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

Product identifier

Trade name: PONCHO® / VOTIVO®
Product code (UVP): 81735050, 81006334
SDS Number: 102000027015
EPA Registration No.: 264-1109

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

Use: Seed treatment
Insecticide

Restrictions on use: See product label for restrictions.

Information on supplier

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

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

Signal word: Warning

Hazard statements
Harmful if swallowed or if inhaled.

Precautionary statements
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Avoid breathing mist and 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)**
Micro-organisms may have the potential to provoke sensitising reactions.

---

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

<table>
<thead>
<tr>
<th>Hazardous Component Name</th>
<th>CAS-No.</th>
<th>Concentration % by weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clothianidin</td>
<td>210880-92-5</td>
<td>40.3</td>
</tr>
<tr>
<td>Bacillus firmus (Strain I-1582)</td>
<td></td>
<td>8.1</td>
</tr>
</tbody>
</table>

---

**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**
To date no symptoms are known.

**Indication of any immediate medical attention and special treatment needed**
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: Water spray, Foam, Carbon dioxide (CO2), Dry chemical

Unsuitable: None known.

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

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

> 99 °C

Material heated to 100 °C – no flash point in the liquid state.

Auto-ignition temperature: No data available

Lower explosion limit: No data available

Upper explosion limit: No data available

Explosivity: Not applicable

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 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.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clothianidin</td>
<td>210880-92-5</td>
<td>2.8 mg/m3 (TWA)</td>
<td></td>
<td>OES BCS*</td>
</tr>
<tr>
<td>Bacillus firmus (Strain I-1582)</td>
<td></td>
<td>1x10^7 CFU/m3 (TWA)</td>
<td></td>
<td>OES BCS*</td>
</tr>
<tr>
<td>Glycerine (Respirable fraction.)</td>
<td>56-81-5</td>
<td>5 mg/m3 (PEL)</td>
<td>02 2006</td>
<td>OSHA Z1</td>
</tr>
<tr>
<td>Glycerine (Total dust.)</td>
<td>56-81-5</td>
<td>15 mg/m3 (PEL)</td>
<td>02 2006</td>
<td>OSHA Z1</td>
</tr>
<tr>
<td>Glycerine (Respirable fraction.)</td>
<td>56-81-5</td>
<td>5 mg/m3 (TWA)</td>
<td>1989</td>
<td>OSHA Z1A</td>
</tr>
<tr>
<td>Glycerine (Total dust.)</td>
<td>56-81-5</td>
<td>10 mg/m3 (TWA)</td>
<td>1989</td>
<td>OSHA Z1A</td>
</tr>
<tr>
<td>Glycerine (Total dust and mist.)</td>
<td>56-81-5</td>
<td>10 mg/m3 (TWA)</td>
<td>06 2008</td>
<td>TN OEL</td>
</tr>
<tr>
<td>Glycerine (Respirable fraction and dust or fume.)</td>
<td>56-81-5</td>
<td>5 mg/m3 (TWA)</td>
<td>06 2008</td>
<td>TN OEL</td>
</tr>
<tr>
<td>Glycerine</td>
<td>56-81-5</td>
<td>1000ug/m3 (ST ESL)</td>
<td>03 2014</td>
<td>TX ESL</td>
</tr>
<tr>
<td>Glycerine</td>
<td>56-81-5</td>
<td>50ug/m3 (ST ESL)</td>
<td>03 2014</td>
<td>TX ESL</td>
</tr>
<tr>
<td>Glycerine</td>
<td>56-81-5</td>
<td>100ug/m3</td>
<td>03 2014</td>
<td>TX ESL</td>
</tr>
</tbody>
</table>
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 Tightly fitting safety goggles
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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>beige</td>
</tr>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>characteristic</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>5.0 - 8.0 at 100 % (23 °C)</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Density (Air = 1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>1.28 g/cm³ at 20 °C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting / Freezing Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Water solubility</td>
<td>dispersible</td>
</tr>
<tr>
<td>Minimum Ignition Energy</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"
Partition coefficient: n-octanol/water
Not applicable

Viscosity
500 - 850 mPa.s at 25 °C
280 - 480 mPa.s at 20 °C Velocity gradient 20 /s
170 - 320 mPa.s at 20 °C Velocity gradient 100 /s

Flash point
> 99 °C
Material heated to 100 °C – no flash point in the liquid state.

Auto-ignition temperature
No data available

Lower explosion limit
No data available

Upper explosion limit
No data available

Explosivity
Not applicable

Other information
Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Thermal decomposition
Not applicable

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 data available

Hazardous decomposition products
No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes
Eye contact, Skin contact, Inhalation, Ingestion

Immediate Effects

Eye
Moderate eye irritation.

Skin
May cause skin irritation.

Ingestion
Harmful if swallowed.

Inhalation
May cause respiratory tract irritation.

