

MATERIAL SAFETY DATA SHEET

POUNCE® 384 EC INSECTICIDE



MSDS Ref. No.: 52645-53-1-43

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Revision No.: 3

This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200 and Canada's Workplace Hazardous Materials Information System (WHMIS) requirements.

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:	POUNCE® 384 EC INSECTICIDE
PRODUCT CODE:	6361
ACTIVE INGREDIENT(S):	Permethrin
CHEMICAL FAMILY:	Pyrethroid Pesticide
MOLECULAR FORMULA:	C ₁₂ H ₂₀ Cl ₂ O ₃ (permethrin)
SYNONYMS:	FMC 33297; (3-Phenoxyphenyl)methyl(+/-) cis-trans-3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate; IUPAC: 3-phenoxybenzyl (1RS)-cis-trans-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate

MANUFACTURER

FMC CORPORATION
Agricultural Products Group
1735 Market Street
Philadelphia, PA 19103
(215) 299-6000 (General Information)
msdsinfo@fmc.com (Email - General Information)

EMERGENCY TELEPHONE NUMBERS

(800) 331-3148 (Medical - U.S.A. & Canada)
(651) 632-6793 (Medical - Collect - All Other Countries)

For leak, fire, spill, or accident emergencies, call:
(800) 424-9300 (CHEMTREC - U.S.A. & Canada)
(703) 527-3887 (CHEMTREC - Collect - All Other Countries)

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

- Amber liquid with an aromatic solvent odor.
- Moderately combustible. May support combustion if heated above the product's flash point (see Section 9, "Physical and Chemical Properties" below).
- Thermal decomposition and burning may form toxic by-products.
- For large exposures or fire, wear personal protective equipment.
- Highly toxic to fish and aquatic organisms. Keep out of drains and water courses.
- Moderately irritating to the skin and eyes.

- Possible cancer hazard - may cause cancer based on animal data

POTENTIAL HEALTH EFFECTS: Effects from overexposure result from either swallowing, or coming into contact with the skin or eyes. Symptoms of overexposure include diarrhea, salivation, tremors, convulsions, hyperactivity and hypersensitivity. Contact with this product has rarely produced skin sensations such as numbing, burning and tingling. These sensations are reversible and usually subside within 12 hours.

MEDICAL CONDITIONS AGGRAVATED: None presently known.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Wt.%	EC No.	EC Class
Permethrin	52645-53-1	38.4	258-067-9	Xn-N; R20/22-43-50/53
Solvent naphtha (petroleum), light aromatic	64742-95-6	30 - 35	265-199-0	Xn-N; R10-37-51/53-65-66-67
1,2,4-trimethylbenzene	95-63-6	15 - 20	202-436-9	Xn-N; R10-20-36/37/38-51/53
Surfactant Blend		3 - 7	None	Not classified
Xylene	1330-20-7	1 - 2	215-535-7	Xn; R10-20/21-38
Cumene	98-82-8	0.1 - <1	202-704-5	Xn-N; R10-37-51/53-65
1-butanol	71-36-3	0.1 - <1	200-751-6	Xn; R10-22-37/38-41-67
Ethylbenzene	100-41-4	0.1 - <1	202-849-4	F-Xn; R11-20

4. FIRST AID MEASURES

EYES: Flush with water for at least 15 minutes. If irritation occurs and persists, contact a medical doctor.

SKIN: Remove contaminated clothing and thoroughly wash with soap and water. If irritation occurs and persists, contact a medical doctor.

INGESTION: Do not induce vomiting and do not give liquids of any kind to the person. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If breathing difficulty or discomfort occurs and persists, contact a medical doctor.

NOTES TO MEDICAL DOCTOR: This product has low oral, dermal and inhalation toxicity. It is moderately irritating to the skin and eyes. Reversible skin sensations (paresthesia) may occur and ordinary skin salves have been found useful in reducing discomfort. Contains aromatic hydrocarbons that may produce a severe pneumonitis if aspirated during vomiting. Consideration should be given to gastric lavage with an endotracheal tube in place. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Foam, CO₂ or dry chemical. Soft stream water fog only if necessary. Contain all runoff.

