

Safety Data Sheet

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BASF Safety Data Sheet

Date / Revised: 23.11.2023

Version: 5.0

Product: **SYSTIVA®**

(Ref ID no. 30549788/SDS_CPA_NZ/EN)

1. Identification

Product identifier

SYSTIVA®

Recommended uses and restrictions on use (if any)

Recommended use:

crop protection product, seed treatment fungicide.

Restricted use:

Seed treatment use only / Use according to label.

Manufacturer / Supplier

BASF New Zealand Limited
5E City Works Depot,
77 Cook Street
Auckland 1010
NEW ZEALAND

Phone: + 64 9 255 4300
0800 932 273

E-mail address: reception@basf-nz.co.nz

Emergency telephone number

National Poisons Centre: 0800 764 766

BASF Emergency Advice Number: 0800 944 955 (24 hour advice in an emergency only)

2. Hazard Identification

Classification of the substance or mixture

Specific target organ toxicity - repeat exposure : Category 2

Aquatic environment - chronic : Category 2

GHS Label Elements, including Precautionary Statements:

Signal Word:

WARNING.

Pictograms:



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GHS Hazard Statements

H373 : May cause damage to organs through prolonged or repeated exposure.
 H411 : Toxic to aquatic life with long lasting effects.

GHS Precautionary Statements (Prevention)

P103 : Read label before use.
 P260 : Do not breathe mist, vapours and spray.

GHS Precautionary Statements (Response)

P314 : Get medical advice / attention if you feel unwell.
 P391 : Collect spillage.

GHS Precautionary Statements (Storage)

No specific storage requirements.

GHS Precautionary Statements (Disposal):

P501 : Dispose of contents/container to hazardous or special waste collection point.
 Information regarding disposal considerations can be found in section 13.

Other hazards

See section 12 - Results of PBT and vPvB assessment.

To avoid risks to human health and the environment, comply with the instructions for use.
 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. Contains: 1,2-Benzisothiazol-3(2H)-one

3. Composition/Information on Ingredients**Substances**

Not applicable

MixturesHazardous ingredients (GHS)

According to UN GHS criteria

Fluxapyroxad

Content (W/W): 28.78 %
 CAS Number: 907204-31-3

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

Content (W/W): <5 %
 CAS Number: 119432-41-6

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

Content (W/W): <0.05 %
 CAS Number: 2634-33-5

Glycerol

Content (W/W): <10 %
 CAS Number: 56-81-5

4. First-Aid Measures

Description of necessary first aid measures

General advice:

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). 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:

Information, i.e. additional information on symptoms and effects may be included in the GHS labelling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far.

Indication of any immediate medical attention and special treatment needed

Treatment:

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

Medical advice:

Contact the National Poisons and Hazardous Chemicals Information centre.
Phone 0800 POISON (0800 764 766).

5. Fire-Fighting Measures

Suitable extinguishing media

Water spray, dry powder, foam, carbon dioxide

Specific hazards

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.

No specific precautions necessary. The substance is non-combustible. Product is not explosive.

Special protective equipment for fire-fighters

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

Precautions for fire-fighters

In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. 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.

6. Accidental Release Measures

Personal precautions, Protective equipment and Emergency procedures

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

Environmental precautions

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

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

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

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.

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.

Storage stability: 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.

8. Exposure Controls/Personal Protection

Control parameters

Occupational exposure limits

Component:	Glycerol
CAS Number:	56-81-5
TWA Value:	10 mg/m ³ Mist (source: WES 2022)

Engineering controls

Maintain air concentrations below occupational exposure standards.

Personal protective equipmentRespiratory 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 374-1) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374-1): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc.

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.

