



<b>MATERIAL SAFETY DATA SHEET</b> <i>according to the 1907/2006/CE Regulation</i>		<b>Review:</b> 04/07/2008	<b>Rev.#: 1</b>
<b>PRODUCT:</b>	<b>FENFEN</b>	<b>Replaces:</b> 29/08/2006	<b>Page 1/6</b>

## 1.- IDENTIFICATION OF THE PRODUCT AND THE COMPANY

<b>Company:</b>	LAINCO, s.a.	<b>Address:</b>	Av. Compositor Bizet, 8-12; Pol. Ind. Can Jardí; 08191 RUBI (Barcelona) SPAIN		
<b>Telephone:</b>	(+34) 93 586 20 15	<b>Fax:</b>	(+34) 93 586 20 16	<b>E-mail:</b>	lainco@lainco.es
<b>Commercial name:</b>	FENFEN	<b>Registration number:</b>	23.917 (MAPYA - Spain)		
<b>Use of the product:</b>	Herbicide.				
<b>Real effect:</b>	Selective contact herbicide with great persistence against bad annual grass.				
<b>Emergency telephone: NATIONAL INSTITUTE OF TOXICOLOGY (Schedule: 24 h.)</b>				<b>(+34) 91 562 04 20 (SPAIN)</b>	

## 2.- HAZARDS IDENTIFICATION

<b>SYMBOLS OF DANGER</b>		
	Harmful	Dang. to the environment
<b>Risk Phrases</b>	R10: Flammable. R20/21/22: Harmful by inhalation, in contact with skin and if swallowed. R36/38: Irritating to eyes and skin R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.	
<b>Other Dangers</b>	--	

## 3.- COMPOSITION / INFORMATION ON INGREDIENTS

<b>General composition:</b>	24,0% w/v Oxyfluorfen + 48,7% w/v Xylene + 20,0% w/v Acetophenone + 7,0% w/v Coadjuvants					
Hazardous components	Content (% w/w)	EINECS #	CAS #	Classification		OBSERVATIONS
				Symbols	Risk Phrases	
Oxyfluorfen	24,24%	255-983-0	42874-03-3	Xn, N	R20/21/22, R50/53	--
Xylene	48,84%	215-535-7	1330-20-7	Xn	R10, R20/21, R38	--
Acetophenone	20,06%	202-708-7	98-86-2	Xn	R22, R36	--

## 4.- FIRST AID MEASURES

	Symptoms and effects	Actions to carry out
<b>Contact / Skin</b>	Skin and mucous irritation. Contact dermatitis.	Remove clothing contaminated with the product immediately. Wash it before using again. Wash the affected body zones with abundant water and soap, avoiding rubbing these zones.
<b>Contact / Eyes</b>	May cause eye irritation. Conjunctivitis and watering.	Wash the eyes with abundant water at least during 15 minutes. In order to be sure that the washing is complete, the eyelids must remain separated from the eyeball. Do not forget to retire the contact lenses in case the victim had them.
<b>Ingestion</b>	Gastrointestinal alterations. Nauseas, vomits, abdominal pain, diarrhoea. Irritation of mouth and throat. Thoracic pain. Dizziness and muscular weakness.	In case of ingestion, and if the person is conscious, provoke the vomit. If the person is unconscious, lay him side down with the head lower than the rest of the body and the knees bended. Administer activated carbon and a saline type laxative (sodium, magnesium or similar sulphate). Symptomatic treatment.
<b>Inhalation</b>	Respiratory alterations. Cough, dyspnoea. Increase of bronchial secretions.	Remove the person from the contaminated zone. Put him in rest position, nearly straight, with untied clothing. If necessary, apply artificial respiration. Symptomatic treatment.



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## General advices:

- ✓ DO NOT LEAVE THE INTOXICATED PERSON ALONE AT ANY TIME.
- ✓ In case of symptoms due to inhalation, swallowing or contact of the product, seek medical advice and show the product's label or this material safety data sheet.
- ✓ Myocardial sensitivity. Contraindications: epinephrine.

## 5.- FIRE-FIGHTING MEASURES

<b>Suitable extinguishing media:</b>	Pulverized water, foam and chemical powder.
<b>NON suitable extinguishing media:</b>	Do not use water pressure jet.
<b>Combustion products:</b>	CO <sub>2</sub> , CO, nitrous and chlorinated gases.
<b>Special measures to consider:</b>	Cool the drums/containers by water spraying and in case there is an explosion keep a security distance. Maintain the zone free of people, keeping them at a minimum distance of security (100 metres). Avoid using great volumes of water, in order to minimize the extension of the product. Work always in favour of the wind or in right angle respect to it.
<b>Specific hazards during fire fighting:</b>	Flammable liquid. There is an explosion danger when the steam of the product is exposed to heat or sparks.
<b>Protective equipment:</b>	Wear the basic protective equipment for fire extinction. Suitable breathing device and protective clothing (suit, gloves of PVC and rubber boots). Take precautions in case explosions due to the steam production of the product take place.

