventilation.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protec-

tion/ face protection.

Response:

P301 + P316 IF SWALLOWED: Get emergency medical help

immediately.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water.

P304 + P340 + P317 IF INHALED: Remove person to fresh air

and keep comfortable for breathing. Get medical help.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and

easy to do. Continue rinsing.

P319 Get medical help if you feel unwell.

P331 Do NOT induce vomiting.

P337 + P317 If eye irritation persists: Get medical help.

P391 Collect spillage.

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

Vapours may form explosive mixture with air.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (%
		w/w)
1,3-Dioxan-5-ol	4740-78-7	>= 30 - < 50
Butanone	78-93-3	>= 10 - < 20
abamectin (combination of avermectin B1a and avermectin B1b) (ISO)	71751-41-2	>= 1 - < 2.5

4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical ad-

vice immediately.

When symptoms persist or in all cases of doubt seek medical

advice.

If inhaled : If inhaled, remove to fresh air.

If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

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 : In case of contact, immediately flush eyes with plenty of water

for at least 15 minutes.

If easy to do, remove contact lens, if worn.

Get medical attention.

If swallowed : If swallowed, DO NOT induce vomiting.

If vomiting occurs have person lean forward.

Call a physician or poison control centre immediately.

Rinse mouth thoroughly with water.

Never give anything by mouth to an unconscious person.

Most important symptoms

and effects, both acute and delayed

May be harmful if swallowed.

May be harmful if swallowed and enters airways.

Causes serious eye irritation.

Harmful if inhaled.

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.

5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water spray

Alcohol-resistant foam Carbon dioxide (CO2)

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Dry chemical

Unsuitable extinguishing

media

High volume water jet

Specific hazards during fire-

fighting

: Do not use a solid water stream as it may scatter and spread

fire.

Flash back possible over considerable distance. Vapours may form explosive mixtures with air.

Exposure to combustion products may be a hazard to health.

Hazardous combustion prod-

ucts

Carbon oxides

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances 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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emer-

gency procedures

Remove all sources of ignition.

Ventilate the area.

Use personal protective equipment.

Follow safe handling advice (see section 7) and personal pro-

tective 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

Non-sparking tools should be used.

Soak up with inert absorbent material.

Suppress (knock down) gases/vapours/mists with a water

spray jet.

For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absor-

bent.

Local or national regulations may apply to releases and disposal of this material, as well as those materials and items

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employed in the cleanup of releases. You will need to deter-

mine which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding

certain local or national requirements.

7. HANDLING AND STORAGE

Materials to avoid

Technical measures : See Engineering measures under EXPOSURE

CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust

ventilation.

Use explosion-proof electrical, ventilating and lighting equip-

ment.

Advice on safe handling : Do not breathe mist or vapours.

Do not swallow. Do not get in 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 as-

sessment

Non-sparking tools should be used. Keep container tightly closed.

Keep away from heat, hot surfaces, sparks, open flames and

other ignition sources. No smoking.

Take precautionary measures against static discharges. 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 labelled containers.

Store locked up. Keep tightly closed.

Keep in a cool, well-ventilated place.

Store in accordance with the particular national regulations.

Keep away from heat and sources of ignition. Do not store with the following product types:

Colf reactive substances and mixtures

Self-reactive substances and mixtures

Organic peroxides Oxidizing agents Flammable gases Pyrophoric liquids Pyrophoric solids

Self-heating substances and mixtures

Poisonous gases Explosives

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components CAS-No.	Value type	Control parame-	Basis	
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		(Form of exposure)	ters / Permissible concentration	
Butanone	78-93-3	TWA	200 ppm 590 mg/m3	IN OEL
		STEL	300 ppm 885 mg/m3	IN OEL
		TWA	75 ppm	ACGIH
		STEL	150 ppm	ACGIH
abamectin (combination of avermectin B1a and avermec- tin B1b) (ISO)	71751-41-2	TWA	15 μg/m3 (OEB 3)	Internal
		Wipe limit	150 µg/100 cm ²	Internal

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sam- pling time	Permissible concentration	Basis
Butanone	78-93-3	methyl ethyl ketone	Urine	End of shift (As soon as possible after exposure ceases)	2 mg/l	ACGIH BEI

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.

