

**Material Safety Data Sheet****LUNA® SENSATION**

MSDS Number: 102000012886

MSDS Version 2.1

Revision Date: 02/01/2012

Print Date: 02/01/2012

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name	LUNA® SENSATION
MSDS Number	102000012886
Product code (UVP)	06033007
EPA Registration No.	264-1090
Product Use	Fungicide

Bayer CropScience
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
USA

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)
For Product Information call: 1-866-99BAYER (1-866-992-2937)

SECTION 2. HAZARDS IDENTIFICATION

NOTE: Please refer to Section 11 for detailed toxicological information.

Emergency Overview Caution! Harmful if swallowed, inhaled or absorbed through the skin. Avoid contact with skin, eyes and clothing. Avoid inhalation of vapour or mist. Wash thoroughly with soap and water after handling.

Physical State suspension

Odor characteristic

Appearance white to beige

Exposure routes Skin Absorption, Ingestion, Inhalation, Eye contact

Immediate Effects
skin Harmful if absorbed through skin. Avoid contact with skin and clothing.

Ingestion Harmful if swallowed. Do not take internally.

Inhalation Harmful if inhaled. Avoid inhalation of vapour or mist.

Chronic or Delayed Long-Term This product or its components may have target organ effects. This product or its components may have long term (chronic) health effects.

Potential Environmental Effect Toxic to fish and aquatic invertebrates.

**Material Safety Data Sheet****LUNA® SENSATION**

MSDS Number: 102000012886

MSDS Version 2.1

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Fluopyram	658066-35-4	21.40
Trifloxystrobin	141517-21-7	21.40
1,2-Propanediol	57-55-6	8.70
Polyethylene-polypropylene copolymer	9003-11-6	2.00

SECTION 4. FIRST AID MEASURES

General	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
Eye	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.
skin	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.
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.
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.
Notes to physician Treatment	Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.

SECTION 5. FIRE FIGHTING MEASURES

Flash point	> 100 °C / > 212 °F
Autoignition temperature	370 °C / 698 °F
Lower Flammability Limit	no data available
Upper Flammability Limit	no data available

**Material Safety Data Sheet****LUNA® SENSATION**

MSDS Number: 102000012886

MSDS Version 2.1

Explosiveness	Not explosive 92/69/EEC, A.14 / OECD 113
Fire and Explosion Hazards	In the event of fire the following may be released: Hydrogen chloride (HCl) Hydrogen cyanide (hydrocyanic acid) Hydrogen fluoride Carbon monoxide (CO) Nitrogen oxides (NOx)
Suitable extinguishing media	Water spray, Carbon dioxide (CO2), Foam, Dry chemical
Fire Fighting Instructions	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. Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.
Methods for cleaning up	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean contaminated floors and objects thoroughly, observing environmental regulations. Keep in suitable, closed containers for disposal.
Additional advice	Use personal protective equipment. Do not allow to enter soil, waterways or waste water canal.

SECTION 7. HANDLING AND STORAGE

Handling procedures	Use only in area provided with appropriate exhaust ventilation. Handle and open container in a manner as to prevent spillage.
Storing Procedures	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.
Work/Hygienic Procedures	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



Material Safety Data Sheet

LUNA® SENSATION

MSDS Number: 102000012886

MSDS Version 2.1

product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly with soap and water after handling.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General Protection	Train employees in safe use of the product. 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.
Eye/Face Protection	Safety glasses with side-shields or Goggles
Hand protection	Chemical resistant nitrile rubber gloves
Body Protection	Wear long-sleeved shirt and long pants and shoes plus socks.
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.

Exposure Limits

Trifloxystrobin	141517-21-7	OES BCS*	TWA	2.7 mg/m3
1,2-Propanediol	57-55-6	WEEL	TWA	10 mg/m3
		TX ESL	ST ESL	20 ug/m3
		TX ESL	ST ESL	500 ppm
		TX ESL	AN ESL	2 ug/m3
		TX ESL	AN ESL	50 ppm

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	white to beige
Physical State	suspension
Odor	characteristic
pH	5.0 - 9.0 (100 %) at 23 °C
Vapor Pressure	no data available

