 Arysta LifeScience	REFERENCE : ALS UK TM-20015 en	UPDATING INDICE : 06	DATE : 24/05/2013
	CENTURION MAX Material Safety Data Sheet according to Regulation n°1907/2006 R.E.A.C.h modified by regulation n° 453/2010		

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

1.1. Product identifier **CENTURION MAX**
1.2. Relevant identified uses of the substance or mixture and uses advised. Herbicide

1.3. Details of the supplier of the safety data sheet

Arysta LifeScience S.A.S.

BP 80 Route d'Artix . 64150 Noguères - France Tel. : +33 (0)5 59 60 92 92
Fax. : +33 (0)5 59 60 92 99
Contact : support_msds_eame@arystalifescience.com
Web Site : <http://www.arysta-eame.com>

Marketing Company in UK Interfarm UK Ltd

36, Newgate Street
Doddington, Cambs. PE15 0SR
Tel 01354 741414. Fax: 01354 741004
www.interfarm.co.uk

1.4. Emergency telephone numbers **France** **UK : 01354 741414**
Toxico vigilance+ 33 (0) 5 59 60 92 25 (business hours).
Transport accident+ 33 (0) 5 59 60 92 92 (business hours).
Treatment center for poisoning cases PARIS
+ 33 (0) 1 40 05 48 48
Other emergency numbers **ORFILA number (INRS): + 33 (0)1 45 42 59 59**
Free medical advice (except the cost of call), **24 hours a day, 7 days a week.**

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008

Physical and chemical hazards	No classification required
Health hazards	Asp. Tox - 1 STOT SE 3
Environmental hazards	Aquatic Chronic 2

Classification according to Directive 1999/45/EC

Physical and chemical hazards	No classification required
Health hazards	Xn Harmful R65 R66 R67
Environmental hazards	N R51/53

2.2. Label elements


Labelling according to Regulation (EC) 1272/2008



Signal word(s) **DANGER**

Hazard class(es) and category(ies) Asp. Tox 1 - STOT SE 3 -Aquatic Chronic 2

Hazard statement(s)
H304: May be fatal if swallowed and enters the airways
H336: May cause drowsiness or dizziness
H411: Toxic to aquatic life with long lasting effects
EUH208: Contains Clethodim. May produce an allergic reaction
EUH066: Repeated exposure may cause skin dryness or cracking
EUH401 : To avoid risks to human health and the environment, comply with the instructions for use

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Precautionary statements	P101: If medical advice is needed, have product container or label at hand P102: Keep out of reach of children P103: Read label before use P260: Do not breathe vapours/spray P270: Do not eat drink or smoke when using this product P271: Use only outdoors or in a well ventilated area. P273: Avoid release to the environment P280: Wear protective gloves P301+P310:IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician P331: Do NOT induce vomiting P391: Collect spillage P501: Dispose of contents/container in accordance with local/national regulations SP1: Do not contaminate water with the product or its container (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads).
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2.3. Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

SECTION 3: Composition/information on ingredients

Chemical name and REACH registration No.	CAS No.	EC No.	Classification		Concentration (%)
			Directive 67/548/EC	Regulation (EC) 1272/2008	
Clethodim	99129-21-2	/	Xn, R22, Xi 38, 43	Acute Tox. 4 - Skin Irrit. 2 - Skin Sens. 1- H302, H315, H317	12-15
Methyl esters of fatty acids	67784-80-9	267-055-2	Xi R36/38	Skin Irrit. 2 - Skin Sens. 1 H315, H317	40-60
Amines, tallow alkyl, ethoxylated, compds. with polyethylene glycol hydrogen sulphate C12-14 alkyl ether	184785-40-8	/	Xn, N R22, 38, 41, 51/53	Acute Tox. 4 - Skin Irrit. 2; Eye Dam. 1- Aquatic Chronic 2 H302, H315, H318, H411	4-10
Solvent naphta (petroleum) heavy arom.	64742-94-5	265-198-5	Xn, R65, 51/53	Asp. Tox. 1, Aquatic Chronic 2, H304, H411	20-40
1,2,4 trimethylbenzene	95-63-6	202-436-9	Xn, N R20, 36/37/38, 51/53	Acute Tox. 4, Eye Irrit. 2, Skin Irrit. 2, STOT SE 3. Aquatic Chronic 2 H332, H319, H315, H335, H411	< 4
Mesitylene	108-67-8	203-604-4	Xi, N R37, 51/53	STOT SE 3, Aquatic Chronic 2, H335 H411	< 4
Naphthalene	91-20-3	202-049-5	Xn, N R22, 40, 50/53	Carc. 2, Acute Tox. 4, Aquatic Acute 1, Aquatic Chronic 1. H351, H302, H400, H410	< 0.1


