according to Regulation (EC) No. 1907/2006



### **CELEST XL** Version Revision Date: SDS Number: This version replaces all previous 20.07.2017 S118171263 12.0 versions. SECTION 1: Identification of the substance/mixture and of the company/undertaking **1.1 Product identifier** Trade name : CELEST XL Design code A9638A 1.2 Relevant identified uses of the substance or mixture and uses advised against Use of the : Fungicide, Seed treatment Substance/Mixture 1.3 Details of the supplier of the safety data sheet Company : Syngenta SA (Pty) Ltd P.O. Box 1044, No. 4 Krokodildrift Avenue Brits 0250 South Africa Telephone : +27 12 250 6300 Telefax : +27 12 250 3125 E-mail address : sds.ch@syngenta.com 1.4 Emergency telephone number Emergency telephone : +27 (0) 82 446 8946 (Griffon) number **SECTION 2: Hazards identification** 2.1 Classification of the substance or mixture Classification (REGULATION (EC) No 1272/2008)

Skin sensitisation, Category 1

H317: May cause an allergic skin reaction.

Chronic aquatic toxicity, Category 2

H411: Toxic to aquatic life with long lasting effects.

### 2.2 Label elements

### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms	:	
Signal word	:	Warning
Hazard statements	:	<ul><li>H317 May cause an allergic skin reaction.</li><li>H411 Toxic to aquatic life with long lasting effects.</li></ul>
Supplemental Hazard	:	EUH401 To avoid risks to human health and the

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Statements	environment, comply with the instructions for use.
otatemento	environment, compry war are monocono for doc.
Precautionary statements	<ul> <li>Prevention:</li> <li>P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.</li> <li>P280 Wear protective gloves.</li> <li>Response:</li> <li>P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.</li> <li>P362 + P364 Take off contaminated clothing and wash it before reuse.</li> <li>P391 Collect spillage.</li> </ul>

Hazardous components which must be listed on the label:

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

### 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

### Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
poly(oxy-1,2-ethanediyl), -[2,4,6- tris(1-phenylethyl)phenyl] hydroxy-	99734-09-5	Aquatic Chronic 3; H412	>= 2.5 - < 10
fludioxonil	131341-86-1	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 1 - < 2.5
poly(oxy-1,2-ethanediyl), alpha-9- octadecenyl-omega-hydroxy-,(Z)-	9004-98-2 500-016-2	Acute Tox. 4; H302 Eye Dam. 1; H318	>= 1 - < 3
dodecylbenzenesulphonic acid, compound with 2,2',2"- nitrilotriethanol (1:1)	68411-31-4 270-116-6 01-2119971970-28	Skin Irrit. 2; H315 Eye Dam. 1; H318	>= 1 - < 3
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400	>= 0.05 - < 0.1

For explanation of abbreviations see section 16.

:

### SECTION 4: First aid measures

### 4.1 Description of first aid measures

General advice

Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.

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lf i	nhaled	If breath	e victim to fresh air. ng is irregular or stopped, administer artificial					
		Keep pa	respiration. Keep patient warm and at rest. Call a physician or poison control centre immediately.					
In	case of skin contact	Wash of If skin irr	all contaminated clothing immediately. <sup>F</sup> immediately with plenty of water. itation persists, call a physician. ntaminated clothing before re-use.					
In	case of eye contact	for at lea Remove	<ul> <li>Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.</li> <li>Remove contact lenses.</li> <li>Immediate medical attention is required.</li> </ul>					
lf s	swallowed	containe	: If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting.					
	st important symptoms		oth acute and delayed toms known or expected.					
-			ntion and special treatment needed					
4.3 Indication of any immediate n Treatment		: There is	: There is no specific antidote available. Treat symptomatically.					
	ON 5: Firefighting me	asures						
	inguishing media iitable extinguishing media	Use wate carbon d Extinguis	shing media - large fires resistant foam					
		water op						
	nsuitable extinguishing edia		se a solid water stream as it may scatter and spread					
me		: Do not u fire.						

