



DRIONE® INSECTICIDE

Version 3.0 / USA
102000002537

1/11
Revision Date: 12/11/2014
Print Date: 04/28/2015

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

Product identifier

Trade name DRIONE® INSECTICIDE

Product code (UVP) 05938473

SDS Number 102000002537

EPA Registration No. 432-992

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

Use Insecticide

Restrictions on use See product label for restrictions.

Information on manufacturer

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

Emergency telephone no.

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

Product Information Telephone Number 1-800-331-2867

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. | Concentration % by weight |
|---------------------------------|----------------|----------------------------------|
| Pyrethrins including cinerins | 8003-34-7 | 1.00 |
| Piperonyl butoxide | 51-03-6 | 10.00 |
| Silica, amorphe | 7631-86-9 | 40.00 |



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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 | Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea., Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache). |
| Indication of any immediate medical attention and special treatment needed | |
| Risks | Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard. |
| 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 | Carbon dioxide (CO ₂), Dry chemical, Foam, Water |
| Unsuitable | None known. |



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| | |
|--|--|
| 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 fire-fighters | Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing. In the event of fire and/or explosion do not breathe fumes. |
| 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 | not applicable |
| Autoignition temperature | no data available |
| Lower explosion limit | not applicable |
| Upper explosion limit | not applicable |
| Explosivity | no data available |
| Dust explosion class | no data available |

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions Remove all sources of ignition. 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 Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. 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 Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation. Handle and open container in a manner as to prevent spillage.



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Advice on protection against fire and explosion

Take measures to prevent the build up of electrostatic charge.

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.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

| Components | CAS-No. | Control parameters | Update | Basis |
|--------------------------------|-----------|--------------------|---------|-----------|
| Pyrethrins including cinerins | 8003-34-7 | 5 mg/m3 (TWA) | | OES BCS* |
| Pyrethrins including cinerins | 8003-34-7 | 5 mg/m3 (TWA) | 02 2012 | ACGIH |
| Pyrethrins including cinerins | 8003-34-7 | 5 mg/m3 (REL) | 2010 | NIOSH |
| Pyrethrins including cinerins | 8003-34-7 | 5 mg/m3 (PEL) | 02 2006 | OSHA Z1 |
| Pyrethrins including cinerins | 8003-34-7 | 5 mg/m3 (TWA) | 1989 | OSHA Z1A |
| Pyrethrins including cinerins | 8003-34-7 | 5 mg/m3 (TWA) | 06 2008 | TN OEL |
| Pyrethrins including cinerins | 8003-34-7 | 50ug/m3 (ST ESL) | 07 2011 | TX ESL |
| Pyrethrins including cinerins | 8003-34-7 | 5ug/m3 (AN ESL) | 07 2011 | TX ESL |
| Pyrethrins including cinerins | 8003-34-7 | 5 mg/m3 (TWA PEL) | 08 2010 | US CA OEL |
| Piperonyl butoxide | 51-03-6 | 500 ppm (TWA) | | OES BCS* |
| Silica, amorphe | 7631-86-9 | 6 mg/m3 (REL) | 2010 | NIOSH |
| Silica, amorphe (Particulate.) | 7631-86-9 | 27ug/m3 (ST ESL) | 02 2013 | TX ESL |
| Silica, amorphe (Particulate.) | 7631-86-9 | 2ug/m3 (AN ESL) | 02 2013 | TX ESL |
| Silica, amorphe | 7631-86-9 | 0.8 mg/m3 | 2000 | Z3 |



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| | | (TWA) | | |
|--|------------|---|---------|--------|
| Silica, amorphe | 7631-86-9 | 20millions of particles per cubic foot of air (TWA) | 2000 | Z3 |
| Distillates (petroleum), hydrotreated light (Non-aerosol.) | 64742-47-8 | 200 mg/m3 (TWA) | 02 2012 | ACGIH |
| Distillates (petroleum), hydrotreated light (Non-aerosol.) | 64742-47-8 | 200 mg/m3 (TWA) | 02 2012 | ACGIH |
| Distillates (petroleum), hydrotreated light | 64742-47-8 | 100 mg/m3 (REL) | 2010 | NIOSH |
| Distillates (petroleum), hydrotreated light | 64742-47-8 | 350ug/m3 (AN ESL) | 07 2011 | TX ESL |
| Distillates (petroleum), hydrotreated light | 64742-47-8 | 3500ug/m3 (ST ESL) | 07 2011 | TX ESL |

*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

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

| | |
|------------------------|-----------------------|
| Appearance | white to light yellow |
| Physical State | powder |
| Odor | very faint |
| Odour Threshold | no data available |
| pH | no data available |



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| | |
|---|-------------------------|
| Vapor Pressure | no data available |
| Vapor Density (Air = 1) | no data available |
| Bulk density | 12.2 lb/ft ³ |
| Evaporation rate | not applicable |
| Boiling Point | not applicable |
| Melting / Freezing Point | not applicable |
| Water solubility | insoluble |
| Minimum Ignition Energy | no data available |
| Decomposition temperature | no data available |
| Partition coefficient: n-octanol/water | no data available |
| Viscosity | not applicable |
| Flash point | not applicable |
| Autoignition temperature | no data available |
| Lower explosion limit | not applicable |
| Upper explosion limit | not applicable |
| Explosivity | no data available |
| Dust explosion class | no data available |

SECTION 10: STABILITY AND REACTIVITY

Reactivity

| | |
|---|--|
| Thermal decomposition | no data available |
| 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 | Exposure to moisture. |
| Incompatible materials | no data available |
| Hazardous decomposition products | No decomposition products expected under normal conditions of use. |



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SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes Eye contact, Skin Absorption, Ingestion, Inhalation

Immediate Effects

Eye Moderate eye irritation.

