



CERONE

Version 5 / GB
102000001937

1/9

Revision Date: 09.01.2014
Print Date: 09.01.2014

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Trade name CERONE
Product code (UVP) 05927242

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

Use Growth regulator

1.3 Details of the supplier of the safety data sheet

Supplier Bayer CropScience Limited
230 Cambridge Science Park
Milton Road
Cambridge
Cambridgeshire CB4 0WB
United Kingdom

Telephone +44(0)1223 226500
Telefax +44(0)1223 426240
Responsible Department Email: ukinfo@bayercropscience.com

1.4 Emergency telephone no.

Emergency telephone no. 0800-220876 (UK 24 hr)
+44(0)1635-563000 (Overseas 24 hr)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

|| Classification according to EU Directives 67/548/EEC or 1999/45/EC

|| Xi Irritant, R41
|| N Dangerous for the environment, R51/53

2.2 Label elements

|| Labelling according to specific UK regulations:

The labelling information below is that which has been approved under 'The Control of Pesticides Regulations 1986' and/or 'Part III of the Food and Environment Protection Act 1985' and/or 'Plant Protection Product Regulations 1999' and any subsequent amendments and may differ from that indicated by any toxicological and/or other testing otherwise indicated in this 'Safety Data Sheet'.

Hazard label for supply/use required.

Hazardous components which must be listed on the label:

- Ethephon

Symbol(s)



Xn Harmful

R-phrases(s)

**CERONE**Version 5 / GB
102000001937

2/9

Revision Date: 09.01.2014
Print Date: 09.01.2014

R20 Harmful by inhalation.
 R41 Risk of serious damage to eyes.
 R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

To avoid risks to man and the environment, comply with the instructions for use.

S-phrases(s)

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S38 In case of insufficient ventilation, wear suitable respiratory equipment.
 S39 Wear eye/face protection.
 S57 Use appropriate container to avoid environmental contamination.

2.3 Other hazards

No other hazards known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.2 Mixtures****Chemical nature**

Soluble concentrate (SL)
 Ethephon 480 g/l

Hazardous components

R-phrase(s) according to EC directive 67/548/EEC
 Hazard statements according to Regulation (EC) No. 1907/2006

Name	CAS-No. / EC-No.	Classification		Conc. [%]
		EC Directive 67/548/EEC	Regulation (EC) No 1272/2008	
Ethephon	16672-87-0 240-718-3	Xn; R20/21/22 C; R34 N; R51/53	Acute Tox. 4, H332 Acute Tox. 3, H311 Acute Tox. 4, H302 Skin Corr. 1C, H314 Aquatic Chronic 2, H411	40.00
2-Butoxyethanol	111-76-2 203-905-0	Xn; R20/21/22 Xi; R36/38	Acute Tox. 4, H332 Acute Tox. 4, H312 Acute Tox. 4, H302 Eye Irrit. 2, H319 Skin Irrit. 2, H315	> 1.00 - < 3.00

Further information

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

SECTION 4: FIRST AID MEASURES**4.1 Description of first aid measures**

General advice Move out of dangerous area. Remove contaminated clothing immediately and dispose of safely.
Inhalation Move to fresh air. Keep patient warm and at rest.
Skin contact Wash off immediately with soap and plenty of water. Get medical

**CERONE**Version 5 / GB
10200001937

3/9

Revision Date: 09.01.2014
Print Date: 09.01.2014

	attention if irritation develops and persists.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.
Ingestion	Do NOT induce vomiting. Keep at rest. Rinse mouth. Obtain medical attention.
4.2 Most important symptoms and effects, both acute and delayed	
Symptoms	Local:, Burns on skin and mucosal tissues Systemic:, Gastro-intestinal irritation, This product causes reversible cholinesterase inhibition without long term effects.
4.3 Indication of any immediate medical attention and special treatment needed	
Risks	Must NOT be confused with organophosphorus compounds!
Treatment	Treat symptomatically. Gastric lavage is not normally required. However, if a significant amount (more than a mouthful) has been ingested, administer activated charcoal and sodium sulphate. There is no specific antidote. Contraindication: atropine.

SECTION 5: FIREFIGHTING MEASURES**5.1 Extinguishing media**

Suitable	Water spray, Foam, Carbon dioxide (CO ₂), Dry powder
Unsuitable	High volume water jet

5.2 Special hazards arising from the substance or mixture In the event of fire the following may be released:, Carbon monoxide (CO), Nitrogen oxides (NO_x), Oxides of phosphorus, Hydrogen chloride (HCl)

5.3 Advice for firefighters

Special protective equipment for fire-fighters In the event of fire, wear self-contained breathing apparatus.