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5.3 Advic	e for firefighters						
Spec	ial protective equipment efighters	:	Wear full protective clothing and self-contained breathing apparatus.				
Furth	er information	:	Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.				
SECTION	N 6: Accidental releas	se r	measures				
				emergency procedures			
	onal precautions	:		e measures listed in sections 7 and 8.			
6.2 Envir	onmental precautions						
	onmental precautions	:	Do not flush into	eakage or spillage if safe to do so. surface water or sanitary sewer system. ntaminates rivers and lakes or drains inform rities.			
6.3 Metho	ods and material for co	ntai	nment and cleani	ng up			
Methods for cleaning up		:	Contain spillage, absorbent materi vermiculite) and p local / national re Clean contamina Clean with deterg	and then collect with non-combustible al, (e.g. sand, earth, diatomaceous earth, blace in container for disposal according to gulations (see section 13). ted surface thoroughly. gents. Avoid solvents. se of contaminated wash water.			
6.4 Refer	ence to other sections						
		ectic	on 13., Refer to pro	tective measures listed in sections 7 and 8.			
SECTION	N 7: Handling and sto	oraç	ge				
7.1 Preca	utions for safe handling	g					
Advic	e on safe handling	:	Avoid contact wit When using do n	ctive measures against fire required. h skin and eyes. ot eat, drink or smoke. rection see section 8.			
7.2 Condi	tions for safe storage,	inc	luding any incom	patibilities			
Requ	irements for storage and containers	:	No special storag	e conditions required. Keep containers dry, cool and well-ventilated place. Keep out hildren. Keep away from food, drink and			
Stora	ge class (TRGS 510)	:	10, Combustible	liquids			
Othe	r data	:		nemically stable for at least 2 years when inal unopened sales container at ambient			

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### 7.3 Specific end use(s)

Specific use(s)

: For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

### **SECTION 8: Exposure controls/personal protection**

### 8.1 Control parameters

### **Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
fludioxonil	131341-86- 1	TWA	5 mg/m3	Syngenta

### 8.2 Exposure controls

### **Engineering measures**

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

Maintain air concentrations below occupational exposure standards. Where necessary, seek additional occupational hygiene advice.

### Personal protective equipment

Eye protection : No special protective equipment required.

Hand protection

Material Break through time Glove thickness	-	Nitrile rubber > 480 min 0.5 mm
Remarks	:	Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. 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. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
Skin and body protection	:	Choose body protection in relation to its type, to the

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		the specific	• •
Res	piratory protection	required. When work	al respiratory protective equipment normally ters are facing concentrations above the exposure just use appropriate certified respirators.
Prot	ective measures	over the us When seled	technical measures should always have priority e of personal protective equipment. cting personal protective equipment, seek e professional advice.

# SECTION 9: Physical and chemical properties 9.1 Information on basic physical and chemical properties

Appearance

~ P~		:	liquid
	Colour Odour	:	light red to dark red weak
	Odour Threshold	:	No data available
	рН	:	5 - 9 Concentration: 1 % w/v
	Melting point/range	:	No data available
	Boiling point/boiling range	:	No data available
	Flash point	:	> 95 °C
	Evaporation rate	:	No data available
	Flammability (solid, gas)	:	No data available
	Upper explosion limit	:	No data available
	Lower explosion limit	:	No data available
	Relative vapour density	:	No data available
	Density	:	1.04 g/cm3 (25 °C)
	Solubility(ies) Solubility in other solvents	:	No data available
	Partition coefficient: n- octanol/water	:	No data available

