



MATERIAL SAFETY DATA SHEET

FLUPRO

Version: 1.7
Date of Issue: 07/08/2009
Date printed: 07/20/2009

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : FLUPRO

Chemical name: Flumetralin (Active)

Use of substance/preparation: Plant Growth Regulator

Supplier: Chemtura Corporation
199 Benson Road
Middlebury, CT 06749 USA

Emergency telephone number: CHEMTREC (24 hours) 800-424-9300, 703-527-3887
Chemtura Corporation Emergency Response (24 hours) 800-292-5898

Environmental, Health and Safety Department: 866-430-2775
Customer Care: +44 161 875 3800

Prepared by Product Safety Department Date of Issue: 07/08/2009
(US) +1 866-430-2775
(EU) +44 (0) 1753.603.000
Email: MSDSRequest@chemtura.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
WARNING!
CAUSES SKIN IRRITATION.
HARMFUL IF SWALLOWED.
HARMFUL IF ABSORBED THROUGH SKIN.
MAY CAUSE MODERATE IRRITATION TO EYES.
MAY CAUSE SKIN SENSITIZATION.

3. COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT	% BY WEIGHT
N-(2-chloro-6-fluorobenzyl)-N-ethyl-alpha,alpha,alpha-trifluoro-2,6-dinitro-p-toluidine CAS# 62924-70-3	13.7
Naphthalene CAS# 91-20-3	< 1
1-Methylnaphtalene	< 8

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CAS# 90-12-0

Ingredients not precisely identified are non-hazardous and/or proprietary.

4. FIRST AID MEASURES

Swallowing

Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

Inhalation

Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

Skin contact

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

Eye contact

Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lens, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.

Notes to physician

ROUTES OF ENTRY: Eyes, skin, ingestion, inhalation, mist.
Any material aspirated during swallowing or vomiting may cause lung injury.

5. FIRE-FIGHTING MEASURES

Flash point: 210 °F 99 °C
Autoignition temperature: Not available

Hazardous combustion products

None known.

Special fire fighting procedures

Do not discharge extinguishing waters into streams, rivers and lakes.

Special protective equipment for firefighters

Body covering protective clothing, full "turn-out" gear.
Self-contained breathing apparatus.

Extinguishing media

Suitable: Large fires:
- alcohol-type foam or universal-type foams
Small fires:
- CO2
- dry chemical

Unsuitable: - water jets

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear suitable protective equipment., Avoid contact with eyes and skin.

Environmental precautions

Prevent from entering sewer system, surface water or soil.



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Methods for cleaning up

Observe government regulations.

Small spills: Absorb on inert material such as sand, earth, vermiculite. Collect for disposal.

Large spills Dike to contain spill.
Pump excess material into suitable container (metal drums, metal tank, or such).

7. HANDLING AND STORAGE

HANDLING

Handling precautions

Do not get in eyes., Avoid prolonged or repeated contact with skin., Avoid breathing vapor., Use with adequate ventilation., Wash thoroughly after handling.

Other precautions

NOTE TO END-USERS: The employee protection recommendations on this MSDS may differ from those on the product label. For normal use of this product, always refer to the personal protective equipment requirements on the product label.

STORAGE

Storage requirements

Keep container closed., Store in a cool, dry place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

<u>Component</u>	<u>Country</u>	<u>Type</u>	<u>Value</u>	<u>Remark</u>
Naphthalene				IARC 2B
	USA	TWA, OSHA	50 mg/m ³ 10 ppm 10 ppm	
		STEL, OSHA	75 mg/m ³ 15 ppm 15 ppm	
		TWA (skin), ACGIH	10 ppm 10 ppm	
		STEL, ACGIH	15 ppm 15 ppm	
1-Methylnaphthalene		TWA, ACGIH	0.5 ppm	Toxicity to reproduction/fertility: A4

PERSONAL PROTECTION

Respiratory protection

Self-contained breathing apparatus in high vapor concentrations.

Hand protection / protective gloves

Chemical resistant protective gloves

Eye protection

Safety glasses with side shields.

Skin protection

Wear protective clothing, such as long sleeves to minimize skin contact.

Other protective equipment

Eye bath, Safety shower

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ENGINEERING CONTROLS**Ventilation**

Special, local ventilation is needed at points where vapors can be expected to escape to the workplace air.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Physical state	Liquid
Color	Yellow to Orange
Odor	Aromatic
Odor threshold	Not available

OTHER PROPERTIES

Boiling point	Not available
Melting point	Not available
pH	Not available
Specific gravity (H ₂ O=1)	1.06
Density	
Flash point	210 °F 99 °C Method: Setaflash
Autoignition temperature	Not available
Percent volatiles	Not available

10. STABILITY AND REACTIVITY

Stability: This product is stable under normal storage and handling conditions.

