



ELATUS™ is a co-pack of ELATUS™ A Fungicide
and ELATUS™ B Fungicide.

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ELATUS A FUNGICIDE

Version 1.0 Revision Date: 05/16/2019 SDS Number: S00057223771 This version replaces all previous versions.

SECTION 1. IDENTIFICATION

Product name : ELATUS A FUNGICIDE
Design code : A12705T
Product Registration number : 31973
Other means of identification : No data available

Manufacturer or supplier's details

Company name of supplier : Syngenta Canada Inc.
Address : 140 Research Lane, Research Park
Guelph ON N1G 4Z3
Canada
Telephone : 1-87-SYNGENTA (1-877-964-3682)
Telefax : 1-519-823-0504
Emergency telephone number : 1-800-327-8633 (FAST MED)

Recommended use of the chemical and restrictions on use

Recommended use : Fungicide

SECTION 2. HAZARDS IDENTIFICATION**GHS classification in accordance with the Hazardous Products Regulations**

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**Components**

Chemical name	CAS-No.	Concentration (% w/w)
azoxystrobin (ISO)	131860-33-8	22.9358
propane-1,2-diol	57-55-6	$\geq 10 - < 30$
naphthalenesulfonic acid, dimethyl-, polymer with formaldehyde and methylnaphthalenesulfonic acid, sodium salt	9084-06-4	$\geq 1 - < 5$

Actual concentration or concentration range is withheld as a trade secret

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SECTION 4. 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 centre 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.
- Most important symptoms and effects, both acute and delayed : Nonspecific
No symptoms known or expected.
- Notes to physician : There is no specific antidote available.
Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

- 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.
- Specific hazards during firefighting : 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.
- Further information : Do not allow run-off from fire fighting to enter drains or water courses.

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Cool closed containers exposed to fire with water spray.

Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Refer to protective measures listed in sections 7 and 8.
- Environmental precautions : Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Clean contaminated surface thoroughly. Clean with detergents. Avoid solvents. Retain and dispose of contaminated wash water.

SECTION 7. HANDLING AND STORAGE

- 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.
- Conditions for safe storage : 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 feedingstuffs.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
azoxystrobin (ISO)	131860-33-8	TWA	4 mg/m ³	Syngenta
propane-1,2-diol	57-55-6	TWA (Vapour and aerosols)	50 ppm 155 mg/m ³	CA ON OEL
		TWA (aerosol)	10 mg/m ³	CA ON OEL

Engineering measures : THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE

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CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THE PRODUCT. FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

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

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

Hand protection

Remarks : No special protective equipment required.

Eye protection : 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.

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

Appearance : suspension
Colour : off-white to yellow
Odour : Chemical
Odour Threshold : No data available

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pH	:	6.8 - 8.8 Concentration: 100 % w/v
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	Method: Pensky-Martens closed cup does not flash
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Density	:	1.09 g/cm ³ (25 °C)
Solubility(ies) Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	475 °C
Decomposition temperature	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	None reasonably foreseeable.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	No decomposition if used as directed.
Incompatible materials	:	None known.
Hazardous decomposition	:	No hazardous decomposition products are known.

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products

SECTION 11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Ingestion
Inhalation
Skin contact
Eye contact

Acute toxicity**Product:**

- Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Remarks: Based on data from similar materials
- Acute inhalation toxicity : LC50 (Rat): > 6.32 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials
- Acute dermal toxicity : LD50 (Rat, male and female): > 4,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

Components:**azoxystrobin (ISO):**

- Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
- Acute inhalation toxicity : LC50 (Rat, female): 0.7 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
- LC50 (Rat, male): 0.9 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
- Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation**Product:**

- Species : Rabbit
Result : No skin irritation
Remarks : Based on data from similar materials

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Components:**azoxystrobin (ISO):**

Species : Rabbit
Result : No skin irritation

naphthalenesulfonic acid, dimethyl-, polymer with formaldehyde and methyl-naphthalenesulfonic acid, sodium salt:

Species : Rabbit
Result : Irritating to skin.