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Au	to-ignition temperature	-	465 °C	
De	composition temperature	:	No data availab	le
	scosity ty, dynamic			
100001	y, dynamie	:	29.5 - 91.3 mPa	a.s (20 °C)
			22.8 - 73.5 mPa	a.s (40 °C)
Ex	plosive properties	:	Not explosive	
Ox	idizing properties	:	The substance	or mixture is not classified as oxidizing.
			No data availab	le
9.2 Oth	er information			
	rface tension	:	34.2 - 34.4 mN/	/m, 20 °C
SECTI	ON 10: Stability and re	acti	vity	
	eactivity			
	ne reasonably foreseeable	Э.		
	nemical stability able under normal conditio	ns.		
	ossibility of hazardous re		ons	
	ous reactions			
			No dangerous r	reaction known under conditions of normal use.
10.4 Co	onditions to avoid			
Conditio	ons to avoid		No decompositi	ion if used as directed.
		•		
	compatible materials			
Materia	Is to avoid	:	None known.	
10 6 Ha	zardous decomposition	nroc	lucts	
	stion or thermal decompos	-		and irritant vapours.
SECTI	ON 11: Toxicological i	nfor	mation	
11.1 Inf	formation on toxicologic	al eff	fects	
Ac	ute toxicity			
	oduct:			
Acute o	ral toxicity	•	LD50 (Rat. male	and female): > 3,000 mg/kg
		•		

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CELE	ST XL		
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		Assessment: toxicity	The substance or mixture has no acute oral
Acute	e dermal toxicity		ale and female): > 4,000 mg/kg The substance or mixture has no acute dermal
	oonents: 1 2-ethanedivl) -[2 4	6-tris/1-nhenylethy	/l)phenyl]hydroxy-:
Acute oral			
			at): 5,000 mg/kg The substance or mixture has no acute oral
Acute	dermal toxicity		(Rat): > 2,000 mg/kg The substance or mixture has no acute dermal
	oxonil:		
Acute oral	toxicity	: LD50 (Rat, m	ale and female): > 5,000 mg/kg
Acute	inhalation toxicity	Exposure time Test atmosph	ere: dust/mist The substance or mixture has no acute
Acute	dermal toxicity		ale and female): > 2,000 mg/kg The substance or mixture has no acute dermal
poly(	oxy-1,2-ethanediyl),	alpha-9-octadeceny	·I-omega-hydroxy-,(Z)-:
Acute oral	toxicity	: LD50 (Rat): 5	00 - 2,000 mg/kg
1,2-b	enzisothiazol-3(2H)-c	one:	
Acute oral	toxicity	<b>A ( ( ) ( )</b>	
			estimate: 500 mg/kg /erted acute toxicity point estimate
		Assessment: single ingestion	The component/mixture is moderately toxic after on.
Skin	corrosion/irritation		
Prod Speci	<mark>uct:</mark> es: Rabbit		
	t: Mild skin irritation		

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### Components:

**poly(oxy-1,2-ethanediyl),** -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-: Species: Rabbit Result: No skin irritation

fludioxonil: Species: Rabbit Result: No skin irritation

poly(oxy-1,2-ethanediyl), alpha-9-octadecenyl-omega-hydroxy-,(Z)-:

Species: Rabbit Result: No skin irritation

dodecylbenzenesulphonic acid, compound with 2,2',2"-nitrilotriethanol (1:1):

Species: Rabbit Result: Irritating to skin.

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

Assessment: Irritating to skin.

### Serious eye damage/eye irritation

Product: Species: Rabbit Result: No eye irritation

### **Components:**

**poly(oxy-1,2-ethanediyl),** -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-: Species: Rabbit Result: No eye irritation

### fludioxonil:

Species: Rabbit Result: No eye irritation

### poly(oxy-1,2-ethanediyl), alpha-9-octadecenyl-omega-hydroxy-,(Z)-:

Species: Rabbit Result: Irreversible effects on the eye

### dodecylbenzenesulphonic acid, compound with 2,2',2"-nitrilotriethanol (1:1):

Species: Rabbit Result: Risk of serious damage to eyes.

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

Result: Irreversible effects on the eye

### Respiratory or skin sensitisation

Components:

fludioxonil: Species: Guinea pig

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Result: Did not cause sensitisation on laboratory animals.

### dodecylbenzenesulphonic acid, compound with 2,2',2"-nitrilotriethanol (1:1):

Species: Guinea pig Result: Did not cause sensitisation on laboratory animals.

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

Result: May cause sensitisation by skin contact.