For the complete text of H statements, please refer to section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

In general	Remove the affected person from the danger zone to a well-ventilated room or to fresh air, and protect from chilling. Do not administer anything by oral route and do not try to make vomit, call a treatment centre for poisoning cases or a doctor. Take the label where possible.
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* paragraph modified at last update

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After Inhalation	Immediately remove to fresh air. Call a doctor immediately.
After eye contact	Rinse immediately and thoroughly with plenty of water during at least 10 to 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Seek medical advice if pain or redness persists.
After skin contact	Remove contaminated clothing and thoroughly wash the affected parts of the body with soap and water.
After Ingestion	Call a doctor immediately and show the label. Do not induce vomiting.

4.2. Most important symptoms and effects, both acute and delayed
None.


4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically

SECTION 5: Fire-fighting measures

- | | |
|--|--|
| 5.1. Extinguishing media | Suitable: Water spray, foam, dry chemical powder.
Unsuitable: Water jet. |
| 5.2. Special hazards arising from the substance or mixture | By thermal decomposition, possibility of formation of toxic gases (sulfur oxide, phosphorus oxide, nitrogen oxide, carbon oxide, chlorides). |
| 5.3. Advice for fire-fighters | Intervention personnel should wear mask and individual respiratory equipment. Retain water or extinguishing media and eliminate safely. |

SECTION 6: Accidental release measures

- | | |
|--|---|
| 6.1. Personal precautions, protective equipment and emergency procedures | Wear protective adapted equipment and take back non protected people. Withdrawal combustion and ignition sources and block bringing in oxygen (ventilation). |
| 6.2. Environmental precautions | Avoid sewage, surface water, ground water and soil contamination.
Retain spilled liquids and collect them with sand or other absorbent inert material (sepiolite).
Absorbent inert material stocks have to be sufficient to face reasonably predictable spillage.
Keep sewers from potential spillage to minimize pollution hazards. Do not throw washing waters into sewers.
Contact competent authorities when a situation cannot be controlled rapidly and efficiently.
In the case of spillage into water, stop dispersion of the product with adequate barrier. |
| 6.3. Methods and material for containment and cleaning up | Collect contaminated products on the surface concerned, transfer to closed drums before sending in a specialized incineration treatment centre.
Wash the contaminated surface with water and collect washing waters for treatment.
Cover the contaminated zone using absorbent materials such as sand or sepiolite.
See section 8 for personal protection and section 13 for disposal considerations. |
| 6.4. Reference to other sections | / |

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SECTION 7: Handling and storage

- 7.1. Precautions for safe handling Do not eat, drink or smoke when using.
Wear appropriate protective clothes, adequate gloves (nitril), glasses or mask.
Avoid all contact of skin, eyes or clothes with new or old product.
Respect good hygienic body conditions and cleanliness of the working area.
Wash hands abundantly after handling.
Do not wash working clothes with household linen
- 7.2. Conditions for safe storage, including any incompatibilities Keep away from food, drink and animal feedingsuffs.
Store in a well closed container, in a fresh and well ventilated place.
Store under cover, in an appropriate room, away from heat and sources of fire, at temperature <35°C.
Do not store in room at temperature below –5°C
- 7.3. Specific end uses /

