Please use PANTONE colours and Black only - No CMYK
Por favor, utilizar colores PANTONE y Black - No CMYK
Por favor, utilizar somente PANTONE e Black - não utilizar CMYK

135mm

140mm

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Prime + 125 EC

syngenta®

Reg. No.: 90-G-19-2

Net Content:
5 litres

CAUTION

HARMFUL IF SWALLOWED

Composition ..... (mass/volume)
Flumetralin ..... 125 g/litre
inert ingredients ..... up to 1 litre

Chemical Group: flumetralin / dinitroaniline

Registered by:
Syngenta Agro AG,
32 Sandringham Drive,
Alexandra Park, Harare.
Tel.: 08677005432 / 08677005434

Manufacturer:
Syngenta Crop Protection AG,
Basel, Switzerland

PPE 4104068 **L1049790**/ZIMB

BLACK DYELINE Blue C 355 C 293 C 297 C

	DESCRIPTION: Label / paper 135x140mm	SCALE: 1:1	ISSUE NO: SYN000	ISSUE DATE: Ago/2017	4077402

135mm

140mm

Emulsifiable concentrate.

Prime +® 125 EC is a locally systemic type tobacco sucker control agent, for the control of sucker growth and development on flue-cured Virginia and air cured burley tobacco.

TO CAUSE A HAZARD IN THE USE, STORAGE OR DISPOSAL OF THIS SUBSTANCE IS AN OFFENCE.

Before using this product read and understand the entire label.

TEXT AREA

TRB Approval Certificate No.: 492

TEXT AREA

® Registered Trademark of a Syngenta Group Company

Shelf-life:
Two years from date of manufacture if stored in original container under constant cool conditions.

Date of manufacture: / Batch No:
Please refer to Inkjet print.

Emergency Call Number:
Swiss Toxicological Information Centre
(24 h) +41 44 251 51 51

BARCODE

6mm
codigo 2D
6mm

PPE 4104070 **L1049791** ZIMB/01X

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BLACK DYELINE inserir legenda de cores utilizadas aqui
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DESCRIPTION:	SCALE:	ISSUE NO:	ISSUE DATE:	
Leaflet / paper 260x236mm	1:1	SYN000	set/2018	4077416

260mm
236mm

Emulsifiable concentrate.

Prime +® 125 EC is a locally systemic type tobacco sucker control agent, for the control of sucker growth and development on flue-cured Virginia and air cured burley tobacco.

TO CAUSE A HAZARD IN THE USE, STORAGE OR DISPOSAL OF THIS SUBSTANCE IS AN OFFENCE.

Before using this product read and understand the entire label.

TRB Approval Certificate No.: 492

® Registered Trademark of a Syngenta Group Company

Shelf-life: Two years from date of manufacture if stored in original container under constant cool conditions.

Date of manufacture: / Batch No: Please refer to Inkjet print.

Emergency Call Number:
Swiss Toxicological Information Centre / (24 h) +41 44 251 51 51

colocar aqui aviso para abrir a bula e bula resselável
place here abvice to open the leaflet and leaflet ressealed

TEXT AREA

THIS PAGE IS AFFIXED
TO BACK LABEL

BARCODE

6mm
código 2D
6mm

colocar aqui aviso para abrir a bula e bula resselável
place here abvice to open the leaflet and leaflet ressealed