Stability - Conditions to avoid:

Exposure to heat.
Ignition sources.
Open flame.

Incompatible materials:

Strong oxidizing agents.

Hazardous combustion products:

None known.

11. TOXICOLOGICAL INFORMATION

SWALLOWING

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Test results

Acute toxicity: LD50 Rat
Result: 1,841 mg/kg

SKIN ABSORPTION

Test results

Acute toxicity: LD50 - Rabbit
Result: > 2,000 mg/kg

INHALATION

Test results

Acute toxicity: LD50 - Rat
Result: > 2.92 mg/l
Exposure time: 4 h

SKIN CONTACT

Test results

Skin irritation: Species: Rabbit
Result: Moderate

EYE CONTACT

Test results

Eye irritation: Species: Rabbit
Result: Moderate

SENSITIZATION

Test results: Species: - Guinea pigs
Result: Positive

12. ECOLOGICAL INFORMATION

<u>Component ecotoxicology</u> N-(2-chloro-6-fluorobenzyl)-N-ethyl- alpha,alpha,alpha-trifluoro-2,6-dinitro-p- toluidine <u>Chronic toxicity fish:</u>	LC50 - Bluegill (<i>Lepomis macrochirus</i>) Result: > 3.2 mg/l
<u>Component ecotoxicology</u> N-(2-chloro-6-fluorobenzyl)-N-ethyl- alpha,alpha,alpha-trifluoro-2,6-dinitro-p- toluidine <u>Chronic toxicity fish:</u>	LC50 - Rainbow trout (<i>Oncorhynchus mykiss</i>) Result: > 3.2 mg/l
<u>Component ecotoxicology</u> N-(2-chloro-6-fluorobenzyl)-N-ethyl- alpha,alpha,alpha-trifluoro-2,6-dinitro-p- toluidine <u>Aquatic toxicity to plants:</u>	EC50 - freshwater algae (<i>Selenastrum capricornutum</i>) Result: > 0.85 mg/l
<u>Component ecotoxicology</u> N-(2-chloro-6-fluorobenzyl)-N-ethyl- alpha,alpha,alpha-trifluoro-2,6-dinitro-p- toluidine <u>Acute toxicity to aquatic invertebrates:</u>	EC50 - Water flea (<i>Daphnia magna</i>) Result: > 2.8 mg/l Exposure time: 48 h

13. DISPOSAL CONSIDERATIONS

General: Dispose of in accordance with appropriate Federal, State, and local regulations., Do not discharge to sewers and natural

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waters.

14. TRANSPORT INFORMATION

DOT Classification

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (NAPHTHALENE)
 Class: 9
 UN ID #: UN3082
 Packing group: III
 RQ:
 marine pollutant: MARINE POLLUTANT

Not regulated by ground or rail if shipped or transported in container less than 400 kg.

IMDG Classification

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
 Class: 9
 UN ID #: UN 3082
 Packing group: III
 Marpol: MARINE POLLUTANT
 Technical description (NAPHTHALENE)

ICAO/IATA Classification

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
 Class: 9
 UN ID #: UN 3082
 Packing group: III
 Technical description (NAPHTHALENE)

Only regulated by air Into, Out of or Within the United States in containers 881.8 lbs (400 kg) or greater.

15. REGULATORY INFORMATION

Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of hazardous substances equal to or greater than the reportable quantities (RQ's) in 40CFR302.4.

Components present in this product at a level which could require reporting under the statute are:

Chemical name	RQ	CAS#	Max weight %
Naphthalene	100 pounds for naphthalene	91-20-3	< 1.00

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40CFR372 (for SARA 313). This information must be included in MSDS's that are copied and distributed for this material.

Components present in this product at a level which could require reporting under the statute are:

Chemical name	CAS#	Max weight %
Naphthalene	91-20-3	< 1.00

California Proposition 65

This product contains Naphthalene which the State of California has found to cause cancer.

CHEMICAL INVENTORY

United States: This product is subject to regulation under the US Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and is therefore exempt from TSCA Inventory listing requirements.



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16. OTHER INFORMATION

RECOMMENDED USES AND RESTRICTIONS: NOTE TO END-USERS: This MSDS is being provided to all interested persons in accordance with federal and state right-to-know laws. Precautionary Statements, First Aid Statements and Directions for Use of this product by end-users are contained on the product label and must be followed at all times.

STP	Standard temperature and pressure
W/W	Weight/Weight 0 (HMIS)
1 (HMIS)	Slight hazard
2 (HMIS)	Moderate hazard
3 (HMIS)	Serious hazard
4 (HMIS)	Severe hazard
X (HMIS)	Personal protection rating to be supplied by user depending on use conditions

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