Use explosion-proof electrical, ventilating and lighting equipment.

Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or expo-

sure assessment demonstrates exposures outside the rec-

ommended guidelines, use respiratory protection.

Filter type Hand protection : Combined particulates and organic vapour type

and proteotion

Material : Chemical-resistant gloves

Remarks : Consider double gloving. Take note that the product is flam-

mable, which may impact the selection of hand protection.

Eye protection : Wear safety glasses with side shields or goggles.

If the work environment or activity involves dusty conditions,

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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

use of administrative controls.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : Colorless to pale yellow

Odour : characteristic

Odour Threshold : No data available

pH : No data available

Melting point/freezing point : < -66 °C

Initial boiling point and boiling :

range

82 °C

Flash point : 16 °C

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Flammability (liquids) : Not applicable

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower

flammability limit

No data available

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Vapour pressure : No data available

Relative vapour density : No data available

Relative density : 1.05 - 1.09

Density : No data available

Solubility(ies)

Water solubility : slightly soluble

Solubility in other solvents : soluble

Solvent: Ethanol

Partition coefficient: n-

octanol/water

Not applicable

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

Particle characteristics

Particle size : Not applicable

10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard. Chemical stability : Stable under normal conditions.

Possibility of hazardous reac-

tions

Stable under normal conditions.

Highly flammable liquid and vapour.

Vapours may form explosive mixture with air. Can react with strong oxidizing agents.

Conditions to avoid : Heat, flames and sparks.

Incompatible materials : Oxidizing agents

Hazardous decomposition

products

No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of :

exposure

Inhalation Skin contact Ingestion Eye contact

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Acute toxicity

May be harmful if swallowed.

Harmful if inhaled.

Product:

Acute oral toxicity : Acute toxicity estimate: 2,190 mg/kg

Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 2.3 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 5,000 mg/kg

Method: Calculation method

Components:

1,3-Dioxan-5-ol:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

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

Remarks: Based on data from similar materials

Butanone:

Acute oral toxicity : LD50 (Rat): > 2,000 - 5,000 mg/kg

Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 25.5 mg/l

Exposure time: 4 h
Test atmosphere: vapour

Method: OECD Test Guideline 436

Remarks: Based on data from similar materials

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

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Acute oral toxicity : LD50 (Rat): 24 mg/kg

LD50 (Mouse): 10 mg/kg

LDLo (Monkey): 24 mg/kg

Symptoms: Dilatation of the pupil

Acute inhalation toxicity : LC50 (Rat): 0.023 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): 330 mg/kg

LD50 (Rabbit): 2,000 mg/kg

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Skin corrosion/irritation

Not classified based on available information.

Components:

1,3-Dioxan-5-ol:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Remarks : Based on data from similar materials

Butanone:

Assessment : Repeated exposure may cause skin dryness or cracking.

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Remarks : Based on data from similar materials

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Species : Rabbit

Result : No skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

1,3-Dioxan-5-ol:

Species : Rabbit

Method : OECD Test Guideline 405

Result : Irritation to eyes, reversing within 21 days Remarks : Based on data from similar materials

Butanone:

Species : Rabbit

Method : OECD Test Guideline 405

Result : Irritation to eyes, reversing within 21 days

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Species : Rabbit

Result : Mild eye irritation

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

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Respiratory sensitisation

Not classified based on available information.

Components:

1,3-Dioxan-5-ol:

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

Butanone:

Test Type : Buehler Test Exposure routes : Skin contact Species : Guinea pig

Method : OECD Test Guideline 406

Result : negative

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Test Type : Maximisation Test Exposure routes : Skin contact

Result : Not a skin sensitizer.

Germ cell mutagenicity

Not classified based on available information.

Components:

1,3-Dioxan-5-ol:

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

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) Species: Mouse Result: negative

Remarks: Based on data from similar materials

Butanone:

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

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Result: negative

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Test Type: Chromosome aberration test in vitro

Result: negative

Test Type: DNA damage and repair, unscheduled DNA syn-

thesis in mammalian cells (in vitro)

Result: negative

Test Type: Saccharomyces cerevisiae, gene mutation assay

(in vitro)

Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) Species: Mouse

Application Route: Intraperitoneal injection

Result: negative

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

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

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster lung cells

Result: negative

Test Type: Alkaline elution assay

Result: negative

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow

cytogenetic test, chromosomal analysis)

Species: Mouse

Application Route: Intraperitoneal injection

Result: negative

Carcinogenicity

Not classified based on available information.

