According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

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

1.1 Product identifier

Product name VALIANT®

Other means of identification

Product code 50002096

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

Use of the Sub- : Fungicide

stance/Mixture

Recommended restrictions

on use

Use as recommended by the label.

1.3 Details of the supplier of the safety data sheet

<u>Supplier Address</u> FMC Agro Limited

Rectors Lane, Pentre

Flintshire CH5 2DH United Kingdom

Telephone: + 44 1244 537370 E-mail address: SDS-Info@fmc.com .

1.4 Emergency telephone number

For leak, fire, spill or accident emergencies, call: England and Wales: 44-870-8200418 (CHEMTREC)

Medical emergency: England and Wales: 111 Scotland: 84 54 24 2424

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Short-term (acute) aquatic hazard, Cate- H400: Very toxic to aquatic life.

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

gory 1

Long-term (chronic) aquatic hazard, Cat-

egory 1

H410: Very toxic to aquatic life with long lasting

effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms

*

Signal word : Warning

Hazard statements : H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : Prevention:

P273 Avoid release to the environment.

Response:

P391 Collect spillage.

Disposal:

P501 Dispose of contents/container as hazardous waste in

accordance with local regulations.

Additional Labelling

EUH208 Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

EUH401 To avoid risks to human health and the environment, comply with the instruc-

tions for use.

For special phrases (SP) and safety intervals, consult the label.

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.

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No.	Classification	Concentration	
	EC-No.		(% w/w)	
	Index-No.			
(100)	Registration number	A T O . I 1004	00 05	
azoxystrobin (ISO)	131860-33-8	Acute Tox. 3; H331	>= 20 - < 25	
	607-256-00-8	Aquatic Acute 1; H400		
	007-230-00-0	Aquatic Chronic 1;		
		H410		
		M-Factor (Acute		
		aquatic toxicity): 10		
		M-Factor (Chronic		
Decited (setudent) and the con-	00405 04 5	aquatic toxicity): 10	0.5 40	
Residues (petroleum), catalytic reformer fractionator, sulfonated, poly-	68425-94-5	Eye Irrit. 2; H319 Aquatic Chronic 3;	>= 2.5 - < 10	
mers with formaldehyde, sodium		H412		
salts		11412		
1,2-benzisothiazol-3(2H)-one	2634-33-5	Acute Tox. 4; H302	>= 0.0025 - <	
	220-120-9	Acute Tox. 2; H330	0.025	
	613-088-00-6	Skin Irrit. 2; H315		
		Eye Dam. 1; H318		
		Skin Sens. 1A;		
		H317		
		Aquatic Acute 1;		
		H400 Aquatic Chronic 1;		
		H410		
		M-Factor (Acute		
		aquatic toxicity): 1		
		M-Factor (Chronic		
		aquatic toxicity): 1		
		specific concentra-		
		tion limit		
		Skin Sens. 1A;		
		H317		
		>= 0.036 %		
Substances with a workplace exposure limit :				
propane-1,2-diol	57-55-6		>= 1 - < 10	
	200-338-0			

For explanation of abbreviations see section 16.

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

SECTION 4: First aid measures

4.1 Description of 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.

Protection of first-aiders : Avoid inhalation, ingestion and contact with skin and eyes.

If inhaled : Remove to fresh air.

If unconscious, place in recovery position and seek medical

advice.

If experiencing any discomfort, immediately remove from exposure. Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious cases: Get medical attention immediately or call for an ambu-

lance.

In case of skin contact : If on clothes, remove clothes.

If on skin, rinse well with water.

Wash off with soap and plenty of water.

Get medical attention immediately if irritation develops and

persists.

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 : 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.

Do not induce vomiting without medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Primarily irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

Immediate medical attention is required in case of ingestion.

SECTION 5: Firefighting measures

5.1 Extinguishing media

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

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment.

Unsuitable extinguishing

media

Do not spread spilled material with high-pressure water

streams.

High volume water jet

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 prod: :

ucts

Fire may produce irritating, corrosive and/or toxic gases.