FIRE / EXPLOSION HAZARDS: Moderately combustible. When heated above the flash point, this material releases vapors which, when mixed with air, can burn or be explosive.

FIRE FIGHTING PROCEDURES: Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe smoke, gases or vapors generated.

FLAMMABLE LIMITS: Not available

6. ACCIDENTAL RELEASE MEASURES

RELEASE NOTES: Isolate and post spill area. Wear protective clothing and personal protective equipment as prescribed in Section 8, "Exposure Controls/Personal Protection". Keep unprotected persons and animals out of the area.

Keep material out of lakes, streams, ponds and sewer drains. Dike to confine spill and absorb with a non-combustible absorbent such as clay, sand or soil. Vacuum, shovel or pump waste into a drum and label contents for disposal.

To clean and neutralize contaminated area, scrub area with a solution of detergent (e.g. commercial product such as SuperSoap™, Tide®, Spic and Span®, or other high pH detergent) and water. Let solution sit for 5 minutes. Use a stiff brush to scrub affected area. Repeat if necessary to remove visible staining. Additional decontamination can be made by applying bleach (Clorox® or equivalent) to affected area.

Absorb wash-liquid as noted above, remove visibly contaminated soil and place into recovery / disposal container (plastic, open-top steel drum or equivalent). Place all clean-up material in a container, seal and dispose of in accordance with the method outlined in Section 13 "Disposal Considerations" below.

For further information on spill clean-up, waste disposal, or return of salvaged product, call the FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

7. HANDLING AND STORAGE

HANDLING AND STORAGE: Store in a cool, dry, well-ventilated place. Do not use or store near heat, open flame or hot surfaces. Store in original containers only. Keep out of reach of children and animals. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS

Chemical Name	ACGIH	OSHA	Supplier
Solvent naphtha (petroleum), light aromatic			18 ppm
1,2,4-trimethylbenzene	25 ppm (TWA)		
Xylene	100 ppm (TWA) 150 ppm (STEL)	100 ppm (PEL) 435 mg/m ³ (PEL)	
Cumene	50 ppm (TWA)	50 ppm (PEL) (skin) 245 mg/m ³ (PEL) (skin)	
1-butanol	20 ppm (TWA)	100 ppm (PEL) 300 mg/m ³ (PEL)	
Ethylbenzene	100 ppm (TWA) 125 ppm (STEL)	100 ppm (PEL) 435 mg/m ³ (PEL)	

ENGINEERING CONTROLS: Use local exhaust at all process locations where vapor or mist may be emitted. Ventilate all transport vehicles prior to unloading.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: For splash, mist or spray exposure, wear chemical protective goggles or a face shield.

RESPIRATORY: For splash, mist or spray exposures wear, as a minimum, a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides (U.S. NIOSH/MSHA, EU CEN or comparable certification organization). Respirator use and selection must be based on airborne concentrations.

PROTECTIVE CLOTHING: Depending upon concentrations encountered, wear coveralls or long-sleeved uniform and head covering. For larger exposures as in the case of spills,

wear full body cover barrier suit, such as a PVC suit. Leather items - such as shoes, belts and watchbands - that become contaminated should be removed and destroyed. Launder all work clothing before reuse (separately from household laundry).

GLOVES: Wear chemical protective gloves made of materials such as nitrile, neoprene or Viton® brand. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

WORK HYGIENIC PRACTICES: Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking, chewing gum, or using tobacco. Shower at the end of the workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR:	Aromatic solvent
APPEARANCE:	Amber liquid
AUTOIGNITION TEMPERATURE:	Not available
BOILING POINT:	Not available
COEFFICIENT OF OIL / WATER:	(Octanol/Water) Not available
DENSITY / WEIGHT PER VOLUME:	8.35 lb/gal. (1002 g/L)
EVAPORATION RATE:	Not available
FLASH POINT:	42 °C (108 °F) (CC)
MELTING POINT:	Not available
MOLECULAR WEIGHT:	391.3 (permethrin)
pH:	5.0 - 5.6 (1% emulsion)
SOLUBILITY IN WATER:	Emulsifies
SPECIFIC GRAVITY:	1.002 @ 20°C (water = 1)
VAPOR DENSITY:	>1 (Air = 1)
VAPOR PRESSURE:	Not available

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID:	Excessive heat and fire.
STABILITY:	Stable
POLYMERIZATION:	Will not occur
HAZARDOUS DECOMPOSITION PRODUCTS:	Carbon monoxide and/or carbon dioxide. Chlorine and hydrogen chloride may be formed.

