



## SAFETY DATA SHEET

Biflex 100TC

SDS # : FO003474-A  
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### Section 1: PRODUCT AND COMPANY IDENTIFICATION

**Product Name** Biflex 100TC

**Product Code(s)** FO003474-A

**Formula code** 50001478

**Alternate Commercial Name** Talstar 100EC

**Recommended Use:** Insecticide

**Manufacturer/Supplier**

FMC Corporation  
2929 Walnut Street  
Philadelphia, PA 19104  
(215) 299-6000 (General Information)  
SDS-Info@fmc.com (E-Mail General Information)

**Emergency telephone**

For leak, fire, spill, or accident emergencies, call:  
CHEMTREC Indonesia\* 001-803-017-9114 (Indonesian)  
or  
1 703 741-5970 (CHEMTREC – International)

Medical Emergencies:  
1 800 / 331-3148 (U.S.A. & Canada)  
1 651 / 632-6793 (All Other Countries - Collect)

### Section 2: HAZARDS IDENTIFICATION

**GHS Classification**

Aspiration toxicity	Category 1
Acute toxicity - Oral	Category 4
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1B
STOT - single exposure	Category 1
Specific target organ toxicity (repeated exposure)	Category 1
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

Flammable liquids	Category 3
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**Label Elements**



Signal Word:

**Danger**

#### **Hazard Statements**

H302 - Harmful if swallowed  
H304 - May be fatal if swallowed and enters airways  
H317 - May cause an allergic skin reaction  
H318 - Causes serious eye damage  
H351 - Suspected of causing cancer  
H370 - Causes damage to organs  
H372 - Causes damage to organs through prolonged or repeated exposure  
H410 - Very toxic to aquatic life with long lasting effects  
H226 - Flammable liquid and vapor

#### **Precautionary Statements - Prevention**

P202 - Do not handle until all safety precautions have been read and understood  
P281 - Use personal protective equipment as required  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P272 - Contaminated work clothing should not be allowed out of the workplace  
P280 - Wear protective gloves  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
P273 - Avoid release to the environment  
P210 - Keep away from heat/sparks/open flames/hot surfaces. No smoking  
P233 - Keep container tightly closed  
P240 - Ground/bond container and receiving equipment  
P241 - Use explosion-proof equipment  
P242 - Use only non-sparking tools  
P243 - Take precautionary measures against static discharge

#### **Precautionary Statements - Response**

P321 - Specific treatment (see supplemental first aid instructions on this label)  
P308 + P311 - If exposed or concerned: Call a POISON CENTER or doctor  
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention  
P363 - Wash contaminated clothing before reuse  
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a POISON CENTER or doctor  
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor  
P331 - Do NOT induce vomiting  
P330 - Rinse mouth  
P370 + P378 - In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction  
P391 - Collect spillage

#### **Precautionary Statements - Storage**

P405 - Store locked up  
P403 + P235 - Store in a well-ventilated place. Keep cool

**Precautionary Statements - Disposal**

P501 - Dispose of contents/container to an approved waste disposal plant

**Other Information**

May be fatal if swallowed and enters airways

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

Chemical name	CAS-No	Weight %
Bifenthrin	82657-04-3	11
Naphtha (petroleum), heavy aromatic	64742-94-5	<75
Isobutyl alcohol	78-83-1	1.14
Naphthalene*	91-20-3	5-10
1,2,4-Trimethylbenzene	95-63-6	1 - 5

**Section 4: FIRST AID MEASURES**

<b>Inhalation</b>	Remove person to fresh air. If breathing is difficult or if discomfort occurs and persists, obtain medical attention.
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water. Get medical attention if irritation develops and persists.
<b>Eye Contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids intermittently. Consult a physician.
<b>Ingestion</b>	Do NOT induce vomiting. Do not give any liquid to the person. Never give anything by mouth to an unconscious person. Immediate medical attention is required.
<b>Most important symptoms and effects, both acute and delayed</b>	Asthma-like and/or skin allergy-like symptoms.
<b>Indication of immediate medical attention and special treatment needed, if necessary</b>	Treatment is symptomatic and supportive. Reversible skin sensations (parenthesia) may occur and ordinary skin salves have been found useful in reducing discomfort.