Carbon oxides

Nitrogen oxides (NOx) Sulphur oxides

Hydrogen cyanide

5.3 Advice for firefighters

Special protective equipment :

for firefighters

Firefighters should wear protective clothing and self-contained

breathing apparatus.

Specific extinguishing meth-

ods

Remove undamaged containers from fire area if it is safe to do

SO.

Use a water spray to cool fully closed containers.

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.

Standard procedure for chemical fires.

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : 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. Never return spills in original containers for re-use.

Mark the contaminated area with signs and prevent access to

unauthorized personnel.

Only qualified personnel equipped with suitable protective

equipment may intervene.

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

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 : Never return spills in original containers for re-use.

Pick up and transfer to properly labelled containers.

Collect as much of the spill as possible with a suitable absor-

bent material.

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 : Do not breathe vapours/dust.

Avoid contact with skin and eyes. For personal protection see section 8.

Smoking, eating and drinking should be prohibited in the ap-

plication area.

Dispose of rinse water in accordance with local and national

regulations.

Advice on protection against

fire and explosion

Normal measures for preventive fire protection.

Hygiene measures : When using do not eat or drink. When using do not smoke.

Wash hands before breaks and at the end of workday.

General industrial hygiene practice. Avoid contact with skin,

eyes and clothing. Do not inhale aerosol.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

: Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological

safety standards.

Further information on stor-

age conditions

: The product is stable under normal conditions of warehouse storage. Protect from frost and extreme heat. Store in closed,

labelled containers. The storage room should be constructed of incombustible material, closed, dry, ventilated and with impermeable floor, without access of unauthorised persons or children. The room should only be used for storage of chemi-

6/29

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

cals. Food, drink, feed and seed should not be present. A

hand wash station should be available.

Recommended storage tem: :

perature

5 - 30 °C

Further information on stor-

age stability

No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : Registered pesticide to be used in accordance with a label

approved by country-specific regulatory authorities.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
propane-1,2-diol	57-55-6	TWA (Total va- pour and parti- cles)	150 ppm 474 mg/m3	GB EH40
		TWA (particles)	10 mg/m3	GB EH40

Derived No Effect Level (DNEL)

Substance name	End Use	Exposure routes	Potential health ef-	Value
			fects	
1,2-benzisothiazol-	Workers	Inhalation	Long-term systemic	6.81 mg/m3
3(2H)-one			effects	
	Workers	Dermal	Long-term systemic	0.966 mg/kg
			effects	
	Consumers	Inhalation	Long-term systemic	1.2 mg/m3
			effects	
	Consumers	Dermal	Long-term systemic	0.345 mg/kg
			effects	

Predicted No Effect Concentration (PNEC)

Substance name	Environmental Compartment	Value
1,2-benzisothiazol-3(2H)-one	Fresh water	0.00403 mg/l
	Marine water	0.000403 mg/l
	Sewage treatment plant	1.03 mg/l
	Fresh water sediment	0.0499 mg/l
	Marine sediment	0.00499 mg/l

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Eye wash bottle with pure water

Tightly fitting safety goggles

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version **Revision Date:** SDS Number: Date of last issue: -

04.06.2025 50002096 Date of first issue: 20.06.2020 1.1

Wear face-shield and protective suit for abnormal processing

problems.

Hand protection

Material Wear chemical resistant gloves, such as barrier laminate,

butyl rubber or nitrile rubber.

The suitability for a specific workplace should be discussed Remarks

with the producers of the protective gloves.

Skin and body protection Impervious clothing

Choose body protection according to the amount and concen-

tration of the dangerous substance at the work place.

In case of mist, spray or aerosol exposure wear suitable per-Respiratory protection

sonal respiratory protection and protective suit.

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

Always have on hand a first-aid kit, together with proper in-

structions.

Wear suitable protective equipment. When using do not eat, drink or smoke.

