



# Vixeran<sup>®</sup>

VIXERAN<sup>®</sup> contains the endophytic bacterium *Azotobacter salinestris* strain CECT 9690, which fixes atmospheric nitrogen (N) and converts it into a form that can be absorbed by the plants. The bacteria will colonise both the leaf and the root, improving crop growth, yield, and quality of the crops.

Manufacturer	Distributor
CERES BIOTICS TECH, S.L. Mar Tirreno 8, Naves C27-C29, 28830 San Fernando de Henares, Madrid, Spain Tel: +34 919 20 35 49	Syngenta Ireland Limited Block 6, Cleaboy Business Park Old Kilmeaden Road, Waterford, Ireland Tel: (051) 377203

**In case of toxic or transport emergency ring +44 (0) 1484 538444 any time**

PROTECT FROM FROST. SHAKE WELL BEFORE USE.

## SAFETY PRECAUTIONS

### (a) Operator protection

Keep out of the reach of children.

Do not breathe dust.

Do not eat, drink or smoke during use.

Do not ingest. In case of contact with the eyes and/or mucous membranes, wash the affected area with plenty of water.

Contains microorganisms. May cause sensitisation reactions. The use of respiratory protection equipment (disposable respirator or filtering mask, at least EN 149FFP3 or equivalent) is recommended when handling the preparation or applying the product.

Avoid contact with skin and eyes.

Apply with appropriate health precautions and do respect safety practices. Use appropriate personal protective equipment and wash hands after using the product.

### (b) Environmental Protection

Do not exceed the recommended dose rates.

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.

### (c) Storage and disposal

Product is stable under storage and disposal conditions.

Keep containers tightly closed and in original containers when not in use in fresh and well aerated location, with temperature between 5° and 35° C.

Avoid direct sunlight and other heat sources.

The product is not combustible.

RINSE CONTAINER THOROUGHLY by using an integrated pressure rinsing device or manually rinsing three times.

Add washings to sprayer at time of filling and dispose of safely.

# 250 g

Product names marked © or ™, the ALLIANCE FRAME  
the SYNGENTA Logo and the PURPOSE ICON  
are Trademarks of a Syngenta Group Company

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

Not regulated as a dangerous good

##### 14.2 UN proper shipping name

Not regulated as a dangerous good

##### 14.3 Transport hazard class(es)

Not regulated as a dangerous good

##### 14.4 Packing group

Not regulated as a dangerous good

##### 14.5 Environmental hazards

Not regulated as a dangerous good

##### 14.6 Special precautions for user

Remarks: Not classified as dangerous in the meaning of transport regulations.

##### 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

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17): Not applicable

UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation: Not applicable

The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain): Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer: Not applicable

UK REACH List of substances subject to authorisation (Annex XIV): Not applicable

GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation: Not applicable

Control of Major Accident Hazards Regulations 2015 (COMAH): Not applicable

##### 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 other abbreviations

GB EH40: UK, EH40 WEL - Workplace

Exposure Limits

GB EH40 / TWA: Long-term exposure limit

(8-hour TWA reference period)

ADN - European Agreement concerning the

International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the

International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial

Chemicals; ASTM - American Society for the

Testing of Materials; bw - Body weight;

CLP - Classification Labelling Packaging

Regulation; Regula-tion (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); ERx - Concentration associated

with x% growth rate response; GHS - Globally

Harmonized System; GLP - Good La-boratory

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;

IECSS - 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

sub-stance; 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; SVHC - Substance

of very high concern; TCSI - Taiwan Chemical

Substance Inventory; TEGA - Thailand Existing

Chemicals Inventory; TSCA - Toxic Substances

Control Act (United States); UN - United Nations;

UNRTDG - United Nations Recommendations on

the Transport of Dangerous Goods; vPB - Very

Persistent and Very Bioaccumulative

**Further information**

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.

#### COMPOSITION

*Azotobacter salinestris* strain CECT 9690 at  $1 \times 10^7$  CFU/g as a wettable powder.

