



SHREEJI PESTICIDES PVT. LTD  
(A SUBSIDIARY OF WILLOWOOD CHEMICALS PVT. LTD)

## Material safety data sheet

ETHEPHON 39% SI

1/9  
Date: 01.10.2015

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

#### 1.1 Product identifier

**Product Name** Ethephon 39 SI

#### 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** Shreeji Pesticides Pvt, Ltd.  
(Sub. of Willowood Chemicals Pvt. Ltd.)  
Plot No. 69/p, Village - Manjusar, Tal. Savli  
Dist. Vadodara - 391775 (Gujarat)  
Inida

**Telephone** +91 2667 264701

**Responsible Department** Email: [info@shreejipesticides.com](mailto:info@shreejipesticides.com)

#### 1.4 Emergency telephone no.

**Emergency telephone no.** +91 1146592912

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

**Classification in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.**

Corrosive to metals: Category 1  
H290 May be corrosive to metals.

Serious eye damage: Category 1  
H318 Causes serious eye damage.

Chronic aquatic toxicity: Category 2  
H411 Toxic to aquatic life with long lasting effects.

#### 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 in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.**

Hazard label for supply/use required.

**Hazardous components which must be listed on the label:**

- Ethephon





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**Signal word:** Danger

### Hazard statements

H290 May be corrosive to metals.  
H318 Causes serious eye damage.  
H411 Toxic to aquatic life with long lasting effects.  
EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

### Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P305 + P351 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
+ P338  
P310 Immediately call a POISON CENTER/doctor/physician.  
P501 Dispose of contents/container in accordance with local regulation.

### 2.3 Other hazards

No other hazards known.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2 Mixtures

#### Chemical nature

Soluble concentrate  
(SL) Ethephon 39% SI

#### 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	39.00
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 – < 25.00

### 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.



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<b>Inhalation</b>	Move to fresh air. Keep patient warm and at rest.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water. Get medical attention if irritation develops and persists.
<b>Eye contact</b>	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.
<b>Ingestion</b>	Do NOT induce vomiting. Keep at rest. Rinse mouth. Obtain medical attention.

### 4.2 Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	Local:, Burns on skin and mucosal tissues Systemic:, Gastro-intestinal irritation, This product causes reversible cholinesterase inhibition without long term effects.
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### 4.3 Indication of any immediate medical attention and special treatment needed

<b>Risks</b>	Must NOT be confused with organophosphorus compounds!
<b>Treatment</b>	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

<b>Suitable</b>	Water spray, Foam, Carbon dioxide (CO <sub>2</sub> ), Dry powder
<b>Unsuitable</b>	High volume water jet

<b>5.2 Special hazards arising from the substance or mixture</b>	In the event of fire the following may be released:, Carbon monoxide (CO), Nitrogen oxides (NO <sub>x</sub> ), Oxides of phosphorus, Hydrogen chloride (HCl)
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### 5.3 Advice for firefighters

<b>Special protective equipment for fire-fighters</b>	In the event of fire, wear self-contained breathing apparatus.
<b>Further information</b>	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

<b>Precautions</b>	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.
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<b>6.2 Environmental precautions</b>	Do not allow to get into surface water, drains and ground water. If the product contaminates rivers and lakes or drains inform respective authorities.
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### 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 <sup>3</sup> (OES BCS)		OES BCS*
2-Butoxyethanol	111-76-2	98 mg/m <sup>3</sup> /20 ppm (TWA)	2011	ELV (IE)
2-Butoxyethanol	111-76-2	246 mg/m <sup>3</sup> /50 ppm (STEL)	2011	ELV (IE)
2-Butoxyethanol	111-76-2	98 mg/m <sup>3</sup> /20 ppm (TWA)	12 2009	EU ELV
2-Butoxyethanol	111-76-2	246 mg/m <sup>3</sup> /50 ppm (STEL)	12 2009	EU ELV

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

### 8.2 Exposure controls

#### Personal protective equipment

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



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#### 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.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Form	Liquid
Colour	Pinkish red coloured liquid
pH	$\leq 1.8$ 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 <sup>3</sup> at 20 °C
Water solubility	miscible
Partition coefficient: n-octanol/water	Ethephon: log Pow: -1.89
Viscosity, kinematic	2.52 mm <sup>2</sup> /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.



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### 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.



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### 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 h

EC50 (*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** It is best to use all of the product in accordance with label directions. If it is necessary to dispose of unused product, please follow container label instructions and applicable local guidelines.

**Contaminated packaging** Small 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.



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Dispose of empty and cleaned packaging safely.  
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	<b>3265</b>
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	<b>3265</b>
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	<b>3265</b>
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

#### 14.6 Special precautions for user

See sections 6 to 8 of this Safety Data Sheet.

#### 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

##### Republic of Ireland Regulations

This material may be subject to some or all of the following regulations (and any subsequent amendments). Users must ensure that any uses and restrictions as indicated on the label and/or leaflet are followed.

##### Supply and Use





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European Communities (Prohibition of Certain Active Substances in Plant Protection Products) Regulations 1981 (SI No 320/1981)  
European Communities (Authorization, Placing on the Market, Use and Control of Plant Protection Products) Regulations 2003 (SI No 83/2003)  
European Communities (Classification, Packaging and Labelling of Plant Protection Products and Biocide Products) Regulations 2001 (SI No 624/2001)  
2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations, 2001 (SI No 619/2001)

#### Waste Treatment

Landfill Directive  
Regulation on Substances That Deplete the Ozone Layer 1994 (EEC/3093/94)

#### 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.