ACTARA SC

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
1.0	17.12.2018	S00026841767	

1. PRODUCT AND COMPANY IDENTIFICATION

Product name ACTARA SC

Design code A9795G

Manufacturer or supplier's details

Company : Syngenta SA (Pty) Ltd

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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

Emergency telephone number : +27 (0) 82 446 8946 (Griffon)

Recommended use of the chemical and restrictions on use

Recommended use : Insecticide

2. HAZARDS IDENTIFICATION

Most important hazards

Other hazards

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
thiamethoxam (ISO)	153719-23-4	Flam. Sol. 1; H228 Acute Tox. 4; H302 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 20 - < 25
lignosulfonic acid, ethoxylated, sodium salts	68611-14-3	Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335	>= 1 - < 10
2,2-dichloro-1-(3-methyl-2,3-dihydro-1,4-benzoxazin-4-yl)ethanone	99734-09-5	Aquatic Chronic 3; H412	>= 1 - < 2,5
poly(oxy-1,2-ethanediyl), alpha-phosphono-omega-	90093-37-1	Eye Irrit. 2; H319	>= 1 - < 10

[2,4,6-tris(1-phenylethyl)phenoxy]-			
1,2-benzisothiazol-3(2H)-one	2634-33-5	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400	>= 0,025 - < 0,05
bronopol (INN)	52-51-7	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H335 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 0,025 - < 0,1
Substances with a workplace exposure limit :			
propane-1,2,3-triol	56-81-5		>= 1 - < 10

For explanation of abbreviations see section 16.

4. 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.
Remove contact lenses.
Immediate medical attention is required.

If swallowed : If swallowed, seek medical advice immediately and show this container or label.
Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed : Nonspecific
No symptoms known or expected.

Notes to physician : There is no specific antidote available.
Treat symptomatically.

5. FIREFIGHTING MEASURES

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.
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.
Specific extinguishing methods	:	Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.
Special protective equipment for firefighters	:	Wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Refer to protective measures listed in sections 7 and 8.
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.
Methods and materials for containment and 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.

7. HANDLING AND STORAGE

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.
Conditions for safe storage	:	No special storage conditions required.

Keep 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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
thiamethoxam (ISO)	153719-23-4	TWA	3 mg/m3	Syngenta
propane-1,2,3-triol	56-81-5	TWA OEL-RL (Mist)	10 mg/m3	ZA OEL
	Further information: Recommended Limit			

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

Respiratory protection : No personal respiratory protective equipment normally required.
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection

Remarks : No special protective equipment required.

Eye protection : 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.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	beige brown
Odour	:	weak
Odour Threshold	:	No data available
pH	:	4,5 - 6,0 Concentration: 100 % w/v
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	Method: Pensky-Martens closed cup does not flash
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Density	:	1,1111 g/cm3
Solubility(ies)		
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	435 °C
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

10. STABILITY AND REACTIVITY

Reactivity	:	None reasonably foreseeable.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	No decomposition if used as directed.
Incompatible materials	:	None known.
Hazardous decomposition products	:	No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Ingestion
Inhalation
Skin contact
Eye contact

Acute toxicity

Product:

Acute oral toxicity : LD50 (Rat, male and female): > 5.000 mg/kg
Remarks: The toxicological data has been taken from products of similar composition.

Acute inhalation toxicity : LC50 (Rat, male and female): > 5,39 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: The toxicological data has been taken from products of similar composition.

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2.000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: The toxicological data has been taken from products of similar composition.

Components:

thiamethoxam (ISO):

Acute oral toxicity : LD50 (Rat, male and female): 1.563 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 3,72 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 2.000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

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

Acute oral toxicity : LD50 (Rat): 1.020 mg/kg

bronopol (INN):

Acute oral toxicity : Assessment: The component/mixture is moderately toxic after single ingestion.

Acute dermal toxicity : Assessment: The component/mixture is moderately toxic after single contact with skin.

Skin corrosion/irritation

Product:

Species : Rabbit
Result : No skin irritation
Remarks : The toxicological data has been taken from products of similar composition.

Components:

thiamethoxam (ISO):

Species : Rabbit
Result : No skin irritation

lignosulfonic acid, ethoxylated, sodium salts:

Result : Irritating to skin.

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

Result : Irritating to skin.

bronopol (INN):

Result : Irritating to skin.

Serious eye damage/eye irritation

Product:

Species : Rabbit
Result : No eye irritation
Remarks : The toxicological data has been taken from products of similar composition.