PPE 4104070 **L1049791** ZIMB/01X

PRECAUTIONS

- Handle with care; avoid splashing/contact; poisonous by swallowing, inhalation and contact with the skin
- Wear suitable protective clothing, i.e. for mixing – gloves and overalls, eye/face protection and solid footwear; for application - overalls, hat, and solid footwear.
- Do not eat, drink or smoke while handling this product.
- On completion of mixing/application remove protective clothing and wash entire body and change clothing; thoroughly clean protective clothing/equipment.
- DANGEROUS TO FISH AND BEES
- KEEP OUT OF REACH OF CHILDREN.
- KEEP APART FROM FOOD, FOODSTUFFS, seeds and fertilizers.
- Store in original container in a cool, dry place and KEEP UNDER LOCK AND KEY
- Use only on the crops for which the product is registered.
- Avoid drift onto adjacent crops or soil.
- Decontamination of Mixing Tank – clean the tank thoroughly after use and ensure that all traces of PRIME+® 125 EC are removed. Make use of the following method: (a) Drain tank and rinse tank and hoses with clean water for at least 10 minutes. (b) Fill tank with clean water and add to it 1,0 litre household bleach (5%) or 1,5 litres household bleach (3,5%) per 200 litres of water. Rinse hoses and leave in the tank for 15 minutes whilst agitating. (c) Repeat step (b) and thereafter, rinse thoroughly with clean water and dispose of the wash water at a site designated for the disposal of pesticides.
- Empty container disposal – invert the empty container over the mixing tank and allow to drain for at least 30 seconds after the flow has slowed down to a drip. Thereafter, rinse the container 3 times with a volume of water equal to at least 10% of that of the container. And the rinsate to the contents of the mixing tank. Destroy the empty container by perforation and flattening. Place it in a secure disposal area and offer it for recycling.

DO NOT use it for any other purpose.

SYMPTOMS OF POISONING

No case of human poisoning is on record.
FIRST AID
If poisoning is suspected, stop work immediately and seek medical advice. In case of contact with skin and eyes wash immediately with plenty of water for at least 10 minutes.
If inhaled: move to fresh air.
If swallowed: DO NOT induce vomiting. Give a large quantity of medical charcoal in plenty of water.
NOTE TO PHYSICIAN
No specific antidote is known. Apply symptomatic therapy.

USER'S RISK

The user bears the risk for damage resulting from factors beyond the manufacturer's control.
All recommendations for use of the product are based on the current state of the manufacturer's knowledge. Since the manufacturer cannot control the application, use, storage or processing of the product, the manufacturer cannot accept responsibility therefore.

02

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BLACK DYELINE PANT 293 C Legenda de cores utilizadas aqui
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DESCRIPTION:	SCALE:	ISSUE NO:	ISSUE DATE:	
Leaflet / paper 260x236mm	1:1	SYN000	set/2018	4077416

MODE OF ACTION

Prime +® 125 EC has a locally systemic activity for the control of sucker growth and their development.

OTHER FEATURES AND WARNINGS

- **Prime +® 125 EC** should not be applied to wet plants or to wilted plants as this may result in poor sucker contact and subsequent poor control. Leaning plants should be straightened.
- **Prime +® 125 EC** requires 2 hours of dry weather after application, therefore should rain fall in that period, a repeat application will be necessary.

- All suckers longer than 20mm in length should be removed by hand **BEFORE** applying **Prime +® 125 EC**

- Do not allow the mixture or dilute emulsion to stand for extended periods.
  DO NOT PRE-MIX IN BULK, mix each batch fresh.

- **DO NOT ALLOW TO STAND OVERNIGHT**

- Do not use more than the recommended rates or volumes as this may result in soil residues.

DIRECTIONS FOR USE

TRB Approval Certificate No.: 492. Use only as directed.

- Plants should be topped at the extended bud to early flower stage.
- Apply **Prime +® 125 EC** IMMEDIATELY after topping.
- One application of **Prime +® 125 EC** under ideal conditions will provide season-long control of excessive sucker development in tobacco.

METHODS OF APPLICATION

Apply by means of a fertilizer cup or other measuring cup. Hand pouring techniques result in a minimum amount of leaf damage and volume of water used.

DOSE, DILUTION RATES AND VOLUMES OF APPLICATION

The recommended dilution of **Prime +® 125 EC** to clean water is 1 to 74 i.e., 1 litre of **Prime +® 125 EC** to 74 litres of clean water. Provide sufficient agitation during mixing and application to maintain a uniform mixture.