**Material Safety Data Sheet****LUNA® SENSATION**

MSDS Number: 102000012886

MSDS Version 2.1

Vapor Density (Air = 1)	no data available
Density	ca. 1.17 g/cm ³ at 20 °C
Evaporation rate	no data available
Boiling Point	no data available
Melting / Freezing Point	no data available
Water solubility	suspensive
Minimum Ignition Energy	no data available
Decomposition temperature	no data available
Partition coefficient: n-octanol/water	no data available
Viscosity	240 - 350 mPa.s at 20 °C Velocity gradient 20 /s

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid	freezing
Incompatibility	no data available
Hazardous Decomposition Products	Thermal decomposition can lead to release of: Hydrogen cyanide (hydrocyanic acid) Carbon monoxide Nitrogen oxides (NO _x)
Hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions.
Chemical Stability	Stable under recommended storage conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Only acute toxicity studies have been performed on the formulated product. The non-acute information pertains to the technical-grade active ingredients, Fluopyram and Trifloxystrobin.

Acute oral toxicity	female rat: LD50: 2,000 mg/kg
Acute dermal toxicity	rat: LD50: > 2,000 mg/kg



Material Safety Data Sheet

LUNA® SENSATION

MSDS Number: 102000012886
MSDS Version 2.1

Acute inhalation toxicity

rat: LC50: > 1.7 mg/l
Exposure time: 4 h
Determined in the form of liquid aerosol.
Highest attainable concentration.
No deaths

rat: LC50: > 6.8 mg/l
Exposure time: 1 h
Determined in the form of liquid aerosol.
Extrapolated from the 4 hr LC50.

Skin irritation

rabbit: No skin irritation

Eye irritation

rabbit: No eye irritation

Sensitisation

mouse: Non-sensitizing.
OECD Test Guideline 429, local lymph node assay (LLNA)

Chronic toxicity

Fluopyram caused specific target organ toxicity in the liver in experimental animal studies. The effect is due to an overwhelmed metabolic capacity of the liver at high dose levels.

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

Assessment Carcinogenicity

Fluopyram caused an increased incidence of tumours in the liver of rats at high dose levels.

Fluopyram caused an increased incidence of tumours in the thyroid of mice. The tumours seen with Fluopyram were caused through a non-genotoxic mechanism, which is not relevant at low doses. The mechanism that triggers tumours in rodents and the type of tumours observed are not relevant to humans.

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

ACGIH

None.

NTP

None.

IARC

None.

OSHA

None.

Reproductive 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 general toxicity.

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 general toxicity.

**Material Safety Data Sheet****LUNA® SENSATION**

MSDS Number: 102000012886

MSDS Version 2.1

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.

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

Mutagenicity Fluopyram 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.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity to fish Rainbow trout (*Oncorhynchus mykiss*)
LC50: 0.091 mg/l
Exposure time: 96 h

Toxicity to aquatic plants *Pseudokirchneriella subcapitata*
Growth rate
IC50: 0.292 mg/l
Exposure time: 72 h

Acute Toxicity to Aquatic Invertebrates Water flea (*Daphnia magna*)
EC50: 0.086 mg/l
Exposure time: 48 h

Environmental precautions Do not allow to get into surface water, drains and ground water. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not apply when weather conditions favor runoff or drift. 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.

**Material Safety Data Sheet****LUNA® SENSATION**

MSDS Number: 102000012886

MSDS Version 2.1

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance	Dispose in accordance with all local, state/provincial and federal regulations. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.
Container Disposal	Do not re-use empty containers. Triple rinse containers. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or incineration, or if allowed by State and Local authorities, by burning. If burned, stay out of smoke. Follow advice on product label and/or leaflet.
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
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRIFLOXYSTROBIN SOLUTION)
IATA	
UN-Number	3082
Class	9
Packaging group	III
Environm. Hazardous Mark	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (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.

SECTION 15. REGULATORY INFORMATION**EPA Registration No.** 264-1090

**Material Safety Data Sheet****LUNA® SENSATION**

MSDS Number: 102000012886

MSDS Version 2.1

US Federal Regulations**TSCA list**

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)

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**Canadian Domestic Substance List**

1,2-Propanediol 57-55-6

Polyethylene-polypropylene copolymer 9003-11-6

Environmental**CERCLA**

None.

Clean Water Section 307 Priority Pollutants

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

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

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

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

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

Reason for Revision: Reviewed and updated for general editorial purposes.



Material Safety Data Sheet

LUNA® SENSATION

MSDS Number: 102000012886

MSDS Version 2.1

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