

# Safety data sheet

BASF Safety data sheet  
Date / Revised: 04.10.2020  
Product: **SYSTIVA**<sup>®</sup>

(Ref: ID no. 30549788/SDS\_CPA\_NZ/EN; Version 4.0)

## 1. Identification of the substance/mixture and of the company/undertaking

### Product identifier

**SYSTIVA**<sup>®</sup>

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

Relevant identified uses: crop protection product, seed treatment fungicide

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

Company:

BASF New Zealand Limited  
Level 1, Quad 7, 6 Leonard Isitt Drive, Auckland Airport, Auckland 2022  
P.O. Box 407, Auckland 1140  
Phone: + 64 9 255 4300

### Emergency telephone number

National Poisons Centre: 0800 764 766  
BASF Emergency Advice Number: 0800 944 955 (24-hour advice in an emergency only) BASF  
Emergency Advice Number: +61 3 8855 6666 (If calling from outside New Zealand)

## 2. Hazards Identification

Hazard Classification:

6.9B, 9.1B



Signal Word: WARNING

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Hazard statements:

H373 May cause liver damage through prolonged or repeated oral exposure at high doses  
 H411 Toxic to aquatic life with long lasting effects

Precautionary Statements (Prevention):

P102 Keep out of reach of children  
 P260 Do not breathe dust/mist/vapours/spray

For the classifications not written out in full in this section the full text can be found in section 16.

### Other hazards which do not result in classification:

See section 12 - Results of PBT and vPvB assessment.

If applicable information is provided in this section on other hazards which do not result in classification, but which may contribute to the overall hazards of the substance or mixture.

May produce an allergic reaction. The product contains: 1,2-benzisothiazol-3(2H)-one.

## 3. Composition/Information on Ingredients

### Mixtures

#### Chemical nature

Crop protection product, fungicide, suspension concentrate for seed treatment (SC)

#### Hazardous ingredients

##### Fluxapyroxad

Content (W/W): 28.7 %	Repr.: Cat. Add. cat. lact.
CAS Number: 907204-31-3	Aquatic Acute: Cat. 1
REACH registration number: 04-2119400076-54	Aquatic Chronic: Cat. 1

##### Poly(oxy-1,2-ethanediyl), .alpha.-sulfo-.omega.-[2,4,6-tris(1-phenylethyl)phenoxy]-, ammonium salt

Content (W/W): < 5 %	Aquatic Acute: Cat. 3
CAS Number: 119432-41-6	Aquatic Chronic: Cat. 3

##### 1,2-benzisothiazol-3(2H)-one

Content (W/W): < 0.05 %	Acute Tox.: Cat. 4 (oral)
CAS Number: 2634-33-5	Skin Corr./Irrit.: Cat. 2
	Eye Dam./Irrit.: Cat. 1
	Skin Sens.: Cat. 1
	Aquatic Acute: Cat. 1
	M-factor acute: 1
	M-factor chronic: 1

##### 2-methyl-2H-isothiazol-3-one

Content (W/W): < 0.05 %	Acute Tox.: Cat. 2 (Inhalation - dust)
CAS Number: 2682-20-4	Acute Tox.: Cat. 3 (oral)
	Acute Tox.: Cat. 3 (dermal)
	Skin Corr./Irrit.: Cat. 1B
	Eye Dam./Irrit.: Cat. 1
	Skin Sens.: Cat. 1A
	Aquatic Acute: Cat. 1
	Aquatic Chronic: Cat. 1
	M-factor acute: 10
	M-factor chronic: 1

## 4. First-Aid Measures

### General advice:

Remove contaminated clothing.

### If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

### On skin contact:

Wash thoroughly with soap and water.

### On contact with eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open.

### On ingestion:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

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

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

### Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

## 5. Fire-Fighting Measures

### Suitable extinguishing media:

Water spray, carbon dioxide, foam, dry powder

### Specific hazards arising from the substance or mixture

carbon monoxide, carbon dioxide, hydrogen fluoride, hydrogen chloride, nitrogen oxides, halogenated compounds, sulfur oxides, silica compounds

The substances/groups of substances mentioned can be released in case of fire.