## 6.- ACCIDENTAL RELEASE MEASURES

Personal precautions	Environmental Precautions	Attention
Avoid long contact with the product and contaminated clothes. Keep a minimum safety distance of 50 meters.	Avoid the entry of the product into the water course or the sewers network as well as in zones with vegetation. Warn the competent authorities in case the spill enters into the sewage system or the water course.	Do not spray ground with water.
Personal protection	Detoxification and cleaning up	Neutralization
Wear protective clothes (suit, gloves and plastic boots). Carry an appropriate breathing device.	Avoid the dispersion of the product with mechanical barriers and absorb or retain the liquid with sand, clay or any other appropriate absorbent material. All the residues will be placed to a safe place to proceed with their elimination.	DNP

## 7.- HANDLING AND STORAGE

<u>Handling</u>	
<b>General precautions:</b> <ul style="list-style-type: none"><li>- Handle the product container with care, avoiding, during its transport, crushes with heavier products and not letting it fall down.</li><li>- Before applying the product be sure that the equipment you will use is the proper one and it is in perfect state.</li><li>- Follow the instructions for the product preparation indicated on the label of the container.</li><li>- Mark the treated zones, forbidding people not wearing an appropriate protective equipment to enter.</li></ul>	
<b>Specific conditions:</b> <ul style="list-style-type: none"><li>- Apply by normal spraying.</li><li>- Use face shield and low pressure in case of treatment direct to the ground.</li><li>- Do not ridge the cultivation nor work the ground after the application.</li><li>- Its mixture with other phytosanitary products without previous test is not recommended.</li></ul>	
<u>Storage</u>	
<b>Temperature:</b>	Store at room temperature, in fresh conditions, but not below 0°C.
<b>Decomposition products:</b>	By ultraviolet radiation it is decomposed to its corresponding amine among other products.
<b>Dangerous reactions:</b>	Due to its Xylene content, explosive mixtures can be formed in contact with the air.
<b>Storage conditions:</b>	Storage in the original recipient, perfectly closed, in a cold, dry and ventilated place, away from direct light, flames and sparks.



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**Incompatible materials:** Polyethylene is permeable to Xylene, with which the product may lose part of its properties in long storage due to the solvent elimination.

## Specific uses

Authorized uses indicated in the label of the product. Reserved use to agriculturists and professional applicators. For domestic outer gardening the volume of the package will not exceed 500ml.

## 8.- EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure limit values

<b>VLA-ED:</b> Xylene: 221 mg/m <sup>3</sup> Acetophenone: 50 mg/m <sup>3</sup>	<b>VLA-EC:</b> Xylene: 442 mg/m <sup>3</sup>	<b>VLB:</b> Xylene: 1,5 g/g creatinine Biological indicator: <i>Methyl hippuric acids</i> in urine
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### Occupational exposure controls

#### OCCUPATIONAL EXPOSURE CONTROLS

**Respiratory protection:** Suitable respiratory device. In case of fire autonomous breathing equipment must be used.

**Hand protection:** PVC gloves.

**Eye protection:** Protective glasses or facial mask of total protection.

**Skin protection:** Suit. Rubber boots (with the trousers on the boots).

**Other protections:** Have in hand the appropriate devices to wash eyes or skin in case of an accident.  
Work in places with appropriate ventilation and far from possible ignition sources.  
Work always in favour of the wind. Extinguish any flame and avoid the ignition sources.  
Avoid the skin contact with the product and inhalation of the vapours / spray.  
Do not eat, drink, or smoke during the handling of the product.  
Take off the stained or soaked clothing with product immediately and wash with water and soap before using it again.  
Do not put dirty rags, stained with the product in the pockets. Avoid the contact with the product.

### ENVIRONMENTAL EXPOSURE CONTROLS

Observe the normal precautions when working with this kind of products.

