

SAFETY DATA SHEET



VELUM® TOTAL

Version 3.0 / USA
102000026719

1/12
Revision Date: 06/22/2021
Print Date: 06/24/2021

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

Product identifier

Trade name VELUM® TOTAL
Product code (UVP) 80845472
SDS Number 102000026719
EPA Registration No. 264-1171

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

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

Information on supplier

Supplier Bayer CropScience LP
800 North Lindbergh Blvd.
St. Louis, MO 63167
USA
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 1-866-99BAYER (1-866-992-2937)

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200
Acute toxicity(Oral, Inhalation): Category 4

Labelling in accordance with regulation HCS 29CFR §1910.1200



Signal word: Warning

Hazard statements

Harmful if swallowed.
Harmful if inhaled.

Precautionary statements

SAFETY DATA SHEET



VELUM® TOTAL

Version 3.0 / USA
102000026719

2/12
Revision Date: 06/22/2021
Print Date: 06/24/2021

Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Avoid breathing dust, mist, spray.
Use only outdoors or in a well-ventilated area.
IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.
Rinse mouth.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor/physician 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 |
|--------------------------|-------------|---------------------------|
| Imidacloprid | 138261-41-3 | 22.2 |
| Fluopyram | 658066-35-4 | 15.4 |

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

SAFETY DATA SHEET



VELUM® TOTAL

Version 3.0 / USA
102000026719

3/12
Revision Date: 06/22/2021
Print Date: 06/24/2021

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

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

| | |
|-----------------|--|
| Suitable | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
|-----------------|--|

| | |
|-------------------|-----------------------|
| Unsuitable | High volume water jet |
|-------------------|-----------------------|

| | |
|--|---|
| Special hazards arising from the substance or mixture | Dangerous gases are evolved in the event of a fire. |
|--|---|

Advice for firefighters

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

| | |
|----------------------------|---|
| Further information | Use appropriate extinguishing media for material that is supplying fuel. 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 | No data available |
|--------------------|-------------------|

| | |
|----------------------------------|-----------------|
| Auto-ignition temperature | 415 °C / 779 °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 | 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 the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal. |
|--------------------------|--|

SAFETY DATA SHEET



VELUM® TOTAL

Version 3.0 / USA
102000026719

4/12

Revision Date: 06/22/2021
Print Date: 06/24/2021

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.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Ensure adequate ventilation. Handle and open container in a manner as to prevent spillage.

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. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

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. Protect from freezing. Keep away from direct sunlight.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

| Components | CAS-No. | Control parameters | Update | Basis |
|--------------|-------------|---------------------------------|--------|----------|
| Imidacloprid | 138261-41-3 | 0.7 mg/m ³ (TWA) | | OES BCS* |
| Fluopyram | 658066-35-4 | 0.34 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 gloves (barrier laminate, butyl rubber, nitrile rubber or Viton)

SAFETY DATA SHEET



VELUM® TOTAL

Version 3.0 / USA
102000026719

5/12
Revision Date: 06/22/2021
Print Date: 06/24/2021

| | |
|------------------------------------|---|
| 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

Information on basic physical and chemical properties

| | |
|---|--|
| Form | suspension |
| Colour | white to beige |
| Odour | characteristic |
| Odour Threshold | No data available |
| pH | 5.5 - 8.5 (100 %) (23 °C) |
| Melting point/range | No data available |
| Boiling Point | No data available |
| Flash point | No data available |
| Flammability | No data available |
| Auto-ignition temperature | 415 °C / 779 °F |
| Thermal decomposition | No data available |
| Minimum ignition energy | No data available |
| Self-accelerating decomposition temperature (SADT) | No data available |
| Upper explosion limit | No data available |
| Lower explosion limit | No data available |
| Vapour pressure | No data available |
| Evaporation rate | No data available |
| Relative vapour density | No data available |
| Relative density | No data available |
| Density | 1.17 g/cm ³ (20 °C) |
| Water solubility | dispersible |
| Partition coefficient: n-octanol/water | Imidacloprid: log Pow: 0.57 Fluopyram: log Pow: 3.3 |

SAFETY DATA SHEET



VELUM® TOTAL

Version 3.0 / USA
102000026719

6/12
Revision Date: 06/22/2021
Print Date: 06/24/2021

| | |
|-----------------------------|---|
| Viscosity, dynamic | 200 - 400 mPa.s (20 °C) Velocity gradient 20 /s 350 - 700 mPa.s (20 °C) Velocity gradient 7.5 /s |
| Viscosity, kinematic | No data available |
| Impact sensitivity | Not impact sensitive. |
| Oxidizing properties | No oxidizing properties |
| Explosivity | Not explosive 92/69/EEC, A.14 / OECD 113 |
| Other information | Further safety related physical-chemical data are not known. |

SECTION 10: STABILITY AND REACTIVITY

| | |
|---|--|
| Reactivity | 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. freezing |
| Incompatible materials | No incompatible materials known. |
| Hazardous decomposition products | No decomposition products expected under normal conditions of use. |

SECTION 11: TOXICOLOGICAL INFORMATION

| | |
|---|---|
| Exposure routes | Ingestion, Inhalation, Eye contact, Skin contact |
| Immediate Effects | |
| Eye | May cause mild irritation to eyes. |
| Skin | May cause mild irritation to the skin. |
| Ingestion | Harmful if swallowed. |
| Inhalation | Mists may cause respiratory tract irritation. |
| Information on toxicological effects | |
| Acute oral toxicity | LD50 (female Rat) 1,750 mg/kg |
| Acute inhalation toxicity | LC50 (male Rat) > 5.17 mg/l Exposure time: 4 h LC50 (female Rat) 2.09 - 5.17 mg/l Exposure time: 4 h |

SAFETY DATA SHEET



VELUM® TOTAL

Version 3.0 / USA
102000026719

7/12
Revision Date: 06/22/2021
Print Date: 06/24/2021

| | |
|--|--|
| Acute dermal toxicity | LD50 (male/female combined Rat) > 5,000 mg/kg |
| Skin corrosion/irritation | No skin irritation (Rabbit) |
| Serious eye damage/eye irritation | Minimally irritating. (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

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

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

Assessment STOT Specific target organ toxicity – repeated exposure

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

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

Assessment mutagenicity

Imidacloprid was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

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

Assessment carcinogenicity

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

Fluopyram caused at high dose levels an increased incidence of tumours in rats in the following organ(s): Liver.