In the context of professional plant protection use as recommended, the end user must refer to the label and the instruc-

tions for use.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state liquid Colour light brown

Odour Faint odour, ammoniacal

Odour Threshold not determined 6.4 - 6.7 (20 °C) pΗ

> Concentration: 10 g/l 1 % (1% solution in water)

7.7 (20 °C) (undiluted)

Melting point/freezing point

Initial boiling point and boiling

not determined

range

not determined

Flash point 157 °C

Method: closed cup

Evaporation rate Upper explosion limit / Upper

Lower explosion limit / Lower

not determined not determined

flammability limit

not determined

flammability limit

8/29

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

Vapour pressure : Not available for this mixture.

Relative vapour density : not determined

Relative density

Density : 1.10 g/cm3 (20 °C)

Solubility(ies)

Water solubility : No data available Solubility in other solvents : No data available

Partition coefficient: n-

octanol/water

No data available

Auto-ignition temperature : No data available Decomposition temperature : not determined

Viscosity

Viscosity, dynamic

Non-newtonian fluid: viscosity is dependent on shear rate.

Viscosity, kinematic : No data available

Explosive properties

Not explosive

Oxidizing properties : Non-oxidizing

9.2 Other information

Flammability (liquids) : Not applicable
Molecular weight : Not applicable
Particle size : Not applicable
Self-ignition : > 400 °C

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.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

Heating of the mixture may evolve harmful and irritant va-

pours.

Avoid extreme temperatures Avoid formation of aerosol.

10.5 Incompatible materials

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

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

10.6 Hazardous decomposition products

Stable under recommended storage conditions.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Not classified based on available information.

Product:

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

Method: OECD Test Guideline 425

Assessment: The component/mixture is minimally toxic after

single ingestion.

Acute inhalation toxicity : LC50 (Rat): > 2.33 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Remarks: Highest attainable concentration.

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

Method: OECD Test Guideline 402

Assessment: The component/mixture is minimally toxic after

single contact with skin.

Components:

azoxystrobin (ISO):

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

Method: OECD Test Guideline 401

Acute inhalation toxicity : Acute toxicity estimate: 0.7 mg/l

Test atmosphere: dust/mist

Method: Acute toxicity estimate according to Regulation (EC)

No. 1272/2008

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

Method: OECD Test Guideline 402

GLP: yes

Assessment: The component/mixture is minimally toxic after

single contact with skin. Remarks: no mortality

Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

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

1,2-benzisothiazol-3(2H)-one:

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

propane-1,2-diol:

Acute oral toxicity : LD50 (Rat, male and female): 22,000 mg/kg

Acute inhalation toxicity : LC0 (Rabbit): 31.7 mg/l

Exposure time: 2 h
Test atmosphere: vapour
Remarks: no mortality

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

Assessment: The substance or mixture has no acute dermal

toxicity

Skin corrosion/irritation

Not classified based on available information.

Product:

Assessment : No skin irritation

Method : OECD Test Guideline 404

Result : No skin irritation

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

Components:

azoxystrobin (ISO):

Species : Rabbit

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

Remarks : Minimal effects that do not meet the threshold for classifica-

tion.

Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formalde-

hyde, sodium salts:

Remarks : No data available

1,2-benzisothiazol-3(2H)-one:

Species : Rabbit Exposure time : 72 h

Method : OECD Test Guideline 404

Result : No skin irritation

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

propane-1,2-diol:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Assessment : No eye irritation

Method : OECD Test Guideline 405

Remarks : Minimal effects that do not meet the threshold for classifica-

tion.

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

Components:

azoxystrobin (ISO):

Species : Rabbit

Assessment : Not classified as irritant
Method : OECD Test Guideline 405

Remarks : Minimal effects that do not meet the threshold for classifica-

tion.

Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formalde-

hyde, sodium salts:

Result : Eye irritation

1,2-benzisothiazol-3(2H)-one:

Species : Bovine cornea

Method : OECD Test Guideline 437

Result : No eye irritation

Species : Rabbit

Method : EPA OPP 81-4

Result : Irreversible effects on the eye

propane-1,2-diol:

Species : Rabbit

Method : OECD Test Guideline 405

Result : No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

Respiratory sensitisation

Not classified based on available information.

Product:

Assessment : Not a skin sensitizer.

Method : OECD Test Guideline 429

Result : Not a skin sensitizer.

