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

1.1 Product identifier	
Trade name	: CELEST 100 FS
Design code	: A8348G
1.2 Relevant identified use	s of the substance or mixture and uses advised against
Use of the Substance/Mixture	: Fungicide, Seed treatment

1.3 Details of the supplier of the safety data sheet

Company	: Syngenta Crop Protection AG Postfach CH-4002 Basel Switzerland
Telephone	: +41 61 323 11 11
Telefax	: +41 61 323 12 12
E-mail address	: sds.ch@syngenta.com

1.4 Emergency telephone number

Emergency telephone	: +44 1484 538444
number	

SECTION 2: Hazards identification 2.1 Classification of the substance or mixture

Classification (**REGULATION (EC) No 1272/2008)** Chronic aquatic toxicity, Category 1

H410: Very 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	:	H410 Very toxic to aquatic life with long lasting effects.
Supplemental Hazard Statements	:	EUH208Contains 1,2-benzisothiazol-3-one. Mayproduce an allergic reaction.EUH401To avoid risks to human health and the

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Precau	utionary statements	Response: P391 Collect s Disposal:	nply with the instructions for use. pillage. of contents/ container to an approved waste

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)
fludioxonil	131341-86-1	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 10 - < 20
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	>= 0.025 - < 0.05

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.
If inhaled	:	Move the victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call a physician or poison control centre immediately.
In case of skin contact	:	Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.
In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

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		Remove conta Immediate me	ct lenses. dical attention is required.			
If swallowed :		container or la	If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting.			
4.2 Most i	mportant symptoms	and effects, both ac	ute and delayed			
Symp	toms	: No symptoms	No symptoms known or expected.			
4.3 Indication of any immediate medical attention and special treatment needed						
Treat	ment	: There is no sp Treat symptom	ecific antidote available. natically.			

SECTION 5: Firefighting measures

5.1 Extinguishing media		
Suitable extinguishing media	:	Extinguishing media - small fires Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Extinguishing media - large fires Alcohol-resistant foam or Water spray
Unsuitable extinguishing media	:	Do not use a solid water stream as it may scatter and spread fire.
5.2 Special hazards arising from t	the	e substance or mixture
Specific hazards during firefighting	:	As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health.
5.3 Advice for firefighters		
Special protective equipment for firefighters	:	Wear full protective clothing and self-contained breathing apparatus.
Further 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 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Refer to protective measures listed in sections 7	7 and	8.
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6.2 Environmental precautions

Environmental precautions	:	Prevent further leakage or spillage if safe to do so.
		Do not flush into surface water or sanitary sewer system.
		If the product contaminates rivers and lakes or drains inform
		respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	 Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Clean contaminated surface thoroughly. Clean with detergents. Avoid solvents. Retain and dispose of contaminated wash water.
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6.4 Reference to other sections

For disposal considerations see section 13., Refer to protective measures listed in sections 7 and 8. SECTION 7: Handling and storage				
7.1 Precautions for safe handling				
Advice on safe handling : No special protective measures against fire required. Avoid contact with skin and eyes. When using do not eat, drink or smoke. For personal protection see section 8.				
7.2 Conditions for safe storage, including any incompatibilities				
Requirements for storage : No special storage conditions required. Keep containers areas and containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.				
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.

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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	nt :	No special protective equipment required.
Hand protection Remarks	:	No special protective equipment required.
Skin and body protection	:	No special protective equipment required. Select skin and body protection based on the physical job requirements.
Respiratory protection	:	No personal respiratory protective equipment normally required. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Protective measures	:	The use of technical measures should always have priority over the use of personal protective equipment. When selecting personal protective equipment, seek appropriate professional advice.

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

	:	suspension
Colour Odour	:	light red to dark red characteristic
Odour Threshold	:	No data available
рН	:	7.5 - 9.5 Concentration: 100 % w/v
		6 - 10 Concentration: 1 % w/v
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	> 99 °C(1001.0 hPa) Method: Pensky-Martens closed cup
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available

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Upper explosion limit	: No data avail	able
Lower explosion limit	: No data avail	able
Relative vapour density	: No data avail	able
Density	: 1.077 g/cm3	
Solubility(ies) Solubility in other solvents	: No data avail	able
Partition coefficient: n- octanol/water	: No data avail	able
Auto-ignition temperature	: 615 °C	
Decomposition temperature	: No data avail	able
Viscosity Viscosity, dynamic	: 59.3 - 441 ml	Pa.s (20 °C)
	45.5 - 343 ml	Pa.s (40 °C)
Explosive properties	: Not explosive	
Oxidizing properties		e or mixture is not classified as oxidizing.
	No data avail	-
9.2 Other information Surface tension	: 28.5 mN/m, 2	20 °C
SECTION 10: Stability and rea	activity	
10.1 Reactivity		
None reasonably foreseeable. 10.2 Chemical stability		
Stable under normal condition	S.	
10.3 Possibility of hazardous rea	octions	
Hazardous reactions	: No dangerou	s reaction known under conditions of normal use.
10.4 Conditions to avoid Conditions to avoid	: No decompos	sition if used as directed.
10.5 Incompatible materials Materials to avoid		
	6 / 1	5