Serious eye damage/eye irritation**Product:**

Species : Rabbit
Result : No eye irritation
Remarks : Based on data from similar materials

Components:**azoxystrobin (ISO):**

Species : Rabbit
Result : No eye irritation

naphthalenesulfonic acid, dimethyl-, polymer with formaldehyde and methyl-naphthalenesulfonic acid, sodium salt:

Species : Rabbit
Result : Irritation to eyes, reversing within 21 days

Respiratory or skin sensitisation**Product:**

Species : Guinea pig
Result : Did not cause sensitisation on laboratory animals.
Remarks : Based on data from similar materials

Components:**azoxystrobin (ISO):**

Species : Guinea pig
Result : Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity**Components:****azoxystrobin (ISO):**

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

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Carcinogenicity**Components:****azoxystrobin (ISO):**

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

Reproductive toxicity**Components:****azoxystrobin (ISO):**

Reproductive toxicity - Assessment : No toxicity to reproduction

Repeated dose toxicity**Components:****azoxystrobin (ISO):**

Remarks : No adverse effect has been observed in chronic toxicity tests.

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Product:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2.4 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.47 mg/l
Exposure time: 48 h
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : ErC50 (Scenedesmus capricornutum (fresh water algae)): 2.6 mg/l
Exposure time: 120 h
Remarks: Based on data from similar materials

NOEC (Scenedesmus capricornutum (fresh water algae)): 0.2 mg/l
End point: Growth rate
Exposure time: 120 h
Remarks: Based on data from similar materials

Components:**azoxystrobin (ISO):**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.47 mg/l
Exposure time: 96 h

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- Toxicity to daphnia and other aquatic invertebrates : EC50 (Americamysis): 0.055 mg/l
Exposure time: 96 h
- Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 2 mg/l
Exposure time: 96 h
- NOEC (Pseudokirchneriella subcapitata (green algae)): 0.038 mg/l
End point: Growth rate
Exposure time: 96 h
- ErC50 (Navicula pelliculosa (Freshwater diatom)): 0.301 mg/l
Exposure time: 96 h
- M-Factor (Acute aquatic toxicity) : 10
- Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 0.16 mg/l
Exposure time: 28 d
- NOEC (Pimephales promelas (fathead minnow)): 0.147 mg/l
Exposure time: 33 d
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.044 mg/l
Exposure time: 21 d
- NOEC (Americamysis): 0.0095 mg/l
Exposure time: 28 d
- M-Factor (Chronic aquatic toxicity) : 10
- Toxicity to microorganisms : IC50 (Pseudomonas putida): > 3.2 mg/l
Exposure time: 6 h

Persistence and degradability

Components:

azoxystrobin (ISO):

- Biodegradability : Result: Not readily biodegradable.
- Stability in water : Degradation half life: 214 d
Remarks: The substance is stable in water.

Bioaccumulative potential

Components:

azoxystrobin (ISO):

- Bioaccumulation : Remarks: Does not bioaccumulate.

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Mobility in soil**Components:****azoxystrobin (ISO):**

Distribution among environmental compartments : Remarks: Azoxystrobin has low to very high mobility in soil.

Stability in soil : Dissipation time: 80 d
Percentage dissipation: 50 % (DT50)
Remarks: Product is not persistent.

Other adverse effects**Components:****azoxystrobin (ISO):**

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Refer to the product label for specific disposal/recycling information

Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not dispose of waste into sewer.
Where possible recycling is preferred to disposal or incineration.
If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging : Refer to the product label for specific disposal/recycling information

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**International Regulations****UNRTDG**

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

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(AZOXYSTROBIN)
 Class : 9
 Packing group : III
 Labels : 9

IATA-DGR

UN/ID No. : UN 3082
 Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
 (AZOXYSTROBIN)

Class : 9
 Packing group : III
 Labels : Miscellaneous
 Packing instruction (cargo aircraft) : 964
 Packing instruction (passenger aircraft) : 964
 Environmentally hazardous : yes

IMDG-Code

UN number : UN 3082
 Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
 (AZOXYSTROBIN)

