



Material Safety Data Sheet

PERMANONE® 10% E.C.

MSDS Number: 102000004015

MSDS Version 3.1

Revision Date: 05/25/2010

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name PERMANONE® 10% E.C.
MSDS Number 102000004015
EPA Registration No. 432-1132

Bayer Environmental Science
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: 1-800-331-2867

SECTION 2. HAZARDS IDENTIFICATION

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

Emergency Overview Warning! Causes skin irritation. Harmful if inhaled or absorbed through skin. Do not get in eyes, on skin, or on clothing. Avoid inhalation of vapour or mist.

Physical State liquid

Odor mild

Appearance amber

Exposure routes Eye contact, Skin contact, Inhalation

Immediate Effects

Eye May cause eye irritation. Avoid contact with eyes.

Skin Causes skin irritation. Harmful if absorbed through skin. Do not get on skin or clothing.

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

Highly toxic to bees. Extremely toxic to fish and aquatic invertebrates.



Material Safety Data Sheet

PERMANONE® 10% E.C.

MSDS Number: 102000004015
MSDS Version 3.1

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| <u>Hazardous Component Name</u> | <u>CAS-No.</u> | <u>Average % by Weight</u> |
|---|----------------|----------------------------|
| Permethrin | 52645-53-1 | 10.00 |
| Distillates (petroleum), hydrotreated light | 64742-47-8 | 82.00 |
| Nonylphenol ethoxylate | 9016-45-9 | 4.40 |

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 | |
| Hazards | This product contains a pyrethroid. Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard. |
| Treatment | Treat symptomatically. There is no specific antidote. |

SECTION 5. FIRE FIGHTING MEASURES

| | |
|-------------------------------------|---|
| Flash point | 69 °C / 156 °F |
| Fire and Explosion Hazards | Dangerous gases are evolved in the event of a fire. |
| Suitable extinguishing media | Carbon dioxide (CO2), Dry chemical, Foam, Water |



Material Safety Data Sheet

MSDS Number: 102000004015
MSDS Version 3.1

PERMANONE® 10% E.C.

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

Isolate hazard area. Keep unauthorized people away. 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). 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.

SECTION 7. HANDLING AND STORAGE

Handling procedures

Handle and open container in a manner as to prevent spillage. Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.

Keep away from heat and sources of ignition.

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.

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 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.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General Protection

Follow all label instructions. Train employees in safe use of the product.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such



Material Safety Data Sheet

MSDS Number: 102000004015
MSDS Version 3.1

PERMANONE® 10% E.C.

instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

- Eye/Face Protection** Tightly fitting safety 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

| | | | | |
|------------------------|------------|----------|--------|----------|
| Permethrin | 52645-53-1 | OES BCS* | TWA | 10 mg/m3 |
| | | TX ESL | ST ESL | 50 ug/m3 |
| | | TX ESL | AN ESL | 5 ug/m3 |
| Nonylphenol ethoxylate | 9016-45-9 | TX ESL | ST ESL | 24 ppm |
| | | TX ESL | AN ESL | 2.4 ppm |

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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance** amber
- Physical State** liquid
- Odor** mild
- pH** neutral
- Density** ca. 0.84 g/cm³ at 20 °C
- Bulk density** 7.0 lbs/gal
- Water solubility** emulsifiable

SECTION 10. STABILITY AND REACTIVITY

- Conditions to avoid** Extremes of temperature and direct sunlight.
- Incompatibility** Strong oxidizing agents
- Chemical Stability** Stable under normal conditions.



Material Safety Data Sheet

PERMANONE® 10% E.C.

MSDS Number: 102000004015
MSDS Version 3.1

SECTION 11. TOXICOLOGICAL INFORMATION

Only acute toxicity studies have been performed on this product as formulated. The non-acute information pertains to the technical-grade active ingredient, Permethrin.

| | |
|----------------------------------|---|
| Acute oral toxicity | rat: LD50: > 5,000 mg/kg |
| Acute dermal toxicity | rabbit: LD50: > 5,050 mg/kg |
| Acute inhalation toxicity | rat: LC50: > 1.6 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. Highest attainable concentration. No deaths |
| | rat: LC50: > 6.4 mg/l Exposure time: 1 h Determined in the form of liquid aerosol. Extrapolated from the 4 hr LC50. |
| Skin irritation | rabbit: Severe skin irritation |
| Eye irritation | rabbit: Mild eye irritation |
| Sensitisation | guinea pig: Non-sensitizing. |
| Chronic toxicity | Permethrin caused neurobehavioral effects (e.g., tremors) and/or organ effects (liver, lung, kidney) in chronic studies in rats, mice and dogs. |

Assessment Carcinogenicity

Permethrin has low oncogenic potential in mice and no oncogenic potential in rats, therefore, EPA has concluded the likelihood of oncogenicity effects in humans from permethrin to be extremely low or nonexistent.

ACGIH

None.

NTP

None.

IARC

Permethrin

52645-53-1

Overall evaluation: 3

OSHA

None.

| | |
|------------------------------|--|
| Reproductive toxicity | <p>REPRODUCTION: Permethrin was not a reproductive toxicant in multi-generation reproduction studies in rats.</p> <p>DEVELOPMENTAL TOXICITY: Permethrin was not a primary developmental toxicant in rats, mice and rabbits. Developmental effects (e.g., decreased fetal weights) were observed in rats and rabbits but were considered secondary to</p> |
|------------------------------|--|



Material Safety Data Sheet

MSDS Number: 10200004015
MSDS Version 3.1

PERMANONE® 10% E.C.

maternal toxicity.

Neurotoxicity Permethrin caused neurobehavioral effects (e.g., tremors) in an acute and subchronic neurotoxicity screening study in rats without any correlating neuropathological changes.

Mutagenicity Permethrin was not mutagenic or genotoxic in a battery of in vitro and in vivo mutagenicity studies.

SECTION 12. ECOLOGICAL INFORMATION

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. Apply this product as specified on the label.

Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance Do not contaminate water, food, or feed by disposal. 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.

Container Disposal 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
NA-Number 1993
Packaging group III
Marine pollutant Marine Pollutant
Description of the goods COMBUSTIBLE LIQUID, N.O.S.
(PETROLEUM DISTILLATES, PERMETHRIN)

IMDG



Material Safety Data Sheet

MSDS Number: 102000004015
MSDS Version 3.1

PERMANONE® 10% E.C.

UN-Number **3082**
 Class **9**
 Packaging group **III**
 Marine pollutant **Marine Pollutant**
 Description of the goods **ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PERMETHRIN SOLUTION)**

IATA

UN-Number **3082**
 Class **9**
 Packaging group **III**
 Description of the goods **ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PERMETHRIN 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. 432-1132

US Federal Regulations

TSCA list

Distillates (petroleum), hydrotreated light 64742-47-8
 Nonylphenol ethoxylate 9016-45-9

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

Permethrin 52645-53-1 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

Permethrin 52645-53-1 NJ

Canadian Regulations

Canadian Domestic Substance List

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Material Safety Data Sheet

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MSDS Number: 102000004015
MSDS Version 3.1

Environmental

CERCLA

None.

Clean Water Section 307 Priority Pollutants

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.

International Regulations

European Inventory of Existing Commercial Substances (EINECS)

Distillates (petroleum), hydrotreated light 64742-47-8

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

Health - 2 Flammability - 2 Reactivity - 0 Others - none

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

Reason to Revise: Updated for general editorial purposes.

Revision Date: 05/25/2010

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