



MODESTO PLUS FS510 4X5L BOT UA

Version 4 / EU
102000021198

1/11
Revision Date: 10.03.2016
Print Date: 30.11.2017

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name MODESTO PLUS FS510 4X5L BOT UA
Product code (UVP) 79548184

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

Use Fungicide, Insecticide, Seed treatment

1.3 Details of the supplier of the safety data sheet

Supplier Bayer AG
Kaiser-Wilhelm-Allee 1
51373 Leverkusen
Germany
Telefax +49(0)2173-38-7394
Responsible Department Substance Classification & Registration
+49(0)2173-38-3409 (during business hours only)
Email: BCS-SDS@bayer.com

1.4 Emergency telephone no.

Emergency telephone no. Global Incident Response Hotline (24h)
+1 (760) 476-3964 (Company 3E for Bayer AG, Crop Science Division)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Acute aquatic toxicity: Category 1
H400 Very toxic to aquatic life.

Chronic aquatic toxicity: Category 1
H410 Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.

Hazard label for supply/use required.

Hazardous components which must be listed on the label:

- Clothianidin
- Fluopicolide
- Fluoxastrobin



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H410	Very toxic to aquatic life with long lasting effects.
EUH208	Contains 1,2-benzisothiazolin-3-one, 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one. May produce an allergic reaction.
EUH401	To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements

P501	Dispose of contents/container in accordance with local regulation.
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2.3 Other hazards

No other hazards known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.2 Mixtures****Chemical nature**Flowable concentrate for seed treatment (FS)
Clothianidin/fluopicolide/fluoxastrobin 300:120:90 g/l**Hazardous components**

Hazard statements according to Regulation (EC) No. 1272/2008

Name	CAS-No. / EC-No. / REACH Reg. No.	Classification	Conc. [%]
		Regulation (EC) No 1272/2008	
Clothianidin	210880-92-5	Acute Tox. 4, H302 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	24,39
Fluopicolide	239110-15-7	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	9,76
Fluoxastrobin	361377-29-9	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	7,32
1,2-Benzisothiazol-3(2H)-one	2634-33-5 220-120-9	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Acute 1, H400	>= 0,005 – < 0,05
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:	55965-84-9	Skin Corr. 1B, H314 Aquatic Chronic 1, H410 Aquatic Acute 1, H400 Skin Sens. 1, H317 Acute Tox. 3, H301 Acute Tox. 2, H330 Acute Tox. 3, H311	>= 0,0002 – < 0,0015
Glycerine	56-81-5 200-289-5	Not classified	>= 1,0

Further information

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Clothianidin	210880-92-5	M-Factor: 10 (acute), 10 (chronic)
Fluoxastrobin	361377-29-9	M-Factor: 1 (acute), 1 (chronic)

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: FIRST AID MEASURES**4.1 Description of first aid measures**

General advice	Move out of dangerous area. Remove contaminated clothing immediately and dispose of safely.
Inhalation	Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.
Skin contact	Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.
Ingestion	Do NOT induce vomiting. Call a physician or poison control center immediately. Rinse mouth.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	No symptoms known or expected.
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4.3 Indication of any immediate medical attention and special treatment needed

Treatment	Treat symptomatically. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. There is no specific antidote.
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SECTION 5: FIREFIGHTING MEASURES**5.1 Extinguishing media**

Suitable	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable	High volume water jet

5.2 Special hazards arising from the substance or mixture	Dangerous gases are evolved in the event of a fire.
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5.3 Advice for firefighters

Special protective equipment for firefighters	In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.
Further information	Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.

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SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures**

Precautions Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment.

6.2 Environmental precautions Do not allow to get into surface water, drains and ground water.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean contaminated floors and objects thoroughly, observing environmental regulations. Keep in suitable, closed containers for disposal.

Additional advice Check also for any local site procedures.

6.4 Reference to other sections Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE**7.1 Precautions for safe handling**

Advice on safe handling Use only in area provided with appropriate exhaust ventilation.

Hygiene measures Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands immediately after work, if necessary take a shower. Remove soiled clothing immediately and clean thoroughly before using again.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Store in original container. Store in a place accessible by authorized persons only. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight.

Advice on common storage Keep away from food, drink and animal feedingstuffs.

Suitable materials HDPE (high density polyethylene)

7.3 Specific end use(s) Refer to the label and/or leaflet.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control parameters**

Components	CAS-No.	Control parameters	Update	Basis
Clothianidin	210880-92-5	2,8 mg/m ³ (TWA)		OES BCS*
Fluopicolide	239110-15-7	2,2 mg/m ³		OES BCS*

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		(TWA)		
Fluoxastrobin	361377-29-9	0,42 mg/m3 (TWA)		OES BCS*

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

8.2 Exposure controls**Personal protective equipment**

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection

Respiratory protection is not required under anticipated circumstances of exposure.

Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.

Hand protection

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.

Wash gloves when contaminated. Dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.

Material Nitrile rubber

Rate of permeability > 480 min

Glove thickness > 0,4 mm

Protective index Class 6

Directive Protective gloves complying with EN 374.

Eye protection

Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

Skin and body protection

Wear standard coveralls and Category 3 Type 6 suit.

If there is a risk of significant exposure, consider a higher protective type suit.

Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

Form	suspension
Colour	light beige to light brown
Odour	weak, characteristic
pH	5,0 - 8,0 at 100 % (23 °C)

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Flash point	> 78 °C
Ignition temperature	430 °C
Density	ca. 1,23 g/cm ³ at 20 °C
Partition coefficient: n-octanol/water	Clothianidin: log Pow: 0,9 Fluopicolide: log Pow: 2,9 at pH 7 Fluoxastrobin: log Pow: 2,86 at 20 °C
Viscosity, kinematic	171 mm ² /s at 40 °C Shear rate of 20/sec 59 mm ² /s at 40 °C Shear rate of 100/sec
Surface tension	40 mN/m at 25 °C Determined in the undiluted form. 53 mN/m at 20 °C Determined as a 0,1% solution in distilled water (1 g/l).
Impact sensitivity	Not impact sensitive.
Oxidizing properties	No oxidizing properties
Explosivity	Not explosive
9.2 Other information	Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY**10.1 Reactivity****Thermal decomposition** Stable under normal conditions.**10.2 Chemical stability** Stable under recommended storage conditions.**10.3 Possibility of hazardous reactions** No hazardous reactions when stored and handled according to prescribed instructions.**10.4 Conditions to avoid** Extremes of temperature and direct sunlight.**10.5 Incompatible materials** Store only in the original container.**10.6 Hazardous decomposition products** No decomposition products expected under normal conditions of use.**SECTION 11: TOXICOLOGICAL INFORMATION****11.1 Information on toxicological effects****Acute oral toxicity** LD50 (Rat) >= 5.000 mg/kg**Acute inhalation toxicity** LC50 (Rat) > 2,40 mg/l
Exposure time: 4 h
Highest attainable concentration.**Acute dermal toxicity** LD50 (Rat) > 2.000 mg/kg

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Skin irritation	No skin irritation (Rabbit)
Eye irritation	No eye irritation (Rabbit)
Sensitisation	Non-sensitizing. (Mouse) OECD Test Guideline 429, local lymph node assay (LLNA)

Assessment repeated dose toxicity

Clothianidin did not cause specific target organ toxicity in experimental animal studies.
Fluopicolide did not cause specific target organ toxicity in experimental animal studies.
Fluoxastrobin did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity

Clothianidin was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.
Fluopicolide was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.
Fluoxastrobin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Clothianidin was not carcinogenic in lifetime feeding studies in rats and mice.
Fluopicolide caused at high dose levels an increased incidence of tumours in mice in the following organ(s): Liver. The mechanism that triggers tumours in rodents and the type of tumours observed are not relevant to humans.
Fluoxastrobin was not carcinogenic in lifetime feeding studies in rats and mice.

Assessment toxicity to reproduction

Clothianidin caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Clothianidin is related to parental toxicity.
Fluopicolide did not cause reproductive toxicity in a two-generation study in rats.
Fluoxastrobin caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Fluoxastrobin is related to parental toxicity.

Assessment developmental toxicity

Clothianidin did not cause developmental toxicity in rats.
Clothianidin caused developmental toxicity in rabbits only at dose levels toxic to the dams. The developmental effects seen with Clothianidin are related to maternal toxicity.
Fluopicolide did not cause developmental toxicity in rats and rabbits.
Fluoxastrobin did not cause developmental toxicity in rats. Fluoxastrobin caused developmental toxicity in rabbits only at dose levels toxic to the dams. The developmental effects seen with Fluoxastrobin are related to maternal toxicity.

SECTION 12: ECOLOGICAL INFORMATION**12.1 Toxicity****Toxicity to fish**

LC50 (Oncorhynchus mykiss (rainbow trout)) > 104,2 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient clothianidin.
LC50 (Oncorhynchus mykiss (rainbow trout)) 0,36 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient fluopicolide.
LC50 (Oncorhynchus mykiss (rainbow trout)) 0,44 mg/l

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The value mentioned relates to the active ingredient fluoxastrobin.

Pimephales promelas (fathead minnow)

NOEC: 0,155 mg/l

Exposure time: 33 d

The value mentioned relates to the active ingredient fluopicolide.

Oncorhynchus mykiss (rainbow trout)

NOEC: 0,0286 mg/l

Exposure time: 95 d

The value mentioned relates to the active ingredient fluoxastrobin.