Skin Harmful if absorbed through skin. May cause slight irritation.

Ingestion Ingestion of large amounts may be harmful (see Signs and Symptoms).

Inhalation Inhalation may cause irritation of nasal passages.

Information on toxicological effects

Acute oral toxicity LD50 (rat) > 5,000 mg/kg

Acute inhalation toxicity LC50 (rat) > 5.4 mg/l
Exposure time: 4 h
Determined in the form of dust.

LC50 (rat) > 20 mg/l
Exposure time: 1 h
Determined in the form of dust.
Extrapolated from the 4 hr LC50.

Acute dermal toxicity LD50 (rabbit) > 2,000 mg/kg

Skin irritation Slight irritation (rabbit)

Eye irritation Mild eye irritation. (rabbit)

Sensitisation Non-sensitizing. (guinea pig)
OECD Test Guideline 406, Buehler test

Repeated dose toxicity Chronic toxicity

Assessment repeated dose toxicity

Pyrethrin did not cause specific target organ toxicity in experimental animal studies.
Piperonyl butoxide did not cause specific target organ toxicity in experimental animal studies.

Assessment Mutagenicity

Pyrethrin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Piperonyl butoxide was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment Carcinogenicity

Pyrethrin was not carcinogenic in lifetime feeding studies in rats and mice.
Piperonyl butoxide was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

Pyrethrins including cinerins 8003-34-7 Group A4

NTP

None.

IARC



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Piperonyl butoxide 51-03-6 Overall evaluation: 3
Silica, amorphe 7631-86-9 Overall evaluation: 3

OSHA

None.

Assessment toxicity to reproduction

Pyrethrin did not cause reproductive toxicity in a two-generation study in rats.
Piperonyl butoxide did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Pyrethrin did not cause developmental toxicity in rats and rabbits.
Piperonyl butoxide 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

Biodegradability Pyrethrin: ; not rapidly biodegradable
Piperonyl butoxide: ; not rapidly biodegradable

Koc Pyrethrin: Koc: 12472 - 74175
Piperonyl butoxide: Koc: 399 - 830

Bioaccumulation Pyrethrin: Bioconcentration factor (BCF) 471; Does not bioaccumulate.
Piperonyl butoxide: ; Potential bioaccumulation

Mobility in soil Pyrethrin: Immobile in soil
Piperonyl butoxide: Moderately mobile in soils

Environmental precautions Do not allow to get into surface water, drains and ground water.
Do not apply when weather conditions favor runoff or drift.
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 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 Do not contaminate water, food, or feed by disposal.
Follow container label instructions for disposal of wastes generated during use in compliance with the product label.



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Never place unused product down any indoor or outdoor drain.

Contaminated packaging

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

| | |
|----------------------|--|
| UN number | 3077 |
| Class | 9 |
| Packaging group | III |
| Marine pollutant | Marine pollutant |
| Proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (PYRETHRINS) |
| RQ | Reportable Quantity is reached with 100 lb of product. |

IMDG

| | |
|----------------------|---|
| UN number | 3077 |
| Class | 9 |
| Packaging group | III |
| Marine pollutant | YES |
| Proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (PYRETHRINS MIXTURE) |

IATA

| | |
|--------------------------|--|
| UN number | 3077 |
| Class | 9 |
| Packaging group | III |
| Environm. Hazardous Mark | YES |
| Proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (PYRETHRINS MIXTURE) |

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



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SECTION 15: REGULATORY INFORMATION

EPA Registration No. 432-992

US Federal Regulations

TSCA list

Piperonyl butoxide 51-03-6
Silica, amorphe 7631-86-9

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

Piperonyl butoxide 51-03-6 1.0%

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

| | | |
|-------------------------------|-----------|----------------|
| Pyrethrins including cinerins | 8003-34-7 | CA, CT, MN, RI |
| Piperonyl butoxide | 51-03-6 | NJ |
| Silica, amorphe | 7631-86-9 | CA, MN |

Canadian Regulations

Canadian Domestic Substance List

| | |
|-------------------------------|-----------|
| Pyrethrins including cinerins | 8003-34-7 |
| Piperonyl butoxide | 51-03-6 |
| Silica, amorphe | 7631-86-9 |

Environmental

CERCLA

| | | |
|-------------------------------|-----------|-------|
| Pyrethrins including cinerins | 8003-34-7 | 1 lbs |
|-------------------------------|-----------|-------|

Clean Water Section 307 Priority Pollutants

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.

International Regulations

European Inventory of Existing Commercial Substances (EINECS)

| | |
|-------------------------------|-----------|
| Pyrethrins including cinerins | 8003-34-7 |
| Piperonyl butoxide | 51-03-6 |
| Silica, amorphe | 7631-86-9 |

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:



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Signal word: Caution!

Hazard statements: Harmful if absorbed through skin.
Moderate eye irritation.
Avoid contact with skin, eyes and clothing.
Avoid breathing dust.

SECTION 16: OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

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

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

Health - 1 Flammability - 2 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)

Revision Date: 12/11/2014

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