9. Physical and Chemical Properties

Form:	Liquid
Colour:	Red
Odour:	Faint, sweetish
Odour threshold:	Not determined due to potential health hazard by inhalation
pH value:	Approx. 6 – 8 (20°C)
Crystallisation temperature:	Approx. -4.3°C
Boiling point:	Approx. 100°C
Flash point:	No flash point - measurement made up to the boiling point
Evaporation rate:	Not applicable
Flammability:	Not applicable
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
Vapour pressure:	Approx. 23 hPa (approx. 20°C) (Information applies to the solvent)
Density:	Approx. 1.16 g/cm ³ (20°C) Approx. 1.14 g/cm ³ (55°C)
Relative vapour density (air):	Not applicable

Solubility in water:	Dispersible
Partitioning coefficient n-octanol/water (log Pow):	Not applicable
Thermal decomposition:	145°C, 40 kJ/kg 295°C, 160 kJ/kg 410°C, 30 kJ/kg 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
Viscosity, dynamic:	Approx. 24 mPa.s (20°C) Approx. 18 mPa.s (40°C)

10. Stability and Reactivity

Reactivity

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

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.

Conditions to avoid

See SDS section 7 - Handling and storage.

Thermal decomposition:	145°C, 40 kJ/kg (DSC)
Thermal decomposition:	295°C, 160 kJ/kg (DSC)
Thermal decomposition:	410°C, 30 kJ/kg (DSC)
Thermal decomposition:	Not a substance liable to self-decomposition according to UN transport regulations, Class 4.1

Incompatible materials / Substances to avoid

Strong acids, strong bases, strong oxidizing agents

Hazardous decomposition products

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

11. Toxicological Information

Acute toxicity

Assessment of acute toxicity:

Virtually non-toxic after single ingestion. Virtually non-toxic by inhalation. Virtually non-toxic after a single skin contact.

Experimental/calculated data:

LD50 rat (oral):	>2,000 mg/kg No mortality was observed.
LC50 rat (by inhalation):	>5.2 mg/l 4 h No mortality was observed. An aerosol was tested.
LD50 rat (dermal):	>5,000 mg/kg No mortality was observed.

Skin Corrosion / IrritationAssessment of irritating effects:

Not irritating to the skin.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant

Serious Eye Damage / IrritationAssessment of irritating effects:

Not irritating to the eyes.

Experimental/calculated data:

Serious eye damage/irritation rabbit: non-irritant.

Respiratory or Skin sensitizationAssessment of sensitization:

There is no evidence of a skin-sensitising potential. The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: Fluxapyroxad

Experimental/calculated data:

Guinea pig Maximisation Test: non-sensitizing.

Germ cell mutagenicityAssessment 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.

CarcinogenicityAssessment 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. The effect is caused by an animal specific mechanism that has no human counterpart.

Reproductive toxicityAssessment 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 toxicityAssessment of teratogenicity:

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

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 - Aquatic**Assessment of aquatic toxicity:

Toxic to aquatic life with long lasting effects.

Toxicity to fish:

LC50 (96 h): 1.46 mg/l, *Oncorhynchus mykiss*

NOEC (33 d): 0.0359 mg ai/l, *Pimephales promelas*, Fluxapyroxad

Aquatic invertebrates:

EC50 (48 h): 45.29 mg/l, *Daphnia magna*

Aquatic plants:

EC50 (72 h): 2.49 mg/l, *Pseudokirchneriella subcapitata*

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

Ecotoxicity - TerrestrialAssessment of terrestrial toxicity:

The product has not been tested. The statement has been derived from the properties of the active ingredient.

Toxicity to birds:

Acute oral LD50: >2,000 mg ai/l, *Colinus virginianus*, Fluxapyroxad

Toxicity to soil organisms:

LC50 (14d): >1,000 mg ai/kg, *Eisenia fetida*, Fluxapyroxad

Toxicity to Pollinators:LD50 (oral): >110.9 µg ai/bee, *Apis mellifera*, FluxapyroxadLD50 (contact): >100 µg ai/bee, *Apis mellifera*, Fluxapyroxad**Persistence and degradability**Assessment biodegradation and elimination (H2O):

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 (H2O):

Not readily biodegradable.

Bioaccumulative potentialAssessment 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*

Does not accumulate in organisms.