### Germ cell mutagenicity

Components:

#### poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]- -hydroxy-:

Germ cell mutagenicity-	:	In vitro tests did not show mutagenic effects
Assessment		

### fludioxonil:

Germ cell mutagenicity-	:	Animal testing did not show any mutagenic effects.
Assessment		

### dodecylbenzenesulphonic acid, compound with 2,2',2"-nitrilotriethanol (1:1):

Germ cell mutagenicity-	:	In vitro tests did not show mutagenic effects
Assessment		

### Carcinogenicity

#### **Components:**

#### fludioxonil:

Carcinogenicity -	:	No evidence of carcinogenicity in animal studies.
Assessment		

### **Reproductive toxicity**

### **Components:**

#### fludioxonil:

Reproductive toxicity -	: No toxicity to reproduction
Assessment	

### **Repeated dose toxicity**

### **Components:**

### fludioxonil:

Remarks: No adverse effect has been observed in chronic toxicity tests.

### **SECTION 12: Ecological information**

### 12.1 Toxicity

- Product:
  - Toxicity to fish
- : LC50 (Oncorhynchus mykiss (rainbow trout)): 20 mg/l

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Exposure time: 96 hToxicity to daphnia and other aquatic invertebratesEC50 (Daphnia magna Straus): 63 mg/l Exposure time: 48 hToxicity to algae:ErC50 (Pseudokirchneriella subcapitata (green algae)): 24.9 mg/l Exposure time: 72 hNOEC (Pseudokirchneriella subcapitata (green algae)): 12.5 mg/l End point: Growth rate Exposure time: 72 hEcotoxicology Assessment Chronic aquatic toxicity:Toxicity to fish:Components: poly(oxy-1,2-ethanediy)), -[2,4,6-tris(1-phenylethyl)phenyl]hydroxy-: Toxicity to fish:LC50 (Oncorhynchus mykiss (rainbow trout)): 21 mg/l Exposure time: 96 h:LC50 (Oncorhynchus mykiss (rainbow trout)): 0.23 mg/l Exposure time: 96 h:LC50 (Daphnia magna (Water flea)): 0.4 mg/l Exposure time: 96 h:EC60 (Speudokirchneriella subcapitata (green algae)): > 0.44 mg/l Exposure time: 96 h:CC50 (Pseudokirchneriella subcapitata (green algae)): > 0.44 mg/l Exposure time: 96 h::EC50 (Pseudokirchneriella subcapitata (green algae)): > 0.43 mg/l Exposure time: 96 h:::	Versio 12.0	'n	Revision Date: 20.07.2017		DS Number: 18171263	This version replaces all previous versions.
aquatic invertebrates       Exposure time: 48 h         Toxicity to algae       :       ErC50 (Pseudokirchneriella subcapitata (green algae)): 24.9 mg/l         Exposure time: 72 h       NOEC (Pseudokirchneriella subcapitata (green algae)): 12.5 mg/l         End point: Growth rate       Exposure time: 72 h         Chronic aquatic toxicity       :       Toxic to aquatic life with long lasting effects., Classification of the product is based on the summation of the concentrations of classified components.         Components:       poly(0xy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl] - hydroxy:         Toxicity to fish       :       LC50 (Danio rerio (zebra fish)): 21 mg/l         Ecotoxicology Assessment       Chronic aquatic toxicity       :         Toxicity to fish       :       LC50 (Oncorhynchus mykiss (rainbow trout)): 0.23 mg/l         Exposure time: 96 h       :       CC50 (Oncorhynchus mykiss (rainbow trout)): 0.23 mg/l         Toxicity to daphnia and other       :       EC50 (Daphnia magna (Water flea)): 0.4 mg/l         Exposure time: 96 h       :       CC50 (Pseudokirchneriella subcapitata (green algae)): > 0.44 mg/l         Toxicity to algae       :       ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.14 mg/l         Exposure time: 96 h       NOEC (Pseudokirchneriella subcapitata (green algae)): > 0.132 mg/l         Exposure time: 96 h       NOEC (Skeletonema costatum (marine diatom					Exposure time: 9	ô h
mg/l       Exposure time: 72 h         NOEC (Pseudokirchneriella subcapitata (green algae)): 12.5 mg/l         End point: Growth rate         Exposure time: 72 h         Ecotoxicology Assessment         Chronic aquatic toxicity       :         Toxic to aquatic life with long lasting effects., Classification of the product is based on the summation of the concentrations of classified components.         Components:       poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]hydroxy-:         Toxicity to fish       :       LC50 (Danio rerio (zebra fish)): 21 mg/l         Exposure time: 96 h       :       LC50 (Oncorhynchus mykiss (rainbow trout)): 0.23 mg/l         Exposure time: 96 h       :       LC50 (Oncorhynchus mykiss (rainbow trout)): 0.23 mg/l         Exposure time: 96 h       :       EC50 (Operhynchus mykiss (rainbow trout)): 0.23 mg/l         Exposure time: 96 h       :       EC50 (Daphnia magna (Water flea)): 0.4 mg/l         Exposure time: 96 h       :       ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.44 mg/l         Exposure time: 96 h       :       ErC50 (Skeletonema costatum (marine diatom)): 0.43 mg/l         Exposure time: 96 h       :       ErC50 (Skeletonema costatum (marine diatom)): 0.14 mg/l         Exposure time: 96 h       :       :       :         M-Factor (Acute aquatic       :       1, M-				:		
