



MATERIAL SAFETY DATA SHEET

Date: 09/03/2006

Revision: 1

PRODUCT: **LAIKUAJ**

Invalidates: 25/10/2004

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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:	LAIKUAJ				
Use:	Plant growth regulator				
Real effect	Homogenise the flowering, induces the mincemeat and favours the size of the fruit				

2.- COMPOSITION AND INFORMATION ABOUT THE COMPOUNDS

General composition:	3,6% (w/v) Gibberellic acid + 5,0% (w/v) Coadyuvants + 72,1% (w/v) Isopropanol + 0,4% (w/v) Technical product impurities					
Dangerous compounds	Content (% w/w)	Symbol	Nº EINECS	Nº CAS	Classification	
					R	S
Gibberellic acid	4,44%	Xn	201-001-0	77-06-5	R22	S22, S36, S45
Isopropanol	88,90%	F, Xi	200-661-7	67-63-0	R11, R36, R67	S2, S7, S16, S24/25, S26

3.- HAZARDS IDENTIFICATION

The liquid or the vapour may cause eye, mucous and skin irritation. Easily flammable liquid. The inhalation of the vapours may cause somnolence and vertigo. May volatilize, producing non-visible vapour, heavier than the air and it propagates at ground level. Can make up explosive mixtures with the air, especially in empty recipients containing residues. Heat causes a pressure increase, with risk of breaking the recipient, inflammation and explosion. The inhalation of the vapours can cause somnolence and vertigo. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4.- FIRST AID

	Symptoms and effects	Actions to apply
Skin/contact	Skin irritation.	Remove clothing contaminated with the product immediately. Wash it before using again. Wash the affected body zones with abundant water and soap.
Eyes/contact	Eyes irritation. Conjunctivitis.	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, vertigo, headache, anuria, somnolence hypotension, and uraemia.	Do not make the person vomit. In case he is unconscious, lay him face downwards resting the head on one side to avoid the aspiration of vomit in case this takes place spontaneously. Do not administer anything by oral way. Look for medical assistance to carry on gastric washing avoiding the aspiration. Administration of activated carbon and sodium sulphate as purgative.
Inhalation	Respiratory system irritation, headache and nausea.	Move the person away 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 contact of the product, seek medical advice showing the product's label or this Material Safety Data Sheet.

There is no specific antidote, the treatment will be symptomatic and of general fortification.

DIAGNOSIS: Determination of isopropyl alcohol level in expired air or determination of the isopropyl alcohol and acetone in urine. Do not leave the intoxicated person alone at any time.

5.- FIRE FIGHTING MEASURES

Extinguishing media:	Chemical powder, foam and pulverized water.
Contraindications:	Do not use water pressure jet.
Combustion products:	H ₂ O, CO ₂ , CO.
Special precautions:	Cool the drums/containers by water spraying and in case there is an explosion maintain a security distance. Keep the zone free of people, maintaining them at a minimum distance of security. 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:	Easily flammable liquid. By thermal decomposition can produce harmful and irritant smokes. Toxic gas emanation, that causes increase of the pressure arriving to take place a violent breakage of the package.
Protective equipment:	Wear the basic protective equipment for fire extinction. Suitable breathing device and protective clothing (suit, gloves of PVC and rubber boots).



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6.- ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid prolonged contact with the product and with contaminated clothes. Keep a minimum distance of security of 50 metres.	Environmental precautions: Avoid its entry in a water stream or in the sewers, and in zones with vegetation.	Attention: Keep away any possible source of ignition or heating.
Personal protection: Wear protective clothes (suit, gloves and plastic boots). Carry an appropriate breathing device.	Detoxification and cleaning up: Avoid the dispersion of the product with mechanical barriers and absorb or retain the liquid with sand, clay or any other absorbent material	Neutraliser: DNP

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.- Before applying the product be sure 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 do not wear the appropriate protective equipment.	
Specific conditions:	
<ul style="list-style-type: none">- The security period between the last treatment and harvesting is 15 days.- Do not apply the treatment in wet trees.- Extinguish all possible flames and avoid any ignition source. Connect to mass all the electrical devices to avoid accumulation of static electricity.- Doses superior to 0.03% can be only used in plantations greater than a year. Not to exceed the doses indicated in the label.- It is not advisable to make this treatment jointly to pesticides.- To apply in healthy plants, with good vegetation and free of deficiencies, otherwise the plant growth regulator cannot act.- Effectiveness to the product is not reduced if rains 8 or 10 hours after the application.- The preparation of the spray must become for using at the moment; never in advance, because the spray is losing its effectiveness when it is dissolved in water. Not to use sprays that have been prepared twelve hours before.	
Storage	
Temperature:	Store at room temperature, avoiding temperatures higher than 40°C.
Decomposition products:	The product does not decompose under normal conditions of storage
Dangerous reactions:	The product vapours can make up explosive mixtures in contact with the air.
Storage conditions:	Store it in the original recipient, perfectly closed, in a cold, dry and ventilated place, away from heat and direct light. Poliethylene packages.
Incompatible materials:	Iron
Specific Uses	Reserved use to farmers and professional applicators.