Class : 9
 Packing group : III
 Labels : 9
 EmS Code : F-A, S-F
 Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

TDG

UN number : UN 3082
 Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
 (AZOXYSTROBIN)

Class : 9
 Packing group : III
 Labels : 9
 ERG Code : 171
 Marine pollutant : yes(AZOXYSTROBIN)

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

Warning, contains the allergen 1,2-benzisothiazolin-3-one
 This chemical is a pest control product registered by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act. These

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

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

The components of this product are reported in the following inventories:

DSL : This product contains the following components that are not on the Canadian DSL nor NDSL.

azoxystrobin (ISO)

Canadian lists

No substances are subject to a Significant New Activity Notification.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

CA ON OEL : Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.

CA ON OEL / TWA : Time-Weighted Average Limit (TWA)

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory 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; IECSC - 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; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; 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 substance; 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; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations

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Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Revision Date : 05/16/2019

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.

CA / EN

SECTION 1: PRODUCT INFORMATION

Product Identifier: ELATUS™ B FUNGICIDE
Formulation Number: A15457K/A15457R
Registration Number: 31977 (Pest Control Products Act)
Product Use: Fungicide. Read the label, authorized under the Pest Control Products Act, prior to using or handling the pest control product.

Syngenta Canada Inc.
140 Research Lane, Research Park
Guelph, ON N1G 4Z3

SDS prepared by: Department of Regulatory & Biological Assessment, Syngenta Canada Inc.
For further information, contact: 1-87-SYNGENTA (1-877-964-3682)

In Case of Emergency, Call: 1-800-327-8633 (FAST MED)

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with UN GHS Version 5.

Hazard Classification(s): Acute Toxicity (Inhalation) – Category 3
 Acute Toxicity (Oral) – Category 4
 Aspiration Hazard – Category 1
 Eye Damage – Category 1
 Skin Irritation – Category 2
 Specific Target Organ Toxicity (STOT) Single Exposure – Category 3

Hazard Symbol(s):



Signal Word: DANGER

Hazard Statement(s): H302 – Harmful if swallowed.
 H304 – May be fatal if swallowed and enters airway.
 H315 – Causes skin irritation.
 H318 – Causes serious eye damage.
 H331 – Toxic if inhaled.
 H336 – May cause drowsiness or dizziness.

Precautionary Statement(s):

Prevention: P261 – Avoid breathing dust/fume/gas/mist/vapours/spray.
 P264 – Wash thoroughly after handling.
 P270 – Do not eat, drink or smoke when using this product.
 P271 – Use only outdoors or in a well-ventilated area.
 P280 – Wear protective gloves/eye protection/face protection.

- Response:** P301+P310 – IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P302+P352 – IF ON SKIN: Wash with plenty of water.
P304+P340 – IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 – Immediately call a POISON CENTER/doctor if in eyes.
P311 – Call a POISON CENTER/doctor if inhaled.
P312 – Call a POISON CENTER/doctor if you feel unwell.
P321 – Specific treatment: See Section 4 of this SDS.
P331 – Do NOT induce vomiting.
P332+P313 – If skin irritation occurs: Get medical advice/attention.
P362+P364 – Take off contaminated clothing and wash it before reuse.
- Storage:** P403+P233 – Store in a well-ventilated place. Keep container tightly closed.
P405 – Store locked up.
- Disposal:** P501 – Dispose of contents/containers to an approved waste disposal plant.

Other Hazards Which do not Result in GHS Classification: To avoid risk to human health and the environment, comply with the instructions for use.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Common Name	CAS Number	Average % by weight
Other components	Other components	Trade Secret	< 25
N-[9-(dichloromethylene)-1,2,3,4-tetrahydro-1,4-methanonaphthalen-5-yl]-3-(difluoromethyl)-1-methyl-1H-pyrazole-5-carboxamide	Benzovindiflupyr	1072957-81-1	9.6 – 10.3

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

SECTION 4: FIRST AID MEASURES

IF POISONING IS SUSPECTED, immediately contact the poison information centre, doctor or nearest hospital. Have the product container, label or Safety Data Sheet with you when calling Syngenta, a poison control centre or doctor, or going for treatment. Tell the person contacted the complete product name, and the type and amount of exposure. Describe any symptoms and follow the advice given. Call the Syngenta Emergency Line [1-800-327-8633 (1-800-FASTMED)], for further information.