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS: Moderately irritating

SKIN EFFECTS: Moderately irritating

DERMAL LD₅₀: > 2,000 mg/kg (rabbit)

ORAL LD₅₀: 1,030 mg/kg (rat)

INHALATION LC₅₀: > 25.7 mg/l (4 h) (rat)

ACUTE EFFECTS FROM OVEREXPOSURE: This product has low oral, dermal and inhalation toxicity. It is moderately irritating to the skin and eyes. Experience to date indicates that contact with this product has rarely produced skin sensations such as numbing, burning or tingling. These sensations are reversible and usually subside within 12 hours. Large, toxic doses administered to laboratory animals have produced symptoms such as diarrhea, salivation, tremors and intermittent convulsions. Overexposure to animals, via inhalation, has also produced hyperactivity and hypersensitivity. Inhalation of aromatic hydrocarbon vapors may cause dizziness, disturbances in vision, drowsiness, respiratory irritation, and eye, skin and mucous membrane irritation. Vomiting after ingestion of this product may cause aspiration of aromatic hydrocarbons into the lungs, which may result in fatal pulmonary edema.

CHRONIC EFFECTS FROM OVEREXPOSURE: No data available for the formulation. In studies with laboratory animals, permethrin did not cause reproductive toxicity or teratogenicity. Analysis of chronic feeding studies in both mice and rats with permethrin resulted in the conclusion that permethrin's potential for induction of oncogenicity in experimental animals is low and that the likelihood of oncogenic effects in humans is nonexistent or extremely low. Long-term feeding studies in animals resulted in increased liver and kidney weights, induction of the liver microsomal drug metabolizing enzyme system and histopathological changes in the lungs and liver. An overall absence of genotoxicity has been demonstrated in mutagenicity testing with permethrin. Chronic exposure to aromatic hydrocarbons may cause headaches, dizziness, loss of sensations or feelings (such as numbness), and liver and kidney damage. Inhalation of xylene vapors at high doses has also resulted in an increased incidence of malformations and decreases in fetal weight in laboratory animals. Damage from xylene may be potentiated by alcohol. Under the conditions of 2-year inhalation studies, conducted by the National Toxicology Program (NTP), there was clear evidence of carcinogenic activity of ethylbenzene in male rats based on increased incidences of renal tubule neoplasms. The incidences of testicular adenoma were also increased. There was some evidence of carcinogenic activity in female rats based on increased incidences of renal tubule adenomas. There was some evidence of carcinogenic activity in male mice based on increased incidences of alveolar/bronchiolar neoplasm. There was some evidence of carcinogenic activity in female mice based on increased incidences of hepatocellular neoplasms. Studies conducted by the International Agency for Research on Cancer (IARC) showed that there is inadequate evidence in humans for the carcinogenicity of ethylbenzene and that there is sufficient evidence in experimental animals; therefore, the overall evaluation shows that ethylbenzene is possibly carcinogenic to humans (Group 2B).

CARCINOGENICITY:

Chemical Name	IARC	NTP	OSHA	Other
Permethrin	3	Not listed	Not listed	(ACGIH) Not listed
Ethylbenzene	2B	Not listed	Not listed	(ACGIH) Not listed

12. ECOLOGICAL INFORMATION

Unless otherwise indicated, the data presented below are for the active ingredient(s).