1. STANDARD RECOMMENTATION

The standard recommendation is to make a single application after topping. Treat each plant with sufficient diluted suckercide (approximately 8-12ml) to contact all leaf axils, but avoiding soil run off. Pour the dilute mixture over the stalks of topped plants. A contact suckercide should be applied if the crop is topped at an early stage (top leaf less than 10-15cm). Based on the population of 15 000 plants per hectare and each plant treated with 12 ml of the mixture 2,4 litres of **Prime +® 125 EC** when diluted as above will treat 1 hectare of tobacco.

2. CONTROL OF EARLY SUCKERS

If early sucker control is required, a split application of the 1 to 74 mixture can be carried out. The first application should be made from a point where the leaves are 30cm in length. Treat each plant with 5ml of the mixture. DO NOT apply the mixture to the top of small leaves of the plant as this may result in some damage. Apply to a leaf at least 30 cm long and allow the mixture to run down all leaf axils below the point of application. The second application should be at topping, treating each plant with 8-12 ml of the mixture depending on plant height. Apply only sufficient volumes to avoid run-off and subsequent soil residues. If a contact suckercide is used for early sucker control at a point where the leaves are 30 cm in length **Prime +® 125 EC** mixture should be applied over the stalk after topping.

3. EXTENDING THE PERIOD OF SUCKER CONTROL

Where a contact suckercide is applied after topping, a follow up treatment can be made with diluted **Prime +® 125 EC** mixture 7-10 days after topping. This treatment will extend the period of sucker control.

COMPATIBILITY

Mix with other chemicals only according to TRB recommendations.

PRIME + 125 EC

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
11.0	18.08.2017	S1204210	

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

1.1 Product identifier

Trade name : PRIME + 125 EC

Design code : A6598A

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Plant growth regulator

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 of person responsible for the SDS : sds.ch@syngenta.com

1.4 Emergency telephone number

Emergency telephone number : +44 1484 538444

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification **(REGULATION (EC) No 1272/2008)**

Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Acute toxicity, Category 4	H302: Harmful if swallowed.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.
Specific target organ toxicity - single exposure, Category 3, Central nervous	H336: May cause drowsiness or dizziness.

system

Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.
Acute aquatic toxicity, Category 1	H400: Very toxic to aquatic life.
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 : Danger

Hazard statements :
H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H410 Very toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements :
EUH066 Repeated exposure may cause skin dryness or cracking.

EUH208 Contains flumetralin. May produce an allergic reaction.

EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements :
Prevention:
P201 Obtain special instructions before use.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P331 Do NOT induce vomiting.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Hazardous components which must be listed on the label:

2-[2-(4-nonylphenoxy)ethoxy]ethanol

solvent naphtha (petroleum), heavy arom.

naphthalene

2-methylpropan-1-ol

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)
2-[2-(4-nonylphenoxy)ethoxy]ethanol	9016-45-9 500-024-6 01-2119475103-46	Acute Tox. 4; H302 Eye Dam. 1; H318 Aquatic Chronic 2; H411	>= 25 - < 30
solvent naphtha (petroleum), heavy arom.	64742-94-5 265-198-5 649-424-00-3 01-2119463583-34	Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 25 - < 30
cyclohexanone	108-94-1 203-631-1 606-010-00-7 01-2119453616-35	Flam. Liq. 3; H226 Acute Tox. 4; H302 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Dam. 1; H318	>= 20 - < 30
flumetralin (ISO)	62924-70-3 612-144-00-7	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 10 - < 20
calcium bis(dodecylbenzenesulphonate), branched	70528-83-5 234-360-7 01-2119964467-24	Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 2; H411	>= 1 - < 2.5
naphthalene	91-20-3 202-049-5 601-052-00-2	Flam. Sol. 2; H228 Acute Tox. 4; H302 Carc. 2; H351 Aquatic Acute 1; H400 Aquatic Chronic 1;	>= 1 - < 2.5

		H410	
2-methylpropan-1-ol	78-83-1 201-148-0 603-108-00-1 01-2119484609-23	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H336 STOT SE 3; H335	>= 1 - < 3

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.
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: contains petroleum distillates and/or aromatic solvents.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Aspiration may cause pulmonary oedema and pneumonitis.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : There is no specific antidote available.
Treat symptomatically.
Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.