Eye Contact: Flush eyes with clean water, holding eyelids apart for a minimum of 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eyes. Call Syngenta, a poison control centre or doctor for treatment advice. Obtain medical attention immediately if irritation persists.

Skin Contact: Immediately remove contaminated clothing and wash skin, hair and fingernails thoroughly with soap and water. Flush skin with running water for a minimum of 15-20 minutes. Call Syngenta, a poison control centre or doctor for treatment advice.

Inhalation: Move victim to fresh air. If not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth to mouth, if possible. Call Syngenta, a poison control centre or doctor for treatment advice.

Ingestion: If swallowed, immediately contact Syngenta, a poison control centre, doctor or nearest hospital for treatment advice. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person. Do not induce vomiting unless directed by a physician or a poison control centre. If spontaneous vomiting occurs, have the victim lean forward with head down to avoid breathing in of vomitus.

Most Important Symptoms/Effects, Acute and Delayed:

Harmful if swallowed. May be fatal if swallowed and enters airway.

Toxic if inhaled.

Causes skin irritation.

Causes serious eye damage.

May cause drowsiness or dizziness.

Indication of Immediate Medical Attention and Special Treatment:

There is no specific antidote.

Treat symptomatically.

Contains petroleum distillates, vomiting may cause aspiration pneumonia.

SECTION 5: FIRE FIGHTING MEASURES

Suitable (and Unsuitable) Extinguishing Media: Use foam, carbon dioxide, dry powder, halon extinguishant or water fog or mist. Cool closed containers exposed to fire with water spray. Do not use a solid water stream as it may scatter and spread the fire.

Specific Hazards Arising from the Product: Can decompose at high temperatures forming toxic gases. During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

Special Protective Equipment and Precautions for Fire-Fighters: Wear full protective clothing and self-contained breathing apparatus. Evacuate non-essential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water run-off can cause environmental damage. Contain run-off water with, for example, temporary earth barriers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures: Control the spill at its source. Clean up spills immediately, observing precautions outlined in Sections 7 and 8. Use adequate ventilation and equipment and wear clothing as described in Section 8 and/or the product label.

Environmental Precautions: Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Spillages or uncontrolled discharges into watercourses must be reported to the appropriate regulatory body.

Methods and Materials for Containment and Cleaning Up: Pump or scoop large amounts of liquid into a disposable container. Absorb remaining liquid or smaller spills with clay, sand or vermiculite. Scoop or seep up material and place into a disposal container. Wash area with detergent and water. Pick up wash liquid with additional absorbent and place into a compatible disposal container. On soils, small amounts will naturally decompose. For large amounts, skim off the upper contaminated layer and collect for disposal. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposal.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling: KEEP OUT OF REACH OF CHILDREN. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Avoid breathing vapours, dust or spray mist. Wear full protective clothing and equipment (see Section 8). After work, rinse gloves and remove protective equipment, and wash hands thoroughly with soap and water after handling, and before eating, tobacco use, drinking, applying cosmetics or using the toilet. Wash contaminated clothing before re-use and separate from household laundry. Keep containers closed when not in use. Protect product, wash or rinse water, and contaminated materials from uncontrolled release into the environment, or from access by animals, birds or unauthorized people.

Conditions for Safe Storage, Including Any Incompatibilities: Store in original container in a well-ventilated, cool, dry, secure area. Protect from heat, sparks and flame. Do not expose sealed containers to temperatures above 40 °C. Refer to the product label for specific storage recommendations, including minimum storage temperature and freeze/thaw stability. Keep separate from other products to prevent cross contamination. Rotate stock. Clean up spilled material immediately.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.