## 9.- PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Reddish transparent liquid	<b>* Boiling point/range:</b>	358,2°C
<b>Odour:</b>	Aromatic	<b>Vapour pressure:</b>	<i>Oxyfluorfen</i> : 0,02 mPa (25°C) <i>Xylene</i> : 0,9 kPa (20°C) <i>Acetophenone</i> : 0,13 kPa (15°C)
<b>pH (1% water solution):</b>	5,2 - 6,2	<b>* Melting point:</b>	85 - 90°C
<b>Density:</b>	0,94 - 1,04 g/ml	<b>Flash point:</b>	< 61°C (expected)
<b>Water solubility:</b>	Emulsifiable in water	<b>Flammability (solid-gas):</b>	Flammable
<b>Explosive properties:</b>	<i>Explosion limits of xylene:</i> Lower: 1% v/v in air Upper: 6,6% v/v in air	<b>Auto-flammability:</b>	Non auto-flammable
<b>Solvent-oil solubility:</b>	--	<b>Oxidising properties:</b>	Non oxidising
<b>* Partition coef. (n-octanol/water):</b>	K <sub>ow</sub> log P = 4,47	<b>Viscosity:</b>	--
<b>Other information:</b>	--		

\* Data referred to active substance (Oxyfluorfen)

## 10.- STABILITY AND REACTIVITY

<b>Stability:</b>	The product stored in its original packing and in normal conditions keeps its initial properties during a minimum period of 2 years. It is slowly decomposed by the heat, the humidity and acids.
<b>Conditions to avoid:</b>	Ultraviolet radiations. Avoid product proximity to fire and sparks.
<b>Materials to avoid:</b>	Do not mix with alkaline reaction products.
<b>Hazardous decomposition products:</b>	None.

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**11.- TOXICOLOGICAL INFORMATION**

<b>Routes of exposure:</b>	By ingestion, eyes and skin contact and inhalation.					
<b>Acute and chronic effects:</b>	<b>DL<sub>50</sub> (oral-rat):</b>	No data	<b>DL<sub>50</sub> (dermal-rabbit):</b>	No data	<b>CL<sub>50</sub> (inhalation-rat):</b>	No data
<b>Irritation:</b>	<b>Skin:</b> Irritating.		<b>Eyes:</b> Irritating.		<b>Respiratory System:</b> Not irritating.	
<b>Sensitisation:</b>	Non sensitizer.					
<b>Carcinogenicity:</b>	No evidence known.					
<b>Mutagenicity:</b>	No evidence known.					
<b>Reproductive toxicity:</b>	No evidence known.					
<b>Narcosis:</b>	No evidence known.					
<b>Other information:</b>	<b>ADI Oxyfluorfen:</b> 0,003 mg/Kg					

**12.- ECOLOGICAL INFORMATION**

<b>* Ecotoxicity</b>		
Toxicity for the birds: DL <sub>50</sub> Acute oral in <i>Colinus virginianus</i> : > 2000 mg/Kg		
Toxicity for fish and other aquatic organisms:		
CL <sub>50</sub> , 96h, in <i>Ictalurus punctatus</i> : 0,4 mg/l	CL <sub>50</sub> , 96h, in <i>Lepomis macrochyrus</i> : 0,2 mg/l	
CL <sub>50</sub> , 96h, in <i>Salmo gairdneri</i> : 0,41 mg/l	CL <sub>50</sub> , 48h, in <i>Daphnia magna</i> : 1,5 mg/l	
Toxicity for bees: DL <sub>50</sub> : 25 µg/bee		
<b>* Mobility / Bioaccumulation</b>		
✓ The product is strongly retained in ground and it does not have any important lixiviation or diffusion.		
<b>* Persistence / Degradability</b>		
✓ It is degraded by hydrolysis and also by the microbial fauna existing in the ground.		
<b>Other information:</b>	<b>Theoretical COD:</b> No data available.	<b>Theoretical TOC:</b> No data available.

\* Data referred to active substance (Oxyfluorfen)

**13.- DISPOSAL CONSIDERATIONS**

<b>Disposal of the product:</b>	No residues will remain due to the use of the product if the empty packaging is washed 3 times with water, adding this water to the solution.
<b>Disposal of used containers:</b>	The package, washed as above mentioned, may be disposed according to the local legislation, in a no contaminant place.
<b>Provisions on waste disposal:</b>	According to all the local and national legislation about the elimination of residues.

**14.- TRANSPORT INFORMATION**

<b>Labelling for transport:</b>	3 + Marine Pollutant (only if it is a sea route)							
<b>ADR:</b>	<b>Proper Shipping Name:</b>		FLAMMABLE LIQUID, N.O.S. (Oxyfluorfen and Xylene in mixture)					
	<b>UN #:</b>	1993	<b>Classification Code:</b>	F1				
	<b>Class:</b>	3	<b>Packing group:</b>	III	<b>Hazard No.:</b>	30	<b>Secondary Risk:</b>	Marine Pollutant
<b>RID:</b>	<b>Proper Shipping Name:</b>		FLAMMABLE LIQUID, N.O.S. (Oxyfluorfen and Xylene in mixture)					
<b>IMDG:</b>	<b>Proper Shipping Name:</b>		FLAMMABLE LIQUID, N.O.S. (Oxyfluorfen and Xylene in mixture)					
	<b>Nº FEm:</b>	3-07	<b>Secondary Risk:</b>	Marine Pollutant				
<b>IATA:</b>	<b>Proper Shipping Name:</b>		FLAMMABLE LIQUID, N.O.S. (Oxyfluorfen and Xylene in mixture)					
<b>Special precautions:</b>	Do not load foods along with. Avoid high temperatures. Verify that the packing is in good state and that the labels are not damaged before the distribution.							