8.- EXPOSURE CONTROL/PERSONAL PROTECTION

Equipment for personal protection			
Respiratory protection:	Appropriate breathing device .		
Cutaneous protection:	PVC protective suit and gloves. Rubber boots (with the trousers on the boots).		
Eye protection:	Protective glasses or facial mask of total protection.		
Other protections:	Have in hand the appropriate devices to wash eyes or skin in case of an accident.		
General protections:	Avoid long contact and inhalation of powder of the product. Work in places with appropriate ventilation. Do not eat, drink, or 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 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. Observe the normal precautions when working with harmful products.		
Exposure control:	TLV:		TLV/TWA: 400 ppm STEL: 500 ppm // Occupational exposition: TWA: 400 ppm CL: 800 ppm / 15 minutes



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9- PHYSICAL AND CHEMICAL PROPERTIES

Aspect:	Colourless liquid	Dissolvent-oil liposolubility:	---	Vapour pressure:	Volatile
Odour:	Characteristic	Partition coefficient (n-octanol/water):	K_{ow} (Gibberellic acid) = 1000	Flash point:	12°C
pH:	2,9-3,9 (1% in water)	Boiling Point:	85°C	Melting Point:	DNP
Bulk density:	0,81-0,83 g/ml	Flammability (solid-gas):	Inflammable	Autoflammability:	>200°C
Hydrosolubility:	Total	Comburent properties:	Not comburent	Explosive danger:	Not explosive
Other important data:	---				

10.- STABILITY AND REACTIVITY

Stability:	The product stored in its original packing and in normal conditions keeps its initial properties during two years.		
Conditions to avoid:	Humidity and excessive heat		
Incompatibilities:	Incompatible with sprays of alkaline reaction and chlorine containing solutions.		
Hazardous decomposition products:	None		
Polymerisation risk:	DNP	Conditions to avoid:	DNP

11.- TOXICOLOGICAL INFORMATIONS

Entry:	Inhalation, ingestion, eyes and skin contact .					
Acute and chronic effects:	LD₅₀ (oral-rat):	4765 mg/Kg	LD₅₀(dermal-rabbit):	9576 mg/Kg	LC₅₀ (4 h) (inhalation.-rat):	397 mg/l
Carcinogenicity:	Data not available					
Mutagenicity*:	Data not available					
Toxicity for reproduction:	Data not available					
Narcosis:	In high concentrations it can act as narcotic.					
Other data:	Phytotoxicity: High doses of the product can create phytotoxic problems and an abnormal growth.					

12.- ECOLOGICAL INFORMATIONS

<u>Contaminating form and potential</u>	
Persistence and degradability:	---
Mobility/bioaccumulation:	---
<u>Effect on the environment/ ecotoxicity</u>	
Toxicity for birds: CL50, acute oral, <i>Colinus virginianus</i> : >2250 mg/Kg CL50, diet, <i>Colinus virginianus</i> : >4640 mg/Kg Toxicity for aquatic fish and organisms: CL50, 96h, <i>Onchorchinchus mykiss</i> : >150 mg/Kg CL50, invertebrates: >143 mg/l	
Other data:	DQO theoretic: COT theoretic:

13.- DISPOSAL CONSIDERATIONS

Product disposal:	No residues will remain due to the use of the product, if the empty packing is washed 3 times with water, adding this water to the spray.
Disposal of used packing:	The packing, washed as above mentioned, may be disposed according to the legal dispositions.
Disposal of residues elimination:	Follow all the local and national legal dispositions, about the residue elimination.

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14.- TRANSPORT INFORMATION

General details:									
Labelling for transport:		Label type 3 + Marine Polutant							
Identification of the substance:		ISOPROPANOL (ISOPROPYL ALCOHOL) in mixture							
Class:	3	UN number:	1219	Hazards number:	33	Packing group:	II	Secondary risk:	Marine Polutant
Special details according to means of transport:									
TPC/ADR:	Classification code:		F1						
RID:	ISOPROPANOL (ISOPROPYL ALCOHOL) in mixture								
IMDG:	Fem number:	3-06	Secondary risk:	Marine Polutant					
IATA:	ISOPROPANOL in mixture								
Special precautions:	Avoid high temperatures. Verify recipients are in a good state and the labels are not damaged before his distribution								
Other information:	---								

15.- REGLAMENTARY INFORMATION

Hazardous product symbol:	F, N
Toxicity:	Toxicology classification (RD 255/2003): Irritant. Easily flammable. Hazardous for environment
Environmental risks reduction:	Mammals: A Fish: A
R phrases:	R11, R36, R51/53, R67
S phrases:	S2, S9, S13, S16, S23, S25, S36/37, S43, S45

16.- OTHER INFORMATION

Homologations:	---
Bibliography consulted:	
<ul style="list-style-type: none">• Agro-Research. Agrichemical Directory and Hazard Response Handbook. Agro-Research enterprises 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 Vicente. ediciones Agrotecnicas, S.L..	
R and S Phrases:	
R11: Highly flammable. R36: Irritating to eyes. R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R67: Vapours may cause drowsiness and dizziness. S2: Keep out of reach of the children. S9: Keep container in a well-ventilated place. S13: Keep away from food, drink, animal feedstuffs. S16: Keep away from sources of ignition -- No smoking. S23: Do not breathe vapours. S25: Avoid contact with eyes. S36/37: Wear suitable protective clothing and gloves. S43: In case of fire, use chemical powder, foam and pulverized water. S45: In case of accident or if you feel unwell, seek medical advice immediately (<i>show the label where possible</i>).	
Glossary:	
CAS: Chemical Abstract Service CL ₅₀ : Mean lethal concentration CL ₅₀ : Mean lethal dose n.s.s.: Not specified in other section 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 h/day or 40 h/ week.	

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