CONSULT THE PRODUCT LABEL FOR COMMERCIAL AND/OR ON-FARM APPLICATIONS.

Control Parameters:

Component	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen	WHMIS†
Petroleum solvent (A15457K variant only)	Not established	Not established	50 mg/m ³ TWA*; 300 ppm TWA (AB/QC) Use calculation required (BC/ON)	No	Not established
Benzovindiflupyr	Not established	Not established	1 mg/m ³ TWA***	No	Not established
Propylene glycol (A15457R variant only)	Not established	Not established	10 mg/m ³ TWA AIHA WEEL****; 50 ppm (155 mg/m ³) TWA (total vapour & particulates)	No	Yes

- * Recommended by Manufacturer
- ** Recommended by NIOSH
- *** Syngenta Occupational Exposure Limit (OEL)
- **** Recommended by AIHA (American Industrial Hygiene Association)
- † Material listed in Ingredient Disclosure List under the Hazardous Products Act

Appropriate Engineering Controls: If necessary, ensure work areas have ventilation, containment, and procedures sufficient to maintain airborne levels below the TLV (threshold limit value). Warehouses, production areas, parking lots and waste holding facilities must have adequate containment to prevent environmental contamination. Provide separate shower and eating facilities.

Individual Protection Measures:

General: Avoid breathing dust, vapours or aerosols. Avoid contact with eye, skin and clothing. Wash thoroughly after handling and before eating, drinking, applying cosmetics or handling tobacco.

Ingestion: Do not eat, drink, handle tobacco, or apply cosmetics in areas where there is a potential for exposure to this material. Always wash thoroughly after handling.

Eyes: Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.

Skin: Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.

Inhalation: A particulate filter respirator may be necessary until effective engineering controls are installed to comply with occupational exposure limits. Use a NIOSH certified respirator with any R, P or HE filter. Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air purifying respirators may not provide adequate protection.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Transparent light brown liquid.
Formulation Type: Emulsifiable concentrate.
Physical State: Liquid.
Odour: Aromatic.
Odour Threshold: Not available.
pH: Not available.
Melting Point: Not applicable.
Freezing Point: Not available.
Initial Boiling Point and Boiling Range: Not available.
Flash Point: 101 °C (Pensky-Martens CC) (A15457K variant).
Evaporation Rate: Not available.
Flammability (solid/gas): Not applicable.
Lower Explosive Limit: Not applicable.
Upper Explosive Limit: Not applicable.
Vapour Pressure: Benzovindiflupyr: 2.40×10^{-11} mmHg @ 20 °C.
Vapour Density: Not available.
Relative Density: 0.976 mg/L (A15457K variant).
Solubility(ies): Benzovindiflupyr: 1.0 mg/L @ 20 °C, pH 7 (water).
Partition Coefficient (n-octanol water): Benzovindiflupyr: 4.3
Auto-Ignition Temperature: Not available.
Decomposition Temperature: Not available.
Viscosity: 20 mPa·s (A15457K variant).

Other Information: Not applicable.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Not reactive.
Chemical Stability: Stable under normal use and storage conditions.
Possibility of Hazardous Reactions: No hazardous reactions with normal handling and storage according to the label directions.
Conditions to Avoid: No decomposition if used as directed.
Incompatible Materials: No substances are known which lead to the formation of hazardous substances or thermal reactions.
Hazardous Decomposition Products: Can decompose at high temperatures forming toxic gases. During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

SECTION 11: TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Dermal, inhalation, oral.

Symptoms of Acute Exposure: Harmful if swallowed. May be fatal if swallowed and enters airway. Toxic if inhaled. Causes skin irritation. Causes serious eye damage.

Potential Health Effects: May cause drowsiness or dizziness.