### Special protective equipment:

Wear self-contained breathing apparatus and chemical-protective clothing.

### Further information:

Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations. In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire.

## 6. Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures

Avoid contact with the skin, eyes and clothing. Do not breathe vapour/spray. Use personal protective clothing.

### Environmental precautions

Do not discharge into drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

### Methods and material for containment and cleaning up

For small amounts: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr).

For large amounts: Dike spillage. Pump off product.

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Dispose of absorbed material in accordance with regulations. Collect waste in suitable containers, which can be labeled and sealed. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations. Wear suitable protective equipment.

### Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

## 7. Handling and Storage

### Precautions for safe handling

No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

Appropriate personal protection equipment shall be used when handling seeds treated with this substance.

Qualifications required:

Qualification is not required for the handling of this product.

Refer to the product label for handling precautions and directions for use.

Protection against fire and explosion:

No special precautions necessary. The substance/product is non-combustible. Product is not explosive.

### Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds.

Further information on storage conditions: Keep away from heat. Protect from direct sunlight.

<b>AGGREGATE STORAGE VOLUME THRESHOLDS:</b> When stored with substances of the same hazard the aggregate quantity must be considered. For full details refer to the current standard NZS8409 Management of Agrichemicals or the HSNO Regulations.						
Location Certificate*:	Hazardous Atmosphere Zone*:	Fire Extinguishers:	Signage [Hazard Class & Emergency Action]:	Emergency Information:	Emergency Response Plan:	Secondary Containment:
NA	NA	NA	1,000 litres	5 litres	1,000 litres	1,000 litres
* Note: Farms $\geq$ 4 ha are exempt but with controls						
<b>DO NOT STORE OR LOAD WITH:</b>			<b>SEGREGATE FROM:</b>			
NA			Foodstuffs and Food Containers			
<b>Segregation:</b> In store separate by at least 5 metres, on transport separate by at least 3 metres, in both cases horizontally. On vehicles a segregation device may be used: Check the Land Transport Rule Dangerous Goods, Rule 45001 for additional information. Sea transport may require additional segregation. Refer to NZS5433 Sea Segregation for details.						

Note: Storage, application and record keeping must be as described in the current version of the New Zealand Standard for the Management of Agrichemicals NZS8409

Storage stability:

Storage duration: 36 Months

Protect from temperatures below: 0 °C

Changes in the properties of the product may occur if substance/product is stored below indicated temperature for extended periods of time.

Protect from temperatures above: 40 °C

Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

### Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

## 8. Exposure Controls/Personal Protection

### Control parameters

#### Components with workplace control parameters

##### *Glycerol (56-81-5)*

TWA value 10 mg/m<sup>3</sup> (OEL (NZ)), Mist

##### *Propane-1,2-diol (57-55-6)*

TWA value 474 mg/m<sup>3</sup> ; 150 ppm (OEL (NZ)), Vapor and particulates

TWA value 10 mg/m<sup>3</sup> (OEL (NZ)), Particulate

### Exposure controls

#### Personal protective equipment

##### Respiratory protection:

Suitable respiratory protection for higher concentrations or long-term effect: Combination filter for gases/vapours of organic, inorganic, acid inorganic and alkaline compounds (e.g. EN 14387 Type ABEK).

##### Hand protection:

Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) and other

##### Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

##### Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

#### General safety and hygiene measures

The statements on personal protective equipment in the instructions for use apply when handling crop-protection agents in final-consumer packing. Wearing of closed work clothing is recommended. Store work clothing separately. Keep away from food, drink and animal feeding stuffs.

##### Other:

Appropriate personal protection equipment shall be used when handling seeds treated with this substance.