Mobility in soilAssessment 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.

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.

Other adverse effectsOther ecotoxicological advice:

Do not discharge product into the environment without control.

Do not apply onto or into water.

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). Do not use container for any other purpose.

Product:

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

Waste product/package may be sent to a suitable incineration plant, observing local regulations.

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Contaminated Packaging:

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

14. Transport Information**Commercial transport:**

Classified as dangerous good(s) for Land/rail (ADR/RID), sea (IMDG) and air transport (ICAO/IATA):

Land / Rail / Road (ADR/RID):

UN number:	UN 3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains Fluxapyroxad)
Transport hazard class(es) / UN DG Class:	9, (EHSM)
Packing group:	III
Environmental hazards:	Marine pollutant
HAZCHEM:	3Z
IERG Number:	47
Special precautions when transporting the substance:	None known

Sea transport (IMDG):

UN number:	UN3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains Fluxapyroxad)
Transport hazard class(es):	9, EHSM
Packing group:	III
Environmental hazards:	marine pollutant
Marine pollutant:	Yes
Special precautions when transporting the substance:	None known

Air transport (IATA / ICAO):

UN number:	UN3082
UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains Fluxapyroxad)
Transport hazard class(es):	9, EHSM
Packing group:	III
Environmental hazards:	Yes, marine pollutant
Special precautions when transporting the substance:	None known

Additional Information:

Product may be shipped as non-hazardous in suitable packages containing a net quantity of 5 L or less under the provisions of various regulatory agencies: ADR, RID, ADN: Special Provision 375; IMDG: 2.10.2.7; IATA: A197; TDG: Special Provision 99(2); 49CFR: §171.4 (c) (2) and also the Special Provision 375 in Appendix B which is regulated in China "Regulations Concerning Road Transportation of Dangerous Goods Part 3: Index of dangerous goods name and transportation requirements" (JT/T 617.3).

15. Regulatory Information

HSNO Approval Number

HSR100887

See www.epa.govt.nz for approval conditions.

Tolerable Exposure Limit or Environmental Exposure Limit

TEL: None set

EEL: None set

Relevant Regulatory Requirements

Qualifications:	Not required
Certified Handler:	Not required
Tracking:	Not required
Record Keeping:	Not required
Restricted to Workplace:	Not applicable
Controlled substance licence:	Not required

ACVM Registration

P008183

See www.foodsafety.govt.nz/acvm for registration conditions.

International Agreements related to the substance such as Montreal Protocol, the Stockholm Convention or Rotterdam Convention

not applicable

16. Other Information

Date of preparation of the SDS

23 November 2023

Key or legend to abbreviations and acronyms used

ACGIH	The American Conference of Governmental Industrial Hygienists
ACVM	Agricultural Compounds and Veterinary Medicines
ADN	International Carriage of Dangerous Goods by Inland Waterways (EU)
ADR/RID	Dangerous Goods for Road / Rail
DG	Dangerous Goods
EC50	Median effective concentration
EEL	Environmental Exposure Limit
EHSM	Environmental Health and Safety Management
EPA	Environmental Protection Authority
EU	European Union
GHS	Globally Harmonised System
ICAO	International Civil Aviation Organisation
IATA	International Air Transport Association
IERG	International Emergency Response Guide
IMDG	International Maritime Dangerous Goods
LD50	Lethal concentration to 50% of the test population
NOEC	No Observed Effect Concentration
N.O.S.	Not Otherwise Specified
OEL	Operator Exposure Limits
PBT or vPvP	Persistent / Bioaccumulative / Toxic or very Persistent / very Bioaccumulative
SDS	Safety Data Sheet
STOT	Specific Target Organ Toxicity
TDG	Transportation of Dangerous Goods

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TEL	Tolerable Exposure Limit
TLVs	Threshold Limit Values
UN GHS	United Nations Globally Harmonised System
WES	Workplace Exposure Standards
49CFR	Code of Federal Regulations Title 49 for Transportation

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. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.