Further information Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment and emergency procedures**

Precautions Keep people away from and upwind of spill/leak. Avoid contact with spilled product or contaminated surfaces. When dealing with a spillage do not eat, drink or smoke. Use personal protective equipment.

6.2 Environmental precautions Do not allow to get into surface water, drains and ground water. If spillage enters drains leading to sewage works inform local water company immediately. If spillage enters rivers or watercourses, inform the Environment Agency (emergency telephone number 0800 807060).

**CERONE**Version 5 / GB
102000001937

4/9

Revision Date: 09.01.2014
Print Date: 09.01.2014**6.3 Methods and materials for containment and cleaning up**

Methods for cleaning up Recover the product by pumping, suction or absorption using a dry and inert absorbent clay. Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

Additional advice Check also for any local site procedures.

6.4 Reference to other sections Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE**7.1 Precautions for safe handling**

Advice on safe handling No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice. Ensure adequate ventilation.

Hygiene measures Wash hands immediately after work, if necessary take a shower. Smoking, eating and drinking should be prohibited in the application area.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Store in original container. Store in a place accessible by authorized persons only. Protect from freezing. Keep away from direct sunlight.

Advice on common storage Keep away from food, drink and animal feedingstuffs.

Suitable materials HDPE (high density polyethylene)

7.3 Specific end uses Refer to the label and/or leaflet.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Control parameters**

Components	CAS-No.	Control parameters	Update	Basis
Ethephon	16672-87-0	1.4 mg/m ³ (OES BCS)		OES BCS*
2-Butoxyethanol	111-76-2	123 mg/m ³ /25 ppm (TWA)	12 2011	EH40 WEL
2-Butoxyethanol	111-76-2	246 mg/m ³ /50 ppm (STEL)	12 2011	EH40 WEL
2-Butoxyethanol	111-76-2	98 mg/m ³ /20 ppm (TWA)	12 2009	EU ELV
2-Butoxyethanol	111-76-2	246 mg/m ³ /50 ppm (STEL)	12 2009	EU ELV

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

8.2 Exposure controls

Refer to COSHH assessment (Control of Substances Hazardous to Health (Amendment) Regulations 2004). Engineering controls should be used in preference to personal protective equipment wherever practicable. Refer also to COSHH Essentials.

Personal protective equipment

**CERONE**Version 5 / GB
10200001937

5/9

Revision Date: 09.01.2014
Print Date: 09.01.2014

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection	Respiratory protection is not required under anticipated circumstances of exposure. Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.
Hand protection	Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness of 0,4 mm). Wash when contaminated and dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.
Eye protection	Wear goggles (conforming to EN166, Field of Use = 5 or equivalent) and faceshield (conforming to EN166, Field of Use = 3 or equivalent).
Skin and body protection	Wear standard coveralls and Category 3 Type 6 suit. If there is a risk of significant exposure, consider a higher protective type suit. Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently.
General protective measures	Avoid contact with skin and eyes. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1 Information on basic physical and chemical properties**

Form	Liquid
Colour	colourless to brown
pH	<= 1.8 at 1 % (23 °C) (deionized water)
Boiling point/boiling range	100 °C
Flash point	Not relevant; aqueous solution
Ignition temperature	> 600 °C
Density	ca. 1.20 g/cm ³ at 20 °C
Water solubility	miscible
Partition coefficient: n-octanol/water	Ethephon: log Pow: -1.89
Viscosity, kinematic	2.52 mm ² /s at 40 °C
Surface tension	37.9 mN/m at 20 °C Determined as a 1% solution in distilled water.

9.2 Other information Further safety related physical-chemical data are not known.

**CERONE**Version 5 / GB
10200001937

6/9

Revision Date: 09.01.2014
Print Date: 09.01.2014

SECTION 10: STABILITY AND REACTIVITY**10.1 Reactivity**

Thermal decomposition 250 - 400 °C
The value mentioned relates to the active ingredient.

10.2 Chemical stability Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions No hazardous reactions when stored and handled according to prescribed instructions.
Corrodes metals in the presence of water or moisture.
Risk of ethylene emission in case of increasing pH.

10.4 Conditions to avoid Extremes of temperature and direct sunlight.

10.5 Incompatible materials Metals

10.6 Hazardous decomposition products Gaseous hydrocarbons that may form explosive mixtures with air.
Hydrogen chloride formation.

SECTION 11: TOXICOLOGICAL INFORMATION**11.1 Information on toxicological effects**

Acute oral toxicity LD50 (rat) > 2,000 mg/kg

Acute inhalation toxicity Not relevant
During intended and foreseen applications, no respirable aerosol is formed.

Acute dermal toxicity LD50 (rat) > 2,000 mg/kg
ATE (rabbit) > 2,000 mg/kg

Skin irritation No skin irritation (rabbit)

Eye irritation Severe eye irritation. (rabbit)

Sensitisation Non-sensitizing.

