

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version: 2.0 Revision Date: 22.02.2022 SDS Number: 50002157 Date of last issue: -
Date of first issue: 19.02.2019

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name RUGBY® 10 ME (EW)

Other means of identification

Product code 50002157

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

Use of the Sub- : Insecticide
stance/Mixture

Recommended restrictions : Use as recommended by the label.
on use

1.3 Details of the supplier of the safety data sheet

Supplier Address

FMC Chemicals (Pty) Ltd
Company Registration Number: 1988/001451/07
West End Office Park, Building C
Cnr. West Ave & Hall Street
Centurion, 0014

E-mail address: SDS-Info@fmc.com (E-Mail General Information)

1.4 Emergency telephone

For leak, fire, spill or accident emergencies, call:
South Africa: 0-800-983-611 (CHEMTREC)

Medical emergency:
For any emergency or poisoning contact: Griffon Poison Information Centre (24 hrs) - +27-(0)-82-446-8946

SECTION 2: Hazards identification

2.1 **Classification of the substance or mixture**

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4 H302: Harmful if swallowed.

Acute toxicity, Category 4 H332: Harmful if inhaled.

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version 2.0 Revision Date: 22.02.2022 SDS Number: 50002157 Date of last issue: -
Date of first issue: 19.02.2019

Acute toxicity, Category 3	H311: Toxic in contact with skin.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Specific target organ toxicity - single exposure, Category 2	H371: May cause damage to organs.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labeling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H302 + H332 Harmful if swallowed or if inhaled.
H311 Toxic in contact with skin.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H371 May cause damage to organs.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**
P260 Do not breathe mist or vapors.
P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
Response:
P302 + P352 + P312 IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/ doctor if you feel unwell.
P391 Collect spillage.

Hazardous ingredients which must be listed on the label:
S,S-di-sec-butyl O-ethyl phosphorodithioate
Naphthenic acids, copper salts

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version 2.0 Revision Date: 22.02.2022 SDS Number: 50002157 Date of last issue: -
 Date of first issue: 19.02.2019

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
S,S-di-sec-butyl O-ethyl phosphorodithioate	95465-99-9	Acute Tox. 2; H300 Acute Tox. 1; H330 Acute Tox. 1; H310 STOT SE 1; H370 (Central nervous system, Peripheral nervous system) STOT RE 1; H372 (Central nervous system, Peripheral nervous system) Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 100 M-Factor (Chronic aquatic toxicity): 100	>= 2.5 - < 10
Tristyrylphenol ethoxylates	99734-09-5	Aquatic Chronic 3; H412	>= 2.5 - < 10
Naphthenic acids, copper salts	1338-02-9 215-657-0 029-003-00-5	Flam. Liq. 3; H226 Acute Tox. 3; H301 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 0.1 - < 0.25
2-ethylhexanoic acid, copper salt	22221-10-9 244-846-0	Acute Tox. 4; H312 Eye Dam. 1; H318 Repr. 2; H361 Aquatic Chronic 1;	>= 0.1 - < 0.25

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version 2.0 Revision Date: 22.02.2022 SDS Number: 50002157 Date of last issue: -
Date of first issue: 19.02.2019

		H410	
		M-Factor (Chronic aquatic toxicity): 1	

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

- General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Symptoms of poisoning may appear several hours later.
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 : Take victim immediately to hospital.
If on skin, rinse well with water.
If on clothes, remove clothes.
- In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : Clean mouth with water and drink afterwards plenty of water.
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.

4.2 Most important symptoms and effects, both acute and delayed

- Risks : Harmful if swallowed or if inhaled.
Toxic in contact with skin.
Causes skin irritation.
Causes serious eye irritation.
May cause damage to organs.
May cause damage to organs through prolonged or repeated exposure.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version	Revision Date:	SDS Number:	Date of last issue: -
2.0	22.02.2022	50002157	Date of first issue: 19.02.2019

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media : Carbon dioxide (CO₂)
- Unsuitable extinguishing media : Do not spread spilled material with high-pressure water streams.

