

# SAFETY DATA SHEET



**PFL+TFS FS 154+154 G**

**U-WW**

Version 2.0 / CDN  
102000019578

1/11  
Revision Date: 02/22/2017  
Print Date: 01/30/2019

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

### Product identifier

Trade name	PFL+TFS FS 154+154 G	U-WW
Product code (UVP)	79462069	
SDS Number	102000019578	

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

Use	Seed treatment
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
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Product Information Telephone Number	1-888-283-6847
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## SECTION 2: HAZARDS IDENTIFICATION

### Classified in accordance with Part 2 of the Hazardous Products Regulations

This material is not hazardous under the criteria of Part 2 of the Hazardous Products 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
Penflufen	494793-67-8	13.3
Trifloxystrobin	141517-21-7	13.3
1,2-Propanediol	57-55-6	11.6
Polyethylene-polypropylene copolymer	9003-11-6	4.0
Sodium lignosulphonate	8061-51-6	5.0

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## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

<b>General advice</b>	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
<b>Inhalation</b>	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.
<b>Skin contact</b>	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.
<b>Eye contact</b>	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.
<b>Ingestion</b>	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** No symptoms known or expected.

### 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. There is no specific antidote.

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## SECTION 5: FIREFIGHTING MEASURES

### Extinguishing media

**Suitable** Water spray, Foam, Carbon dioxide (CO<sub>2</sub>), Dry chemical

**Unsuitable** None known.

**Special hazards arising from the substance or mixture** Hydrogen cyanide (hydrocyanic acid), Nitrogen oxides (NO<sub>x</sub>), Hydrogen fluoride, Carbon monoxide (CO)

### 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.

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<b>Flash point</b>	> 85 °C No flash point - Determination conducted up to the boiling point.
<b>Auto-ignition temperature</b>	480 °C / 896 °F
<b>Lower explosion limit</b>	No data available
<b>Upper explosion limit</b>	No data available
<b>Explosivity</b>	Not explosive 92/69/EEC, A.14 / OECD 113

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Precautions** Keep unauthorized people away. Isolate hazard area. 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 material 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** Handle and open container in a manner as to prevent spillage. Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.

**Hygiene measures** Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.  
Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

**Conditions for safe storage, including any incompatibilities**

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**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.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Penflufen	494793-67-8	1.1 mg/m <sup>3</sup> (TWA)		OES BCS*
Trifloxystrobin	141517-21-7	2.7 mg/m <sup>3</sup> (SK-SEN)		OES BCS*
1,2-Propanediol (Vapor and aerosol.)	57-55-6	155 mg/m <sup>3</sup> /50 ppm (TWA)	06 2015	CAD ON OEL
1,2-Propanediol (Aerosol.)	57-55-6	10 mg/m <sup>3</sup> (TWA)	11 2010	CAD ON OEL

\*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

Follow manufacturer's instructions for cleaning/maintaining PPE. If 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**

dark blue

**Physical State**

Liquid

**Odor**

characteristic

**Odour Threshold**

No data available

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<b>pH</b>	8.0 - 9.5 at 100 % (23 °C)
<b>Vapor Pressure</b>	No data available
<b>Vapor Density (Air = 1)</b>	No data available
<b>Density</b>	ca. 1.16 g/cm <sup>3</sup> at 20 °C
<b>Evaporation rate</b>	No data available
<b>Boiling Point</b>	No data available
<b>Melting / Freezing Point</b>	No data available
<b>Water solubility</b>	dispersible
<b>Minimum Ignition Energy</b>	Not applicable
<b>Decomposition temperature</b>	Stable under normal conditions.
<b>Partition coefficient: n-octanol/water</b>	Not applicable
<b>Flash point</b>	> 85 °C No flash point - Determination conducted up to the boiling point.
<b>Auto-ignition temperature</b>	480 °C / 896 °F
<b>Lower explosion limit</b>	No data available
<b>Upper explosion limit</b>	No data available
<b>Explosivity</b>	Not explosive 92/69/EEC, A.14 / OECD 113
<b>Other information</b>	Further safety related physical-chemical data are not known.

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## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

<b>Thermal decomposition</b>	Stable under normal conditions.
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Possibility of hazardous reactions</b>	No hazardous reactions when stored and handled according to prescribed instructions.
<b>Conditions to avoid</b>	Extremes of temperature and direct sunlight.
<b>Incompatible materials</b>	Strong oxidizing agents, Strong acids, Strong bases Store only in the original container.
<b>Hazardous decomposition products</b>	No decomposition products expected under normal conditions of use.

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## SECTION 11: TOXICOLOGICAL INFORMATION

<b>Exposure routes</b>	Inhalation, Eye contact, Skin contact, Ingestion
<b>Immediate Effects</b>	
<b>Eye</b>	May cause eye irritation.
<b>Skin</b>	Harmful if absorbed through skin.
<b>Ingestion</b>	Harmful if swallowed.
<b>Inhalation</b>	Harmful if inhaled.
<b>Information on toxicological effects</b>	
<b>Acute oral toxicity</b>	LD50 (Rat) > 2,000 mg/kg
<b>Acute inhalation toxicity</b>	LC50 (Rat) > 4.2 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. Highest attainable concentration. No deaths
<b>Acute dermal toxicity</b>	LD50 (Rat) > 2,000 mg/kg
<b>Skin irritation</b>	No skin irritation (Rabbit)
<b>Eye irritation</b>	slight irritation (Rabbit)
<b>Sensitisation</b>	Non-sensitizing. (Mouse) OECD Test Guideline 429, local lymph node assay (LLNA)

### Assessment STOT Specific target organ toxicity – repeated exposure

Penflufen did not cause specific target organ toxicity in experimental animal studies.  
Trifloxystrobin did not cause specific target organ toxicity in experimental animal studies.

