

ZEAGRAN ULTIMATE

Version 1.0

Revision Date 16.11.2012

Print Date 16.11.2012

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

1.1 Product identifier

Trade name : ZEAGRAN ULTIMATE

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

1.3 Details of the supplier of the safety data sheet

Company : Nufarm S.A.S
28 boulevard Zéphirin Camélinat
92230 Gennevilliers
Telephone : +330140855050
Telefax : +330147922545
E-mail address : FDS@fr.nufarm.com
Responsible/issuing person

1.4 Emergency telephone number

Nufarm S.A.S. : +33 1 40 85 51 15
National emergency : not available
telephone number

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (67/548/EEC, 1999/45/EC)

Harmful R22: Harmful if swallowed.
Dangerous for the environment R43: May cause sensitization by skin contact.
R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R63: Possible risk of harm to the unborn child.

2.2 Label elements

Labelling according to EC Directives: 1999/45/EC

Hazard symbols :



Xn - Harmful



N - Dangerous for the environment

R-phrase(s) : R22 Harmful if swallowed.
R43 May cause sensitization by skin contact.



ZEAGRAN ULTIMATE

Version 1.0

Revision Date 16.11.2012

Print Date 16.11.2012

	R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
	R63	Possible risk of harm to the unborn child.
S-phrases(s)	: S 2	Keep out of the reach of children.
	S13	Keep away from food, drink and animal feedingstuffs.
	S24	Avoid contact with skin.
	S29/35	Do not empty into drains; dispose of this material and its container in a safe way.
	S36/37	Wear suitable protective clothing and gloves.
	S46	If swallowed, seek medical advice immediately and show this container or label.
	S56	Dispose of this material and its container to hazardous or special waste collection point.
	S61	Avoid release to the environment. Refer to special instructions/ Safety data sheets.

Special labelling of certain mixtures : To avoid risks to man and the environment, comply with the instructions for use.

2.3 Other hazards

A Chemical Safety Assessment is not required for this mixture.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Chemical Name	CAS-No. EC-No. Registration number	Classification (67/548/EEC)	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
terbutylazine	5915-41-3 227-637-9	Xn; R22 N; R50/53	Acute Tox. 4; H302 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	22,7 %
Tributylphenol ethoxylated	9046-09-7	Xi-N; R36/38- R51/53	Eye Irrit. 2; H319 Aquatic Chronic 2; H411 Skin Irrit. 2; H315	5% - 10%
Solvent naphtha (petroleum), heavy	64742-94-5	Xn; R65 R66	Asp. Tox. 1; H304 STOT SE 3; H336	5% - 10%

ZEAGRAN ULTIMATE

Version 1.0

Revision Date 16.11.2012

Print Date 16.11.2012

aromatic		R67 N; R51/53	Aquatic Chronic 2; H411	
Bromoxynil heptanoate	56634-95-8 260-300-4	Repr.Cat.3; R63 Xn; R20/22 R43 N; R50-R53	Repr. 2; H361d Acute Tox. 4; H332 Acute Tox. 4; H302 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	4,65 %
Bromoxynil octanoate	1689-99-2 216-885-3	Repr.Cat.3; R63 T; R23 Xn; R22 R43 N; R50-R53	Repr. 2; H361d Acute Tox. 3; H331 Acute Tox. 4; H302 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	4,44 %
1,2-benzisothiazol- 3(2H)-one, sodium salt	58249-25-5 261-184-8	C-N; R22-R34- R43-R50		0,1 %

For the full text of the R-phrases mentioned in this Section, see Section 16.

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- If inhaled : Move to fresh air.
- In case of skin contact : Take off all contaminated clothing immediately.
Wash immediately affected parts with plenty of water and soap.
- In case of eye contact : Rinse immediately with plenty of water for at least 15 minutes.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : Clean mouth with water.
Do NOT induce vomiting.
If swallowed, seek medical advice immediately and show this container or label.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : No information available.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Symptomatic treatment

ZEAGRAN ULTIMATE

Version 1.0

Revision Date 16.11.2012

Print Date 16.11.2012

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray, Dry powder, Foam, Carbon dioxide (CO₂)

Unsuitable extinguishing media : High volume water jet

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. In the event of fire (CO_x) may be formed.

Hazardous combustion products :

5.3 Advice for firefighters

Special protective equipment for firefighters : Use personal protective equipment. In the event of fire, wear self-contained breathing apparatus.

Further information : Standard procedure for chemical fires. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

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. Never return spills in original containers for re-use.

6.2 Environmental precautions

Environmental precautions : 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 materials for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, universal binder ...).
Pick up and transfer to properly labelled containers.