5.2 Special hazards arising from the substance or mixture

- Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Chlorine compounds
Carbon oxides
Nitrogen oxides (NO_x)
Oxides of phosphorus
Sulfur oxides

5.3 Advice for firefighters

- Special protective equipment for fire-fighters : Firefighters should wear protective clothing and self-contained breathing apparatus.
- Further information : 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.
For safety reasons in case of fire, cans should be stored separately in closed containments.
Use a water spray to cool fully closed containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Use personal protective equipment.
If it can be safely done, stop the leak.
Do not touch or walk through the spilled material.
Ensure adequate ventilation.

6.2 Environmental precautions

- Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

- Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version 2.0 Revision Date: 22.02.2022 SDS Number: 50002157 Date of last issue: -
Date of first issue: 19.02.2019

Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Advice on safe handling : Avoid formation of aerosol.
Do not breathe vapors/dust.
Avoid exposure - obtain special instructions before use.
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.
- 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.
- Hygiene measures : Avoid contact with skin, eyes and clothing. Do not breathe dust or spray mist. When using do not eat or drink. When using do not smoke. Wash hands before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers : Prevent unauthorized access. 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.

7.3 Specific end use(s)

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Routes of exposure	Potential health effects	Value
Naphthenic acids, copper salts	Workers	Inhalation	Long-term systemic effects	0.63 mg/m ³

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version 2.0 Revision Date: 22.02.2022 SDS Number: 50002157 Date of last issue: -
Date of first issue: 19.02.2019

	Workers	Dermal	Long-term systemic effects	0.36 mg/m3
	Consumers	Inhalation	Long-term systemic effects	0.16 mg/m3
	Consumers	Dermal	Long-term systemic effects	0.18 mg/kg
	Consumers	Oral	Long-term systemic effects	0.18 mg/kg
2-ethylhexanoic acid, copper salt	Workers	Inhalation	Long-term systemic effects	0.69 mg/m3
	Workers	Dermal	Long-term systemic effects	0.390 mg/kg
	Consumers	Inhalation	Long-term systemic effects	0.170 mg/m3
	Consumers	Dermal	Long-term systemic effects	0.2 mg/kg
	Consumers	Oral	Long-term systemic effects	0.2 mg/kg

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Naphthenic acids, copper salts	Fresh water	5.62 µg/l
	Sea water	0.562 µg/l
	Fresh water sediment	28 mg/kg
	Sea sediment	2.8 mg/kg
	Soil	5.6 mg/kg
	Sewage treatment plant	130 µg/l
2-ethylhexanoic acid, copper salt	Fresh water	0.04105 mg/l
	Intermittent use/release	0.493 mg/l
	Sea water	0.02737 mg/l
	Sewage treatment plant	1.21 mg/l
	Fresh water sediment	457.9 mg/kg dry weight (d.w.)
	Sea sediment	3557.9 mg/kg dry weight (d.w.)
	Soil	342.1 mg/kg dry weight (d.w.)

8.2 Exposure controls

Personal protective equipment

- Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.
- Hand protection
Material : Protective gloves
- Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

SAFETY DATA SHEET

RUGBY® 10 ME (EW)



Version	Revision Date:	SDS Number:	Date of last issue: -
2.0	22.02.2022	50002157	Date of first issue: 19.02.2019

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Color	:	green
Odor	:	characteristic
Odor Threshold	:	No data available
pH	:	No data available
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	> 79 °C Method: closed cup
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	No data available
Density	:	No data available
Solubility(ies)	:	
Water solubility	:	emulsifiable
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	4.77 mm ² /s (40 °C)
Explosive properties	:	Not explosive

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version	Revision Date:	SDS Number:	Date of last issue: -
2.0	22.02.2022	50002157	Date of first issue: 19.02.2019

Oxidizing properties : Non-oxidizing

9.2 Other information

Self-ignition : No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions : No decomposition if stored and applied as directed.