Acute Toxicity/Irritation Studies (Finished Product) (A15457K variant):

Ingestion:	<u>Slightly Acutely Toxic</u> Oral (LD50 Rat)	550 mg/kg body weight
Dermal:	<u>Low Acute Toxicity</u> Dermal (LD50 Rat)	> 5,000 mg/kg body weight
Inhalation:	<u>Moderately Acutely Toxic</u> Inhalation (LC50 Rat)	> 0.55 – 2.56 mg/L air – 4 hours
Eye Contact:	<u>Severely Irritating (Rabbit)</u>	
Skin Contact:	<u>Severely Irritating (Rabbit)</u>	
Skin Sensitization:	<u>Not a Sensitizer (Guinea Pig)</u>	

Acute Toxicity/Irritation Studies (Finished Product) (A15457R variant):

Ingestion:	<u>Slightly Acutely Toxic</u> Oral (LD50 Rat)	550 mg/kg body weight
Dermal:	<u>Low Acute Toxicity</u> Dermal (LD50 Rat)	> 5,000 mg/kg body weight
Inhalation:	<u>Low Acute Toxicity</u> Inhalation (LC50 Rat)	> 2.53 mg/L air – 4 hours
Eye Contact:	<u>Severely Irritating (Rabbit)</u>	
Skin Contact:	<u>Non-Irritating (Rabbit)</u>	
Skin Sensitization:	<u>Not a Sensitizer (Guinea Pig)</u>	

Specific Target Organ Toxicity (STOT) Single Exposure:

Benzovindiflupyr: Not classified as a specific target organ toxicant, single exposure.

Specific Target Organ Toxicity (STOT) Repeated Exposure:

Benzovindiflupyr: No adverse effect has been observed in chronic toxicity tests.

Carcinogenicity:

Benzovindiflupyr: Studies in rodents have shown no treatment related tumour findings of relevance to human health.

Reproductive Toxicity:

Benzovindiflupyr: Did not show reproductive toxicity effects in animal experiments.

Mutagenicity:

Benzovindiflupyr: Did not show mutagenic effects in animal experiments.

Aspiration Hazard:

Benzovindiflupyr: Not classified as an aspiration hazard.

Toxicity of Other Components:

The acute toxicity test results reported in Section 11, above, for the finished product take into account any acute hazards related to the “other components” in the formulation.

Petroleum solvent: Repeated exposure may cause skin dryness or cracking. If swallowed, may be aspirated and cause lung damage. May be irritating to the eyes, nose, throat and lungs. Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light headedness, headache, nausea, and loss of coordination.
 (A15457K variant only)

Other components: Causes serious eye irritation. Harmful if inhaled.
 (A15457R variant only)

Propylene glycol: Reported to cause central nervous system depression (anesthesia, dizziness, confusion), headache and nausea. Also, eye irritation may occur with lacrimation but no residual discomfort or injury. Prolonged contact to skin may cause mild to moderate irritation and possible allergic reactions. Chronic dietary exposure caused kidney and liver injury in experimental animals.
 (A15457R variant only)

SECTION 12: ECOLOGICAL INFORMATION

Eco-Acute Toxicity:

Benzovindiflupyr:

Invertebrates (Water Flea) 48-hour LC ₅₀ /EC ₅₀	0.085 ppm
Fish (Rainbow Trout) 96-hour LC ₅₀ /EC ₅₀	0.0091 ppm
Birds (5-day dietary – Bobwhite Quail) LD ₅₀	> 311 ppm

Persistence & Degradability:

Benzovindiflupyr: Persistent in soil. Persistent in water; partitions to sediment.

Bioaccumulation Potential:

Benzovindiflupyr: BCF < 500; does not bioaccumulate.

Mobility in Soil:

Benzovindiflupyr: Low mobility in soil.

Other Adverse Effects: Not applicable.

SECTION 13: DISPOSAL CONSIDERATIONS**Disposal Methods:**

Waste from residues: Refer to the product label for specific disposal/recycling information.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not dispose of waste into sewer.
Where possible recycling is preferred to disposal or incineration.
If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging: Refer to the product label for specific disposal/recycling information.
Empty remaining contents
Triple rinse containers
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not reuse empty containers.

SECTION 14: TRANSPORT INFORMATION**TDG Classification – Road/Rail:**

Not regulated as a dangerous good.