SECTION 8: Exposure controls/personal protection

- 8.1. Control parameters Not defined
- 8.2. Exposure control
- General measures When using refer in priority to information written on the label.
- Control of professional exposure
- Respiratory protection Preferably wear a mask covering all face with filter appropriate to organic vapour, powder or aerosol. A.P. Type filters.
- Hand protection Wear impermeable gloves, resistant to organic solvents and to chemical products..
- Eyes protection Preferably wear a mask, a face screen or protective glasses.
- Skin protection Wear appropriate protective clothes, covering all parts of the body.
- Control of environment exposure Respect European and National Regulations in term of environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Clear amber liquid
Odour	Aromatic solvent
pH	4.4 (1% aqueous solution)
Boiling point / range	ND
Flash point	74.9°C
Flammability	Not flammable
Explosives properties	Risks of explosion almost none in the recommended conditions of storage see point 7. Real risk in case of fire or accumulation of the emanations
Combustives properties	ND
Vapour pressure	ND
Relative density	0.9247 at 20°C
Solubility	
- Water	Miscible with water in all proportions. Gives stable emulsion
- Organic solvents	Miscible with almost all organic solvents.

* paragraph modified at last update

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Hydrosolubility	NA
n-octanol/water coefficient	NA
Viscosity	NA
Vapour density	NA
Evaporation rate	NA

9.2. Other information /

SECTION 10: Stability and reactivity

10.1. Reactivity	Product is not reactive under normal storage conditions
10.2. Chemical stability	Stable under recommended conditions for safe storage
10.3. Possibility of hazardous reactions	No hazardous reactions known under normal storage conditions
10.4. Conditions to avoid	Avoid storage at temperature > 35°C in a confined place.
10.5. Incompatible materials	Avoid contact with strong oxidant and strong reducing agent.
10.6. Hazardous decomposition products	See section 5.


SECTION 11: Toxicological information

The active ingredient Clethodim is unlikely to be genotoxic based on the available studies, and did not show any carcinogenic potential in rats or mice. In reproductive toxicity studies, no adverse effects were observed in the fertility parameters or in the development of the pups.

Hazard classes ¹	Asp. Tox 1 - STOT SE
Acute toxicity	
by ingestion (rat)	LD ₅₀ > 5000 mg/kg bw
by skin contact (rat)	LD ₅₀ > 2000 mg/kg bw
by inhalation (rat)	LC ₅₀ (4 h) > 5.51 mg/L air
Skin irritation (rabbit)	Not irritating to skin
Eye irritation (rabbit)	Not irritating to eyes
Skin sensitization (guinea-pig)	Not a skin sensitizer (M&K)
Subchronic toxicity	Oral NOAEL (90 day dog) = 21 mg ai/kg bw/day
Chronic toxicity	
Carcinogenicity	No carcinogenic potential
Teratology	Not teratogen effect
Reproduction (development and fertility)	No effect on development and fertility
Mutagenicity effects	Not mutagen
Other	/

¹ As defined in Regulation (EC) 1272/2008

* paragraph modified at last update

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SECTION 12: Ecological information

12.1. Toxicity

Toxicity for aquatic organism (acute and chronic)	LC ₅₀ (96 h) fish (<i>Oncorhynchus mykiss</i>) = 8.98 mg fp/L EC ₅₀ (48 h) daphnia (<i>Daphnia magna</i>) = 29.4 mg fp/L EC _{r50} (72 h) algae (<i>Pseudokirchneriella subcapitata</i>) = 5.73 mg fp/L EC _{r50} (72 h) algae (<i>Anabaena flos-aquae</i>) = 7.43 mg fp/L NOEC (21 d) fish (<i>Oncorhynchus mykiss</i>) = 3.9 mg ai/L NOEC (21 d) daphnia (<i>Daphnia magna</i>) = 49 mg ai/L
Toxicity for birds (Clethodim)	LD ₅₀ bird > 2000 mg as/kg bw (<i>Colinus virginianus</i> , bobwhite quail). LC ₅₀ > 1035 mg as/kg bw/day (mallard duck)
Toxicity for bees	LD ₅₀ oral > 43 µg ai/bee LD ₅₀ contact > 51 µg ai/bee