Components:

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Species: RatApplication Route: OralExposure time: 105 weeksResult: negative

Species : Mouse
Application Route : Oral
Exposure time : 93 weeks
Result : negative

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Reproductive toxicity

Not classified based on available information.

Components:

Butanone:

Effects on fertility : Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: Ingestion

Result: negative

Remarks: Based on data from similar materials

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Rat

Application Route: Inhalation Method: OECD Test Guideline 414

Result: negative

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Effects on fertility : Test Type: Fertility

Species: Rat, male Application Route: Oral Result: Effects on fertility

Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: Oral

Early Embryonic Development: NOAEL: 0.12 mg/kg body

weight

Result: Fetotoxicity

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Mouse Application Route: Oral

General Toxicity Maternal: NOAEL: 0.05 mg/kg body weight Developmental Toxicity: NOAEL: 0.2 mg/kg body weight

Result: Cleft palate

Remarks: Adverse developmental effects were observed

Test Type: Embryo-foetal development

Species: Rabbit Application Route: Oral

Developmental Toxicity: LOAEL: 2 mg/kg body weight Result: Cleft palate, Teratogenic effects, Reduced embryonic

survival

Remarks: Adverse developmental effects were observed

Test Type: Development

Species: Rat

Application Route: Oral

Developmental Toxicity: LOAEL: 1.6 mg/kg body weight

Result: Teratogenic effects

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Reproductive toxicity - As-

sessment

Some evidence of adverse effects on sexual function and fertility, based on animal experiments., Some evidence of adverse effects on development, based on animal experi-

ments.

STOT - single exposure

Not classified based on available information.

Components:

Butanone:

Assessment : May cause drowsiness or dizziness.

STOT - repeated exposure

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

Components:

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Exposure routes : Ingestion

Target Organs : Central nervous system

Assessment : Causes damage to organs through prolonged or repeated

exposure.

Repeated dose toxicity

Components:

Butanone:

Species : Rat

NOAEL : 14.84 mg/l

Application Route : inhalation (vapour)

Exposure time : 90 Days

Method : OECD Test Guideline 413

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Species : Rat
NOAEL : 1.5 mg/kg
Application Route : Oral
Exposure time : 24 Months

Target Organs : Central nervous system

Symptoms : Tremors, ataxia

Species : Mouse
NOAEL : 4.0 mg/kg
Application Route : Oral
Exposure time : 24 Months

Target Organs : Central nervous system

Symptoms : Tremors, ataxia

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Species : Dog
NOAEL : 0.25 mg/kg
LOAEL : 0.5 mg/kg
Application Route : Oral
Exposure time : 53 Weeks

Target Organs : Central nervous system
Symptoms : Tremors, weight loss
Remarks : mortality observed

Species : Monkey
NOAEL : 1.0 mg/kg
Application Route : Oral
Exposure time : 14 Weeks

Target Organs : Central nervous system

Aspiration toxicity

May be harmful if swallowed and enters airways.

Components:

Butanone:

The substance or mixture causes concern owing to the assumption that it causes a human aspiration toxicity hazard.

Experience with human exposure

Components:

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Ingestion : Symptoms: May cause, Tremors, Diarrhoea, central nervous

system effects, Salivation, tearing

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

1,3-Dioxan-5-ol:

Toxicity to fish : LL50 (Pimephales promelas (fathead minnow)): > 100 mg/l

Exposure time: 96 h

Remarks: Based on data from similar materials

Toxicity to daphnia and other:

aquatic invertebrates

EL50 (Daphnia magna (Water flea)): > 100 mg/l

Exposure time: 48 h

Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

: EL50 (Pseudokirchneriella subcapitata (green algae)): > 100

mg/l

Exposure time: 72 h

Remarks: Based on data from similar materials

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NOELR (Pseudokirchneriella subcapitata (green algae)): > 1

mg/l

Exposure time: 72 h

Remarks: Based on data from similar materials

Toxicity to microorganisms : EC10: > 1,000 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