## 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

Form:	liquid
Colour:	red
Odour:	faintly aromatic
Odour threshold:	not determined due to potential health hazard by inhalation
pH value:	approx. 6 - 8

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Solidification temperature:	(water, 1 %(m), approx. 20 °C) approx. -4.3 °C
Boiling point:	approx. 100 °C
Flash point:	Information applies to the solvent. approx. 100 °C (Directive 92/69/EEC, A.9) No flash point - Measurement made up to the boiling point.
Evaporation rate:	not applicable
Flammability:	not highly flammable (Directive 92/69/EEC, A.12)
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Ignition temperature:	approx. 449 °C (Directive 92/69/EEC, A.15)
Thermal decomposition:	145 °C , 40 kJ/kg (DSC (OECD 113)) 295 °C , 160 kJ/kg (DSC (OECD 113)) 410 °C , 30 kJ/kg (DSC (OECD 113)) Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.
Explosion hazard:	not explosive
Fire promoting properties:	not fire-propagating
Vapour pressure:	approx. 23 hPa (approx. 20 °C) Information applies to the solvent.
Density:	approx. 1.16 g/cm <sup>3</sup> (20 °C)
Relative vapour density (air):	not applicable
Solubility in water:	dispersible
Partitioning coefficient n-octanol/water (log Kow):	not applicable
Viscosity, dynamic:	approx. 24 mPa.s (20 °C)

### Other information

Other Information:

If necessary, information on other physical and chemical parameters is indicated in this section.

## 10. Stability and Reactivity

### Conditions to avoid

See MSDS section 7 - Handling and storage.

Thermal decomposition: 145 °C, 40 kJ/kg (DSC (OECD 113))

Thermal decomposition: 295 °C, 160 kJ/kg (DSC (OECD 113))

Thermal decomposition: 410 °C, 30 kJ/kg (DSC (OECD 113))

### Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals: Corrosive effects to metal are not anticipated.

### Chemical stability

The product is stable if stored and handled as prescribed/indicated.

### Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated.

## Incompatible materials

Substances to avoid:  
strong acids, strong bases, strong oxidizing agents

## Hazardous decomposition products

Hazardous decomposition products:  
No hazardous decomposition products if stored and handled as prescribed/indicated.

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## 11. Toxicological Information

### Information on toxicological effects

#### Acute toxicity

Assessment of acute toxicity:  
Virtually nontoxic after a single ingestion. Virtually nontoxic by inhalation. Virtually nontoxic after a single skin contact.

Experimental/calculated data:  
LD50 rat (oral): > 2,000 mg/kg (OECD Guideline 423)  
No mortality was observed.  
LC50 rat (by inhalation): > 5.2 mg/l 4 h (OECD Guideline 403)  
An aerosol was tested.  
LD50 rat (dermal): > 5,000 mg/kg (OECD Guideline 402)  
No mortality was observed.

#### Irritation

Assessment of irritating effects:  
Not irritating to the skin. Not irritating to the eyes.

Primary skin irritation rabbit: non-irritant (OECD Guideline 404)  
Primary irritations of the mucous membrane rabbit: non-irritant (OECD Guideline 405)  
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

#### Respiratory/Skin sensitization

Assessment of sensitization:  
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. There is no evidence of a skin-sensitizing potential.

Experimental/calculated data:  
Buehler test guinea pig: (OECD Guideline 406)

#### *Information on: Fluxapyroxad*

*Experimental/calculated data:*  
*Guinea pig maximization test guinea pig: Non-sensitizing. (OECD Guideline 406)*

#### Germ cell mutagenicity

Assessment of mutagenicity:  
Mutagenicity tests revealed no genotoxic potential. The product has not been tested. The statement has been derived from the properties of the individual components.

#### Carcinogenicity

##### Assessment of carcinogenicity:

The product has not been tested. The statement has been derived from the properties of the individual components.

##### *Information on: Fluxapyroxad*

##### *Assessment of carcinogenicity:*

*Indication of possible carcinogenic effect in animal tests.*

#### Reproductive toxicity

##### Assessment of reproduction toxicity:

The product has not been tested. The statement has been derived from the properties of the individual components.

##### *Information on: Fluxapyroxad*

##### *Assessment of reproduction toxicity:*

*The results of animal studies gave no indication of a fertility impairing effect. May cause harm to children via breast-feeding.*

#### Developmental toxicity

##### Assessment of teratogenicity:

The product has not been tested. The statement has been derived from the properties of the individual components. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

#### Specific target organ toxicity (single exposure):

##### Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Remarks: The product has not been tested. The statement has been derived from the properties of the individual components.

#### Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

##### Assessment of repeated dose toxicity:

The product has not been tested. The statement has been derived from the properties of the individual components.

