

**MATERIAL SAFETY DATA SHEET**

Date: 01/03/2005

Revision: 0

PRODUCT: **QUELAI ZINC-MANGANESE**

Invalidates: ---

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1.- IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY

Company:	LAINCO, S.A.	Address:	Bizet Avenue, 8-12 Pol. Ind. Can Jardí 08191 RUBI (Barcelona) SPAIN		
Telephone:	(+34) 93 586 20 15	Fax:	(+34) 93 586 20 16	Emergency telephone:	(+34) 93 586 20 15
Commercial name:	QUELAI ZINC-MANGANESE				
Use:	Fertilizer				
Real effect	---				

2.- COMPOSITION AND INFORMATION ABOUT THE COMPOUNDS

General composition:	9,0% (w/w) Manganese (7,0% chelated) + 3,5% (w/w) Zinc (1,75% chelated). Chelatan agent: Lignosulphanate
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Dangerous compounds	Content (% w/w)	Symbol	Nº EINECS	Nº CAS	Classification	
					R	S
DNP	---	---	---	---	---	---

3.- HAZARDS IDENTIFICATION

It may cause slight irritations in contact with skin and eyes.

4.- FIRST AID

	Symptoms and effects	Actions to apply
Skin/contact	It can produce a slight skin irritation	Remove contaminated clothing immediately and wash it with water and soap before using it again. Wash the affected skin with abundant water and soap.
Eyes/contact	It can produce a slight eyes irritation	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.
Ingestion	Nausea, vomiting and diarrhoea	Provoke vomiting. Seek medical assistance to carry on a gastric washing, if it is necessary.
Inhalation	Cough	Remove the person from the contaminated zone. Put him in rest position, nearly straight, with untied clothing. Apply, if necessary, artificial respiration.

General precautions:

- In case of symptoms due to inhalation, swallowing or eyes contact of the product, seek medical advice and show the product's label or this Material Safety Data Sheet.
- Do not leave the intoxicated person alone at any time.
- Symptomatic treatment.

5.- FIRE FIGHTING MEASURES

Extinguishing media:	Powder, foam or water spray.
Contraindications:	Do not use water pressure jet.
Combustion products:	Water, CO and CO ₂
Special precautions:	Cool the drums/packages, using water spray. Maintain a security distance in case a explosion occurred. Maintain the zone free of people, maintaining them at a minimum distance of security (50 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. Never work against the wind direction.
Special hazards:	High temperatures can produces sulphur oxides gas emanation
Protective equipment:	Wear suitable protective equipment for fire extinction. Autonomous breathing equipment and protective clothing (suit, gloves of PVC and rubber boots).

6.- ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid prolonged contact with the product and with contaminated clothes. Maintain a minimum distance of security of 50 metres.	Environmental precautions: Avoid the entry of the product into the sewers network, and the contamination of superficial and underground water.	Attention: Do not spray ground with water.
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Personal protection: Wear gloves and mask to avoid the inhalation of powder.	Detoxification and cleaning up: Put the broken containers in the adequate position to minimize the spillage. Sweep the spilled product without raising dust. Collect the product with shovels and move it to a safe place where it can be eliminated.	Neutraliser: DNP
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7.- HANDLING AND STORAGE

Handling	
General precautions:	
<ul style="list-style-type: none">- Handle the product container with care, avoiding, during its transport, crushes with heavier products, and not letting it fall down.- Be sure, before applying the product, that the equipment you will use is the proper one and it is in perfect state.- Follow the instructions for the product preparation indicated on the label of the container.- Mark the treated zones, prohibiting the entry of people who are not wearing the appropriate protective equipment.	
Specific conditions:	
<ul style="list-style-type: none">- Security period of 15 days between the last treatment and the harvest of plants- In order to avoid the fast drying of the product, to apply outside the hours of heat, preferably to the sunset.- In case of the necessity to make two treatments (strong deficiencies), the interval of time between both treatments will be 15 to 20 days.- To obtain maximum assimilation of the product, it is advised not to mix it with other products (exception of urea).- To accelerate the distribution of the product, it is necessary water the plants after the treatment.	
Storage	
Temperature:	Keep at room temperature.
Decomposition products:	It does not decompose during the storage.
Dangerous reactions:	None
Storage conditions	Storage in the original recipient, perfectly closed, in a cold, dry and ventilated place.
Incompatible materials:	DNP
Specific uses	Reserved use to farmers and professional administrator.