mg/l       End point: Growth rate         Exposure time: 72 h         Ecotoxicology Assessment         Chronic aquatic toxicity       : Toxic to aquatic life with long lasting effects., Classification of the product is based on the summation of the concentrations of classified components.         Components:       poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]hydroxy-:         Toxicity to fish       : LC50 (Danio rerio (zebra fish)): 21 mg/l         Exposure time: 96 h       Ecotoxicology Assessment         Chronic aquatic toxicity       : Harmful to aquatic life with long lasting effects.         fludioxonil:       Toxicity to fish         Toxicity to fish       : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.23 mg/l         Exposure time: 96 h       : CS0 (Daphnia magna (Water flea)): 0.4 mg/l         Toxicity to daphnia and other       : EC50 (Desudokirchneriella subcapitata (green algae)): > 0.44 mg/l         aquatic invertebrates       : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.44 mg/l         Exposure time: 96 h       NOEC (Pseudokirchneriella subcapitata (green algae)): > 0.43 mg/l         Exposure time: 96 h       ErC50 (Skeletonema costatum (marine diatom)): 0.43 mg/l         Exposure time: 96 h       NOEC (Skeletonema costatum (marine diatom)): 0.43 mg/l         Exposure time: 96 h       NOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l         End point: Growth rat	Т	oxicity	to algae	:	mg/l	
Chronic aquatic toxicity       : Toxic to aquatic life with long lasting effects., Classification of the product is based on the summation of the concentrations of classified components. <b>Components:</b> poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]hydroxy-:         Toxicity to fish       : LC50 (Danio rerio (zebra fish)): 21 mg/l Exposure time: 96 h <b>Ecotoxicology Assessment</b> : LC50 (Danio rerio (zebra fish)): 21 mg/l Exposure time: 96 h <b>Fludioxonil:</b> : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.23 mg/l Exposure time: 96 h         Toxicity to daphnia and other aquatic invertebrates       : EC50 (Daphnia magna (Water flea)): 0.4 mg/l Exposure time: 96 h         Toxicity to algae       : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.44 mg/l Exposure time: 96 h         NOEC (Pseudokirchneriella subcapitata (green algae)): 0.132 mg/l Exposure time: 96 h         NOEC (Skeletonema costatum (marine diatom)): 0.43 mg/l Exposure time: 96 h         NOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l Exposure time: 96 h         NOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l Exposure time: 96 h         NOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l Exposure time: 96 h					mg/l End point: Growth	n rate
Chronic aquatic toxicity       : Toxic to aquatic life with long lasting effects., Classification of the product is based on the summation of the concentrations of classified components. <b>Components:</b> poly(oxy-1,2-ethanediyl), -[2,4,6-tris(1-phenylethyl)phenyl]hydroxy-:         Toxicity to fish       : LC50 (Danio rerio (zebra fish)): 21 mg/l Exposure time: 96 h <b>Ecotoxicology Assessment</b> : LC50 (Danio rerio (zebra fish)): 21 mg/l Exposure time: 96 h <b>Fludioxonil:</b> : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.23 mg/l Exposure time: 96 h         Toxicity to daphnia and other aquatic invertebrates       : EC50 (Daphnia magna (Water flea)): 0.4 mg/l Exposure time: 96 h         Toxicity to algae       : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.44 mg/l Exposure time: 96 h         NOEC (Pseudokirchneriella subcapitata (green algae)): 0.132 mg/l Exposure time: 96 h         NOEC (Skeletonema costatum (marine diatom)): 0.43 mg/l Exposure time: 96 h         NOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l Exposure time: 96 h         NOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l Exposure time: 96 h         NOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l Exposure time: 96 h	E	cotox	icoloav Assessment			
poly(oxy-1,2-ethanediy)), -[2,4,6-tris(1-phenylethyl)phenyl]hydroxy-:         Toxicity to fish       : LC50 (Danio rerio (zebra fish)): 21 mg/l Exposure time: 96 h         Ecotoxicology Assessment Chronic aquatic toxicity       : Harmful to aquatic life with long lasting effects.         fludioxonil: Toxicity to fish       : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.23 mg/l Exposure time: 96 h         Toxicity to daphnia and other aquatic invertebrates       : EC50 (Daphnia magna (Water flea)): 0.4 mg/l Exposure time: 48 h         Toxicity to algae       : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.44 mg/l Exposure time: 96 h         NOEC (Pseudokirchneriella subcapitata (green algae)): 0.132 mg/l Exposure time: 96 h         NOEC (Skeletonema costatum (marine diatom)): 0.43 mg/l Exposure time: 96 h         NOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l End point: Growth rate Exposure time: 96 h         NOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l End point: Growth rate Exposure time: 96 h			••	:	the product is bas	sed on the summation of the concentrations