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

Components:

azoxystrobin (ISO):

Species : Guinea pig

Assessment : Not a skin sensitizer.

Method : OECD Test Guideline 406

Result : Does not cause skin sensitisation.

1,2-benzisothiazol-3(2H)-one:

Test Type : Maximisation Test

Species : Guinea pig

Method : OECD Test Guideline 406

Result : May cause sensitisation by skin contact.

Species : Guinea pig Method : FIFRA 81.06

Result : May cause sensitisation by skin contact.

propane-1,2-diol:

Test Type : Maximisation Test

Species : Guinea pig
Result : negative

Germ cell mutagenicity

Not classified based on available information.

Product:

Genotoxicity in vitro : Remarks: The product contains no ingredients known to be

mutagenic.

Components:

azoxystrobin (ISO):

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

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

Species: Mouse

Method: OECD Test Guideline 474

Result: negative

1,2-benzisothiazol-3(2H)-one:

Genotoxicity in vitro : Test Type: gene mutation test

Test system: mouse lymphoma cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Test Type: Ames test

Method: OECD Test Guideline 471

Result: negative

Test Type: Chromosome aberration test in vitro

Method: OECD Test Guideline 473

Result: positive

Genotoxicity in vivo : Test Type: unscheduled DNA synthesis assay

Species: Rat (male) Cell type: Liver cells

Application Route: Ingestion

Exposure time: 4 h

Method: OECD Test Guideline 486

Result: negative

Test Type: Micronucleus test

Species: Mouse Application Route: Oral

Method: OECD Test Guideline 474

Result: negative

Germ cell mutagenicity- As-

sessment

Weight of evidence does not support classification as a germ

cell mutagen.

propane-1,2-diol:

Genotoxicity in vitro : Test Type: reverse mutation assay

Result: negative

Genotoxicity in vivo : Test Type: In vivo micronucleus test

Species: Mouse Result: negative

Carcinogenicity

Not classified based on available information.

Product:

Remarks : The product contains no ingredients known to be carcinogen-

c.

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

Components:

azoxystrobin (ISO):

Method : OECD Test Guideline 451

Result : negative

Remarks : No significant adverse effects were reported

Method : OECD Test Guideline 453

Result : negative

Remarks : No significant adverse effects were reported

Carcinogenicity - Assess-

ment

Animal testing did not show any carcinogenic effects.

propane-1,2-diol:

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

Reproductive toxicity

Not classified based on available information.

Product:

Effects on fertility : Remarks: The product contains no ingredients found to have

adverse effects on reproduction.

Components:

azoxystrobin (ISO):

Reproductive toxicity - As-

sessment

Weight of evidence does not support classification for repro-

ductive toxicity

Did not show teratogenic effects in animal experiments.

1,2-benzisothiazol-3(2H)-one:

Effects on fertility : Species: Rat, male

Application Route: Ingestion

General Toxicity - Parent: NOAEL: 18.5 mg/kg body weight General Toxicity F1: NOAEL: 48 mg/kg body weight

Fertility: NOAEL: 112 mg/kg bw/day

Symptoms: No effects on reproduction parameters

Method: OPPTS 870.3800

Result: negative

Reproductive toxicity - As-

sessment

Weight of evidence does not support classification for repro-

ductive toxicity

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

propane-1,2-diol:

Effects on fertility : Test Type: reproductive and developmental toxicity study

Species: Mouse Application Route: Oral Result: negative

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Mouse

Application Route: Oral

Method: OECD Test Guideline 414

Result: Animal testing did not show any effects on fertility.

Remarks: Based on data from similar materials

STOT - single exposure

Not classified based on available information.

Product:

Assessment : The substance or mixture is not classified as specific target

organ toxicant, single exposure.

Components:

azoxystrobin (ISO):

Assessment : The substance or mixture is not classified as specific target

organ toxicant, single exposure.

STOT - repeated exposure

Not classified based on available information.

Product:

Assessment : The substance or mixture is not classified as specific target

organ toxicant, repeated exposure.

Components:

azoxystrobin (ISO):

Assessment : The substance or mixture is not classified as specific target

organ toxicant, repeated exposure.