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

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the 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.
Flash back possible over considerable distance.

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 and 8.
Keep people away from and upwind of spill/leak.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Remove all sources of ignition.
Pay attention to flashback.

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.

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 : Avoid contact with skin and eyes.
When using do not eat, drink or smoke.
Use only in an area containing flame proof equipment.
Take precautionary measures against static discharges.
For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from combustible material. Keep in an area equipped with sprinklers. Keep away from food, drink and animal feedingstuffs. No smoking.

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.

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
solvent naphtha (petroleum), heavy arom.	64742-94-5	TWA	100 mg/m3	Supplier
cyclohexanone	108-94-1	TWA	10 ppm 40.8 mg/m3	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
	108-94-1	STEL	20 ppm 81.6 mg/m3	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
	108-94-1	TWA	25 ppm 100 mg/m3	CH SUVA
Further information	Toxic by skin resorption possible; Substances, which are easily absorbed through the skin, can give by additional skin resorption a substantial higher risk compared to only inhalation by the airways., National Institute for Occupational Safety and Health, Institut National de Recherche et de Sécurité			

	pour la prévention des accidents du travail et des maladies professionnelles, Harm to the unborn child is not to be expected when the OEL-value is respected			
	108-94-1	STEL	50 ppm 200 mg/m3	CH SUVA
Further information	Toxic by skin resorption possible; Substances, which are easily absorbed through the skin, can give by additional skin resorption a substantial higher risk compared to only inhalation by the airways., National Institute for Occupational Safety and Health, Institut National de Recherche et de Sécurité pour la prévention des accidents du travail et des maladies professionnelles, Harm to the unborn child is not to be expected when the OEL-value is respected			
flumetralin (ISO)	62924-70-3	TWA	5 mg/m3	Syngenta
naphthalene	91-20-3	TWA	10 ppm 50 mg/m3	91/322/EEC
Further information	Indicative			
	91-20-3	TWA	10 ppm 50 mg/m3	CH SUVA
Further information	Toxic by skin resorption possible; Substances, which are easily absorbed through the skin, can give by additional skin resorption a substantial higher risk compared to only inhalation by the airways., Carcinogenic Category 3, National Institute for Occupational Safety and Health, Occupational Safety and Health Administration			
2-methylpropan-1-ol	78-83-1	TWA	50 ppm 150 mg/m3	CH SUVA
Further information	National Institute for Occupational Safety and Health, Institut National de Recherche et de Sécurité pour la prévention des accidents du travail et des maladies professionnelles, Harm to the unborn child is not to be expected when the OEL-value is respected			
	78-83-1	STEL	50 ppm 150 mg/m3	CH SUVA
Further information	National Institute for Occupational Safety and Health, Institut National de Recherche et de Sécurité pour la prévention des accidents du travail et des maladies professionnelles, Harm to the unborn child is not to be expected when the OEL-value is respected			

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
cyclohexanone	108-94-1	total 1,2-cyclohexanediol: 100 mg/l (Urine)	Immediately after exposition or after working hours, In case of long-term exposition: after more than one shift	CH BAT
		total 1,2-cyclohexanediol: 0.86 Millimoles per liter (Urine)	Immediately after exposition or after working hours, In case of long-term exposition: after more than one shift	CH BAT
		total cyclohexanol: 12 mg/l (Urine)	Immediately after exposition or after working hours, In	CH BAT

Substance name	CAS-No.	Control parameters	Sampling time	Basis
			case of long-term exposition: after more than one shift	
		total cyclohexanol: 0.12 Millimoles per liter (Urine)	Immediately after exposition or after working hours, In case of long-term exposition: after more than one shift	CH BAT

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
2-methylpropan-1-ol	Workers	Inhalation	Long-term systemic effects, Long-term local effects	310 mg/m3
	Consumers	Inhalation	Long-term systemic effects, Long-term local effects	55 mg/m3
	Consumers	Oral	Long-term systemic effects, Long-term local effects	25 mg/kg

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
2-methylpropan-1-ol	Fresh water	0.4 mg/l
	Sewage treatment plant	10 mg/l
	Soil	0.0699 mg/kg
	Marine sediment	0.152 mg/kg
	Fresh water sediment	1.52 mg/kg
	Marine water	0.04 mg/l

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.
Seek additional occupational hygiene advice.