<ul> <li>LC50 (Danio rerio (zebra fish)): 21 mg/l Exposure time: 96 h</li> <li>Ecotoxicology Assessment Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.</li> <li>fludioxonil: Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.23 mg/l Exposure time: 96 h</li> <li>Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.4 mg/l Exposure time: 48 h</li> <li>Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): &gt; 0.44 mg/l Exposure time: 96 h</li> <li>NOEC (Pseudokirchneriella subcapitata (green algae)): 0.132 mg/l Exposure time: 96 h</li> <li>NOEC (Pseudokirchneriella subcapitata (green algae)): 0.132 mg/l Exposure time: 96 h</li> <li>NOEC (Skeletonema costatum (marine diatom)): 0.43 mg/l Exposure time: 96 h</li> <li>NOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l End point: Growth rate Exposure time: 96 h</li> </ul>	poly(o	oxy-1,2	2-ethanediyl), -[2,4,6	-tris	s(1-phenylethyl)pl	nenyl]hydroxy-:
Chronic aquatic toxicity       :       Harmful to aquatic life with long lasting effects.         fludioxonil: Toxicity to fish       :       LC50 (Oncorhynchus mykiss (rainbow trout)): 0.23 mg/l Exposure time: 96 h         Toxicity to daphnia and other aquatic invertebrates       :       EC50 (Daphnia magna (Water flea)): 0.4 mg/l Exposure time: 48 h         Toxicity to algae       :       ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.44 mg/l Exposure time: 96 h         NOEC (Pseudokirchneriella subcapitata (green algae)): 0.132 mg/l Exposure time: 96 h       NOEC (Pseudokirchneriella subcapitata (green algae)): 0.132 mg/l Exposure time: 96 h         MOEC (Skeletonema costatum (marine diatom)): 0.43 mg/l Exposure time: 96 h       NOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l End point: Growth rate Exposure time: 96 h         M-Factor (Acute aquatic       :       1, M-Factor=1 used for transport classification				:		
Chronic aquatic toxicity       :       Harmful to aquatic life with long lasting effects.         fludioxonil: Toxicity to fish       :       LC50 (Oncorhynchus mykiss (rainbow trout)): 0.23 mg/l Exposure time: 96 h         Toxicity to daphnia and other aquatic invertebrates       :       EC50 (Daphnia magna (Water flea)): 0.4 mg/l Exposure time: 48 h         Toxicity to algae       :       ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.44 mg/l Exposure time: 96 h         NOEC (Pseudokirchneriella subcapitata (green algae)): 0.132 mg/l Exposure time: 96 h       NOEC (Pseudokirchneriella subcapitata (green algae)): 0.132 mg/l Exposure time: 96 h         MOEC (Skeletonema costatum (marine diatom)): 0.43 mg/l Exposure time: 96 h       NOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l End point: Growth rate Exposure time: 96 h         M-Factor (Acute aquatic       :       1, M-Factor=1 used for transport classification	F	cotox	icology Assessment			
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<ul> <li>LC50 (Oncorhynchus mykiss (rainbow trout)): 0.23 mg/l Exposure time: 96 h</li> <li>Toxicity to daphnia and other aquatic invertebrates</li> <li>EC50 (Daphnia magna (Water flea)): 0.4 mg/l Exposure time: 48 h</li> <li>Toxicity to algae</li> <li>ErC50 (Pseudokirchneriella subcapitata (green algae)): &gt; 0.44 mg/l Exposure time: 96 h</li> <li>NOEC (Pseudokirchneriella subcapitata (green algae)): 0.132 mg/l Exposure time: 96 h</li> <li>ErC50 (Skeletonema costatum (marine diatom)): 0.43 mg/l Exposure time: 96 h</li> <li>NOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l End point: Growth rate Exposure time: 96 h</li> <li>NOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l End point: Growth rate</li> <li>Exposure time: 96 h</li> <li>NOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l</li> <li>End point: Growth rate</li> <li>Exposure time: 96 h</li> </ul>			sh			
aquatic invertebratesExposure time: 48 hToxicity to algae:ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.44 mg/l Exposure time: 96 hNOEC (Pseudokirchneriella subcapitata (green algae)): 0.132 mg/l Exposure time: 96 hNOEC (Pseudokirchneriella subcapitata (green algae)): 0.132 mg/l Exposure time: 96 hBrC50 (Skeletonema costatum (marine diatom)): 0.43 mg/l Exposure time: 96 hNOEC (Skeletonema costatum (marine diatom)): 0.43 mg/l Exposure time: 96 hNOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l End point: Growth rate Exposure time: 96 hNOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l End point: Growth rate Exposure time: 96 hM-Factor (Acute aquatic:1, M-Factor=1 used for transport classification		5		:		
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mg/l         Exposure time: 96 h         ErC50 (Skeletonema costatum (marine diatom)): 0.43 mg/l         Exposure time: 96 h         NOEC (Skeletonema costatum (marine diatom)): 0.14 mg/l         End point: Growth rate         Exposure time: 96 h         M-Factor (Acute aquatic         1, M-Factor=1 used for transport classification	Т	oxicity	to algae	:	mg/l	
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End point: Growth rate         Exposure time: 96 h         M-Factor (Acute aquatic       1, M-Factor=1 used for transport classification						
					End point: Growth	n rate
				:	1, M-Factor=1 us	ed for transport classification