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		:	None known.	
Combusti	ardous decompositior on or thermal decompo N 11: Toxicological	sition	will evolve toxic	and irritant vapours.
	rmation on toxicologic			
Acut	te toxicity			
Proc Acute ora		:		ale): > 2,000 mg/kg ne substance or mixture has no acute oral
			toxicity	
Acut	e inhalation toxicity	:	Exposure time: Test atmospher	re: dust/mist ne substance or mixture has no acute
Acut	e dermal toxicity	:		e and female): > 2,000 mg/kg ne substance or mixture has no acute dermal
Com	iponents:			
fludioxor Acute ora				
Acute of a		:	LD50 (Rat, male	e and female): > 5,000 mg/kg
Acut	e inhalation toxicity	:	Exposure time: Test atmospher	e: dust/mist ne substance or mixture has no acute
Acut	e dermal toxicity	:		e and female): > 2,000 mg/kg ne substance or mixture has no acute dermal
1,2-k	oenzisothiazol-3(2H)-o	ne:		
Acute ora	I toxicity	:	Assessment: The single ingestion	ne component/mixture is moderately toxic after
Skin	corrosion/irritation			
	<mark>luct:</mark> cies: Rabbit ult: No skin irritation			

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Components:

fludioxonil: Species: Rabbit Result: No skin irritation

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

Result: Irritating to skin.

Serious eye damage/eye irritation

Product:

Species: Rabbit Result: No eye irritation

Components:

fludioxonil: Species: Rabbit Result: No eye irritation

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

Result: Risk of serious damage to eyes.

Respiratory or skin sensitisation

Product:

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

Components:

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

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

Result: Probability or evidence of skin sensitisation in humans

Germ cell mutagenicity

Components:

fludioxonil:

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

Carcinogenicity

Components:

fludioxonil:

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

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Reproductive toxicity

Components:

fludioxonil:

Reproductive toxic Assessment

Reproductive toxicity - : No toxicity to reproduction

Repeated dose toxicity

Components:

fludioxonil:

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

SECTION 12: Ecological information

12.1 Toxicity

P	ro	d	u	С	t

<u>roduct:</u> Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 6.2 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna Straus): 10 mg/l Exposure time: 48 h
Toxicity to algae	:	EbC50 (Pseudokirchneriella subcapitata (green algae)): 2.1 mg/l Exposure time: 96 h ErC50 (Pseudokirchneriella subcapitata (green algae)): 10 mg/l Exposure time: 96 h

Ecotoxicology Assessment

Chronic aquatic toxicity	:	Very toxic to aquatic life with long lasting effects., Classification of the product is based on the summation of the concentrations of classified components.
--------------------------	---	--

Components:

fludioxonil:

Toxicity	to	fish
	ιυ	11311

ΟX		:	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

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			Exposure time: 06	` h
			Exposure time: 96	
			ErC50 (Skeletone Exposure time: 96	ma costatum (marine diatom)): 0.43 mg/l 5 h
			NOEC (Skeletone End point: Growth Exposure time: 96	
M-Fac toxicit	ctor (Acute aquatic y)	:	1	
Toxici	ty to microorganisms	:	EC50 (activated s Exposure time: 3	ludge): > 100 mg/l h
Toxici toxicit	ty to fish (Chronic y)	:	NOEC: 0.04 mg/l Exposure time: 28 Species: Oncorhy	d nchus mykiss (rainbow trout)
aquati	ty to daphnia and other ic invertebrates nic toxicity)	:	NOEC: 0.035 mg/ Exposure time: 21 Species: Daphnia	
M-Fac toxicit	ctor (Chronic aquatic y)	:	10	
1,2-benzis	othiazol-3(2H)-one:			
	aquatic toxicity	:	Very toxic to aqua	itic life.
12.2 Persi	stence and degradabil	ity		
<u>Comp</u> fludioxoni Biodegrada		:	Result: Not readily	y biodegradable.
12.3 Bioad	cumulative potential			
fludioxoni				
Bioaccumu	Ilation	:	Remarks: Does no	ot bioaccumulate.
	on coefficient: n- ol/water	:	log Pow: 4.12 (25	°C)
12.4 Mobil	lity in soil			
	oonents:			
fludioxoni Distrib	I: oution among	:	Remarks: immobil	le

