

SAFETY DATA SHEET



BUTEO™ START

Version 3.0 / CDN
102000022677

1/10
Revision Date: 03/30/2020
Print Date: 06/08/2020

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

Product identifier

Trade name BUTEO™ START
Product code (UVP) 79911750
SDS Number 102000022677
PCP Registration No. 31451

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

Use Seed treatment, Insecticide
Restrictions on use See product label for restrictions.

Information on supplier

Supplier Bayer CropScience Inc
#200, 160 Quarry Park Blvd, SE
Calgary, Alberta T2C 3G3
Canada
Responsible Department Email: SDSINFO.BCS-NA@bayer.com

Emergency telephone no.

Emergency Telephone Number (24hr/ 7 days) 1-800-334-7577
Product Information Telephone Number 1-888-283-6847

SECTION 2: HAZARDS IDENTIFICATION

Classified in accordance with Part 2 of the Hazardous Products Regulations

Acute toxicity(Oral): Category 4
Specific target organ toxicity - repeated exposure: Category 2

Labelling in accordance with Part 3 of the Hazardous Products Regulations



Signal word: Warning

Hazard statements

Harmful if swallowed.
May cause damage to organs through prolonged or repeated exposure.

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Precautionary statements

Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Do not breathe gas/ mist/ vapours/ spray.
IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.
Rinse mouth.
Get medical advice/ attention if you feel unwell.
Dispose of contents/container in accordance with local regulation.

Hazards Not Otherwise Classified (HNOC)

No physical hazards not otherwise classified.
No health hazards not otherwise classified.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Flupyradifurone	951659-40-8	40.7

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
Inhalation	Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.
Skin contact	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.
Eye contact	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Most important symptoms and effects, both acute and delayed

Symptoms To date no symptoms are known.

Indication of any immediate medical attention and special treatment needed

Treatment Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

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SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Water spray, Carbon dioxide (CO₂), Foam, Sand

Unsuitable High volume water jet

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

Advice for firefighters

Special protective equipment for firefighters Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

Further information Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

Flash point > 100 °C
No flash point - Determination conducted up to the boiling point.

Auto-ignition temperature 445 °C / 833 °F

Lower explosion limit No data available

Upper explosion limit No data available

Explosivity Not explosive
92/69/EEC, A.14 / OECD 113

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions Isolate hazard area. Keep unauthorized people away. Avoid contact with spilled product or contaminated surfaces.

Methods and materials for containment and cleaning up

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

Additional advice Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal.

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.

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SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

- Advice on safe handling** Use only in area provided with appropriate exhaust ventilation.
- Hygiene measures** Remove Personal Protective Equipment (PPE) immediately after handling this product. Remove and wash contaminated gloves, including the inside, before re-use. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.
Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

Conditions for safe storage, including any incompatibilities

- Requirements for storage areas and containers** Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

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

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Flupyradifurone	951659-40-8	2.2 mg/m ³ (TWA)		OES BCS*

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

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.

- Respiratory protection** When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.
- Hand protection** Chemical resistant nitrile rubber gloves
- Eye protection** Safety glasses with side-shields
- Skin and body protection** Wear long-sleeved shirt and long pants and shoes plus socks.
- General protective measures** Eye wash facility and safety shower should be available.
Follow manufacturer's instructions for cleaning/maintaining PPE. If

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no such instructions for washables, use detergent and warm/tepid water.

Keep and wash PPE separately from other laundry.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	beige
Physical State	suspension
Odor	characteristic
Odour Threshold	No data available
pH	4.0 - 7.5 (100 %) (23 °C)
Viscosity, kinematic	No data available
Vapor Pressure	No data available
Vapor Density (Air = 1)	No data available
Density	ca. 1.18 g/cm ³ (20 °C)
Evaporation rate	No data available
Boiling Point	No data available
Melting / Freezing Point	No data available
Water solubility	dispersible
Minimum Ignition Energy	Not applicable
Decomposition temperature	Stable under normal conditions.
Self-accelerating decomposition temperature (SADT)	No data available
Partition coefficient: n-octanol/water	Not applicable
Flammability	No data available
Oxidizing properties	No oxidizing properties
Flash point	> 100 °C No flash point - Determination conducted up to the boiling point.
Auto-ignition temperature	445 °C / 833 °F
Lower explosion limit	No data available
Upper explosion limit	No data available
Explosivity	Not explosive 92/69/EEC, A.14 / OECD 113

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Particle size	No data available
Other information	Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Thermal decomposition	Stable under normal conditions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions.
Conditions to avoid	Extremes of temperature and direct sunlight.
Incompatible materials	No incompatible materials known.
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Skin contact, Eye contact, Ingestion
Immediate Effects	
Eye	May cause mild irritation to eyes.
Skin	May cause mild irritation to the skin.
Ingestion	Harmful if swallowed.