#### DIRECTIONS FOR USE

BEFORE APPLYING THE PRODUCT, READ THE LABEL CAREFULLY.

#### GENERAL INFORMATION

VIXERAN<sup>®</sup> contains the endophytic bacterium *Azotobacter salinestris* strain CECT 9690, which fixes atmospheric nitrogen (N) and converts it into a form that can be absorbed by the plants. The bacteria will colonise both the leaf and the root, improving crop growth, yield, and quality of the crops.

#### Dose and Application Methods

VIXERAN<sup>®</sup> can be applied to a wide range of crops including, but not limited to arable, potato, grass, field vegetables and cover crops.

#### Foliar spray application

It is important that both the crop and the soil are not covered when spraying, to ensure the product can colonise both the leaves and the roots. Generally, VIXERAN<sup>®</sup> can be applied during the whole crop's growth cycle however, we recommend the following timing of application:

Crop	Dose rate	Recommended timing of applications	Recommended number of applications	Recommended water volume (l/ha)
Cereals	50 g/ha	GS13-16 (three leaves unfolded - six leaves unfolded) GS22-33 (two tillers detectable - node three at least 2cm above node 2)	1 to 2	100-400
Pulses		GS16 (six leaves unfolded) to start of flowering	1	
Maize		GS12-16 (two leaves unfolded - six leaves unfolded)	1	
Oilseed rape		GS11-16 (first leaf unfolded - six leaves unfolded) GS29-31 (End of shoot development - one visibly extended internode)	1 to 2	
Potato		From in-furrow to start of flowering	1 to 3	
Sugar beet		GS12-16 (two leaves unfolded - six leaves unfolded)	1	
Cover crops		1 week post emergence	1	
Permanent grassland		Early spring, then 1 week after every cut	1 to 4	

#### TANK MIXING

VIXERAN<sup>®</sup> is compatible with many fertilisers, biostimulants and crop protection products. For more information, please contact the manufacturer. Check the compatibility list on the website: [www.syngenta.co.uk](http://www.syngenta.co.uk).

Dilute any tank mix partners with water first before adding the VIXERAN<sup>®</sup>.

#### FOLLOWING CROPS

There are no restrictions on crops following an application of VIXERAN<sup>®</sup> in the previous season.

#### MIXING

When preparing VIXERAN<sup>®</sup> for application:

- Gradually pour the VIXERAN<sup>®</sup> into the spray solution, stirring continuously to achieve a uniform suspension.
- It is recommended to pre-dilute VIXERAN<sup>®</sup> with a small quantity of water prior to pouring into the spray tank.
- The spray mix must be kept agitated during mixing and application.
- Avoid low water temperatures below 5°C.

#### APPLICATION

For best results:

- Ensure good leaf coverage.
- The crop must be actively growing at the time of application.
- Do not apply when air temperature is below 5°C
- Low average day temperatures (less than 100C) post application will reduce colonisation speed.

#### After spraying

Thoroughly wash all spray equipment with water immediately after use.

#### COMPANY ADVISORY INFORMATION

The manufacturer guarantees the composition, formulation and content and the user will be responsible for damages caused by total or partial non-observation of the label instructions.

## Safety Data Sheet v 1.0

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

#### 1.1 Product identifier

Trade name: WIXERAN

Design code: A23780B

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

Use of the Substance/Mixture: Biostimulant

#### 1.3 Details of the supplier of the safety data sheet

Company: Syngenta Ireland Limited  
Block 6, Cleaboy Business Park, Old  
Kilmeaden Road, Waterford, Ireland  
Telephone: (051) 377203

Telefax: (051) 354748

E-mail address of the person responsible for the SDS:  
croppsales.ie@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 as amended by GB-C Regulation, UK SI 2019/720, and UK SI 2020/1567)

Not a hazardous substance or mixture.