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enviro	onmental compartmen	ts	
Stabi	lity in soil		ne: 14 d ssipation: 50 % (DT50) duct is not persistent.
12.5 Resu Product: Assessme	Ilts of PBT and vPvB	assessment	
Assessme	211	to be either pe	e/mixture contains no components considered ersistent, bioaccumulative and toxic (PBT), or t and very bioaccumulative (vPvB) at levels of r
<u>Com</u> fludioxon Assessme		bioaccumulatii	e is not considered to be persistent, ng and toxic (PBT) This substance is not be very persistent and very bioaccumulating
12.6 Othe No data av	r adverse effects vailable		
SECTION	N 13: Disposal cons	siderations	
	te treatment methods		
Produ	uct	chemical or us Do not dispos Where possibl incineration.	e of waste into sewer. e recycling is preferred to disposal or not practicable, dispose of in compliance with
0		E an transmission	

Contaminated packaging	: Empty remaining contents.
	Triple rinse containers.
	Empty containers should be taken to an approved waste
	handling site for recycling or disposal.
	Do not re-use empty containers.

SECTION 14: Transport information 14.1 UN number

ADN	: UN 3082	
ADR	: UN 3082	
RID	: UN 3082	
IMDG	: UN 3082	
ΙΑΤΑ	: UN 3082	

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14 2 I IN n	proper shipping name			
ADN		:	ENVIRONMEN N.O.S. (FLUDIOXONII	ITALLY HAZARDOUS SUBSTANCE, LIQUID,
ADR		:	ENVIRONMEN N.O.S. (FLUDIOXONII	ITALLY HAZARDOUS SUBSTANCE, LIQUID,
RID		:	ENVIRONMEN N.O.S. (FLUDIOXONII	ITALLY HAZARDOUS SUBSTANCE, LIQUID,
IMDO	3	:	ENVIRONMEN N.O.S. (FLUDIOXONII	ITALLY HAZARDOUS SUBSTANCE, LIQUID,
ΙΑΤΑ		:	Environmentall (FLUDIOXONII	y hazardous substance, liquid, n.o.s. _)
14.3 Tran	sport hazard class(es)			
ADN		:	9	
ADR		:	9	
RID		:	9	
IMDO	3	:	9	
ΙΑΤΑ		:	9	
14.4 Pack	ing group			
ADN				
	ing group	:	III	
	sification Code	÷	M6 90	
Labe		:	9	
ADR				
	ing group	:	III	
	sification Code	:	M6	
Haza Labe	rd Identification Number	÷	90 9	
	el restriction code	÷	(-)	
RID				
Pack	ing group	:	III	
	sification Code	:	M6	
Haza Labe	rd Identification Number	÷	90 9	
IMDO				
	ing group	:	Ш	
Labe	ls	:	9	
	Code	:	F-A, S-F	
	(Cargo) ing instruction (cargo aft)	:	964	

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Pa	cking instruction (LQ) cking group pels	: Y964 : III : Miscellaneous	
Pa (pa Pa Lal	FA (Passenger) cking instruction assenger aircraft) cking instruction (LQ) cking group bels vironmental hazards	: 964 : Y964 : III : Miscellaneous	
AD En	vironmentally hazardous	: yes	
AD En	R vironmentally hazardous	: yes	
RII En) vironmentally hazardous	: yes	
IM Ma	DG rine pollutant	: yes	
	Γ A (Passenger) Irine pollutant	: yes	
	ΓΑ (Cargo) rine pollutant	: yes	
No 14.7 Tra	ecial precautions for use t applicable ansport in bulk according t applicable for product as	g to Annex II of Marp	ool and the IBC Code
SECTI	ON 15: Regulatory info	ormation	
15.1 Sa mixture		mental regulations/le	gislation specific for the substance or
	ion (EC) No 649/2012 of th f dangerous chemicals	he European Parliame	ent and the Council concerning the export and
	ACH - Candidate List of S ncern for Authorisation (A		: Not applicable gh : Not applicable
	gulation (EC) No 1005/200 plete the ozone layer	09 on substances that	: Not applicable
	gulation (EC) No 850/2004 lutants	1 on persistent organio	c : 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.

		Quantity 1	Quantity 2
E1	ENVIRONMENTAL	100 t	200 t
	HAZARDS		

Other regulations:

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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.

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-St

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.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Acute aquatic toxicity
Aquatic Chronic	:	Chronic aquatic toxicity
Eye Dam.	:	Serious eye damage
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation

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

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Further information

Classification of the mixtur	e:	Classification procedure:
Aquatic Chronic 1	H410	Calculation method

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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