

**Questions for the Implementation of the Aftercare Programme on the
Plastics Testing Project (Technological Laboratory of Uruguay (LATU), Uruguay)**

I. Organization of LATU since the termination of the Project

(1) Organization and staff allocation

a. Ministry in charge of LATU

(a) No change

(b) Almost no change, only the Direction of Legal Metrology now was included as one of the sections of LATU

b. LATU

(a) There was no change of the Organization related with the Plastics Sector since the termination of the Project.

(b) Present Organization Chart of LATU (Annex-1)

(c) Annex-3 Present position and activities of the former counterpart personnel

N°	Name	Age	Sex	Position at termination of the Project	Present Position	Present activities
1	Remersaro, Jorge	42	m	Chief of Plastics Packages Section	Chief of Plastics Packages and its raw materials	Managing tests of raw materials for films, plastic films and packages
2	Ono, Andrés	33	m	Chief of Plastic Products Section	Chief plastic products and its raw materials, Q. Coord. of Sector	Managing tests of plastic products, coordination of the ISO 9000 quality process in the Sector
3	Motta, Claudia	34	f	Chief of Raw Materials Section, Q. C. of Sector	Quality Coordinator of all Sectors of LATU, including Plastics	Conducting the ISO 9000 Quality Process in all sectors of LATU
4	Abe, Nelson	36	m	Assistant raw materials	Assistant raw materials, Assistant Quality Coordinator	Tests on plastics raw materials, assistant for the implementation of the ISO 9000 quality process.
5	Imazu, Gabriela	30	f	Assistant, plastic films and packages	retired	
6	Silva, Dilvar	53	m	Maintenance, technical assistant	same	Maintenance & physical tests
7	Medina, Daniel	28	m	-	Assistant, plastic films & packages	Tests plastic films and packages
8	Venturini, Andrés	28	m	-	Assistant, plastic films & packages	Tests plastic films and packages
9	Stotz, Fernando	49	m	Chief of Sector	Same	Management of Sector

M/V: 10445-01

(2) Function, placement and activities

a Function and placement

(a) Function and placement of LATU in Ministry of Industry, Energy and Mining

The Technological Laboratory of Uruguay (LATU) was established in the sphere of the Ministry of Industry Energy and Mining, on April 1st 1965, as a result of the joint efforts of the Official and Private Sectors of the country.

It is administered by a Directive Board integrated by:

President: delegate of the Executive Power (Ministry of Industry, Energy and Mining)
 Secretary: delegate of the Industrial Chamber of Uruguay
 Treasurer: delegate of the Governmental Bank (Bank of the Oriental Republic of Uruguay)

Actual authorities:

President	Eng. Ruperto E. Long
Secretary	Mr. Walter Rodriguez
Treasurer	Mr. Máximo Saavedra

The fundamental tasks and objectives of LATU are related with:

- Certification of Non Traditional Exports
- Development, Adaptation, Selection and Transfer of Technology
- Conducting Tests and Analysis
- Control of imported food products
- Quality Certification/ Quality Labels
- Technical Assistance to the Industry
- Administration of the Temporary Admission System

(b) Basic guidelines of activities of LATU

Laboratories

The laboratories are situated in a land area of about 110.000 square meters with a constructed area of about 23.600 square meters.

In the central modulus functions the Directive Board, New Project Executive Unit, Administrative Direction, External Trade Promotion Direction, Promotion and Commercialization, Library, Computation Center, Conference rooms and snack bar.

The Technical Divisions (Analysis and Testing, Quality Assurance and Technology) develop their activities in 11 modulus, integrated by Pilot Plants and Laboratories for the specific activities.

Personnel

The total staff comprises about 350 persons highly trained in first level Institutions mainly of the Developed Countries and by the frequent assistance of foreign experts. In addition there are some scholarships and contracted persons for some specific short term activities.

The main areas covered are:

Analysis and Testing Division :

Within a context where efforts are directed to the increase in Uruguayan exports, the various services rendered by this Division support the quality certification, playing a fundamental role to ensure the acceptance of our export by increasingly demanding international markets.