**Section 5: FIRE FIGHTING MEASURES**

<b>Flammable properties</b>	Moderately combustible. The product may form flammable mixtures with air when heated above the flash point.
<b>Suitable Extinguishing Media</b>	Foam, Dry chemical or CO2. Soft stream or water fog only if necessary. Contain all runoff.
<b>Unsuitable extinguishing media</b>	No information available
<b>Specific Hazards Arising from the Chemical</b>	Keep product and empty container away from heat and sources of ignition.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus and full protective gear. Do not breathe smoke, vapors or gases generated Isolate fire area. Evaluate upwind.

**Section 6: ACCIDENTAL RELEASE MEASURES**

<b>Personal Precautions</b>	Isolate and post spill area. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.
<b>Other</b>	For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

<b>Environmental Precautions</b>	Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains.
<b>Methods for Containment</b>	Dike to confine spill and absorb with non-combustible absorbent such as clay, sand or soil. Vacuum, shovel or pump waste into a drum and label contents for disposal.
<b>Methods for cleaning up</b>	Clean and neutralize spill area, tools and equipment for a minimum contact of one hour with vinegar-alcohol solution, then by bleach, soap, and water. Absorb rinsate and add to the collected waste. Waste must be classified and labeled prior to recycling or disposal. Dispose of waste as indicated in Section 13.

## Section 7: HANDLING AND STORAGE

<b>Handling</b>	Handle in accordance with good industrial hygiene and safety practice. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.
<b>Storage</b>	Keep in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep out of reach of children and animals. Keep/store only in original container.
<b>Materials to avoid</b>	None known

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Limits

Component	China	Japan	Korea	Australia	Taiwan
Isobutyl alcohol 78-83-1 ( 1.14 )		OEL: 50 ppm OEL: 150 mg/m <sup>3</sup> ISHL/ACL: 50 ppm	TWA: 50 ppm	TWA 50 ppm TWA 152 mg/m <sup>3</sup>	STEL 190 mg/m <sup>3</sup> STEL 75 ppm
Naphthalene* 91-20-3 ( 5-10 )	TWA: 50 mg/m <sup>3</sup> STEL: 75 mg/m <sup>3</sup> S* C1 C3	C2B ISHL/ACL: 10 ppm	S* STEL: 15 ppm TWA: 10 ppm	STEL 15 ppm STEL 79 mg/m <sup>3</sup> TWA 10 ppm TWA 52 mg/m <sup>3</sup>	STEL 15 ppm STEL 78 mg/m <sup>3</sup>
1,2,4-Trimethylbenzene 95-63-6 ( 1 - 5 )		OEL: 25 ppm OEL: 120 mg/m <sup>3</sup>			

<b>Engineering measures</b>	Ventilate all transport vehicles prior to unloading. Provide mechanical local exhaust ventilation to prevent release of mist into the work area. If release is expected, use respiratory protection.
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### Personal protective equipment

<b>Respiratory Protection</b>	For dust, splash, mist or spray exposures wear a elastomeric full-face or half mask respirator with appropriate cartridges and/or filters which is approved for pesticides (U.S. NIOSH/MSHA, EU CEN or comparable certification organization).
<b>Hand Protection</b>	Wear chemical protective gloves made of materials such as nitrile or neoprene. Wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.
<b>Eye/Face Protection</b>	For dust, splash, mist or spray exposure, wear chemical protective goggles.
<b>Skin and Body Protection</b>	Wear long-sleeved shirt, long pants, socks, and shoes.
<b>Hygiene measures</b>	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. Remove and wash contaminated clothing before re-use. Shower or bathe at the end of working. Launder work clothing separately from regular household laundry.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>	Liquid
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Appearance	Light brown Liquid
Odor	Aromatic hydrocarbon
Color	Light brown
Odor threshold	No information available
pH	No information available
Melting point/freezing point	No information available
Boiling Point/Range	No information available
Flash point	40 °C Tag Closed Cup
Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific gravity	0.9133-0.9160
Water solubility	Emulsifies
Solubility(ies)	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	No information available
Molecular weight	422.88 (bifenthrin)
Relative density	No information available
Bulk density	7.61

## Section 10: STABILITY AND REACTIVITY

Reactivity	Not applicable
Stability	Stable under recommended storage conditions
Hazardous reactions	None under normal processing.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to Avoid	Excessive heat.
Incompatible products	No information available.

**Hazardous Decomposition Products** Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Hydrogen chloride, Hydrogen fluoride.