Vapors may form explosive mixture with air.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

Avoid extreme temperatures
Avoid formation of aerosol.

10.5 Incompatible materials

Materials to avoid : Avoid strong acids, bases, and oxidizers.

10.6 Hazardous decomposition products

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Harmful if swallowed or if inhaled.

Toxic in contact with skin.

Product:

Acute oral toxicity : LD50 (Rat): 371 mg/kg

Acute inhalation toxicity : LC50 (Rat): 2.02 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): 761 mg/kg

Components:

S,S-di-sec-butyl O-ethyl phosphorodithioate:

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version 2.0 Revision Date: 22.02.2022 SDS Number: 50002157 Date of last issue: -
Date of first issue: 19.02.2019

Acute oral toxicity : LD50 (Rat): 37.1 mg/kg
LD50 (Mouse): 71.4 mg/kg
Acute toxicity estimate: 37.1 mg/kg
Method: Calculation method

Acute inhalation toxicity : LC50 (Rat): 0.026 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Acute toxicity estimate: 0.026 mg/l
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity : LD50 (Rabbit, male): 24.4 mg/kg
LD50 (Rabbit, female): 41.8 mg/kg
Acute toxicity estimate: 24.4 mg/kg
Method: Calculation method

Tristyrylphenol ethoxylates:

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

Naphthenic acids, copper salts:

Acute oral toxicity : LD50 (Rat, male and female): 300 - 500 mg/kg
Method: OECD Test Guideline 423
Remarks: Based on data from similar materials
Acute toxicity estimate: 300 mg/kg
Method: Calculation method

Acute dermal toxicity : LD50 (Rabbit, male and female): 3,160 mg/kg
Method: OECD Test Guideline 402
Symptoms: Lethargy, Diarrhea, anorexia
Remarks: Based on data from similar materials

2-ethylhexanoic acid, copper salt:

Acute oral toxicity : LD50 Oral (Rat, female): 2,043 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat, male and female): 2,000 mg/kg
Method: OECD Test Guideline 402
Acute toxicity estimate: 2,000 mg/kg

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version	Revision Date:	SDS Number:	Date of last issue: -
2.0	22.02.2022	50002157	Date of first issue: 19.02.2019

Method: Calculation method

Skin corrosion/irritation

Causes skin irritation.

Product:

Assessment : Irritating to skin.

Remarks : May cause skin irritation in susceptible persons.

Components:

S,S-di-sec-butyl O-ethyl phosphorodithioate:

Species : Rabbit
Result : No skin irritation

Tristyrylphenol ethoxylates:

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

Naphthenic acids, copper salts:

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

2-ethylhexanoic acid, copper salt:

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

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Assessment : Irritating to eyes.

Remarks : May cause irreversible eye damage.

Components:

S,S-di-sec-butyl O-ethyl phosphorodithioate:

Species : Rabbit
Result : No eye irritation

Tristyrylphenol ethoxylates:

Species : Rabbit
Method : OECD Test Guideline 405
Result : No eye irritation

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version 2.0 Revision Date: 22.02.2022 SDS Number: 50002157 Date of last issue: -
Date of first issue: 19.02.2019

Naphthenic acids, copper salts:

Method : in vitro eye irritation test
Result : No eye irritation

2-ethylhexanoic acid, copper salt:

Species : Bovine cornea
Method : OECD Test Guideline 437
Result : Irreversible effects on the eye

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Product:

Assessment : Not a skin sensitizer.

Components:

S,S-di-sec-butyl O-ethyl phosphorodithioate:

Result : Not a skin sensitizer.

Naphthenic acids, copper salts:

Test Type : Maximization Test
Species : Guinea pig
Result : Causes sensitization.
Remarks : Based on data from similar materials

2-ethylhexanoic acid, copper salt:

Test Type : Open epicutaneous test
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Does not cause skin sensitization.

Germ cell mutagenicity

Not classified based on available information.