Personal protective equipment

Eye protection	:	Tightly fitting safety goggles Always wear eye protection when the potential for inadvertent eye contact with the product cannot be excluded. Use eye protection according to EN 166.

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. 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 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
Respiratory protection	:	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Suitable respiratory equipment: Respirator with combination filter for vapour/particulate (EN 141) 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.
Filter type	:	Combined particulates and organic vapour type (A-P)
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		
	:	liquid
Colour	:	yellow to orange
Odour	:	aromatic, like solvent

Odour Threshold	:	No data available
pH	:	4 - 8 Concentration: 1 % w/v
Melting point/range	:	No data available
Boiling point/boiling range	:	> 143 °C
Flash point	:	>= 40 °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
Relative vapour density	:	No data available
Density	:	1.01 g/cm3 (20 °C)
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	:	Not explosive
Oxidizing properties	:	No data available

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

None reasonably foreseeable.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : No decomposition if used as directed.

10.5 Incompatible materials

Materials to avoid : None known.

10.6 Hazardous decomposition products

Combustion or thermal decomposition will evolve toxic and irritant vapours.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:

Acute oral toxicity : LD50 (Rat, female): 300 - 2,000 mg/kg
Assessment: The component/mixture is moderately toxic after single ingestion.
Remarks: The toxicological data has been taken from products of similar composition.

Acute inhalation toxicity : LC50 (Rat, male and female): > 2.35 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 (Rat, male and female): > 4,000 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:

2-[2-(4-nonylphenoxy)ethoxy]ethanol:

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

cyclohexanone:

Acute oral toxicity : LD50 (Rat): 1,534 mg/kg

Acute inhalation toxicity : LC50 (Rat): 11 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): 1,100 mg/kg

flumetralin (ISO):

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 2.41 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

calcium bis(dodecylbenzenesulphonate), branched:

Acute dermal toxicity : Acute toxicity estimate: 1,100 mg/kg
Method: Converted acute toxicity point estimate
Assessment: The component/mixture is moderately toxic after single contact with skin.

naphthalene:

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

2-methylpropan-1-ol:

Acute oral toxicity : LD50 (Rat): 2,830 - 3,350 mg/kg

Skin corrosion/irritation

Product:

Species: Rabbit
Result: irritating

Components:

cyclohexanone:
Species: Rabbit

Result: Irritating to skin.

flumetralin (ISO):

Species: Rabbit
Result: Mild skin irritation

calcium bis(dodecylbenzenesulphonate), branched:

Result: Irritating to skin.

2-methylpropan-1-ol:

Result: Irritating to skin.

Serious eye damage/eye irritation

Product:

Species: Rabbit
Result: irritating

Components:

2-[2-(4-nonylphenoxy)ethoxy]ethanol:
Result: Risk of serious damage to eyes.

cyclohexanone:

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

flumetralin (ISO):

Species: Rabbit
Result: Eye irritation

calcium bis(dodecylbenzenesulphonate), branched:

Result: Risk of serious damage to eyes.

2-methylpropan-1-ol:

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:

2-methylpropan-1-ol:
Result: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Product:

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

Components:

cyclohexanone:

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

flumetralin (ISO):

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

2-methylpropan-1-ol:

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

Carcinogenicity

Components:

cyclohexanone:

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

flumetralin (ISO):

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

naphthalene:

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

2-methylpropan-1-ol:

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

Reproductive toxicity

Components:

cyclohexanone:

Reproductive toxicity - Assessment : Animal testing did not show any effects on fertility.

flumetralin (ISO):

Reproductive toxicity - : No toxicity to reproduction

Assessment

2-methylpropan-1-ol:

Reproductive toxicity - Assessment : Animal testing did not show any effects on fertility.
Animal testing did not show any effects on foetal development.