12.2. Persistence and degradability

DT50 : 0.21 – 3.04 days (Clethodim)

12.3. Bioaccumulative potential

BCF factor (clethodim) = 2.1 L/kg wwt (Clethodim)

12.4. Mobility in soil

Not a leaching compound (Clethodim)

12.5. Results of PBT and vPvB assessment

Not a PBT nor A vPvB (Clethodim)

12.6. Other adverse effects

No other adverse effects known (Clethodim)


SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/packaging	Disposal of important amounts must be made by duly authorized specialists. Incineration should be made in authorized and specialized plant. Eliminate the product and its packaging with care and in a responsible way. Do not throw near ponds, rivers, ditches or into sewers. Wash contaminated surfaces with water and collect washing waters for treatment. Make sure that local Regulations are respected.
Washing products	Do not throw into sewer. Do not contaminate natural waters. Clean up application materials on the treated area and eliminate waters by spraying on one area.

SECTION 14: Transport information

Regulation	RID/ADR (Terrestrial)	IMDG (Maritime)	OACI/IATA (Aerial)
UN code	3082	3082	3082
Class	9	9	9
Specific point / code	M6		
Packing group	III	III	III
Environmental hazard classes		N	
Wording	Environmentally hazardous substance, liquid, n.o.s (Clethodim)		

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SECTION 15: Regulatory information

- 15.1. Safety, health and environmental regulations / legislation specific for the substance or mixture
Information regarding relevant Community safety, health and environmental provisions.

Clethodim is not concerned by the following regulation:

- **Regulation (EC) No 2037/2000** of the European Parliament and of the Council of 29 June 2000 on substances that deplete the ozone layer,
- **Regulation (EC) No 850/2004** of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC or
- **Regulation (EC) No 689/2008** of the European Parliament and of the Council of 17 June 2008 concerning the export and import of dangerous chemicals)

Other prescriptions

To avoid risks to man and the environment, comply with the instructions for use (Directive 1999/45/EC, Article 10, n° 12).

- 15.2. Chemical safety assessment

Any Chemical Safety Assessment has been carried out for this mixture. This mixture is registered as a plant protection product under 91/414/EC directive, replaced by Regulation (EC) No. 1107/2009.
Refer to the label for exposure assessment information.

SECTION 16: Other information

Full text of H statements of dangerous substances according to the CLP/GHS classification (written in section 3)

H302: Harmful if swallowed
H304: May be fatal if swallowed and enters airways
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
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 R phrases referred to in Sections 2 and 3

R20 Harmful by inhalation
R22 Harmful if swallowed
R36 Irritating to eyes
R37 Irritating to respiratory system
R38 Irritating to skin
R40 Limited evidence of a carcinogenic effect
R41 Risk of serious damage to eyes
R43 May cause sensitisation by skin contact
R50/53 Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment
R51/53 Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment
R52/53 Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment
R65 Harmful: may cause lung damage if swallowed
R66 Repeated exposure may cause skin dryness and cracking
R67 Vapours may cause drowsiness and dizziness

This MSDS completes technical use sheets but does not replace them. Information herein is based on our present knowledge concerning the product, at the edition date. It is honestly given. The attention of users is drawn to potential risks taken when the product is used for other uses than those for which it is made. The user has to know and comply with all regulations concerning its activity. It remains the user's own responsibility to make sure that the information is appropriate and complete for his special use of this product. The aim of all the regulations mentioned is to help the person concerned to comply with the rules which are his own responsibility. This listing cannot be considered as exhaustive. The person concerned has to make sure that he has no other obligations due to texts specific to particular applications.