Components:

Tristyrylphenol ethoxylates:

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

Genotoxicity in vivo : Remarks: No data available

Naphthenic acids, copper salts:

Genotoxicity in vitro : Test Type: reverse mutation assay

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version 2.0 Revision Date: 22.02.2022 SDS Number: 50002157 Date of last issue: -
Date of first issue: 19.02.2019

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Application Route: Ingestion
Exposure time: 48 h
Method: Mutagenicity (micronucleus test)
Result: negative
Remarks: Based on data from similar materials

2-ethylhexanoic acid, copper salt:

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: Mutagenicity (Escherichia coli - reverse mutation assay)
Result: negative
GLP: yes

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Application Route: Oral
Method: Mutagenicity (micronucleus test)
Result: negative

Carcinogenicity

Not classified based on available information.

Components:

S,S-di-sec-butyl O-ethyl phosphorodithioate:

Remarks : No significant adverse effects were reported

Reproductive toxicity

Not classified based on available information.

Components:

S,S-di-sec-butyl O-ethyl phosphorodithioate:

Effects on fertility : Remarks: No significant adverse effects were reported

Naphthenic acids, copper salts:

Effects on fertility : Species: Rat, male and female
Application Route: Ingestion
Method: OECD Test Guideline 416
Result: negative
Remarks: Based on data from similar materials

Species: Rat, male and female
Application Route: Ingestion
General Toxicity F1: NOAEL: 100 mg/kg body weight
Remarks: Based on data from similar materials

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version	Revision Date:	SDS Number:	Date of last issue: -
2.0	22.02.2022	50002157	Date of first issue: 19.02.2019

Effects on fetal development : Species: Rabbit
Application Route: Ingestion
General Toxicity Maternal: NOAEL: 7.5 mg/kg body weight
Developmental Toxicity: NOAEL: 15 mg/kg body weight
Target Organs: Stomach, Kidney
Method: OECD Test Guideline 414
Result: positive
Remarks: Based on data from similar materials

2-ethylhexanoic acid, copper salt:

Effects on fertility : Test Type: reproductive and developmental toxicity study
Species: Rat
Application Route: Oral

Effects on fetal development : Test Type: reproductive and developmental toxicity study
Species: Rabbit
Application Route: Oral

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

STOT-single exposure

May cause damage to organs.

Components:

S,S-di-sec-butyl O-ethyl phosphorodithioate:

Target Organs : Central nervous system, Peripheral nervous system
Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 1.

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Components:

S,S-di-sec-butyl O-ethyl phosphorodithioate:

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

Repeated dose toxicity

Components:

Naphthenic acids, copper salts:

Species : Mouse, male and female
NOAEL : 1,000 mg/l
LOAEL : 2,000 mg/l
Application Route : Ingestion
Method : Regulation (EC) No. 440/2008, Annex, B.26
Remarks : Based on data from similar materials

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version 2.0 Revision Date: 22.02.2022 SDS Number: 50002157 Date of last issue: -
Date of first issue: 19.02.2019

2-ethylhexanoic acid, copper salt:

Species : Mouse
NOAEL : 180 - 205 mg/kg
Application Route : Oral
Exposure time : 13 weeks

Species : Rat
NOAEL : 2 mg/l
Application Route : Inhalation
Exposure time : 28 d
Method : OECD Test Guideline 412

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks : No data available

SECTION 12: Ecological information

12.1 Toxicity

Components:

S,S-di-sec-butyl O-ethyl phosphorodithioate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.13 mg/l
Exposure time: 96 h

LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.17 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia): 0.0013 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (algae): 5.3 mg/l
Exposure time: 96 h

M-Factor (Acute aquatic toxicity) : 100

Toxicity to fish (Chronic toxicity) : NOEC: 0.0052 mg/l
Exposure time: 21 d
Species: Fish

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.00023 mg/l
Exposure time: 21 d

M-Factor (Chronic aquatic toxicity) : 100

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version 2.0 Revision Date: 22.02.2022 SDS Number: 50002157 Date of last issue: -
Date of first issue: 19.02.2019

