

CONCEP 960 EC

Version 1.0 Revision Date: 08.11.2018 SDS Number: S172640541 This version replaces all previous versions.

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : CONCEP 960 EC

Design code : A8468C

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 12 250 6300

Telefax : +27 12 250 3125

E-mail address of person responsible for the SDS : sds.ch@syngenta.com

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

Recommended use of the chemical and restrictions on use

Recommended use : Safeners

2. HAZARDS IDENTIFICATION

Most important hazards

Other hazards

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
fluxofenim	88485-37-4	Acute Tox. 4; H302 Acute Tox. 4; H312 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 70 - < 90
Amines, tallow alkyl, ethoxylated	61791-26-2	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 3 - < 10
nonylphenol ethoxylate propoxylate	37251-69-7	Aquatic Chronic 3; H412	>= 2,5 - < 10

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N-methyl-2-pyrrolidone	872-50-4	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Repr. 1B; H360D STOT SE 3; H335	$\geq 1 - < 5$
toluene	108-88-3	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Repr. 2; H361d STOT SE 3; H336 STOT RE 2; H373 Asp. Tox. 1; H304	$\geq 0,1 - < 1$

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

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| 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.
Flash back possible over considerable distance. |
| 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

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|---|---|---|
| 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

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| 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. |
| 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. |

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
N-methyl-2-pyrrolidone	872-50-4	TWA	10 ppm 40 mg/m ³	2009/161/EU
		STEL	20 ppm 80 mg/m ³	2009/161/EU
		TWA OEL- RL	100 ppm 400 mg/m ³	ZA OEL
Further information: Recommended Limit				
toluene	108-88-3	TWA	50 ppm 192 mg/m ³	2006/15/EC
		STEL	100 ppm 384 mg/m ³	2006/15/EC
		TWA OEL- RL	50 ppm 188 mg/m ³	ZA OEL
Further information: Absorption through the skin, Recommended Limit				
		STEL OEL- RL	150 ppm 560 mg/m ³	ZA OEL
Further information: Absorption through the skin, Recommended Limit				

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
toluene	108-88-3	Hippuric acid	Urine	End of shift	2.5 g/g creatinine	ZA BEI
		Toluene	venous blood	End of shift	1 mg/l	ZA BEI
		o-Cresol	Urine	End of shift	1 mg/g Creatinine	ZA BEI

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 : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

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Suitable respiratory equipment:
Respirator with a half face mask
The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection

Material	:	Nitrile rubber
Break through time	:	> 480 min
Glove thickness	:	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.
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Eye protection	:	No special protective equipment required.
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Skin and body protection	:	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Remove and wash contaminated clothing before re-use. Wear as appropriate: Impervious clothing
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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.
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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	off-white
Odour	:	weak
Odour Threshold	:	No data available

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pH	:	No data available
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	76,6 °C
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	:	38,57 mPa at 20 °C
Relative vapour density	:	No data available
Density	:	1,2897 g/cm ³
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
Viscosity Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

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.

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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): 943 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): 4,19 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 2.020 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Components:**fluxofenim:**

Acute oral toxicity : LD50 (Rat, male and female): 669 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 1,21 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit, male): 1.544 mg/kg

Amines, tallow alkyl, ethoxylated:

Acute oral toxicity : LD50 (Rat): 1.290 mg/kg

N-methyl-2-pyrrolidone:

Acute oral toxicity : LD50 (Rat): 4.150 mg/kg

Skin corrosion/irritation**Product:**

Species : Rabbit
Result : irritating

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Components:**fluxofenim:**

Species : Rabbit
Result : No skin irritation

Amines, tallow alkyl, ethoxylated:

Result : Irritating to skin.

N-methyl-2-pyrrolidone:

Species : Rabbit
Result : Irritating to skin.

toluene:

Species : Rabbit
Result : Irritating to skin.

Serious eye damage/eye irritation**Product:**

Species : Rabbit
Result : No eye irritation

Components:**fluxofenim:**

Species : Rabbit
Result : No eye irritation

Amines, tallow alkyl, ethoxylated:

Result : Risk of serious damage to eyes.