Components:

thiamethoxam (ISO):

Species	:	Rabbit
Result	:	No eye irritation

lignosulfonic acid, ethoxylated, sodium salts:

Result	:	Eye irritation

poly(oxy-1,2-ethanediyl), alpha-phosphono-omega-[2,4,6-tris(1-phenylethyl)phenoxy]-:

Species	:	Rabbit
Result	:	Eye irritation

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

Result	:	Risk of serious damage to eyes.

bronopol (INN):

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.
Remarks	:	The toxicological data has been taken from products of similar composition.

Components:

thiamethoxam (ISO):

Species	:	Guinea pig
Result	:	Does not cause skin sensitisation.

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

Result	:	Probability or evidence of skin sensitisation in humans

Germ cell mutagenicity

Components:

thiamethoxam (ISO):

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

Carcinogenicity

Components:

thiamethoxam (ISO):

Carcinogenicity - Assessment	:	Liver tumours noted in mice that are not relevant to humans.

Reproductive toxicity

Components:

thiamethoxam (ISO):

Reproductive toxicity - Assessment	:	No toxicity to reproduction

STOT - single exposure

Components:

lignosulfonic acid, ethoxylated, sodium salts:

Assessment	:	The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

bronopol (INN):

Assessment	:	The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

Repeated dose toxicity

Components:

thiamethoxam (ISO):

Remarks	:	Did not show neurotoxicity in animal experiments.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 495 mg/l Exposure time: 96 h Remarks: Based on test results obtained with similar product.
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 490 mg/l Exposure time: 48 h Remarks: Based on test results obtained with similar product. EC50 (Chironomus riparius (Midge larvae)): 0,326 mg/l Exposure time: 48 h

Remarks: Based on test results obtained with similar product.

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 416 mg/l
Exposure time: 72 h
Remarks: Based on test results obtained with similar product.

NOEC (Pseudokirchneriella subcapitata (green algae)): 51,16 mg/l
End point: Growth rate
Exposure time: 72 h
Remarks: Based on test results obtained with similar product.

Components:

thiamethoxam (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h

EC50 (Cloeon sp.): 0,014 mg/l
Exposure time: 48 h

EC50 (Chironomus riparius (harlequin fly)): 0,035 mg/l
Exposure time: 48 h

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 81,8 mg/l
Exposure time: 72 h

NOEC (Pseudokirchneriella subcapitata (green algae)): 81,8 mg/l
End point: Growth rate
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 10

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 28 d
Test Type: flow-through test

NOEC (Oncorhynchus mykiss (rainbow trout)): > 20 mg/l
Exposure time: 88 d
Test Type: Early-life Stage

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 100 mg/l
Exposure time: 21 d

NOEC (Chironomus riparius (Midge larvae)): 0,01 mg/l
Exposure time: 30 d

M-Factor (Chronic aquatic toxicity) : 10

Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h

2,2-dichloro-1-(3-methyl-2,3-dihydro-1,4-benzoxazin-4-yl)ethanone:

Ecotoxicology Assessment

Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

poly(oxy-1,2-ethanediyl), alpha-phosphono-omega-[2,4,6-tris(1-phenylethyl)phenoxy]-:

Toxicity to microorganisms : EC50 (Pseudomonas putida): > 1.000 mg/l

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

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

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

bronopol (INN):

Toxicity to algae : NOEC (algae): 0,0025 mg/l

EC50 (algae): 0,068 mg/l

Persistence and degradability

Components:

thiamethoxam (ISO):

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 11 d
Remarks: Product is not persistent.

bronopol (INN):

Biodegradability : Result: Readily biodegradable.

Bioaccumulative potential

Components:

thiamethoxam (ISO):

Bioaccumulation : Remarks: Low bioaccumulation potential.

Partition coefficient: n- : log Pow: -0,13 (25 °C)

octanol/water

Mobility in soil

Components:

thiamethoxam (ISO):

Distribution among environmental compartments	:	Remarks: Moderately mobile in soils
Stability in soil	:	Dissipation time: 51 d Percentage dissipation: 50 % (DT50) Remarks: Product is not persistent.

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.
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.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (THIAMETHOXAM)
Class	:	9
Packing group	:	III
Labels	:	9

IATA-DGR

UN/ID No.	:	UN 3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (THIAMETHOXAM)
Class	:	9
Packing group	:	III

Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	964
Packing instruction (passenger aircraft)	:	964
Environmentally hazardous	:	yes

IMDG-Code

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (THIAMETHOXAM)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

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.

15. REGULATORY INFORMATION

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

None known.

16. OTHER INFORMATION

Full text of other abbreviations

ZA OEL	:	South Africa. Hazardous Chemical Substances Regulations, Occupational Exposure Limits
ZA OEL / TWA OEL-RL	:	Long term occupational exposure limits - recommended limit

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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; ERG - Emergency Response Guide; 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; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; 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; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

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.

ZA / EN