according to Regulation (EC) No. 1907/2006



# CELEST XL

Versic 12.0	on	Revision Date: 20.07.2017		0S Number: 18171263	This version replaces all previous versions.	
II T	oxicity	to microorganisms	:	EC50 (activated s Exposure time: 3	ludge): > 100 mg/l h	
	oxicity oxicity)	to fish (Chronic	:	NOEC: 0.04 mg/l Exposure time: 28 Species: Oncorhy	3 d nchus mykiss (rainbow trout)	
а	Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)			Exposure time: 2		
	И-Facto oxicity)	or (Chronic aquatic	:	10, M-Factor=1 us	sed for transport classification	
		2-ethanediyl), alpha-9	)-00	tadecenyl-omega	-hydroxy-,(Z)-:	
loxici	ity to fis	sh	:	LC50 (Danio reric Exposure time: 96	o (zebra fish)): 1 - 10 mg/l S h	
		icology Assessment quatic toxicity	:	This product has	no known ecotoxicological effects.	
C	Chronic aquatic toxicity		:	This product has no known ecotoxicological effects.		
1,2-be	enziso	thiazol-3(2H)-one:				
		icology Assessment quatic toxicity	:	Very toxic to aqua	atic life.	
12.2 F	Persist	ence and degradabili	ity			
<u>c</u>	Compo	nents:				
	<b>xonil:</b> gradat	ility	:	Result: Not readil	y biodegradable.	
-	•••	xy-1,2-ethanediyl), alp	bha	-9-octadecenyl-on	nega-hydroxy-,(Z)-:	
Biode	gradab	pility	:	Result: Readily bi	odegradable.	
12.3 E	Bioacc	umulative potential				
fludio	Compo oxonil: cumula	nents: ation	:	Remarks: Does n	ot bioaccumulate.	
	Partition octanol	n coefficient: n- /water	:	log Pow: 4.12 (25		