1,2-benzisothiazol-3(2H)-one:

Assessment : The substance or mixture is not classified as specific target

organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

azoxystrobin (ISO):

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

Species : Rat

NOAEL : 21 mg/kg bw/day

Application Route : Oral Exposure time : 90 d

Remarks : No significant adverse effects were reported

Species : Dog

NOAEL : 50 mg/kg bw/day

Application Route : Oral Exposure time : 90 d

Remarks : No significant adverse effects were reported

Species : Dog

NOAEL : 25 mg/kg bw/day

Application Route : Oral Exposure time : 1 yr

Remarks : No significant adverse effects were reported

1,2-benzisothiazol-3(2H)-one:

Species : Rat, male and female

NOAEL : 15 mg/kg Application Route : Ingestion Exposure time : 28 d

Method : OECD Test Guideline 407

Symptoms : Irritation

Species : Rat, male and female

NOAEL : 69 mg/kg Application Route : Ingestion Exposure time : 90 d

Symptoms : Irritation, Reduced body weight

propane-1,2-diol:

Species : Rat, male and female

NOAEL : 1,700 mg/kg

Application Route : Oral Exposure time : 2 Years

Species : Rat, male and female

NOAEL : 1,000 mg/kg
LOAEL : 160 mg/kg
Application Route : Inhalation
Exposure time : 90 Days

Aspiration toxicity

Not classified based on available information.

Product:

The mixture does not have properties associated with aspiration hazard potential.

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

Components:

azoxystrobin (ISO):

The substance does not have properties associated with aspiration hazard potential.

Further information

Product:

Remarks : Symptoms and effects, acute and delayed:

Inhalation may result in difficulty breathing. Ingestion may

cause diarrhoea. Eye contact may cause irritation.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1.91 mg/l

Exposure time: 96 h

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 0.67 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): 0.37

mg/l

Exposure time: 72 h

EC50 (Navicula pelliculosa (Diatom)): 3.10 mg/l

Exposure time: 72 h

EC50 (Lemna gibba (duckweed)): 15.4 mg/l

Exposure time: 7 d

Toxicity to soil dwelling or-

ganisms

LD50: > 1,000 mg/kg

Exposure time: 14 d

Species: Eisenia fetida (earthworms)

Toxicity to terrestrial organ-

isms

LD50: > 432 µg/bee

Exposure time: 48 h

End point: Acute contact toxicity Species: Apis mellifera (bees)

LD50: > 519 μ g/bee Exposure time: 48 h

End point: Acute oral toxicity Species: Apis mellifera (bees)

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

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

Components:

azoxystrobin (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.47 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 0.259 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

EC50 (Americamysis bahia (mysid shrimp)): 0.055 mg/l

Exposure time: 96 h

Toxicity to algae/aquatic

plants

EC50 (Lemna gibba (duckweed)): 3.2 mg/l

Exposure time: 14 d

EC50 (Navicula pelliculosa (Diatom)): 0.146 mg/l

Exposure time: 72 h

NOEC (Navicula pelliculosa (Diatom)): 0.02 mg/l

Exposure time: 72 h

NOEC (Lemna gibba (duckweed)): 0.8 mg/l

Exposure time: 14 d

M-Factor (Acute aquatic tox-

icity)

10

Toxicity to fish (Chronic tox-

icity)

NOEC: 0.16 mg/l

Exposure time: 28 d

Species: Oncorhynchus mykiss (rainbow trout)

Method: OECD Test Guideline 204

NOEC: 0.147 mg/l Exposure time: 28 d

Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC: 0.044 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea)

NOEC: 0.00954 mg/l Exposure time: 28 d

Species: Americamysis bahia (mysid shrimp)

M-Factor (Chronic aquatic

toxicity)

10

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

Toxicity to soil dwelling or-

ganisms

LC50: 283 mg/kg Exposure time: 14 d

Species: Eisenia fetida (earthworms)

Toxicity to terrestrial organ-

isms

LD50: > 1,000 mg/kg

Species: Anas platyrhynchos (Mallard duck)

LD50: > 1,000 mg/kg

Species: Colinus virginianus (Bobwhite quail)