Information on toxicological effects

Acute oral toxicity
LD50 (Rat) 2,000 mg/kg
Acute inhalation toxicity  LC50 (Rat) > 2.03 mg/l  
Exposure time: 4 h  
Determined in the form of a respirable aerosol.  
During intended and unforeseen applications, no respirable aerosol is formed.

Acute dermal toxicity  LD50 (Rat) > 5,000 mg/kg  
Skin irritation  slight irritation (Rabbit)  
Eye irritation  Mild eye irritation. (Rabbit)  
Sensitisation  Non-sensitizing. (Mouse)  
OECD Test Guideline 429, local lymph node assay (LLNA)

Assessment repeated dose toxicity  
Clothianidin did not cause specific target organ toxicity in experimental animal studies.  
Bacillus firmus did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity  
Clothianidin was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.  
Bacillus firmus: Test not required for microorganisms.

Assessment carcinogenicity  
Clothianidin was not carcinogenic in lifetime feeding studies in rats and mice.  
Bacillus firmus: Test not required for microorganisms.

ACGIH  
None.

NTP  
None.

IARC  
None.

OSHA  
None.

Assessment toxicity to reproduction  
Clothianidin 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 Clothianidin is related to parental toxicity.  
Bacillus firmus: Test not required for microorganisms.

Assessment developmental toxicity  
Clothianidin did not cause developmental toxicity in rats.  
Clothianidin caused developmental toxicity in rabbits only at dose levels toxic to the dams. The developmental effects seen with Clothianidin are related to maternal toxicity.  
Bacillus firmus: Test not required for microorganisms.

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish</td>
<td>LC50 (Onchorhynchus mykiss (rainbow trout)) &gt; 104.2 mg/l</td>
<td>The value mentioned relates to the active ingredient clothianidin.</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 96 h</td>
<td></td>
</tr>
<tr>
<td>Toxicity to aquatic invertebrates</td>
<td>EC50 (Daphnia magna (Water flea)) &gt; 119 mg/l</td>
<td>The value mentioned relates to the active ingredient clothianidin.</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 48 h</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC50 (Chironomus riparius (non-biting midge)) 0.00106 mg/l</td>
<td>The value mentioned relates to the active ingredient clothianidin.</td>
</tr>
<tr>
<td></td>
<td>Exposure time: 28 d</td>
<td></td>
</tr>
<tr>
<td>Toxicity to aquatic plants</td>
<td>IC50 (Raphidocelis subcapitata (freshwater green alga)) &gt; 120 mg/l</td>
<td>The value mentioned relates to the active ingredient clothianidin.</td>
</tr>
<tr>
<td></td>
<td>Growth rate; Exposure time: 72 h</td>
<td></td>
</tr>
<tr>
<td>Biodegradability</td>
<td>Clothianidin:</td>
<td>Not rapidly biodegradable</td>
</tr>
<tr>
<td></td>
<td>Koc: 84 - 345</td>
<td></td>
</tr>
<tr>
<td>Bioaccumulation</td>
<td>Clothianidin:</td>
<td>Does not bioaccumulate.</td>
</tr>
<tr>
<td></td>
<td>Koc: 84 - 345</td>
<td></td>
</tr>
<tr>
<td>Mobility in soil</td>
<td>Clothianidin:</td>
<td>Moderately mobile in soils</td>
</tr>
<tr>
<td></td>
<td>Koc: 84 - 345</td>
<td></td>
</tr>
<tr>
<td>Additional ecological information</td>
<td>No other effects to be mentioned.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Koc: 84 - 345</td>
<td></td>
</tr>
<tr>
<td>Environmental precautions</td>
<td>Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Do not apply when weather conditions favor runoff or drift.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Apply this product as specified on the label.</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product

Pesticide, spray mixture or rinse water that cannot be used according to label instructions may be disposed of on site or at an approved waste disposal facility.

Dispose in accordance with all local, state/provincial and federal
Contaminated packaging
Triple rinse containers.
Puncture container to avoid re-use.
Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial 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
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CLOTHIANIDIN SOLUTION)

IATA
UN number 3082
Class 9
Packaging group III
Environm. Hazardous Mark YES
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CLOTHIANIDIN 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. 264-1109
US Federal Regulations
TSCA list None.
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
None.

Canadian Regulations
Canadian Domestic Substance List
None.

Environmental
CERCLA
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.
Moderate eye irritation.
Avoid contact with skin, eyes and clothing.
Avoid breathing spray mist.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms
49CFR Code of Federal Regulations, Title 49
ACGIH US. ACGIH Threshold Limit Values
CAS-Nr. Chemical Abstracts Service number
EINECS European inventory of existing commercial substances
ELINCS European list of notified chemical substances
IARC  US. IARC Monographs on Occupational Exposures to Chemical Agents
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

NFPA 704 (National Fire Protection Association):
  Health - 1  Flammability - 1  Instability - 0  Others - none

  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: Reviewed and updated for general editorial purposes. The following sections have been revised: Section 3: Composition / Information on Ingredients.

Revision Date: 02/12/2016

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