##### *Information on: Fluxapyroxad*

##### *Assessment of repeated dose toxicity:*

*Adaptive effects were observed after repeated exposure in animal studies.*

#### Aspiration hazard

No aspiration hazard expected.

The product has not been tested. The statement has been derived from the properties of the individual components.

#### Other relevant toxicity information

Misuse can be harmful to health.



## 12. Ecological Information

### Ecotoxicity

Assessment of aquatic toxicity:

Acutely toxic for aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Toxicity to fish:

LC50 (96 h) 1.46 mg/l, *Oncorhynchus mykiss* (OECD 203; ISO 7346; 92/69/EEC, C.1)

Aquatic invertebrates:

EC50 (48 h) > 45.29 mg/l, *Daphnia magna* (OECD Guideline 202, part 1)

Aquatic plants:

EC50 (72 h) 2.49 mg/l, *Pseudokirchneriella subcapitata* (OECD Guideline 201)

EC10 (72 h) 1.62 mg/l, *Pseudokirchneriella subcapitata*

*Information on: Fluxapyroxad*

*Chronic toxicity to fish:*

*No observed effect concentration (33 d) 0.0359 mg/l, Pimephales promelas (OECD Guideline 210, Flow through.)*

### Mobility

Assessment transport between environmental compartments:

The product has not been tested. The statement has been derived from the properties of the individual components.

*Information on: Fluxapyroxad*

*Assessment transport between environmental compartments:*

*Following exposure to soil, adsorption to solid soil particles is probable, therefore contamination of groundwater is not expected.*

### Persistence and degradability

Assessment biodegradation and elimination (H<sub>2</sub>O):

The product has not been tested. The statement has been derived from the properties of the individual components.

*Information on: Fluxapyroxad*

*Assessment biodegradation and elimination (H<sub>2</sub>O):*

*Not readily biodegradable (by OECD criteria).*

### Bioaccumulative potential

Assessment bioaccumulation potential:

The product has not been tested. The statement has been derived from the properties of the individual components.

*Information on: Fluxapyroxad*

*Bioaccumulation potential:*

*Bioconcentration factor: 36 - 37 (28 d), Lepomis macrochirus (OECD-Guideline 305)*

*Does not accumulate in organisms.*

### Results of PBT and vPvB assessment

The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

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### Other adverse effects

The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

### Additional information

Other ecotoxicological advice:  
Do not discharge product into the environment without control.

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## 13. Disposal Considerations

CONTAINER: Triple rinse empty container and add rinsate to the spray tank. Recycle through Agrecovery (0800 247 326, [www.agrecovery.co.nz](http://www.agrecovery.co.nz)).

PRODUCT: Dispose of this product only by using according to the label or at an approved landfill. Do NOT burn product. Do NOT contaminate water with product or used container.

Contaminated packaging:  
Contaminated packaging should be emptied and disposed of in the same manner as the substance/product.

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## 14. Transport Information

Commercial transport:  
Classified as Dangerous Goods for Land/rail (ADR/RID), sea (IMDG/GGVSee) and air transport (ICAO/IATA):

Transport hazard class(es):	9
Packing Group	III
UN Number	3082
Hazard label:	9, EHSM
Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains FLUXAPYROXAD)
HAZCHEM:	2[Z]
Marine Pollutant:	YES

Public transport:  
Do NOT carry this product on a passenger service vehicle.

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## 15. Regulatory Information

### Chemical Safety Assessment

Advice on product handling can be found in sections 7 and 8 of this safety data sheet.

### NZ Regulations

Approved pursuant to the HSNO Act 1996, Code HSR100887.  
See [www.epa.govt.nz](http://www.epa.govt.nz) for approval conditions.

Registered pursuant to the ACVM Act 1997, Nos. P8183.  
See [www.foodsafety.govt.nz/acvm](http://www.foodsafety.govt.nz/acvm) for registration conditions.

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For the user of this plant-protective product applies: 'To avoid risks to man and the environment, comply with the instructions for use.' (Directive 1999/45/EC, Article 10, No. 1.2)

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## 16. Other Information

For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

| Vertical lines in the left hand margin indicate an amendment from the previous version.