Fluopyram caused at high dose levels an increased incidence of tumours in mice in the following organ(s): Thyroid.

The tumours seen with Fluopyram were caused through a non-genotoxic mechanism, which is not relevant at low doses. The mechanism that triggers these tumours is not relevant to humans.

ACGIH

None.

NTP

None.

IARC

None.

OSHA

None.

Assessment toxicity to reproduction

Imidacloprid 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 Imidacloprid is related to parental toxicity.

Fluopyram 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 Fluopyram is related to parental toxicity.

Assessment developmental toxicity

SAFETY DATA SHEET



VELUM® TOTAL

Version 3.0 / USA
102000026719

8/12
Revision Date: 06/22/2021
Print Date: 06/24/2021

Imidacloprid caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Imidacloprid are related to maternal toxicity.
Fluopyram caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Fluopyram are related to maternal toxicity.

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)) > 2 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient fluopyram.
No acute toxicity was observed at its limit of water solubility.
LC50 (Oncorhynchus mykiss (rainbow trout)) 211 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient imidacloprid.

Toxicity to aquatic invertebrates

EC50 (Daphnia magna (Water flea)) > 20 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient fluopyram.
No acute toxicity was observed at its limit of water solubility.
EC50 (Daphnia magna (Water flea)) 85 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient imidacloprid.
LC50 (Chironomus riparius (non-biting midge)) 0.0552 mg/l
Exposure time: 24 h
The value mentioned relates to the active ingredient imidacloprid.

Chronic toxicity to aquatic invertebrates

EC10 (Chironomus riparius (non-biting midge)): 2.09 µg/l
Exposure time: 28 d
The value mentioned relates to the active ingredient imidacloprid.

Toxicity to aquatic plants

EC50 (Raphidocelis subcapitata (freshwater green alga)) 8.9 mg/l
Growth rate; Exposure time: 72 h
The value mentioned relates to the active ingredient fluopyram.
EC50 (Desmodesmus subspicatus (green algae)) > 10 mg/l
Growth rate; Exposure time: 72 h

SAFETY DATA SHEET



VELUM® TOTAL

Version 3.0 / USA
102000026719

9/12
Revision Date: 06/22/2021
Print Date: 06/24/2021

| | |
|---|---|
| | The value mentioned relates to the active ingredient imidacloprid. |
| Toxicity to bacteria | EC50 (activated sludge) > 10,000 mg/l The value mentioned relates to the active ingredient imidacloprid. |
| Biodegradability | Imidacloprid: Not rapidly biodegradable Fluopyram: Not rapidly biodegradable |
| Koc | Imidacloprid: Koc: 225 Fluopyram: Koc: 279 |
| Bioaccumulation | Imidacloprid: Does not bioaccumulate. Fluopyram: Bioconcentration factor (BCF) 18 Does not bioaccumulate. |
| Mobility in soil | Imidacloprid: Moderately mobile in soils Fluopyram: Moderately mobile in soils |
| Results of PBT and vPvB assessment | |
| PBT and vPvB assessment | Imidacloprid: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB). Fluopyram: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB). |
| 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. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area. Apply this product as specified on the label. |

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

| | |
|-------------------------------|---|
| Product | Never place unused product down any indoor or outdoor drain. Dispose in accordance with all local, state/provincial and federal regulations. |
| Contaminated packaging | Consult state and local regulations regarding the proper disposal of container. Follow advice on product label and/or leaflet. |

SAFETY DATA SHEET



VELUM® TOTAL

Version 3.0 / USA
102000026719

10/12
Revision Date: 06/22/2021
Print Date: 06/24/2021

RCRA Information

Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

SECTION 14: TRANSPORT INFORMATION

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. (IMIDACLOPRID, FLUOPYRAM SOLUTION)**

IATA

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

Freight Classification: **INSECTICIDES OR FUNGICIDES, N.O.I., OTHER THAN POISON**

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 264-1171

US Federal Regulations

TSCA list

Water 7732-18-5
1,2-Propanediol 57-55-6
Polyethylene-polypropylene copolymer 9003-11-6

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

No export notification needs to be made.

SARA Title III - Section 302 - Notification and Information

Not applicable.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

SAFETY DATA SHEET



VELUM® TOTAL

Version 3.0 / USA
102000026719

11/12
Revision Date: 06/22/2021
Print Date: 06/24/2021

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 |
|-----------------|---------|--------|

Environmental

CERCLA

None.

Clean Water Section 307(a)(1)

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.

EPA/FIFRA Information:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

Signal word: Caution!

Hazard statements: Harmful if swallowed.

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 |

SAFETY DATA SHEET



VELUM® TOTAL

Version 3.0 / USA
102000026719

12/12
Revision Date: 06/22/2021
Print Date: 06/24/2021

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 3: Composition / Information on Ingredients. Section 8: Exposure Controls / Personal Protection. Section 12. Ecological information. Reviewed and updated for general editorial purposes.

Revision Date: 06/22/2021

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.