LD50: > 5,200 ppm

Species: Colinus virginianus (Bobwhite quail)

Remarks: Dietary

LD50: > 200 µg/bee Exposure time: 48 h

End point: Acute contact toxicity Species: Apis mellifera (bees)

LD50: > 25 μ g/bee Exposure time: 48 h

End point: Acute oral toxicity Species: Apis mellifera (bees)

Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:

Toxicity to fish : LC50 (Zebra fish): > 10 - 100 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)): > 100 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): > 100

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

EC10 (Pseudokirchneriella subcapitata (green algae)): > 100

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

Toxicity to daphnia and other : aquatic invertebrates (Chron-

EC10: > 10 - 100 mg/l Exposure time: 21 d

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

ic toxicity) Species: Daphnia magna (Water flea)

Method: OECD Test Guideline 211

Remarks: Based on data from similar materials

1,2-benzisothiazol-3(2H)-one:

Toxicity to fish : LC50 (Cyprinodon variegatus (sheepshead minnow)): 16.7

mg/l

Exposure time: 96 h Test Type: static test

LC50 (Oncorhynchus mykiss (rainbow trout)): 2.15 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 2.9 mg/l

Exposure time: 48 h Test Type: static test

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): 0.070

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.04

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

M-Factor (Acute aquatic tox-

icity)

1

Toxicity to microorganisms : EC50 (activated sludge): 24 mg/l

Exposure time: 3 h

Test Type: Respiration inhibition Method: OECD Test Guideline 209

EC50 (activated sludge): 12.8 mg/l

Exposure time: 3 h

Test Type: Respiration inhibition Method: OECD Test Guideline 209

M-Factor (Chronic aquatic

toxicity)

: 1

propane-1,2-diol:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 40,613 mg/l

Exposure time: 96 h

Toxicity to daphnia and other : (Mysidopsis bahia (opossum shrimp)): 18,800 mg/l

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version **Revision Date:** SDS Number: Date of last issue: -

04.06.2025 50002096 Date of first issue: 20.06.2020 1.1

aquatic invertebrates Exposure time: 96 h

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): 34,100

mg/l

Exposure time: 48 h

Method: OECD Test Guideline 201

EC50 (Pseudomonas putida): > 20,000 mg/l Toxicity to microorganisms

Exposure time: 18 h

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC: 13,020 mg/l Exposure time: 7 d

12.2 Persistence and degradability

Product:

Biodegradability Remarks: Product contains minor amounts of not readily bio-

degradable components, which may not be degradable in

waste water treatment plants.

Components:

azoxystrobin (ISO):

Biodegradability : Result: Not readily biodegradable.

Degradation half life: 52.11 d (25 °C) Stability in water

pH: 9

Residues (petroleum), catalytic reformer fractionator, sulfonated, polymers with formalde-

hyde, sodium salts:

Biodegradability Result: Not readily biodegradable.

Remarks: Based on data from similar materials

1,2-benzisothiazol-3(2H)-one:

Biodegradability Result: rapidly biodegradable

Method: OECD Test Guideline 301C

propane-1,2-diol:

Result: Readily biodegradable. Biodegradability

> Biodegradation: 23.6 % Exposure time: 64 d

Method: OECD Test Guideline 306

12.3 Bioaccumulative potential

Product:

Bioaccumulation Remarks: No data is available on the product itself.

22 / 29

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

Components:

azoxystrobin (ISO):

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-

octanol/water

log Pow: 2.5 (20 °C)

1,2-benzisothiazol-3(2H)-one:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)

Exposure time: 56 d

Bioconcentration factor (BCF): 6.62 Method: OECD Test Guideline 305

Remarks: Substance is not persistent, bioaccumulative, and

toxic (PBT).

Partition coefficient: n-

octanol/water

log Pow: 0.7 (20 °C)

pH: 7

log Pow: 0.99 (20 °C)

pH: 5

propane-1,2-diol:

Partition coefficient: n-

octanol/water

log Pow: -1.07

12.4 Mobility in soil

Product:

Distribution among environ-

mental compartments

: Remarks: No data is available on the product itself.