8.- EXPOSURE CONTROL/PERSONAL PROTECTION

Equipment for personal protection			
Respiratory protection:	Breathing device appropriate		
Cutaneous protection:	PVC gloves and rubber boots		
Eye protection:	Glasses of total protection.		
Other protections:	Have at hand the appropriate devices for eyes and skin washing in the event of an accident.		
General protections:	Avoid the prolonged contact or inhalation of the dust of the product. Work in places with appropriate ventilation. Do not eat, drink, nor smoke during the manipulation of the product. Work always in favour of the wind.		
Hygienic practices in the work:	Take off the stained or soaked clothing with product immediately and clean before use them again. Do not put stained rags of product in the pockets. Avoid the contact with the product. Observe the normal precautions when working with fertilizers.		
Exposure control:	TLV:	5 mg Manganese/m ³	TLV/TWA:

9.- PHYSICAL AND CHEMICAL PROPERTIES

Aspect:	Brown powder	Dissolvent-oil liposolubility:	DNP	Vapour pressure:	---
Odour:	DNP	Partition coefficient (n-octanol/water):	DNP	Flash point:	DNP
pH:	6,5-7 (10% in water)	Boiling Point:	---	Melting Point:	DNP
Bulk density:	0,400-0,450 g/ml	Flammability (solid – gas):	Not inflammable.	Autoflammability:	DNP
Hydrosolubility:	Disperseable	Comburent properties:	---	Explosive danger:	Not explosive
Other important data:	Humidity: max. 6% / Organic material: Acid phenols 48% / Organic Nitrogen: 0				



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10.- STABILITY AND REACTIVITY

Stability:	The product stored in its original packing and in normal conditions keeps its initial properties during three years.		
Conditions to avoid:	Humidity and excessive heat		
Incompatibilities:	DNP		
Hazardous decomposition products:	None		
Polymerisation risk:	DNP	Conditions to avoid:	DNP

11.- TOXICOLOGICAL INFORMATION

Entry:	Inhalation, ingestion and skin and eyes contact .					
Acute effects:	LD₅₀ (oral-rat):	Not available	LD₅₀(dermal-rabbit):	Not available	LC₅₀ (inhalation-rat):	Not available
Chronic toxicity	Not available					
Carcinogenicity:	Not available					
Mutagenicity:	Not available					
Toxicity for reproduction:	Not available					
Narcosis:	Not available					
Other data:	Phytotoxicity: Not cause phytotoxicity when it is handling in normal conditions and following the instructions.					

12.- ECOLOGICAL INFORMATION

<u>Contaminating form and potential</u>	
Persistence and degradability:	Biodegradable product
Mobility/bioaccumulation:	---
<u>Effect on the environment/ ecotoxicity</u>	
Non dangerous product for environment nor to ecosystems, when it is used according to the indications.	
<u>Other data:</u>	Theoretic DQO: --- Theoretic COT: ---

13.- DISPOSAL CONSIDERATIONS

Product disposal:	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.
Disposal of used containers:	The packing, washed as above mentioned, may be disposed according to the legal dispositions, in a no contaminant place.
Provisions on waste disposal.	Follow all the local and national legal dispositions, about the residue elimination.

14.- TRANSPORT INFORMATION

<u>General details:</u>				
Labelling for transport:	NC			
Identification of the substance:	NC			
Class: NC	UN number: NC	Hazards number: NC	Packing group: NC	Secondary risk: NC
<u>Special details according to means of transport:</u>				
TPC/ADR:	Classification code: NC			
RID:				
IMDG:	Fem number: ---	Secondary risk: NC		
IATA:	Identification of the substance:			
Special precautions:	---			

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15.- REGLAMENTARY INFORMATION

Hazardous product symbol:	DNP
Toxicity:	DNP
Environmental risks reduction:	DNP
R phrases:	DNP
S phrases:	DNP

16.- OTHER INFORMATION

Homologations:	---
Bibliography consulted:	
<ul style="list-style-type: none">• 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).• The Pesticide Manual, Eleventh Edition. Editor: C.D.S. Tomlin• Farmacología vegetal, Carlos de Liñan y Vichete. Ed Agrotecnicas, S.L.	
Glossary:	
CAS: Chemical Abstract Service CL ₅₀ : Mean lethal concentration DL ₅₀ : Mean lethal dose DQO: Chemical requirement of oxygen. DNP: Does not proceed NC: Not classified TLV: Threshold limit value. Concentration which it can be exposed without adverse effects produced. TWA: Measured mean in the time. Maximum allowed concentration in the air which it can be exposed during 8 hours daily or 40 hours weekly.	

The data and information of the present document are based on our actual knowledge and other existing sources, according to the actual regulation 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 corrects in its application in all cases.