STOT - single exposure

Product:

Assessment: May cause drowsiness or dizziness.
Remarks: Derived from components.

Components:

2-methylpropan-1-ol:

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

Repeated dose toxicity

Components:

flumetralin (ISO):
Remarks: No adverse effect has been observed in chronic toxicity tests.

Aspiration toxicity

Components:

solvent naphtha (petroleum), heavy arom.:
May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 4.4 mg/l
Exposure time: 96 h

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life., Classification of the product is based on the summation of the concentrations of classified components.

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:

2-[2-(4-nonylphenoxy)ethoxy]ethanol:

Ecotoxicology Assessment

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

solvent naphtha (petroleum), heavy arom.:

Ecotoxicology Assessment

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

flumetralin (ISO):

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.023 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : LC50 (Americamysis bahia (Mysid shrimp)): 0.094 mg/l
Exposure time: 96 h

EC50 (Daphnia magna (Water flea)): > 0.059 mg/l
Exposure time: 48 h
Remarks: Highest attainable concentration

EC50 (Daphnia magna (Water flea)): 57.8 mg/l
Exposure time: 48 h

Toxicity to algae : EC50 (Lemna gibba (gibbous duckweed)): 0.15 mg/l
Exposure time: 14 d

NOEC (Lemna gibba (gibbous duckweed)): 0.016 mg/l
Exposure time: 14 d

(Pseudokirchneriella subcapitata (green algae)): Remarks: EC 50 not determinable due to very low aqueous solubility.

M-Factor (Acute aquatic toxicity) : 10

Toxicity to fish (Chronic toxicity) : NOEC: 0.0011 mg/l
Exposure time: 38 d
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 0.0088 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 10

calcium bis(dodecylbenzenesulphonate), branched:

Ecotoxicology Assessment

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

naphthalene:

Ecotoxicology Assessment

Acute aquatic toxicity	:	Very toxic to aquatic life.
Chronic aquatic toxicity	:	Very toxic to aquatic life with long lasting effects.

2-methylpropan-1-ol:

Toxicity to daphnia and other aquatic invertebrates	:	NOEC : 20 mg/l Exposure time: 21 d Test Type: semi-static test

12.2 Persistence and degradability

Components:

cyclohexanone:
Biodegradability : Result: Readily biodegradable.

flumetralin (ISO):
Biodegradability : Result: Not readily biodegradable.

12.3 Bioaccumulative potential

Components:

flumetralin (ISO):
Bioaccumulation : Remarks: Flumetralin bioaccumulates.

Partition coefficient: n-octanol/water	:	log Pow: 5.45 (25 °C)

12.4 Mobility in soil

Components:

flumetralin (ISO):

Distribution among environmental compartments	:	Remarks: immobile
Stability in soil	:	Dissipation time: 900 - 1,200 d Percentage dissipation: 50 % (DT50) Remarks: Persistent in soil.

12.5 Results of PBT and vPvB assessment

Product:
Assessment : 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..

Components:

cyclohexanone:
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)..

flumetralin (ISO):
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)..

2-methylpropan-1-ol:
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)..

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : 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.

SECTION 14: Transport information

14.1 UN number

ADN : UN 1993

ADR : UN 1993

RID : UN 1993

IMDG : UN 1993

IATA : UN 1993

14.2 UN proper shipping name

ADN : FLAMMABLE LIQUID, N.O.S.
(CYCLOHEXANONE AND FLUMETRALIN)

ADR : FLAMMABLE LIQUID, N.O.S.
(CYCLOHEXANONE AND FLUMETRALIN)

RID : FLAMMABLE LIQUID, N.O.S.
(CYCLOHEXANONE AND FLUMETRALIN)

IMDG : FLAMMABLE LIQUID, N.O.S.
(CYCLOHEXANONE AND FLUMETRALIN)

IATA : Flammable liquid, n.o.s.
(CYCLOHEXANONE AND FLUMETRALIN)