The main responsibility of this service is the quality control of raw materials, intermediate goods, finished goods and processes according to national and/or international standards. This guarantees the foreign buyer the full compliance with the quality agreed.

The service provided by this Division is treated as strictly confidential which guarantees users non-disclosure of the results of the test requested by them.

The infrastructure and organization of this Division help meet the requirements of the productive sector in the following areas: Chemical Analysis and Imported Products, Instrumental Analysis, Materials Testing, Metrology, Microbiology, Micotoxins and Plastics.

(2) Function, placement and activities

a Function and placement

(a) Function and placement of LATU in Ministry of Industry, Energy and Mining

The Technological Laboratory of Uruguay (LATU) was established in the sphere of the Ministry of Industry Energy and Mining, on April 1st 1985, as a result of the joint efforts of the Official and Private Sectors of the country.

It is administered by a Directive Board integrated by:

- President: delegate of the Executive Power (Ministry of Industry, Energy and Mining)
 - Secretary: delegate of the Industrial Chamber of Uruguay
 - Treasurer: delegate of the Governmental Bank (Bank of the Oriental Republic of Uruguay)
- Actual authorities:
- | | |
|-----------|----------------------|
| President | Eng. Ruperto E. Long |
| Secretary | Mr. Walker Rodriguez |
| Treasurer | Mr. Máximo Saavedra |

The fundamental tasks and objectives of LATU are related with:

- Certification of Non Traditional Exports
- Development, Adaptation, Selection and Transfer of Technology
- Conducting Tests and Analysis
- Control of Imported food products
- Quality Certification/Quality Labels
- Technical Assistance to the Industry
- Administration of the Temporary Admission System

(b) Basic guidelines of activities of LATU

Laboratories

The laboratories are situated in a land area of about 110.000 square meters with a constructed area of about 23.500 square meters. In the central modulus functions the Directive Board, New Project Executive Unit, Administrative Direction, External Trade Promotion Direction, Promotion and Commercialization, Library, Computation Center, Conference rooms and snack bar.

The Technical Divisions (Analysis and Testing, Quality Assurance and Technology) develop their activities in 11 modulus, integrated by Pilot Plants and Laboratories for the specific activities.

Personnel

The total staff comprises about 350 persons highly trained in first level institutions mainly of the Developed Countries and by the frequent assistance of foreign experts. In addition there are some scholarships and contracted persons for some specific short term activities.

The main areas covered are:

Analysis and Testing Division:

Within a context where efforts are directed to the increase in Uruguayan exports, the various services rendered by this Division support the quality certification. Playing a fundamental role to ensure the acceptance of our export by increasingly demanding international markets. The main responsibility of this service is the quality control of raw materials, intermediate goods, finished goods and processes according to national and/or international standards. This guarantees the foreign buyer the full compliance with the quality agreed. The service provided by this Division is treated as strictly confidential which guarantees users non-disclosure of the results of the test requested by them.

The infrastructure and organization of this Division help meet the requirements of the productive sector in the following areas: Chemical analysis and Imported Products, Instrumental Analysis, Materials Testing, Metrology, Microbiology, Microtoxins and Plastics.

M.V. 10496-03

Legal Metrology :

Inspection and control of the measurement instruments (weight, length and other dimensions) in order to guarantee the protection of local consumers.

Promotion of Exports Office (PROMOEXPORT), Fairground of LATU & Science Museum:

The Export Promotion Office (PROMOEXPORT) was established in August 1994.

Business Center, Exposition and Information of the Exportable Offer of Uruguay.

Promoexport has a total constructed area of 1000 square meters, 750 dedicated to the permanent showroom of about 100 exporters and 250 to Administration and Information Service. The Data Bank can be consulted directly by the visitor and the information is available in 6 languages. The available information includes uruguayan exports and imports, Trade Agreements, enterprises of the showroom and their products. Other services available are International Communication Service, Secretarial Staff, Translators, locomotion, General File of Brochures and Exhibitor Catalogue.

The Fairground of LATU was established in June 1994

Established in the center of Mercosur, the Fairground of LATU has the objective to strengthen and increase the commercial and industrial links in the Region and with the World. The Fairground of LATU is a part of the LATU Complex and includes three Pavilions with an area of about 5400 square meters, an Open Exhibition Place of about 5000 square meters, an Exhibitor's Club (snack bar of 220 square meters), Office Rooms, Sanitary Services, Parking for the Exhibitors and Parking for the General Public.