Information on toxicological effects

Acute oral toxicity	LD50 (female Rat) 1,030 mg/kg
Acute inhalation toxicity	LC50 (male/female combined Rat) > 5.04 mg/l Exposure time: 4 h Determined in the form of liquid aerosol.
Acute dermal toxicity	LD50 (male/female combined Rat) > 5,000 mg/kg
Skin corrosion/irritation	Slight irritant effect - does not require labelling. (Rabbit)
Serious eye damage/eye irritation	Slight irritant effect - does not require labelling. (Rabbit)
Respiratory or skin sensitisation	Skin: Non-sensitizing. (Mouse) OECD Test Guideline 429, local lymph node assay (LLNA)

Assessment STOT Specific target organ toxicity – single exposure

Flupyradifurone: Based on available data, the classification criteria are not met.

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Assessment STOT Specific target organ toxicity – repeated exposure

|| Flupyradifurone: May cause damage to organs (muscle) through prolonged or repeated exposure.

Assessment mutagenicity

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

Assessment carcinogenicity

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

ACGIH

None.

NTP

None.

IARC

None.

OSHA

None.

Assessment toxicity to reproduction

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

Assessment developmental toxicity

Flupyradifurone did not cause developmental toxicity in rats and rabbits.

Aspiration hazard

Based on available data, the classification criteria are not met.

Further information

Only acute toxicity studies have been performed on the formulated product.
The non-acute information pertains to the active ingredient(s).

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish

LC50 (Oncorhynchus mykiss (rainbow trout)) > 74.2 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient flupyradifurone.
No acute toxicity was observed at its limit of water solubility.

Toxicity to aquatic invertebrates

EC50 (Daphnia magna (Water flea)) > 77.6 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient flupyradifurone.
No acute toxicity was observed at its limit of water solubility.
EC50 (Chironomus riparius (non-biting midge)) 0.0617 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient flupyradifurone.

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Toxicity to aquatic plants	IC50 (Raphidocelis subcapitata (freshwater green alga)) > 80 mg/l Growth rate; Exposure time: 72 h The value mentioned relates to the active ingredient flupyradifurone. No acute toxicity was observed at its limit of water solubility.
Toxicity to bacteria	EC50 (activated sludge) > 1,000 mg/l Exposure time: 3 h The value mentioned relates to the active ingredient flupyradifurone.
Biodegradability	Flupyradifurone: Not rapidly biodegradable
Koc	Flupyradifurone: Koc: 93
Bioaccumulation	Flupyradifurone: Does not bioaccumulate.
Mobility in soil	Flupyradifurone: Moderately mobile in soils
Additional ecological information	No other effects to be mentioned.
Environmental precautions	Do not allow to get into surface water, drains and ground water. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product as specified on the label.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product	Dispose in accordance with all local, state/provincial and federal regulations. Follow container label instructions for disposal of wastes generated during use in compliance with the product label.
Contaminated packaging	Empty residue into application equipment. Triple rinse containers. Puncture container to avoid re-use. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning. If burned, stay out of smoke.

SECTION 14: TRANSPORT INFORMATION

TDG

UN number	3082
Labels	9
Packaging group	III
Marine pollutant	Marine pollutant
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

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(FLUPYRADIFURONE)

49CFR

Not dangerous goods / not hazardous material

IMDG

UN number	3082
Class	9
Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUPYRADIFURONE SOLUTION)

IATA

UN number	3082
Class	9
Packaging group	III
Environm. Hazardous Mark	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUPYRADIFURONE SOLUTION)

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

Further Information

Exempt from regulation when transported by road or rail, in accordance with TDG Regulations 1.45.1. This exemption provides that this product does not require dangerous goods shipping documentation or safety marks when transported on land by road or rail.

SECTION 15: REGULATORY INFORMATION

PCP Registration No. 31451

PMRA Information:

Read the label, authorized under the Pest Control Products Act, prior to using or handling the pest control product.

This chemical is a pest control product regulated by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act. These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. The following is the hazard information required on the pest control product label:

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Signal word: Caution!
Hazard statements: Harmful if swallowed.

There are Canada-specific environmental requirements for handling, use, and disposal of this pest control product that are indicated on the label.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms

49CFR	Code of Federal Regulations, Title 49
ACGIH	US. ACGIH Threshold Limit Values
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
N.O.S.	Not otherwise specified
NTP	US. National Toxicology Program (NTP) Report on Carcinogens
OECD	Organization for Economic Co-operation and Development
TDG	Transportation of Dangerous Goods
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 1 Instability - 0 Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 1 Flammability - 1 Physical Hazard - 0 PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: The following sections have been revised: Section 2: Hazards Identification. Section 3: Composition / Information on Ingredients. Section 8: Exposure Controls / Personal Protection. Section 11: Toxicological Information. Reviewed and updated for general editorial purposes.

Prepared by the HSE Department of Bayer CropScience Inc. (306)-721-0310.

Revision Date: 03/30/2020

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