Components:

azoxystrobin (ISO):

Distribution among environ-

mental compartments

Remarks: Under normal conditions the substance has low to

moderate mobility in soil.

1,2-benzisothiazol-3(2H)-one:

Distribution among environ-

mental compartments

Koc: 9.33 ml/g, log Koc: 0.97

Method: OECD Test Guideline 121 Remarks: Highly mobile in soils

12.5 Results of PBT and vPvB assessment

Product:

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

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 poten-

tial

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 infor-

mation

An environmental hazard cannot be excluded in the event of

unprofessional handling or disposal.

Very toxic to aquatic life.

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 chemi-

cal or used container.

Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.

Triple rinse containers.

Do not re-use empty containers.

Packaging that is not properly emptied must be disposed of as

the unused product.

Empty containers should be taken to an approved waste han-

dling site for recycling or disposal.

SECTION 14: Transport information

14.1 UN number

ADN : UN 3082
ADR : UN 3082
RID : UN 3082
IMDG : UN 3082
IATA : UN 3082

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

14.2 UN proper shipping name

ADN : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Azoxystrobin)

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Azoxystrobin)

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Azoxystrobin)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

N.O.S.

(Azoxystrobin)

IATA : Environmentally hazardous substance, liquid, n.o.s.

(Azoxystrobin)

14.3 Transport hazard class(es)

Class Subsidiary risks

ADN : 9
ADR : 9
RID : 9
IMDG : 9
IATA : 9

14.4 Packing group

ADN

Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9

ADR

Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9
Tunnel restriction code : (-)

RID

Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9

IMDG

Packing group : III Labels : 9

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

EmS Code : F-A, S-F

IATA (Cargo)

Packing instruction (cargo : 964

aircraft)

Packing instruction (LQ) : Y964
Packing group : III

Labels : Miscellaneous

IATA (Passenger)

Packing instruction (passen- : 964

ger aircraft)

Packing instruction (LQ) : Y964
Packing group : III

Labels : Miscellaneous

14.5 Environmental hazards

ADN

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

IATA (Passenger)

Environmentally hazardous : yes

IATA (Cargo)

Environmentally hazardous : 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 mix-

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17) : Conditions of restriction for the fol-

lowing entries should be considered:

Number on list 3

UK REACH Candidate list of substances of very high : Not applicable

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

concern (SVHC) for Authorisation

The Persistent Organic Pollutants Regulations (retained : Not applicable

Regulation (EU) 2019/1021 as amended for Great Brit-

ain)

Regulation (EU) No 2024/590 on substances that de: Not applicable

plete the ozone layer

UK REACH List of substances subject to authorisation : Not applicable

(Annex XIV)

Control of Major Accident Hazards Regulations E1 ENVIRONMENTAL HAZARDS

2015 (COMAH)

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.

azoxystrobin (ISO)

mixture of polyorganosiloxanes and fillers

Alkoxylated surfactant

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

15.2 Chemical safety assessment

A chemical safety assessment is not required for this product (mixture).

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

SECTION 16: Other information

Full text of H-Statements

H302 : Harmful if swallowed. H315 : Causes skin irritation.

H317 : May cause an allergic skin reaction.
H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.

H330 : Fatal if inhaled. H331 : Toxic if inhaled.

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

Eye Irrit. : Eye irritation
Skin Irrit. : Skin irritation
Skin Sens. : Skin sensitisation

GB EH40 : UK. EH40 WEL - Workplace Exposure Limits

GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)

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 Re-

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



VALIANT®

Version Revision Date: SDS Number: Date of last issue: -

1.1 04.06.2025 50002096 Date of first issue: 20.06.2020

striction 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

Further information

Other information

Classification of the mixture: Classification procedure:

Aquatic Acute 1 H400 Based on product data or assessment
Aquatic Chronic 1 H410 Based on product data or assessment

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 ensure that this document is the most current available from FMC Corporation. No warranty of fitness 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 and the FMC Logo are trademarks of FMC Corporation and/or an affiliate.

© 2021-2025 FMC Corporation. All Rights Reserved.

GB / 6N