The Science Museum was established in June 30, 1995 and is an interactive exposition with the purpose of developing the curiosity and understanding of children, young people and adults about science and technology, and supports formal education by means of interactives and participative methods bringing technological knowledge in an amusing form to all the population.

Promotion of Foreign Trade:

Management of the Temporary Admisión Imports System and Promotion systems for Industry.

The temporary admission imports system managed by LATU allows buying without import taxes raw materials in order to increase the competitiveness of uruguayan exports.

There is a Data Bank of production standards of more than 10.000 products. LATU staffs and advisers verify the requested quantities necessary for the export production.

Quality Assurance Division:

Quality Labels & Certification and Internal Quality Programme .

Through this Division LATU has implemented quality certification methods with are permanently upgraded to keep them in line with techniques currently used by countries with the highest technological development. Such standards have been applied to the quality of internal operations so as to meet international requirements. This has enabled regional and extraregional acceptance of our certifications.

Certification methods imply a significant comparative advantage for exporting companies, as a means to allow them to have access to increasingly demanding markets, thus avoiding turndowns and the consequent economic losses.

In addition LATU help enterprises to implement quality systems (ISO 9000).

LATU within the policy to promote the quality of national products, has the LATU stamp, a voluntary quality certification system, in line with the used in developed countries.

The fundamental objectives are:

- Quality Improvement of national products
- Satisfying the demand and consumer protection
- Differentiation of enterprises producing with quality
- Preference of products with stamp
- Giving users of stamp a higher competitiveness for their products.

Technology Division :

The rapid development of the sectors comprising this Division demands the new technological expertise be continuously incorporated: this is essential to maintain and expand both production and exports.

The priority objective is the strengthening of productive companies through the development, adjustment, selection and transfer of technology; this will facilitate the Institute's active participation in the modernization process of the country's productive sector.

The continued exchange with the major technology centers of the world, the links with international information and document data bases, the state-of-the-art facilities in our pilot plants and laboratories make it possible to offer the following services:

- Test design, development in pilot plants
- Process control at critical points
- Technical assistance to solve specific problems
- Thermal process control for export products
- Adjusting available technologies to specific requirements
- Draft project and technical and economic feasibility studies
- Training courses

The technological sectors comprised in this Division are: Cereals, Dairy Products, Environmental Technology, Forest Products, Fruit & Vegetables, Leather and Leather Products, Meat and Meat Products, Micromelting, Packaging, Textiles, Thermal Processes Unit and Wools.

⊙ **Relation with Present Government Development Policy**

As stated in (b) above, LATU activities are intimately related with the Government Development Policy in the relevant areas.

(c) **Relation with other governmental organizations in Uruguay**

LATU has fluent relations and cooperation activities with all Ministries, Governmental Organizations and Research Institutions.

b **Activities, Annex-4**

1. **Factories visited: detailed list not available, aprox. 5 factories/year**

2. **Number of Tests and Inspection Services**

Information available is organized as follows:

Year	Number of requests	Number of tests			Testing Income U\$S
		Plastic films	Other products	Total	
1995	235	985	1265	2250	63.000
1996	422	1294	1717	3011	100.000
1997	617	1392	1931	3323	134.000
1998	558	2020	985	3005	119.000
1999	800	2100	1100	3200	130.000

: estimated

M.V. 10493-05

P.5

3. List of information services

Related to number of requests.