according to Regulation (EC) No. 1907/2006



CELES								
Version 12.0	Revision Date: 20.07.2017		Number: 3171263	This version replaces all previous versions.				
12.4 Mobil	ity in soil							
<u>Comp</u>	onents:							
	I: oution among nmental compartments	: F	Remarks: immobile					
Stabili	ity in soil	F	Dissipation time: 14 d Percentage dissipation: 50 % (DT50) Remarks: Product is not persistent.					
12.5 Resul <u>Product:</u>	Its of PBT and vPvB as	ssess	ment					
Assessmer	nt	t V	o be either persis	ixture contains no components considered tent, bioaccumulative and toxic (PBT), or d very bioaccumulative (vPvB) at levels of				
	oonents: I,2-ethanediyl), -[2,4,6 at	-tris(1	-phenylethyl)ph	enyl]hydroxy-:				
		t c	bioaccumulating a	not considered to be persistent, and toxic (PBT) This substance is not very persistent and very bioaccumulating				
fludio	xonil:							
Assessmer	nt	-						
		t c	bioaccumulating a	not considered to be persistent, and toxic (PBT) This substance is not very persistent and very bioaccumulating				
12.6 Other	adverse effects							
No data av								
	13: Disposal consid	lerati	ons					
<b>13.1 Wast</b> e Produ	e treatment methods ct	c E V ii I	chemical or used Do not dispose of Where possible re ncineration.	te ponds, waterways or ditches with container. waste into sewer. ccycling is preferred to disposal or practicable, dispose of in compliance with				
Conta	minated packaging	ר E h		ners. should be taken to an approved waste ecycling or disposal.				

according to Regulation (EC) No. 1907/2006



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SECTION 14: Transport information	_
14.1 UN number	
Not regulated as a dangerous good	
14.2 UN proper shipping name	
Not regulated as a dangerous good	
14.3 Transport hazard class(es)	
Not regulated as a dangerous good	
14.4 Packing group	
Not regulated as a dangerous good	
14.5 Environmental hazards	
Not regulated as a dangerous good	
14.6 Special precautions for user	
Remarks : Not classified as dangerous in the meaning of transport 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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants	:	Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	:	Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. Not applicable

Other regulations:

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

Youth Employment Protection Regulation (ArGV 5, SR 822 115): Adolescents up to completion of their 18th year are only allowed to come in contact or get exposed to this product at their place of work if the Federal Office for Professional Education and Technology (BBT) or the State Secretariat for Economic Affairs (SECO) has granted an exemption.

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### 15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

#### SECTION 16: Other information Full text of H-Statements

I	text of H-Statements			
	H302	:	Harmful if swallowed.	
	H315	:	Causes skin irritation.	
	H317	:	May cause an allergic skin reaction.	
	H318	:	Causes serious eye damage.	
	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 tout of other abbrautations				

### Full text of other abbreviations

oxicity
toxicity
mage
on
r

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; AICS - Australian Inventory of Chemical Substances; 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; TCSI - Taiwan Chemical Substance 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

according to Regulation (EC) No. 1907/2006



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Classification of the mixture:		Classification procedure:	
Skin Sens. 1	H317	Calculation method	
Aquatic Chronic 2	H411	Based on product data or assessment	

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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