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**15.- REGULATORY INFORMATION**

<b>Hazardous product symbol:</b>	Xn, N
<b>Toxicity</b>	Toxicology classification (RD 255/2003): Harmful. Hazardous for environment.
<b>Environmental risks reduction:</b>	Mammals: A Low danger to mammals. Birds: A Low danger to birds. Fish: C High danger to fish. Bees: Controllable danger for bees.
<b>R-phrases:</b>	
R10: Flammable. R20/21/22: Harmful by inhalation, in contact with skin and if swallowed. R36/38: Irritating to eyes and skin R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.	
<b>S-phrases:</b>	
S2: Keep out of the reach of children. S13: Keep away from food, drink and animal feeding stuffs. S23: Do not breathe vapour or spray. S25: Avoid contact with eyes. S36/37: Wear suitable protective clothing and gloves. S38: In case of insufficient ventilation, wear suitable respiratory equipment. S43: In case of fire, use Pulverized water, foam and chemical powder. S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S56: Dispose of this material and its container to hazardous or special waste collection point.	
<b>Special S-phrases:</b>	
SP1: <u>Do not contaminate the water with the product nor with its package</u> (Do not clean the application equipment of the product near superficial waters. Avoid the contamination through the systems of water evacuation of the operations or the ways).	
<b>Other information:</b>	
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**16.- OTHER INFORMATION**

<b>Consulted data bases:</b>
✓ Agro-Research. Agrochemical Directory and Hazard Response Handbook. Agro-Research enterprise Ltd. ✓ RTECS (Registry of Toxic Effects of Chemical Substances). U.S. Department of Health and Human Services (1981-82). ✓ ESIS. European chemical Substances Information System. ✓ The Pesticide Manual, Thirteenth Edition (2003). Editor: C D S Tomlin. ✓ Farmacología vegetal, Carlos De Liñan y Vicente. 3ª Edición. Ediciones Agrotécnicas, S.L. ✓ Manual Toxicológico de Productos Fitosanitarios para Uso Sanitario.
<b>Other R and S-phrases:</b>
R20/21: Harmful by inhalation and in contact with skin. R22: Harmful if swallowed. R36: Irritating to eyes. R38: Irritating to skin.
<b>Glossary:</b>
<b>CAS:</b> Chemical Abstract Service. <b>EINECS:</b> European Inventory of Existing Chemical Substances. <b>VLA-ED:</b> Occupational Limit Value - Daily Exposure. Maximum concentration to which it is believed, that the majority of workers may be exposed 8 hours a day, 40 hours a week throughout their working life, without suffering adverse effects on their health. <b>VLA-EC:</b> Occupational Limit Value - Short Time Exposure. Maximum concentration of the chemical agent in the worker's breathing zone, measured or calculated for any 15-minute period throughout the working day, except for those chemical agents for which a lower reference period is specified in the list of Limit Values. <b>VLB:</b> Biological limit value for professional exposure. <b>DNP:</b> Does not Proceed. <b>NC:</b> Not classified. <b>DL<sub>50</sub>:</b> Average Lethal Dose. <b>CL<sub>50</sub>:</b> Average Lethal Concentration. <b>ADI:</b> Acceptable Daily Intakes. <b>COD:</b> Chemical oxygen demand. <b>TOC:</b> Total organic carbon. <b>ADR:</b> European Agreement concerning the International Carriage of Dangerous Goods by Road. <b>RID:</b> European Agreement concerning the transport of dangerous goods by rail.

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**IMDG:** International Maritime Dangerous Goods Code.**Nº FEm:** Emergency Card Number.**IATA:** International Air Transport Association.**RD 255/2003:** Real Decree 255/2003, of 28th of February of 2003, by that the Regulation is approved on classification, packaging and labelling of dangerous preparations. BOE no. 54, of 4th of March.**Changes:**Modification of the mixture in the Phytosanitary Product Registry.  
Format review (REACH Regulation).

The data and information of the present document are based on our current knowledge and other existing sources, according to the current regulations about classification, packing and labelling of dangerous products. Due to the fact that during manipulation a lot of factors are out of our control, **LAINCO, S.A.** is not responsible that the information is enough or correct in its application in all cases.