

SAFETY DATA SHEET



LUNA® FLEX

Version 1.0 / USA
102000035903

1/12
Revision Date: 11/23/2021
Print Date: 01/10/2022

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

Product identifier

Trade name LUNA® FLEX
Product code (UVP) 85846086
SDS Number 102000035903
EPA Registration No. 264-1218

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

Use Fungicide
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

Skin sensitisation: Category 1
Acute toxicity(Oral, Inhalation, Dermal): Category 4

Labelling in accordance with regulation HCS 29CFR §1910.1200



Signal word: Warning

Hazard statements

May cause an allergic skin reaction.
Harmful if swallowed.

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Harmful in contact with skin.
Harmful if inhaled.

Precautionary statements

Avoid breathing mist/ vapours/ spray.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/ protective clothing.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
IF ON SKIN: Wash with plenty of water/ soap.
If skin irritation or rash occurs: Get medical advice/ attention.
Specific treatment (see supplemental first aid instructions on this label).
Take off contaminated clothing and wash it before reuse.
IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.
Rinse mouth.
Call a POISON CENTER/doctor/physician if you feel unwell.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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
Fluopyram	658066-35-4	21.37
Difenoconazole	119446-68-3	10.68
Naphthalene and alkyl naphthalene sulphonic acids formaldehyde condensate, sodium salt	68425-94-5	1.5

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	Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. 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.

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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.

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: Carbon monoxide (CO), Carbon dioxide (CO₂), Nitrogen oxides (NO_x), Hydrogen chloride (HCl)

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 / > 212 °F
No flash point - Determination conducted up to the boiling point.

Auto-ignition temperature 414 °C / 777.2 °F

Lower explosion limit No data available

Upper explosion limit No data available

Explosivity Not explosive

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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 the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal. Do not allow product to contact non-target plants.

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 Use only in area provided with appropriate exhaust 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.

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
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Fluopyram	658066-35-4	0.34 mg/m ³ (TWA)		OES BCS*
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*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)

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	No data available
Odour Threshold	No data available
pH	6.5 - 8.5 (100 %) (23 °C)
Melting point/range	No data available
Boiling Point	No data available
Flash point	> 100 °C / > 212 °F No flash point - Determination conducted up to the boiling point.
Flammability	No data available
Auto-ignition temperature	414 °C / 777.2 °F
Thermal decomposition	No data available
Minimum ignition energy	No data available
Self-accelerating decomposition temperature (SADT)	No data available

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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	ca. 1.17 g/cm ³ (20 °C)
Water solubility	No data available
Partition coefficient: n-octanol/water	Fluopyram: log Pow: 3.3 Difenoconazole: log Pow: 4.36
Viscosity, dynamic	300 - 600 mPa.s (20 °C) Velocity gradient 20 /s
Viscosity, kinematic	No data available
Oxidizing properties	No oxidizing properties
Explosivity	Not explosive
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.
Incompatible materials	No incompatible materials known.
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Eye contact, Skin contact, Ingestion, Inhalation
Immediate Effects	
Eye	May cause eye irritation.

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Skin	May cause sensitisation by skin contact. May cause slight irritation.
Ingestion	May be harmful if swallowed.
Inhalation	Not expected to produce significant adverse effects when recommended use instructions are followed.

Information on toxicological effects

Acute oral toxicity LD50 (female Rat) 1,030 mg/kg

Acute inhalation toxicity LC50 (male/female combined Rat) > 2.20 mg/l
Determined in the form of liquid aerosol.
highest concentration tested

Acute dermal toxicity

Dermal toxicity was assessed based on the result of the oral toxicity study.

Dermal toxicity study has been waived by competent regulatory authority.

Skin corrosion/irritation slight irritation (Rabbit)

Serious eye damage/eye irritation Minimally irritating. (Rabbit)

Respiratory or skin sensitisation Skin: Sensitising (Mouse)
OECD Test Guideline 429, local lymph node assay (LLNA)

Assessment STOT Specific target organ toxicity – single exposure

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

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

Assessment STOT Specific target organ toxicity – repeated exposure

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

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

Assessment mutagenicity

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

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

Assessment carcinogenicity

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.

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

ACGIH

None.

NTP

None.

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IARC

None.

OSHA

None.

Assessment toxicity to reproduction

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

Assessment developmental toxicity

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

Aspiration hazard

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

Further information

No further toxicological information is available.

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)) 1.1 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient difenconazole.

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.

Toxicity to aquatic plants

ErC50 (*Raphidocelis subcapitata* (freshwater green alga)) 8.9 mg/l
Growth rate; Exposure time: 72 h
The value mentioned relates to the active ingredient fluopyram.
ErC50 (*Desmodesmus subspicatus* (green algae)) 0.0876 mg/l
Exposure time: 72 h
The value mentioned relates to the active ingredient difenconazole.

Biodegradability

Fluopyram:
Not rapidly biodegradable

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IMDG

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

IATA

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

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 264-1218

US Federal Regulations

TSCA list

Water	7732-18-5
Glycerine	56-81-5
Polyethylene-polypropylene copolymer	9003-11-6
Naphthalene and alkyl naphthalene sulphonic acids formaldehyde condensate, sodium salt	68425-94-5

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

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

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Glycerine 56-81-5 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: May cause allergic skin reaction.
Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.
Harmful if swallowed or absorbed through skin.
Causes moderate eye irritation.

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

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NFPA 704 (National Fire Protection Association):

Health - 2 Flammability - 1 Instability - 0 Others - none

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

Health - 2 Flammability - 1 Physical Hazard - 0 PPE -

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

Reason for Revision: New Safety Data Sheet.

Revision Date: 11/23/2021

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

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