6.4 Reference to other sections



ZEAGRAN ULTIMATE

Version 1.0

Revision Date 16.11.2012

Print Date 16.11.2012

For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Advice on safe handling : Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8.
- Hygiene measures : Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers : Keep out of reach of children. Store in original container. Keep in a well-ventilated place.
- Advice on common storage : Keep away from food, drink and animal feeding stuffs.

7.3 Specific end use(s)

- Specific use(s) : none

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

If the sub-section is blank, no value is applicable.

8.2 Exposure controls

Personal protective equipment

Eye protection : Safety glasses

Hand protection

Material : Nitrile gloves

Skin and body protection : Long sleeved clothing

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

ZEAGRAN ULTIMATE

Version 1.0

Revision Date 16.11.2012

Print Date 16.11.2012

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	: liquid
Colour	: white
Odour	: no data available
Odour Threshold	: no data available
pH	: 5,6, Concentration: 10,00 g/l at 20 °C Method: CIPAC MT 75
Melting point/range	: no data available
Boiling point/boiling range	: no data available
Flash point	: Method: ISO 2719 does not flash
Evaporation rate	: not applicable
Flammability (solid, gas)	: not applicable
Lower explosion limit	: no data available
Upper explosion limit	: no data available
Vapour pressure	: negligible
Relative vapor density	: not applicable
Relative density	: 1,106 at 20 °C Method: OECD Test Guideline 109
Water solubility	: no data available
Solubility in other solvents	: no data available
Partition coefficient: n-octanol/water	: no data available
Auto-ignition temperature	: 485 °C Method: EEC A15
Ignition temperature	: no data available
Thermal decomposition	: no data available
Viscosity, dynamic	: 11 - 58 mPa.s at 20 °C 151 - 503 mPa.s at 40 °C Method: OECD Test Guideline 114



ZEAGRAN ULTIMATE

Version 1.0

Revision Date 16.11.2012

Print Date 16.11.2012

Viscosity, kinematic : no data available
Explosive properties : Not explosive
Oxidizing properties : The substance or mixture is not classified as oxidizing.

9.2 Other information

Surface tension : 34 mN/m, 20 °C,
Method: EEC A.5

SECTION 10: Stability and reactivity

10.1 Reactivity

Stable under recommended storage conditions.

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 stored and applied as directed.

10.5 Incompatible materials

Materials to avoid : no data available

10.6 Hazardous decomposition products

Hazardous decomposition products : no data available
Other information : no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product

Acute oral toxicity : LD50 rat: 500 - 2.000 mg/kg
Acute inhalation toxicity : not applicable
Acute dermal toxicity : LD50 rat: > 2.000 mg/kg



ZEAGRAN ULTIMATE

Version 1.0

Revision Date 16.11.2012

Print Date 16.11.2012

Method: OECD Test Guideline 402

Skin corrosion/irritation : Species: rabbit
Result: No skin irritation
Method: OECD Test Guideline 404

Serious eye damage/eye irritation : Species: rabbit
Result: No eye irritation
Method: OECD Test Guideline 405

Respiratory or skin sensitization : Species: mouse
Result: Mild sensitizer
Method: OECD Test Guideline 429

Germ cell mutagenicity

Genotoxicity in vitro : no data available

Carcinogenicity : Species: no data available

STOT - single exposure : Remarks: no data available

STOT - repeated exposure : Remarks: no data available

Components:

Bromoxynil heptanoate :

Acute oral toxicity : Acute toxicity estimate : 500 mg/kg
Method: Converted acute toxicity point estimate

Bromoxynil octanoate :

Acute oral toxicity : Acute toxicity estimate : 500 mg/kg
Method: Converted acute toxicity point estimate

Acute inhalation toxicity : LC50 rat: 0,72 - 0,81 mg/l
Exposure time: 4 h

Acute dermal toxicity : LD50 rabbit: > 2.000 mg/kg

Skin corrosion/irritation : Species: rabbit
Result: No skin irritation

Serious eye damage/eye irritation : Species: rabbit
Result: No eye irritation



ZEAGRAN ULTIMATE

Version 1.0

Revision Date 16.11.2012

Print Date 16.11.2012

Respiratory or skin sensitization	: Species: guinea pig Result: Did not cause sensitization.
Germ cell mutagenicity	
Germ cell mutagenicity-Assessment	: Animal testing did not show any mutagenic effects.
Carcinogenicity - Assessment	: The observed tumors do not appear to be relevant for men.
Reproductive toxicity - Assessment	: Animal testing did not show any effects on fertility.
Repeated dose toxicity	: Note: No adverse effect has been observed in chronic toxicity tests.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): 0,491 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 0,44 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae	: EbC50 (Desmodesmus subspicatus (green algae)): 0,044 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to terrestrial organisms	: LD50: > 104 µg/bee, oral Exposure duration: 2 d Species: Apis mellifera (bees) LD50: > 100 µg/bee, contact Exposure duration: 2 d Method: OECD Test Guideline 213/214 LC50: 296 mg/kg Exposure duration: 14 d Species: Earthworms