ENVIRONMENTAL DATA: Permethrin is stable at a wide range of pH values. Permethrin has a moderate rate of degradation in soil and the half-life is related to the soil type, microbial population, concentration in the soil and the aerobic condition of the soil. Because of its high affinity for organic matter ($K_{oc} = 86,000$), there is little potential for movement in soil or entry into ground water. Permethrin has a Log P_{ow} of 6.1, but because of the ease with which biological systems degrade the molecule, the potential for bioconcentration and accumulation in the environment is low ($BCF = 500$).

ECOTOXICOLOGICAL INFORMATION: Permethrin is highly toxic to fish ($LC_{50} = 0.5 \mu\text{g/L}$ to $315 \mu\text{g/L}$) and aquatic arthropods ($LC_{50} = 0.02 \mu\text{g/L}$ to $7.6 \mu\text{g/L}$). Marine species are often more sensitive than the freshwater species. Bacteria, algae, mollusks and amphibians are much more tolerant of permethrin than the fish and arthropods. Care should be taken to avoid contamination of the aquatic environment. Permethrin is slightly toxic to birds and oral LD_{50} values are greater than 3600 mg/kg. Longer dietary studies showed that concentrations of up to 500 ppm in the diet had no effect on bird reproduction.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Open dumping or burning of this material or its packaging is prohibited. If spilled material cannot be disposed of by use according to label instructions, an acceptable method of disposal is to incinerate in accordance with local, state and national environmental laws, rules, standards and regulations. However, because acceptable methods of disposal may vary by location and regulatory requirements may change, the appropriate agencies should be contacted prior to disposal.

EMPTY CONTAINER: Non-returnable containers that held this material should be cleaned, prior to disposal, by triple rinsing. Containers which held this material may be cleaned by being triple-rinsed, and recycled, with the rinsate being incinerated. Do not cut or weld metal containers. Vapors that form may create an explosion hazard.

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (DOT)

PACKAGING TYPE:

Non-Bulk

ADDITIONAL INFORMATION:

NOTES: This product, a flammable liquid with a flash point of 42°C (108°F), is reclassified as combustible liquid per the provisions of Section 173.120, 49 CFR. Combustible liquids in non-bulk packages

not subject to the Hazardous Materials Regulations.

PACKAGING TYPE: Bulk

PROPER SHIPPING NAME: Combustible liquid, n.o.s.

TECHNICAL NAME(S): Solvent naphtha (petroleum), light aromatic

PRIMARY HAZARD CLASS / DIVISION: Combustible

UN/NA NUMBER: NA 1993

PACKING GROUP: III

MARINE POLLUTANT: Permethrin

REPORTABLE QUANTITY (RQ): xylene

ADDITIONAL INFORMATION: NOTES: This product, a flammable liquid with a flash point of 42°C (108°F), is reclassified as combustible liquid per the provisions of Section 173.120, 49 CFR. Xylene is a Reportable Quantity when this product is shipped in a bulk packages containing 5,000 pounds or 599 gallons.

INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG)

PACKAGING TYPE: Non-Bulk

PROPER SHIPPING NAME: Flammable liquid, n.o.s.

TECHNICAL NAME(S): Solvent naphtha (petroleum), light aromatic

PRIMARY HAZARD CLASS / DIVISION: 3

UN/NA NUMBER: UN 1993

PACKING GROUP: III

MARINE POLLUTANT: Permethrin

ADDITIONAL INFORMATION: EmS Number: F-E, S-E
Flash Point: 42°C

ADR - EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD

PACKAGING TYPE: Non-Bulk

PROPER SHIPPING NAME: Flammable liquid, n.o.s.