14.3 Transport hazard class(es)

ADN : 3

ADR : 3

RID : 3

IMDG : 3

IATA : 3

14.4 Packing group

ADN
Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3

ADR
Packing group : III
Classification Code : F1
Hazard Identification Number : 33
Labels : 3
Tunnel restriction code : (D/E)

RID
Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3

IMDG
Packing group : III
Labels : 3
EmS Code : F-E, S-E

IATA (Cargo)
Packing instruction (cargo aircraft) : 366
Packing instruction (LQ) : Y344

Packing group : III
Labels : Flammable Liquid

IATA (Passenger)
Packing instruction (passenger aircraft) : 355
Packing instruction (LQ) : Y344
Packing group : III
Labels : Flammable Liquid

14.5 Environmental hazards

ADN
Environmentally hazardous : yes

ADR
Environmentally hazardous : yes

RID
Environmentally hazardous : yes

IMDG
Marine pollutant : yes

14.6 Special precautions for user

Not applicable

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

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : 2-[2-(4-nonylphenoxy)ethoxy]ethanol

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : 2-[2-(4-nonylphenoxy)ethoxy]ethanol

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

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
P5c	FLAMMABLE LIQUIDS	5,000 t	50,000 t
E1	ENVIRONMENTAL HAZARDS	100 t	200 t
34	Petroleum products: (a)	2,500 t	25,000 t

gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)

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 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Article 13 Maternity ordinance (SR 822.111.52): Expectant and nursing mothers are only permitted to come into contact with this product during the course of their work if, based on a risk assessment carried out in accordance with Article 63 of Ordinance 1 on the Employment Act (ArGV 1) (SR 822.111), the chemicals in question have been found not to cause any specific harm to mothers or children or if such harm can be ruled out by taking appropriate protective measures.

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

Article 4 para. 4 of the Ordinance on the protection of young people in the workplace (SR 822.115) and Article 1 lit. f of the EAER regulation on hazardous work and young people (SR 822.115.2): Young people undergoing basic vocational training may only work with this product if the relevant training ordinance makes provision for them to do so with a view to enabling them to achieve their training objectives and if the preconditions for the training plan have been met and the applicable age restrictions have been complied with. Young people who are not completing any basic vocational training are not permitted to work with this product. Employees of either sex who are under 18 years old are classed as young people.

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

H226	:	Flammable liquid and vapour.
H228	:	Flammable solid.
H302	:	Harmful if swallowed.
H304	:	May be fatal if swallowed and enters airways.
H312	:	Harmful in contact with skin.
H315	:	Causes skin irritation.

H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H332	:	Harmful if inhaled.
H335	:	May cause respiratory irritation.
H336	:	May cause drowsiness or dizziness.
H351	:	Suspected of causing cancer.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H411	:	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
Asp. Tox.	:	Aspiration hazard
Carc.	:	Carcinogenicity
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Flam. Liq.	:	Flammable liquids
Flam. Sol.	:	Flammable solids
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT SE	:	Specific target organ toxicity - single exposure
2000/39/EC	:	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
91/322/EEC	:	Europe. Commission Directive 91/322/EEC on establishing indicative limit values
CH BAT	:	Switzerland. List of BAT-values
CH SUVA	:	Switzerland. Limit values at the work place
2000/39/EC / TWA	:	Limit Value - eight hours
2000/39/EC / STEL	:	Short term exposure limit
91/322/EEC / TWA	:	Limit Value - eight hours
CH SUVA / TWA	:	Time Weighted Average
CH SUVA / STEL	:	Short Term Exposure Limit

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; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:		**Classification procedure:**
Flam. Liq. 3	H226	Based on product data or assessment
Acute Tox. 4	H302	Based on product data or assessment
Skin Irrit. 2	H315	Based on product data or assessment
Eye Irrit. 2	H319	Based on product data or assessment
Carc. 2	H351	Calculation method
STOT SE 3	H336	Based on product data or assessment
Asp. Tox. 1	H304	Calculation method
Aquatic Acute 1	H400	Based on product data or assessment
Aquatic Chronic 1	H410	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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