



LUNA® TRANQUILITY

Version 3.0 / USA
102000017503

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Revision Date: 06/11/2014
Print Date: 02/17/2016

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

Product identifier

Trade name LUNA® TRANQUILITY

Product code (UVP) 79111894

SDS Number 102000017503

EPA Registration No. 264-1085

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

Use Fungicide

Restrictions on use See product label for restrictions.

Information on manufacturer

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

Emergency Telephone Number (24hr/ 7 days) 1-800-334-7577

Product Information
Telephone Number

SDS Information or Request SDSINFO.BCS-NA@bayer.com

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200

This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Other hazards

No particular hazards known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Average % by Weight
Fluopyram	658066-35-4	11.30
Pyrimethanil	53112-28-0	33.80
1,2-Propanediol	57-55-6	5.40



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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 No symptoms known or expected.

Indication of any immediate medical attention and special treatment needed

Treatment Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.

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 In the event of fire the following may be released: Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Nitrogen oxides (NOx)

Advice for firefighters

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

Further information Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.

Flash point No flash point - Determination conducted up to the boiling point.



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Autoignition temperature	560 °C / 1040 °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. Do not allow to enter soil, waterways or waste water canal.

Reference to other sections Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

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. 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.

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.



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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Fluopyram	658066-35-4	0.34 mg/m3 (OES BCS)		OES BCS*
Pyrimethanil	53112-28-0	5.6 mg/m3 (TWA)		OES BCS*
1,2-Propanediol (Vapor.)	57-55-6	1000ug/m3 (ST ESL)	02 2013	TX ESL
1,2-Propanediol (Vapor.)	57-55-6	50ppb (AN ESL)	02 2013	TX ESL
1,2-Propanediol (Vapor.)	57-55-6	500ppb (ST ESL)	02 2013	TX ESL
1,2-Propanediol (Vapor.)	57-55-6	100ug/m3 (AN ESL)	02 2013	TX ESL
1,2-Propanediol (Aerosol.)	57-55-6	10 mg/m3 (TWA)	2010	WEEL

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

Exposure controls

Personal protective equipment

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection

When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

Hand protection

Chemical resistant nitrile rubber gloves

Eye protection

Safety glasses with side-shields

Skin and body protection

Wear long-sleeved shirt and long pants and shoes plus socks.

General protective measures

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water.
Keep and wash PPE separately from other laundry.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance white to beige
Physical State suspension
Odor characteristic



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Odour Threshold	no data available
pH	5.0 - 8.5 at 100 % (23 °C)
Vapor Pressure	no data available
Vapor Density (Air = 1)	no data available
Density	ca. 1.11 g/cm ³ at 20 °C
Evaporation rate	no data available
Boiling Point	no data available
Melting / Freezing Point	no data available
Water solubility	no data available
Minimum Ignition Energy	not applicable
Decomposition temperature	Stable under normal conditions.
Partition coefficient: n-octanol/water	no data available
Viscosity	220 - 350 mPa.s at 20 °C Velocity gradient 20 /s
Flash point	No flash point - Determination conducted up to the boiling point.
Autoignition temperature	560 °C / 1040 °F
Lower explosion limit	no data available
Upper explosion limit	no data available
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

Thermal decomposition	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	Store only in the original container.
Hazardous decomposition products	No decomposition products expected under normal conditions of use.



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SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Ingestion, Inhalation, Skin contact
Immediate Effects	
Eye	May cause eye irritation.
Skin	Harmful if absorbed through skin.
Ingestion	Harmful if swallowed.
Inhalation	Harmful if inhaled.
Information on toxicological effects	
Acute oral toxicity	LD50 (rat) > 2,000 mg/kg
Acute inhalation toxicity	LC50 (rat) > 1.973 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. Highest attainable concentration. LC50 (rat) > 8.0 mg/l Exposure time: 1 h Determined in the form of liquid aerosol. Extrapolated from the 4 hr LC50.
Acute dermal toxicity	LD50 (rat) > 2,000 mg/kg
Skin irritation	No skin irritation (rabbit)
Eye irritation	No eye irritation (rabbit)
Sensitisation	Non-sensitizing. (mouse) OECD Test Guideline 429, local lymph node assay (LLNA)

Assessment repeated dose toxicity

Fluopyram did not cause specific target organ toxicity in experimental animal studies.
Pyrimethanil did not cause any significant specific adverse effects or target organ toxicity in subchronic toxicity studies.

Assessment Mutagenicity

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

Pyrimethanil was not carcinogenic in lifetime feeding studies in mice. Pyrimethanil caused at high dose levels an increased incidence of tumours in rats in the following organ(s): thyroid. The mechanism that triggers tumours in rodents and the type of tumours observed are not relevant to humans.

ACGIH

None.



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NTP

None.

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. Pyrimethanil 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. Pyrimethanil did not cause developmental toxicity in rats and rabbits.

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 (Rainbow trout (*Oncorhynchus mykiss*)) 10.56 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient pyrimethanil.

LC50 (Rainbow trout (*Oncorhynchus mykiss*)) > 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.

Toxicity to aquatic invertebrates

EC50 (Water flea (*Daphnia magna*)) 2.9 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient pyrimethanil.

EC50 (Water flea (*Daphnia magna*)) > 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

EC50 (*Pseudokirchneriella subcapitata*) 8.9 mg/l
Growth rate; Exposure time: 72 h
The value mentioned relates to the active ingredient fluopyram.

IC50 (*Pseudokirchneriella subcapitata*) 1.2 mg/l
Exposure time: 96 h



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	The value mentioned relates to the active ingredient pyrimethanil.
Biodegradability	Fluopyram: ; not rapidly biodegradable Pyrimethanil: ; not rapidly biodegradable
Koc	Fluopyram: Koc: 279 Pyrimethanil: Koc: 301
Bioaccumulation	Fluopyram: Bioconcentration factor (BCF) 18; Does not bioaccumulate. Pyrimethanil: ; Does not bioaccumulate.
Mobility in soil	Fluopyram: Moderately mobile in soils Pyrimethanil: Moderately mobile in soils
Additional ecological information	No other effects to be mentioned.
Environmental precautions	Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Do not apply when weather conditions favor runoff or drift. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Apply this product as specified on the label.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product	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.
Contaminated packaging	Do not re-use empty containers. Triple rinse containers. Completely empty container into application equipment, then dispose of empty container in a sanitary landfill, by incineration or by other procedures approved by state/provincial and local authorities. 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



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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. (PYRIMETHANIL SOLUTION)**

IATA

UN number **3082**
Class **9**
Packaging group **III**
Environm. Hazardous Mark **YES**
Proper shipping name **ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PYRIMETHANIL 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. 264-1085

US Federal Regulations

TSCA list

1,2-Propanediol 57-55-6

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

Canadian Regulations

Canadian Domestic Substance List

None.

**Environmental
CERCLA**



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None.

Clean Water Section 307 Priority Pollutants

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, inhaled or absorbed through the skin.
Avoid contact with skin, eyes and clothing.
Avoid breathing spray mist.
Remove and wash contaminated clothing before re-use.

SECTION 16: OTHER INFORMATION

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: Revised according to the current OSHA Hazard Communication Standard (29CFR1910.1200)

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