TECHNICAL NAME(S): Solvent naphtha (petroleum), light aromatic

PRIMARY HAZARD CLASS / DIVISION: 3
CLASSIFICATION CODE: F1
UN/NA NUMBER: UN1993
PACKING GROUP: III
HAZARD IDENTIFICATION NUMBER: 30
ADDITIONAL INFORMATION: Environmentally Hazardous Substance:
 Permethrin

**INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO) /
 INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)**

PACKAGING TYPE: Non-Bulk
PROPER SHIPPING NAME: Flammable liquid, n.o.s.
TECHNICAL NAME(S): Solvent naphtha (petroleum), light aromatic
PRIMARY HAZARD CLASS / DIVISION: 3
UN/NA NUMBER: UN1993
PACKING GROUP: III
ADDITIONAL INFORMATION: Environmentally Hazardous Substance:
 Permethrin

OTHER INFORMATION:

CANADIAN TRANSPORT (TDG):
 PACKAGING TYPE: Bulk & Non-bulk
 Proper Shipping Name: Flammable liquid, n.o.s.
 Technical Name: Solvent naphtha (petroleum), light aromatic
 Hazard Class: 3
 UN Number: UN1993
 Packaging Group: III
 Marine Pollutant(s): permethrin

HARMONIZED SYSTEM
 Import to the U.S.A.: 3808.91.2500
 Export from the U.S.A.: 3808.91.0000

15. REGULATORY INFORMATION

UNITED STATES**SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)****SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355, APPENDIX A):**

Not listed

SECTION 311 HAZARD CATEGORIES (40 CFR 370):

Immediate, Delayed, Fire

SECTION 312 THRESHOLD PLANNING QUANTITY (40 CFR 370):

The Threshold Planning Quantity (TPQ) for this product, if treated as a mixture, is 10,000 lbs; however, this product contains the following ingredients with a TPQ of less than 10,000 lbs.:

None

SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372):

This product contains the following ingredients subject to Section 313 reporting requirements: Permethrin, 1,2,4-trimethylbenzene, Xylene (mixed isomers), Ethylbenzene

CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT)**CERCLA DESIGNATION & REPORTABLE QUANTITIES (RQ) (40 CFR 302.4):**

Listed

<u>Chemical Name</u>	<u>RQ</u>
Xylene	100 lb
Cumene	5,000 lb
1-butanol	5,000 lb
Ethylbenzene	1,000 lb

FEDERAL INSECTICIDE FUNGICIDE RODENTICIDE ACT

U.S. EPA Signal Word: CAUTION

U.S. STATES**California Prop 65:**

WARNING: This product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

CANADA**WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM):**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Hazard Classification / Division: B3
D2A
D2B

INTERNATIONAL LISTINGS

CANADIAN NATIONAL POLLUTANT RELEASE INVENTORY (NPRI):

Aromatic hydrocarbons: Part 5 Substance
 1,2,4-trimethylbenzene: Part 1, Group 1 Substance; Part 5 Substance
 Xylene: Part 1 Group 1 Substance, Part 5 Substance
 Cumene: Part 1 Group 1 Substance
 1-butanol: Part 1 Group 1 Substance
 Ethylbenzene: Part 1 Group 1 Substance

HAZARD AND RISK PHRASE DESCRIPTIONS:

EC Symbols:	F	(Highly Flammable)
	N	(Dangerous for the environment)
	Xn	(Harmful)
EC Risk Phrases:	R10	(Flammable)
	R11	(Highly flammable)
	R20	(Harmful by inhalation.)
	R20/21	(Harmful by inhalation and in contact with skin.)
	R20/22	(Harmful by inhalation and if swallowed.)
	R22	(Harmful if swallowed.)
	R36/37/38	(Irritating to eyes, respiratory system and skin.)
	R37	(Irritating to respiratory system.)
	R38	(Irritating to skin)
	R41	(Risk of serious damage to eyes.)
	R43	(May cause sensitization by skin contact.)
	R50/53	(Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.)
	R51/53	(Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.)
	R65	(Harmful: may cause lung damage if swallowed.)
	R66	(Repeated exposure may cause skin dryness or cracking.)
	R67	(Vapors may cause drowsiness and dizziness.)

16. OTHER INFORMATION

REVISION SUMMARY:

This MSDS replaces Revision #2, dated November 5, 2007.

Changes in information are as follows:

Section 2 (Hazards Identification)
 Section 3 (Composition / Information on Ingredients)
 Section 8 (Exposure Controls / Personal Protection)
 Section 11 (Toxicological Information)
 Section 14 (Transport Information)
 Section 15 (Regulatory Information)
 Section 16 (Other Information)

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