

CASPER

Version 1.0 Revision Date: 07.12.2018 SDS Number: S1168979212 This version replaces all previous versions.

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : CASPER
 Product code : CASPER
 Design code : A14031E

Manufacturer or supplier's details

Company : Syngenta SA (Pty) Ltd
 Address : P.O. Box 1044, No. 4 Krokodil drift Avenue
 Brits 0250
 South Africa
 Telephone : +27 12 2502 120
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Recommended use of the chemical and restrictions on use

Recommended use : Herbicide

2. HAZARDS IDENTIFICATION

Most important hazards

Other hazards

May form combustible dust concentrations in air.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
sodium 3,6-dichloro-o-anisate	1982-69-0	Acute Tox. 4; H332 Eye Irrit. 2; H319 Aquatic Acute 1; H400 Aquatic Chronic 3; H412	>= 50 - < 70
prosulfuron	94125-34-5	Acute Tox. 4; H302 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 2,5 - < 10
Substances with a workplace exposure limit :			
silica	61790-53-2		>= 20 - < 30

For explanation of abbreviations see section 16.

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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.

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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. Avoid dust formation.

Environmental precautions : 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, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13). Do not create a powder cloud by using a brush or compressed air. Clean contaminated surface thoroughly. Clean with detergents. Avoid solvents. Retain and dispose of contaminated wash water.

7. HANDLING AND STORAGE

Advice on safe handling : This material is capable of forming flammable dust clouds in air, which, if ignited, can produce a dust cloud explosion. Flames, hot surfaces, mechanical sparks and electrostatic discharges can serve as ignition sources for this material. Electrical equipment should be compatible with the flammability characteristics of this material. The flammability characteristics will be made worse if the material contains traces of flammable solvents or is handled in the presence of flammable solvents.

In general personnel handling this material and all conducting equipment should be electrically earthed or grounded. Consideration should be given to avoiding the use of insulating plastics.

Bulk bags (FIBC) used to contain this material should be Type C or Type D. Type C bags must be electrically grounded before powder is charged to or discharged from the bag. Bag filters used to scavenge dust from material handling processes should be conductive and electrically grounded during use. If metal or fibre drums are used to contain this product, make certain that the metal parts are bonded to the filling equipment and grounded.

This material can become readily charged in most operations.

Avoid contact with skin and eyes.
When using do not eat, drink or smoke.
For personal protection see section 8.

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- Conditions for safe storage : 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.
- Further information on storage stability : Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
silica	61790-53-2	TWA OEL-RL (Respirable dust)	3 mg/m ³	ZA OEL
Further information: Recommended Limit				
		TWA OEL-RL (inhalable dust)	6 mg/m ³	ZA OEL
Further information: Recommended Limit				
		TWA OEL-RL (Respirable dust)	1,5 mg/m ³	ZA OEL
Further information: Recommended Limit				
prosulfuron	94125-34-5	TWA	4 mg/m ³	Syngenta

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

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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 : granules

Colour : light grey to brown

Odour : characteristic

Odour Threshold : No data available

pH : 6 - 10
Concentration: 1 % w/v

Melting point/range : No data available

Boiling point/boiling range : No data available

Flash point : No data available

Evaporation rate : No data available

Flammability (solid, gas) : May form combustible dust concentrations in air.

Burning number : 4 (20 °C)
4 (100 °C)

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 g/cm³ (25 °C)

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Bulk density : 0,5 - 0,7 g/ml

Solubility(ies)
Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Minimum ignition temperature : 500 °C

Viscosity
Viscosity, dynamic : No data available

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Self-heating substances : The substance or mixture is not classified as self heating.

Minimum ignition energy : > 1.000 mJ

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, female): > 2.000 mg/kg
Assessment: The component/mixture is minimally toxic after

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- single ingestion.
Remarks: The toxicological data has been taken from products of similar composition.
- Acute inhalation toxicity : LC50 (Rat, male and female): > 5,02 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
Remarks: The toxicological data has been taken from products of similar composition.

Components:

sodium 3,6-dichloro-o-anisate:

- Acute oral toxicity : LD50 (Rat, male and female): 4.600 mg/kg
The value is given in analogy to the following substances:
dicamba (ISO)
- Acute inhalation toxicity : LC50 (Rat, male): 4,46 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
The value is given in analogy to the following substances:
dicamba (ISO)
- LC50 (Rat, female): > 5,19 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

prosulfuron:

- Acute oral toxicity : LD50 (Rat, male and female): 986 mg/kg
- Acute inhalation toxicity : LC50 (Rat, male and female): > 5.400 mg/m³
Exposure time: 4 h
Test atmosphere: dust/mist
- Acute dermal toxicity : LD50 (Rabbit, male and female): > 2.000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Product:

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

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Components:**prosulfuron:**

Species : Rabbit
Result : No skin irritation

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:**sodium 3,6-dichloro-o-anisate:**

Species : Rabbit
Result : Eye irritation

prosulfuron:

Species : Rabbit
Result : No eye irritation

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:**sodium 3,6-dichloro-o-anisate:**

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

prosulfuron:

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

Germ cell mutagenicity**Components:****sodium 3,6-dichloro-o-anisate:**

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

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prosulfuron:

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

Carcinogenicity

Components:

sodium 3,6-dichloro-o-anisate:

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

prosulfuron:

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

Reproductive toxicity

Components:

sodium 3,6-dichloro-o-anisate:

Reproductive toxicity - Assessment : No toxicity to reproduction

prosulfuron:

Reproductive toxicity - Assessment : No toxicity to reproduction

Repeated dose toxicity

Components:

sodium 3,6-dichloro-o-anisate:

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

prosulfuron:

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 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)): > 100 mg/l
Exposure time: 48 h
Remarks: Based on test results obtained with similar product.

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Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): 0,319 mg/l
Exposure time: 96 h
Remarks: Based on test results obtained with similar product.

ErC50 (Lemna gibba (gibbous duckweed)): 0,0623 mg/l
Exposure time: 7 d
Remarks: Based on test results obtained with similar product.

NOEC (Pseudokirchneriella subcapitata (green algae)): 0,025 mg/l
Exposure time: 96 h
Remarks: Based on test results obtained with similar product.

Components:

sodium 3,6-dichloro-o-anisate:

Toxicity to algae : EC50 (Skeletonema costatum (marine diatom)): 0,58 mg/l
The value is given in analogy to the following substances:
dicamba (ISO)

NOEC (Skeletonema costatum (marine diatom)): 0,011 mg/l
The value is given in analogy to the following substances:
dicamba (ISO)

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

prosulfuron:

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)): > 120 mg/l
Exposure time: 48 h

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): 0,074 mg/l
Exposure time: 72 h

NOEC (Pseudokirchneriella subcapitata (green algae)): 0,008 mg/l
End point: Growth rate
Exposure time: 72 h

EC50 (Lemna gibba (gibbous duckweed)): 0,00126 mg/l
Exposure time: 14 d

NOEC (Lemna gibba (gibbous duckweed)): 0,00083 mg/l
Exposure time: 14 d

M-Factor (Acute aquatic toxicity) : 100

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Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): 5,8 mg/l Exposure time: 21 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 32 mg/l Exposure time: 21 d
M-Factor (Chronic aquatic toxicity)	:	100
Toxicity to microorganisms	:	EC50 (activated sludge): > 100 mg/l Exposure time: 3 h

Persistence and degradability

Components:

sodium 3,6-dichloro-o-anisate:

Biodegradability	:	Result: Not readily biodegradable.
Stability in water	:	Degradation half life: 35 - 46 d Remarks: Product is not persistent.

prosulfuron:

Biodegradability	:	Result: Not readily biodegradable.
Stability in water	:	Degradation half life: 45 - 60 d Remarks: Product is not persistent.

silica:

Biodegradability	:	Result: Not readily biodegradable.
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Bioaccumulative potential

Components:

sodium 3,6-dichloro-o-anisate:

Bioaccumulation	:	Remarks: Low bioaccumulation potential. Based on test results obtained with similar product.
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prosulfuron:

Bioaccumulation	:	Remarks: Low bioaccumulation potential.
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Partition coefficient: n-octanol/water	:	log Pow: -0,76 (25 °C)
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log Pow: -0,21 (25 °C)

log Pow: 1,5 (25 °C)

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Mobility in soil**Components:****sodium 3,6-dichloro-o-anisate:**

Distribution among environmental compartments : Remarks: Very highly mobile in soil.
Based on test results obtained with similar product.

Stability in soil : Dissipation time: 1,4 - 11 d
Percentage dissipation: 50 %
Remarks: Product is not persistent.

prosulfuron:

Distribution among environmental compartments : Remarks: Highly mobile in soils

Stability in soil : Dissipation time: 11 d
Percentage dissipation: 50 % (DT50)
Remarks: Product is not persistent.

Other adverse effects**Components:****sodium 3,6-dichloro-o-anisate:**

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

prosulfuron:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

silica:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

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

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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 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (PROSULFURON)
Class : 9
Packing group : III
Labels : 9

IATA-DGR

UN/ID No. : UN 3077
Proper shipping name : Environmentally hazardous substance, solid, n.o.s. (PROSULFURON)
Class : 9
Packing group : III
Labels : Miscellaneous
Packing instruction (cargo aircraft) : 956
Packing instruction (passenger aircraft) : 956
Environmentally hazardous : yes

IMDG-Code

UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (PROSULFURON)
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.

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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.

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ZA / EN