## Section 11: TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Numerical measures of toxicity - Product Information

LD50 Oral	: 520 mg/kg (rat)
LD50 Dermal	: > 2,000 mg/kg (rabbit)
LC50 Inhalation (dust)	: > 4.94 mg/L 4 hr (rat)
Skin corrosion/irritation	Minimally irritating.
Serious eye damage/eye irritation	Severely irritating.
Sensitization	This product produces skin sensitization (allergic reaction) in laboratory animals, and may produce similar effects in humans.

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

Mutagenicity	Bifenthrin: Not genotoxic in laboratory studies.
Carcinogenicity	Bifenthrin: No evidence of carcinogenicity in rats and no relevant carcinogenic effects in

<b>Reproductive toxicity</b>	mice.
<b>Developmental toxicity</b>	Bifenthrin: No toxicity to reproduction in animal studies.
<b>STOT - single exposure</b>	Bifenthrin: Not teratogenic in animal studies.
<b>STOT - repeated exposure</b>	Causes damage to organs. See listed target organs below.
<b>Chronic toxicity</b>	Causes damage to organs through prolonged or repeated exposure. See listed target organs below.
<b>Target organ effects</b>	Bifenthrin: Long-term exposure caused neurotoxicity (tremors and impaired gait) in the early exposure in animal studies, but tremors disappeared with continued exposure.
<b>Neurological effects</b>	Bifenthrin: Central Nervous System.
<b>Aspiration hazard</b>	Bifenthrin: Causes clinical signs of neurotoxicity (tremors, impaired gait, excessive salivation) following acute or subchronic exposure. Tremors disappeared with continued exposure.
	No information available.

## Section 12: ECOLOGICAL INFORMATION

### Ecotoxicity

The environmental impact of this product has not been fully investigated.

Very toxic to aquatic life with long lasting effects.

<b>Bifenthrin (82657-04-3)</b>				
Active Ingredient(s)	Duration	Species	Value	Units
	14-day LC50	Eisenia fetida	> 8	mg/kg soil
	LD50	Bobwhite quail	1800	mg/kg
	96 h LC50	Salmo gairdneri	0.1	µg/L
	48 h EC50	Daphnia magna	0.11	µg/L
	21 d NOEC	Daphnia magna	0.00095	µg/L
	21 d NOEC	Pimephales promelas	1.86	µg/L
	30 d NOEC	Salmo gairdneri	0.012	µg/L

<b>Persistence and degradability</b>	Bifenthrin: Moderately persistent. Does not readily hydrolyze. Not readily biodegradable.
<b>Bioaccumulation</b>	Bifenthrin: The substance has a potential for bioconcentration.
<b>Mobility</b>	Bifenthrin: Immobile. Not expected to reach groundwater.
<b>Other Adverse Effects</b>	No information available.

## Section 13: DISPOSAL CONSIDERATIONS

<b>Waste disposal methods</b>	Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance. Proper personal protective equipment, as described in Sections 7 and 8, must be worn while handling materials for waste disposal.
<b>Contaminated containers and packages</b>	Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions.

## Section 14: TRANSPORT INFORMATION

### IMDG/IMO

UN/ID no UN1993  
 Proper Shipping Name Flammable liquid, n.o.s (naphtha (petroleum), heavy aromatic)  
 Hazard class 3  
 Packing Group III  
 EmS No. F-E, S-E  
 Environmental Hazards Bifenthrin

**ICAO/IATA**

UN/ID no UN1993  
 Proper Shipping Name Flammable liquid, n.o.s (naphtha (petroleum), heavy aromatic)  
 Hazard class 3  
 Packing Group III  
 Limited quantity Y344/10L  
 Environmental Hazards Bifenthrin

## Section 15: REGULATORY INFORMATION

**International Inventories**

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Bifenthrin 82657-04-3				X	X	X		
Naphtha (petroleum), heavy aromatic 64742-94-5	X	X	X		X	X	X	X
Isobutyl alcohol 78-83-1	X	X	X	X	X	X	X	X
Naphthalene* 91-20-3	X	X	X	X	X	X	X	X
1,2,4-Trimethylbenzene 95-63-6	X	X	X	X	X	X	X	X

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

## Section 16: OTHER INFORMATION

**Prepared By:** FMC Corporation

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Revision note

SDS sections updated.

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**End of Safety Data Sheet**