Toxicity to terrestrial organisms : LD50: 1.08 µg/bee
Species: Apis mellifera (bees)
Remarks: Contact

LD50: 2.07 µg/bee
Species: Apis mellifera (bees)
Remarks: Oral

LD50: 16.1 mg/kg
Species: Colinus virginianus (Bobwhite quail)

Tristyrylphenol ethoxylates:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): 21 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to microorganisms :
Remarks: No data available

Naphthenic acids, copper salts:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 38.4 µg/l
Exposure time: 96 h
Test Type: flow-through test
Remarks: Based on data from similar materials

LC50 (Pimephales promelas (fathead minnow)): 5.62 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 20 mg/l
Exposure time: 48 h
Test Type: semi-static test
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 29.6 mg/l
Exposure time: 72 h
Test Type: Growth inhibition
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

M-Factor (Acute aquatic toxicity) : 10

Toxicity to microorganisms : EC50 (Vibrio fischerii (Bacteria)): 13 mg/l
Exposure time: 48 h
Remarks: Based on data from similar materials

Toxicity to fish (Chronic toxicity) : NOEC: 18.9 µg/l
Exposure time: 7 d
Species: Pimephales promelas (fathead minnow)

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version 2.0 Revision Date: 22.02.2022 SDS Number: 50002157 Date of last issue: -
Date of first issue: 19.02.2019

NOEC: 120 µg/l
End point: mortality
Exposure time: 64 d
Species: Fish
Method: OECD Test Guideline 204

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 6.3 µg/l
Exposure time: 7 d
Species: Ceriodaphnia dubia (water flea)
Remarks: Based on data from similar materials

NOEC: 4 µg/l
Exposure time: 7 d
Species: Ceriodaphnia dubia (water flea)
Remarks: Based on data from similar materials

M-Factor (Chronic aquatic toxicity) : 10

2-ethylhexanoic acid, copper salt:

Toxicity to fish : LC50 (Oryzias latipes (Orange-red killifish)): 180 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 85.4 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : NOEC (Lemna minor (duckweed)): 0.030 mg/l
Exposure time: 7 d
Remarks: Based on data from similar materials

NOEC (Desmodesmus subspicatus (green algae)): 49.3 mg/l
Exposure time: 96 h

Toxicity to microorganisms : EC50 (Pseudomonas putida): 112.1 mg/l
Exposure time: 17 h
Method: DIN 38 412 Part 8

Toxicity to fish (Chronic toxicity) : NOEC: 0.0022 mg/l
Species: Oncorhynchus mykiss (rainbow trout)
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 25 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

Chronic Toxicity Value: 75 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

Chronic Toxicity Value: 63 mg/l
Exposure time: 21 d

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version 2.0 Revision Date: 22.02.2022 SDS Number: 50002157 Date of last issue: -
Date of first issue: 19.02.2019

Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 1

12.2 Persistence and degradability

Components:

Tristyrylphenol ethoxylates:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 8 %
Exposure time: 28 d
Method: OECD Test Guideline 301

Naphthenic acids, copper salts:

Biodegradability : Result: Inherently biodegradable.
Remarks: Based on data from similar materials

2-ethylhexanoic acid, copper salt:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 99 %
Exposure time: 28 d
Method: OECD Test Guideline 301E

12.3 Bioaccumulative potential

Components:

S,S-di-sec-butyl O-ethyl phosphorodithioate:

Bioaccumulation : Bioconcentration factor (BCF): 220

Partition coefficient: n-octanol/water : log Pow: 3.9

Tristyrylphenol ethoxylates:

Partition coefficient: n-octanol/water : Remarks: No data available

Naphthenic acids, copper salts:

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)
Exposure time: 4 d
Bioconcentration factor (BCF): 2

Partition coefficient: n-octanol/water : log Pow: 7.65

2-ethylhexanoic acid, copper salt:

Partition coefficient: n-octanol/water : log Pow: 2.96

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version 2.0 Revision Date: 22.02.2022 SDS Number: 50002157 Date of last issue: -
Date of first issue: 19.02.2019

12.4 Mobility in soil

Components:

S,S-di-sec-butyl O-ethyl phosphorodithioate:

Distribution among environmental compartments : Remarks: Moderately mobile in soils

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Product:

Endocrine disrupting potential : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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

13.1 Waste treatment methods

Product : 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

14.1 UN number

IMDG : UN 3018

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version	Revision Date:	SDS Number:	Date of last issue: -
2.0	22.02.2022	50002157	Date of first issue: 19.02.2019

IATA : UN 3018

14.2 UN proper shipping name

IMDG : ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC (Cadusafos)

IATA : Organophosphorus pesticide, liquid, toxic (Cadusafos)

14.3 Transport hazard class(es)

IMDG : 6.1

IATA : 6.1

14.4 Packing group

IMDG
Packing group : III
Labels : 6.1
EmS Code : F-A, S-A

IATA (Cargo)
Packing instruction (cargo aircraft) : 663
Packing instruction (LQ) : Y642
Packing group : III
Labels : Toxic

IATA (Passenger)
Packing instruction (passenger aircraft) : 655
Packing instruction (LQ) : Y642
Packing group : III
Labels : Toxic

14.5 Environmental hazards

IMDG
Marine pollutant : yes

14.6 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.

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

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

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

TCSI : On the inventory, or in compliance with the inventory

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version 2.0 Revision Date: 22.02.2022 SDS Number: 50002157 Date of last issue: -
Date of first issue: 19.02.2019

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. S,S-DI-SEC-BUTYL O-ETHYL PHOSPHORODITHIOATE
ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory
KECI	:	On the inventory, or 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

15.2 Chemical Safety Assessment

SECTION 16: Other information

Full text of H-Statements

H226	:	Flammable liquid and vapor.
H300	:	Fatal if swallowed.
H301	:	Toxic if swallowed.
H310	:	Fatal in contact with skin.
H312	:	Harmful in contact with skin.
H318	:	Causes serious eye damage.
H330	:	Fatal if inhaled.
H361	:	Suspected of damaging fertility or the unborn child.
H370	:	Causes damage to organs.
H372	:	Causes damage to organs through prolonged or repeated exposure.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Dam.	:	Serious eye damage
Flam. Liq.	:	Flammable liquids
Repr.	:	Reproductive toxicity
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version 2.0 Revision Date: 22.02.2022 SDS Number: 50002157 Date of last issue: -
Date of first issue: 19.02.2019

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; 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

Other information :

Classification of the mixture:

Acute Tox. 4	H302
Acute Tox. 4	H332
Acute Tox. 3	H311
Skin Irrit. 2	H315
Eye Irrit. 2	H319
STOT SE 2	H371
STOT RE 2	H373
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Classification procedure:

Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
Calculation method
Calculation method
Calculation method
Calculation method

Disclaimer

FMC Corporation believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. You can contact FMC Corporation to insure that this document is the most current available from FMC Corporation. No warranty of fit-

SAFETY DATA SHEET



RUGBY® 10 ME (EW)

Version	Revision Date:	SDS Number:	Date of last issue: -
2.0	22.02.2022	50002157	Date of first issue: 19.02.2019

ness for any particular purpose, warranty of merchantability or any other warranty, expressed or implied, is made concerning the information provided herein. The information provided herein relates only to the specified product designated and may not be applicable where such product is used in combination with any other materials or in any process. The user is responsible for determining whether the product is fit for a particular purpose and suitable for the user's conditions and methods of use. Since the conditions and methods of use are beyond the control of FMC Corporation, FMC Corporation expressly disclaims any and all liability as to any results obtained or arising from any use of the products or reliance on such information.

Prepared by

FMC Corporation

FMC Logo - Trademark of FMC Corporation

© 2021 FMC Corporation. All Rights Reserved.

ZA / EN