Toxicity to aquatic invertebrates

EC50 (Daphnia magna (Water flea)) 4,01 mg/l

Exposure time: 48 h

EC50 (Chironomus riparius (non-biting midge)) 0,164 mg/l

Exposure time: 48 h

Chronic toxicity to aquatic invertebrates

EC15 (Chironomus riparius (non-biting midge)): 0,00072 mg/l

Exposure time: 28 d

The value mentioned relates to the active ingredient clothianidin.

NOEC (Daphnia magna (Water flea)): 0,37 mg/l

Exposure time: 28 d

The value mentioned relates to the active ingredient fluopicolide.

NOEC (Daphnia magna (Water flea)): 0,18 mg/l

Exposure time: 21 d

The value mentioned relates to the active ingredient fluoxastrobin.

Toxicity to aquatic plants

EC50 (Navicula pelliculosa (Freshwater diatom)) 0,727 mg/l

Exposure time: 72 h

12.2 Persistence and degradability**Biodegradability**

Clothianidin:

Not rapidly biodegradable

Fluopicolide:

Not rapidly biodegradable

Fluoxastrobin:

Not rapidly biodegradable

Koc

Clothianidin: Koc: 84 - 345

Fluopicolide: Koc: 321

Fluoxastrobin: Koc: 424 - 1582

12.3 Bioaccumulative potential**Bioaccumulation**

Clothianidin:

Does not bioaccumulate.

Fluopicolide: Bioconcentration factor (BCF) 121

Does not bioaccumulate.

Fluoxastrobin: Bioconcentration factor (BCF) 52

Does not bioaccumulate.

12.4 Mobility in soil**Mobility in soil**

Clothianidin: Moderately mobile in soils

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Fluoxastrobin: Slightly mobile in soils**12.5 Results of PBT and vPvB assessment**

PBT and vPvB assessment Clothianidin: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).
Fluopicolide: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).
Fluoxastrobin: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

12.6 Other adverse effects

Additional ecological information No other effects to be mentioned.

SECTION 13: DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods**

Product In accordance with current regulations and, if necessary, after consultation with the site operator and/or with the responsible authority, the product may be taken to a waste disposal site or incineration plant.

Contaminated packaging Not completely emptied packagings should be disposed of as hazardous waste.

Waste key for the unused product 02 01 08* agrochemical waste containing dangerous substances

SECTION 14: TRANSPORT INFORMATION**ADR/RID/ADN**

14.1 UN number	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CLOTHIANIDIN SOLUTION)
14.3 Transport hazard class(es)	9
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES
Hazard no.	90
Tunnel Code	E

This classification is in principle not valid for carriage by tank vessel on inland waterways. Please refer to the manufacturer for further information.

IMDG

14.1 UN number	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.



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14.3 Transport hazard class(es) (CLOTHIANIDIN SOLUTION)
9
14.4 Packing group III
14.5 Marine pollutant YES

IATA

14.1 UN number **3082**
14.2 Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(CLOTHIANIDIN SOLUTION)
14.3 Transport hazard class(es) 9
14.4 Packing group III
14.5 Environm. Hazardous Mark YES

14.6 Special precautions for user

See sections 6 to 8 of this Safety Data Sheet.

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

No transport in bulk according to the IBC Code.

SECTION 15: REGULATORY INFORMATION

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

Further information

WHO-classification: U (Unlikely to present acute hazard in normal use)

15.2 Chemical Safety Assessment

A chemical safety assessment is not required.

SECTION 16: OTHER INFORMATION

Text of the hazard statements mentioned in Section 3

H301 Toxic if swallowed.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H330 Fatal if inhaled.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Abbreviations and acronyms

ADN European Agreement concerning the International Carriage of Dangerous Goods by
Inland Waterways
ADR European Agreement concerning the International Carriage of Dangerous Goods by
Road

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ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
Conc.	Concentration
EC-No.	European community number
ECx	Effective concentration to x %
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
EN	European Standard
EU	European Union
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)
ICx	Inhibition concentration to x %
IMDG	International Maritime Dangerous Goods
LCx	Lethal concentration to x %
LDx	Lethal dose to x %
LOEC/LOEL	Lowest observed effect concentration/level
MARPOL	MARPOL: International Convention for the prevention of marine pollution from ships
N.O.S.	Not otherwise specified
NOEC/NOEL	No observed effect concentration/level
OECD	Organization for Economic Co-operation and Development
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

The information contained within this Safety Data Sheet is in accordance with the guidelines established by Regulation (EU) 1907/2006 and Regulation (EU) 2015/830 amending Regulation (EU) No 1907/2006 and any subsequent amendments. This data sheet complements the user's instructions, but does not replace them. The information it contains is based on the knowledge available about the product concerned at the time it was compiled. Users are further reminded of the possible risks of using a product for purposes other than those for which it was intended. The required information complies with current EEC legislation. Addressees are requested to observe any additional national requirements.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.