#### 2.2 Label elements

#### 2.3 Labelling (REGULATION (EC) No 1272/2008 as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

No hazard pictogram, no signal word, no  
hazard statement(s), no precautionary  
statement(s) required

#### 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

Components: Remarks: No hazardous ingredients

### 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 center 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.

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

Symptoms: Non-specific. No symptoms known  
or expected.

### 4.3 Indication of any immediate medical

#### attention and special treatment needed

Treatment: There is no specific antidote  
available. Treat symptomatically.

### 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 or Water spray

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 fire-fighting: 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.

#### 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. Avoid dust  
formation.

#### 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 material for containment and cleaning up

Methods for cleaning up: Contain spillage,  
pick up with an electrically protected vacuum  
cleaner or by wet-brushing and transfer to a  
container for disposal according to local  
regulations (see section 13). Do not create a  
powder cloud by using a brush or compressed  
air. 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: No special protective  
measures against fire required. Avoid contact  
with skin and eyes. When using do not eat, drink  
or smoke. For personal protection see section 8.

#### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers:  
No special storage conditions required. Keep  
containers tightly closed in a dry, cool and

well-ventilated place. Keep out of the reach  
of children. Keep away from food, drink and  
animal feedstuffs.

#### 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

dust of any kind

10 mg/m<sup>3</sup>

Value type (Form of exposure): TWA (Inhalable)

Basis: GB EH40

4 mg/m<sup>3</sup>

Value type (Form of exposure): TWA

(Respirable fraction)

Basis: GB EH40

Contains no substances with occupational  
exposure limit values.

#### 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.

Where necessary, seek additional occupational  
hygiene advice.

#### Personal protective equipment

Eye/face protection: No special protective  
equipment required.

Hand protection - Remarks: No special  
protective equipment required.

Skin and body protection: No special  
protective equipment required. Select skin  
and body protection based on the physical job  
requirements.

Respiratory protection: No personal respiratory  
protective equipment normally required.  
When workers are facing concentrations above  
the exposure limit they must use appropriate  
certified respirators.

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: wettable powder

Colour: white

Odour: earthy

Odour Threshold: No data available

pH: 7.0 - 8.5, Concentration: 1 %w/w

Melting point/range: 86 °C

Boiling point/boiling range: No data available

Flash point: No data available

Flammability (solid, gas): No data available

Upper explosion limit / Lower flammability

limit: No data available

Lower explosion limit / Lower flammability

limit: No data available

Vapour pressure: No data available

Density: No data available

Bulk density: 0.6 - 0.85 g/cm<sup>3</sup>

Water solubility: completely soluble

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: kinematic: No data available

Explosive properties: Not explosive

Oxidizing properties: The substance or mixture

is not classified as oxidizing.

9.2 Other information

Particle size: 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

Hazardous decomposition products: No  
hazardous decomposition products are known.

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Information on likely routes of exposure:  
Ingestion, Inhalation, Skin contact, Eye contact

#### Further information

Product: Remarks: No data available

### SECTION 12: Ecological information

#### 12.1 Toxicity

No data available

#### 12.2 Persistence and degradability

No data available

#### 12.3 Bioaccumulative potential

No data available

#### 12.4 Mobility in soil

No data available

#### 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.

#### 12.6 Other adverse effects

#### Product:

Endocrine disrupting potential: The substance/  
mixture does not contain components  
considered to have endocrine disrupting  
properties according to REACH Article 57 (f)  
or Commission Delegated regulation (EU)  
2017/2100 or Commission Regulation (EU)  
2018/605 at levels of 0.1% or higher.

### 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.



The Syngenta logo, consisting of the word "syngenta" in a lowercase, sans-serif font with a leaf-like shape above the 'y'.

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SHAKE WELL BEFORE USE

**20 x 250 g**

**20 x 250 g**

Batch number and date of manufacture: see on the packaging

Product names marked ® or ™, the ALLIANCE FRAME  
the SYNGENTA Logo and the PURPOSE ICON  
are Trademarks of a Syngenta Group Company

 A small logo consisting of a square frame with a stylized leaf shape inside.