Water Transport – International (IMDG):

UN Number: UN 3082
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Benzovindiflupyr), Marine Pollutant.
Transport Hazard Class: Class 9
Packing Group: PG III
Environmental Hazards: Marine pollutant.

Air Transport (IATA-DGR):

UN Number: UN 3082
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Benzovindiflupyr).
Transport Hazard Class: Class 9
Packing Group: PG III
Environmental Hazards: Environmentally hazardous.

Special Precautions for User:

Not applicable.

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code:

Not applicable.

SECTION 15: REGULATORY INFORMATION

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

Hazardous Products Act Information:

This product has been classified in accordance with the amended Hazardous Products Act and the Hazard Criteria of the Hazardous Products Regulations (HPR), and the SDS contains all the information required by the HPR.

Hazardous Products Act Information: WHMIS 2015 Classification

This product is exempt under WHMIS 2015.

Pest Control Products Act (PCPA) Registration No.: 31977

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

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





PCPA Label Hazard Communications:

Read the label and attached booklet before using.

Keep out of reach of children.

Poison.

Danger: Corrosive to Eyes & Skin.

<p>PCPA Hazard on Label: Poison</p> <p>PCPA Precautionary Symbol:</p>  <p>PCPA Signal Word(s): Not applicable. PCPA Hazard Statement: Not applicable.</p>	<p>GHS Hazard Classification: Acute Toxicity (Inhalation) – Category 3; Acute Toxicity (Oral) – Category 4</p> <p>GHS Hazard Symbol:</p>  <p>GHS Signal Word: Danger GHS Hazard Statement: H331 – Toxic if inhaled. H302 – Harmful if swallowed.</p>
<p>PCPA Hazard on Label: Corrosive to Eyes</p> <p>PCPA Precautionary Symbol:</p> <p>PCPA Signal Word(s): Danger PCPA Hazard Statement: Not applicable.</p>	<p>GHS Hazard Classification: Eye Damage – Category 1</p> <p>GHS Hazard Symbol:</p>  <p>GHS Signal Word: Danger GHS Hazard Statement: H318 – Causes serious eye damage.</p>
<p>PCPA Hazard on Label: Corrosive to Skin</p> <p>PCPA Precautionary Symbol:</p> <p>PCPA Signal Word(s): Danger PCPA Hazard Statement: Not applicable.</p>	<p>GHS Hazard Classification: Skin Irritation – Category 2</p> <p>GHS Hazard Symbol:</p>  <p>GHS Signal Word: Warning GHS Hazard Statement: H315 – Causes skin irritation.</p>

Allergens Contained in the Pest Control Product:

Not applicable.

NPRI Components:

Petroleum solvent (A15457K variant only).

SECTION 16: OTHER INFORMATION

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and Syngenta will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein. This product is under the jurisdiction of the Pest Control Products Act and is exempt from the requirements for a WHMIS compliant SDS. Hazardous properties of all ingredients have been considered in the preparation of this SDS. Read the entire SDS for the complete hazard evaluation of this product.

Full Text of Abbreviations:

AB – Province of Alberta

BC – Province of British Columbia

BCF – Bioconcentration factor

EC₅₀ – Effective concentration, 50%

GHS – Globally Harmonized System of Classification and Labeling of Chemicals

LC₅₀ – Lethal concentration, 50%LD₅₀ – Lethal dose, 50%

IARC – International Agency for Research on Cancer

IATA-DGR – International Air Transport Association

Dangerous Goods Regulations

IMDG – International Maritime Code for Dangerous Goods

NTP – National Toxicology Program

ON – Province of Ontario

OSHA – Occupational Safety & Health Administration

PEL – Permissible Exposure Limit

TDG – Transportation of Dangerous Goods

TLV – Threshold Limit Value

QC – Province of Quebec

SDS – Safety Data Sheet

WHMIS – Workplace Hazardous Materials Information System

Changes since last revision: corrected Dermal Acute Toxicity

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Prepared by: Syngenta Canada Inc.

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END OF SAFETY DATA SHEET.