Remarks: Based on data from similar materials

Butanone:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 2,993 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 308 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): 2,029

mg/I

Exposure time: 96 h

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 1,240

mg/l

Exposure time: 96 h

Method: OECD Test Guideline 201

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 3.2 μg/l

Exposure time: 96 h

LC50 (Lepomis macrochirus (Bluegill sunfish)): 9.6 µg/l

Exposure time: 96 h

LC50 (Ictalurus punctatus (channel catfish)): 24 µg/l

Exposure time: 96 h

LC50 (Cyprinus carpio (Carp)): 42 µg/l

Exposure time: 96 h

LC50 (Cyprinodon variegatus (sheepshead minnow)): 15 µg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Americamysis): 0.022 µg/l

Exposure time: 96 h

EC50 (Daphnia magna (Water flea)): 0.34 μg/l

Exposure time: 48 h

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Toxicity to algae/aquatic

EC50 (Pseudokirchneriella subcapitata (green algae)): 100

plants

Exposure time: 72 h

M-Factor (Acute aquatic tox- :

icity)

10,000

Toxicity to microorganisms

: EC50: > 1,000 mg/l Exposure time: 3 h

Test Type: Respiration inhibition

Toxicity to fish (Chronic tox-

icity)

NOEC: 0.52 µg/l

Exposure time: 32 d

Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other : NOEC: 0.03 µg/l aquatic invertebrates (Chron-

ic toxicity)

Exposure time: 21 d

Species: Daphnia magna (Water flea)

NOEC: 0.0035 µg/l Exposure time: 28 d

Species: Mysidopsis bahia (opossum shrimp)

M-Factor (Chronic aquatic

toxicity)

: 10,000

Persistence and degradability

Components:

1,3-Dioxan-5-ol:

Biodegradability Result: Inherently biodegradable.

Remarks: Based on data from similar materials

Butanone:

Biodegradability Result: Readily biodegradable.

> Biodegradation: 98 % Exposure time: 28 d

Method: OECD Test Guideline 301D

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Stability in water Hydrolysis: 50 %(< 12 h)

Bioaccumulative potential

Components:

1,3-Dioxan-5-ol:

Partition coefficient: n-

: log Pow: -0.65

octanol/water

according to the Globally Harmonized System



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Butanone:

Partition coefficient: n-

octanol/water

log Pow: 0.3

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Bioaccumulation : Bioconcentration factor (BCF): 52

Partition coefficient: n-

octanol/water

: log Pow: 4

Mobility in soil

Components:

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Distribution among environ-

mental compartments

: log Koc: > 3.6

Other adverse effects

No data available

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 han-

dling site for recycling or disposal.

Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 1993

Proper shipping name : FLAMMABLE LIQUID, N.O.S.

(Butanone)

Class : 3
Packing group : II
Labels : 3
Environmentally hazardous : no

IATA-DGR

UN/ID No. : UN 1993

Proper shipping name : Flammable liquid, n.o.s.

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(Butanone)

Class : 3 Packing group : II

Labels : Flammable Liquids

Packing instruction (cargo : 364

aircraft)

Packing instruction (passen: 353

ger aircraft)

IMDG-Code

UN number : UN 1993

Proper shipping name : FLAMMABLE LIQUID, N.O.S.

(Butanone, abamectin (combination of avermectin B1a and

avermectin B1b) (ISO))

Class : 3
Packing group : II
Labels : 3
EmS Code : F-E, S-E
Marine pollutant : yes

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

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.

15. REGULATORY INFORMATION

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

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

AICS : not determined

DSL : not determined

IECSC : not determined

16. OTHER INFORMATION

Revision Date : 28.09.2024

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 Agen-

cy, http://echa.europa.eu/

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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Date format : dd.mm.yyyy

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)

IN OEL : India. Permissible levels of certain chemical substances in

work environment.

ACGIH / TWA : 8-hour, time-weighted average ACGIH / STEL : Short-term exposure limit

IN OEL / TWA : Time-Weighted Average Concentration (TWA) (8 hrs.)

IN OEL / STEL : Short-term exposure Limit STEL (15 min)

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

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.

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