Assessment repeated dose toxicity

Ethephon did not cause specific target organ toxicity in experimental animal studies.

Assessment Mutagenicity

Ethephon was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment Carcinogenicity

Ethephon was not carcinogenic in lifetime feeding studies in rats and mice.

Assessment toxicity to reproduction

Ethephon did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Ethephon did not cause developmental toxicity in rats and rabbits.

**CERONE**Version 5 / GB
10200001937

7/9

Revision Date: 09.01.2014
Print Date: 09.01.2014

SECTION 12: ECOLOGICAL INFORMATION**12.1 Toxicity****Toxicity to fish**LC50 (Rainbow trout (*Oncorhynchus mykiss*)) > 100 mg/l
Exposure time: 96 h**Toxicity to aquatic invertebrates**(Water flea (*Daphnia magna*)) > 721 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient.**Toxicity to aquatic plants**EC50 (*Scenedesmus subspicatus*) 98 mg/l
Exposure time: 72 hEC50 (*Lemna gibba* (duckweed)) > 1.6 mg/l
Exposure time: 14 d
The value mentioned relates to the active ingredient ethephon.EC10 (*Lemna gibba* (duckweed)) 0.21 mg/l
The value mentioned relates to the active ingredient ethephon.**12.2 Persistence and degradability****Biodegradability**Ethephon:
not rapidly biodegradable**Koc**

Ethephon: Koc: 2540

12.3 Bioaccumulative potential**Bioaccumulation**Ethephon:
Does not bioaccumulate.**12.4 Mobility in soil****Mobility in soil**

Ethephon: Slightly mobile in soils

12.5 Results of PBT and vPvB assessment**PBT and vPvB assessment**

Ethephon: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

12.6 Other adverse effects**Additional ecological information**

No other effects to be mentioned.

SECTION 13: DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods****Product**

In accordance with current regulations and, if necessary, after consultation with the site operator and/or with the responsible authority, the product may be taken to a waste disposal site or incineration plant. Advice may be obtained from the local waste regulation authority (part of the Environment Agency in the UK).

Contaminated packagingSmall containers (< 10 l or < 10 kg) should be rinsed thoroughly using an integrated pressure rinsing device, or, by manually rinsing three times.
Add washings to sprayer at time of filling.

**CERONE**Version 5 / GB
102000001937

8/9

Revision Date: 09.01.2014
Print Date: 09.01.2014

Dispose of empty and cleaned packaging safely.
Large containers (> 25 l or > 25 kg) should not be rinsed or re-used for any other purpose.
Return large containers to supplier.
Follow advice on product label and/or leaflet.

Waste key for the unused product **020108** agrochemical waste containing dangerous substances

SECTION 14: TRANSPORT INFORMATION**ADR/RID/ADN**

14.1 UN number	3265
14.2 Proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (ETHEPHON SOLUTION)
14.3 Transport hazard class(es)	8
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES
Hazard no.	80
Tunnel Code	E

This classification is in principle not valid for carriage by tank vessel on inland waterways. Please refer to the manufacturer for further information.

IMDG

14.1 UN number	3265
14.2 Proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (ETHEPHON SOLUTION)
14.3 Transport hazard class(es)	8
14.4 Packing group	III
14.5 Marine pollutant	YES
Segregation group according to 5.4.1.5.11.1	IMDG SEGREGATION GROUP 1 - ACIDS

IATA

14.1 UN number	3265
14.2 Proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (ETHEPHON SOLUTION)
14.3 Transport hazard class(es)	8
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES

UK 'Carriage' Regulations

14.1 UN number	3265
14.2 Proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (ETHEPHON SOLUTION)
14.3 Transport hazard class(es)	8
14.4 Packing group	III
14.5 Environm. Hazardous Mark	YES
Emergency action code	2X

14.6 Special precautions for user

See sections 6 to 8 of this Safety Data Sheet.



CERONE

Version 5 / GB
102000001937

9/9

Revision Date: 09.01.2014
Print Date: 09.01.2014

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

No transport in bulk according to the IBC Code.

SECTION 15: REGULATORY INFORMATION

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

Further information

|| WHO-classification: III (Slightly hazardous)

15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this substance.

SECTION 16: OTHER INFORMATION

Text of R-phrases mentioned in Section 3

R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R34	Causes burns.
R36/38	Irritating to eyes and skin.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Text of the hazard statements mentioned in Section 3

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H411	Toxic to aquatic life with long lasting effects.

|| **Reason for Revision:** Safety Data Sheet according to Regulation (EU) No. 453/2010. Section 2: Hazards Identification. Section 3: Composition / Information on Ingredients. Section 11: Toxicological Information. Section 12. Ecological information. Section 14: Transport Information.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.