### Assessment mutagenicity

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

### Assessment carcinogenicity

Penflufen caused at high dose levels an increased incidence of tumours in rats in the following organ(s): hematopoietic system, ovaries, Brain. The mechanism that triggers these tumours is not relevant to humans.

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

### ACGIH

None.

### NTP

None.

### IARC

None.

### OSHA

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None.

## Assessment toxicity to reproduction

Penflufen did not cause reproductive toxicity in a two-generation study in rats. Trifloxystrobin caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Trifloxystrobin is related to parental toxicity.

## Assessment developmental toxicity

Penflufen did not cause developmental toxicity in rats and rabbits. Trifloxystrobin caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Trifloxystrobin are related to maternal toxicity.

## Further information

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

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## SECTION 12: ECOLOGICAL INFORMATION

### Toxicity to fish

LC50 (Cyprinus carpio (Carp)) 0.103 mg/l  
Exposure time: 96 h  
The value mentioned relates to the active ingredient penflufen.  
LC50 (Oncorhynchus mykiss (rainbow trout)) 0.015 mg/l  
Exposure time: 96 h  
The value mentioned relates to the active ingredient trifloxystrobin.

### Toxicity to aquatic invertebrates

EC50 (Daphnia magna (Water flea)) > 4.66 mg/l  
Exposure time: 48 h  
The value mentioned relates to the active ingredient penflufen.  
No acute toxicity was observed at its limit of water solubility.  
EC50 (Daphnia magna (Water flea)) 0.016 mg/l  
Exposure time: 48 h  
The value mentioned relates to the active ingredient trifloxystrobin.

### Toxicity to aquatic plants

EC50 (Raphidocelis subcapitata (freshwater green alga)) > 5.1 mg/l  
Growth rate; Exposure time: 96 h  
The value mentioned relates to the active ingredient penflufen.  
No acute toxicity was observed at its limit of water solubility.  
IC50 (Desmodesmus subspicatus (green algae)) 0.0053 mg/l  
Growth rate; Exposure time: 72 h  
The value mentioned relates to the active ingredient trifloxystrobin.

### Biodegradability

Penflufen:  
Not rapidly biodegradable  
Trifloxystrobin:  
Not rapidly biodegradable

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<b>Koc</b>	Penflufen: Koc: 280 Trifloxystrobin: Koc: 2377
<b>Bioaccumulation</b>	Penflufen: Bioconcentration factor (BCF) 142 Does not bioaccumulate. Trifloxystrobin: Bioconcentration factor (BCF) 431 Does not bioaccumulate.
<b>Mobility in soil</b>	Penflufen: Moderately mobile in soils Trifloxystrobin: Slightly mobile in soils
<b>Additional ecological information</b>	No other effects to be mentioned.
<b>Environmental precautions</b>	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.

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## SECTION 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

<b>Product</b>	Do not contaminate water, food, or feed by disposal. Dispose in accordance with all local, state/provincial and federal regulations. Pesticide, spray mixture or rinse water that cannot be used according to label instructions may be disposed of on site or at an approved waste disposal facility.
<b>Contaminated packaging</b>	Do not re-use empty containers. Triple rinse containers. 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.

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## SECTION 14: TRANSPORT INFORMATION

### TDG

UN number	<b>3082</b>
Labels	9
Packaging group	III
Marine pollutant	Marine pollutant
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PENFLUFEN, TRIFLOXYSTROBIN)

### 49CFR

Not dangerous goods / not hazardous material

### IMDG

UN number	<b>3082</b>
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Class 9  
Packaging group III  
Marine pollutant YES  
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
N.O.S.  
(PENFLUFEN, TRIFLOXYSTROBIN SOLUTION)

## IATA

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

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## SECTION 15: REGULATORY INFORMATION

### US Federal Regulations

#### TSCA list

None.

#### US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

None.

#### SARA Title III - Section 302 - Notification and Information

None.

#### SARA Title III - Section 313 - Toxic Chemical Release Reporting

None.

### US States Regulatory Reporting

#### CA Prop65

This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

### US State Right-To-Know Ingredients

1,2-Propanediol 57-55-6 MN, RI

### Canadian Regulations

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## Canadian Domestic Substance List

1,2-Propanediol	57-55-6
Polyethylene-polypropylene copolymer	9003-11-6
Sodium lignosulphonate	8061-51-6

## Environmental

### CERCLA

None.

### Clean Water Section 307 Priority Pollutants

None.

### Safe Drinking Water Act Maximum Contaminant Levels

None.

## 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 - 2      Flammability - 0      Instability - 0      Others - none

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

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

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

**Reason for Revision:** Revised according to the current Canadian WHMIS standard (WHMIS 2015).

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

**Revision Date:** 02/22/2017

This information is provided in good faith but without express or implied warranty. The customer assumes

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