ZEAGRAN ULTIMATE

Version 1.0

Revision Date 16.11.2012

Print Date 16.11.2012

Components:

Bromoxynil octanoate :

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 0,029 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : (Daphnia magna (Water flea)): 0,046 mg/l
aquatic invertebrates Exposure time: 48 h

Toxicity to algae : EC50 (Navicula pelliculosa): 0,043 mg/l
Exposure time: 120 h

EC50 (Lemna gibba (Duckweed)): 0,073 mg/l

M-Factor : 10

12.2 Persistence and degradability

Product:

Biodegradability : no data available

Physico-chemical : no data available
removability

Components:

Bromoxynil octanoate :

Biodegradability : aerobic
Biodegradation: 37 %
Exposure time: 28 d
Not readily biodegradable

12.3 Bioaccumulative potential

Product:

Bioaccumulation : no data available

Components:

Bromoxynil octanoate :

Bioaccumulation : Species: Lepomis macrochirus (Bluegill Sunfish)
Bioconcentration factor (BCF): 230

Partition coefficient: n- : log Pow: 5,9
octanol/water

12.4 Mobility in soil

Product:

Mobility : no data available
Surface tension : 34 mN/m at 20 °C
Method: EEC A.5

12.5 Results of PBT and vPvB assessment

Product:

Assessment : A Chemical Safety Assessment is not required for this



ZEAGRAN ULTIMATE

Version 1.0

Revision Date 16.11.2012

Print Date 16.11.2012

mixture.

12.6 Other adverse effects

Product:

Additional ecological information : No other known adverse effects on the environment

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Do not empty into drains.
Dispose of in accordance with local regulations.

Contaminated packaging : Do not re-use empty containers.
Dispose of empty packages through the specific collection services.

SECTION 14: Transport information

14.1 UN number

ADR : 3082
IMDG : 3082
IATA : 3082

14.2 Proper shipping name

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID,
N.O.S. (terbuthylazine, Bromoxynil octanoate/heptanoate)
IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID,
N.O.S.
IATA : ENVIRONMENTALLY HAZARDOUS SUBSTANCE LIQUID,
N.O.S.

14.3 Transport hazard class

ADR : 9
IMDG : 9
IATA : 9

14.4 Packing group

ADR
Hazard identification No : 90
Labels : 9
Tunnel restriction code : (E)

IMDG

Packaging group : III
Labels : 9
EmS Number : F-A,S-F



ZEAGRAN ULTIMATE

Version 1.0

Revision Date 16.11.2012

Print Date 16.11.2012

IATA

Packaging group : III
Labels : 9

14.5 Environmental hazards

ADR

Environmentally hazardous : yes

IMDG

Marine Pollutant : yes

IATA

Environmentally hazardous : yes

14.6 Special precautions for user

For personal protection see section 8.

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

Remarks : not applicable

SECTION 15: Regulatory information

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

Storage : <** Phrase language not available: [EN] ZNUF -
Y15.00000000046 **> : 1172

15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this mixture.

SECTION 16: Other information

Full text of R-Phrases

Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Asp. Tox.	Aspiration hazard
Eye Irrit.	Eye irritation
R20/22	Harmful by inhalation and if swallowed.
R22	Harmful if swallowed.
R23	Toxic by inhalation.
R34	Causes burns.
R36/38	Irritating to eyes and skin.
R43	May cause sensitization by skin contact.
R50	Very toxic to aquatic organisms.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in



ZEAGRAN ULTIMATE

Version 1.0

Revision Date 16.11.2012

Print Date 16.11.2012

	the aquatic environment.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R53	May cause long-term adverse effects in the aquatic environment.
R63	Possible risk of harm to the unborn child.
R65	Harmful: may cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.
R67	Vapours may cause drowsiness and dizziness.
Repr.	Reproductive toxicity
Skin Irrit.	Skin irritation
Skin Sens.	Skin sensitization
STOT SE	Specific target organ toxicity - single exposure

Full text of H-Statements

H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.

Further information

Other information : Alterations are indicated in the left hand margin by: II
This version replaces all previous versions.

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.