N-methyl-2-pyrrolidone:

Species : Rabbit
Result : Irritation to eyes, reversing within 21 days

Respiratory or skin sensitisation**Product:**

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

Components:**fluxofenim:**

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

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Germ cell mutagenicity**Components:****fluxofenim:**

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

N-methyl-2-pyrrolidone:

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

Carcinogenicity**Components:****fluxofenim:**

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

N-methyl-2-pyrrolidone:

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

Reproductive toxicity**Components:****fluxofenim:**

Reproductive toxicity - Assessment : No toxicity to reproduction

N-methyl-2-pyrrolidone:

Reproductive toxicity - Assessment : Clear evidence of adverse effects on development, based on animal experiments.

toluene:

Reproductive toxicity - Assessment : Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure**Components:****N-methyl-2-pyrrolidone:**

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

toluene:

Assessment : The substance or mixture is classified as specific target organ

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toxicant, single exposure, category 3 with narcotic effects.

STOT - repeated exposure**Components:****toluene:**

Target Organs : Central nervous system
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Repeated dose toxicity**Components:****fluxofenim:**

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

Aspiration toxicity**Components:****toluene:**

May be fatal if swallowed and enters airways.

12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****fluxofenim:**

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 2,5 mg/l
Exposure time: 96 h

LC50 (Oncorhynchus mykiss (rainbow trout)): 0,86 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,22 mg/l
Exposure time: 48 h

Amines, tallow alkyl, ethoxylated:

Toxicity to fish : LC50 (Fish): 0,27 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 3,1 mg/l
Exposure time: 48 h

Toxicity to algae : EC50 (algae): 0,16 mg/l
Exposure time: 72 h

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nonylphenol ethoxylate propoxylate:**Ecotoxicology Assessment**

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

N-methyl-2-pyrrolidone:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 500 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1.000 mg/l
Exposure time: 24 h

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): > 500 mg/l
Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 12,5 mg/l
Exposure time: 21 d

toluene:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 5,5 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): 3,78 mg/l
Exposure time: 48 h

Persistence and degradability**Components:****fluxofenim:**

Biodegradability : Result: No data available

Stability in water : Remarks: Persistent in water.

N-methyl-2-pyrrolidone:

Biodegradability : Result: Readily biodegradable.

toluene:

Biodegradability : Result: Readily biodegradable.

Bioaccumulative potential**Components:****fluxofenim:**

Bioaccumulation : Remarks: Medium bioaccumulation potential.

Partition coefficient: n-octanol/water : log Pow: 3,9

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N-methyl-2-pyrrolidone:

Partition coefficient: n-octanol/water : log Pow: -0,46 (25 °C)

toluene:

Bioaccumulation : Remarks: Does not bioaccumulate.

Mobility in soil

Components:

fluxofenim:

Distribution among environmental compartments : Remarks: No data available

Other adverse effects

Components:

fluxofenim:

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).

N-methyl-2-pyrrolidone:

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).

toluene:

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

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.

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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. (FLUXOFENIM)
Class : 9
Packing group : III
Labels : 9

IATA-DGR

UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s. (FLUXOFENIM)
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. (FLUXOFENIM)
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.

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Hazardous components which must be listed on the label : ETHANONE, 1-(4-CHLOROPHENYL)-2,2,2-TRIFL

16. OTHER INFORMATION

Full text of other abbreviations

2006/15/EC	:	Europe. Indicative occupational exposure limit values
2009/161/EU	:	Europe. COMMISSION DIRECTIVE 2009/161/EU establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC
ZA BEI	:	South Africa. Hazardous Chemical Substances Regulations, Biological Exposure Indices.
ZA OEL	:	South Africa. Hazardous Chemical Substances Regulations, Occupational Exposure Limits
2006/15/EC / TWA	:	Limit Value - eight hours
2006/15/EC / STEL	:	Short term exposure limit
2009/161/EU / TWA	:	Limit Value - eight hours
2009/161/EU / STEL	:	Short term exposure limit
ZA OEL / TWA OEL-RL	:	Long term occupational exposure limits - recommended limit
ZA OEL / STEL OEL-RL	:	Short 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

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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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