As stated in (2) b. 2. above, there were more than 2 thousands requests from 1995 to 1999, however the information is not segregated according to requests of tests, request of tests & information services and requests of information services

4. Seminars

III Seminar of Plastics "Plastics and Recycling" Industrial Chamber-LATU
3-4 November 1997 300 Attendees

Lecturer	Organization	Theme
Eng. Marisol Mallo	Ministry of Environment	Policy about Environment Preservation
Eng. Liliana Borzacconi, Eng. Javier Martínez	Faculty of Engineering	Environmental problems, human resources for the management of disposal of solid wastes
Eng. Friedrich Ebeling	Plastics Center, Wurzburg, Germany	Ecology and economics of recycling
Eng. Ignacio González	Coordinator UNDP Project URU/91008	Presentation of the Project of Solid Wastes Recycling, UNDP
Eng. Friedrich Ebeling	Plastics Center, Wurzburg, Germany	Environmental considerations in the process of development
Eng. Friedrich Ebeling	Plastics Center, Wurzburg, Germany	Size reduction of big volumes of plastics
Eng. Raúl Prando	Industrial Chamber of Uruguay	ISO 14000 and plastics
Mr. Immer Prada, Eng. Luis Garat, Prof. María Teresa García	Prefectural Authorities: Montevideo and Colonia	
Round table		Conclusions of Seminar

c. Present Condition of Equipment provided by the Japanese side

Equipment	Specification-Range	Manufacturer	Operation	Maintenance	Remarks
Universal Testing Machine AG-2000A	20 kN	Shimadzu	A	A	Needs low range measuring cells
Charpy impact tester 4J	4 J	Shimadzu	A	A	
Charpy impact tester 300 J (not for plastics)	300 J	Shimadzu	C		
Izod Impact tester N° 158	2.94 J	Yasuda	A	A	
Universal Impact Tester UF	12/6 J	Ueshima	B	A	
Falling Ball Impact Tester N° 183	50-1500 mm	Yasuda	B	A	
Dart Impact Tester N° 574	-50-150°C	Toyo Seiki	A	A	
Rockwell Hardness Tester N°588	130 HR	Toyo Seiki	B	A	
Shore Hardness Tester D	30-95 HR	Shimadzu	B	A	
Clash Berg Torsion Flexibility N°515	-70°C to 80 °C	Toyo Seiki	B	A	
Scott Folding & Abrading Tester 433	100-5000 g	Yasuda	C		
Rubbing Meter FR-I	30 1/min	Suga	A	A	
Breakdown Voltage HAT-300-100	70 kV	Hitachi	A	A	
Arc Resistance HAT 100		Hitachi	B	A	
Ultra High Resistance R 834 A	1000 - 3.000.000 Mohm	Advantest	B	A	
Dielectric Loss Meter TRS-10T	0.2-0.000001 ms	Ando Electric	C		
Constant Temp. Chamber PR1FP	-20°C to 100°C, 20-99%RH	Tabai Espec	A	A	
Medium Volume Chamber MS-110	-70°C to 180°C, 20-95%RH	Tabai Espec	A	B-C	Only running above room temperatures
Differential Scan. Calorimeter DSC-50	Max 500°C	Shimadzu	A	C	Furnace needs to be replaced

Equipment	Specification-Range	Manufacturer	Operation	Maintenance	Remarks
Thermogravimetric Analyzer TGA-50	Max 1500°C	Shimadzu	A	A	
Thermomechanic Analyzer TMA-50	Max 1000°C	Shimadzu	B-C		
Oxygen Index Flammability ON-1	0-98 kPa	Suga	A	A	
Flammability Vertical Test CS-1S		Suga	B	A	
Flammability UL-94		Suga	B	A	
Flammability MVSS-2		Suga	B	A	
Heat Distortion-Vicat N°533,S3F	0-200°C	Toyo Seiki	A	A	
Brittleness Temperature N° 121	min -70°C	Yasuda	A	A	
S&M Color computer SM-8-IS-2B-H		Suga	A	A	
Digital Haze Computer HGM-2K		Suga	A	A	
Digital Variable Gloss Meter UGV-5D	max 85°	Suga	A	A	
Automatic Densimeter N° 265 DH10	max 100 g (0,1 mg)	Toyo Seiki	A	A	
Digital Thickness Tester N° 201	0.001-9.9 mm	Toyo Seiki	A	A	
Rotational Viscometer Model BH	50-2.000.000 mPa	Tokimec	A	A	
Constant Temperature Bath	105°C	Taitec	A	A	
Sunshine Xenon Weather Meter	Xenon, Carbon Arc	Suga	A	A	Xenon Lamps must be replaced
ACR Gear Oven N° 270	Max 300°C	Toyo Seiki	B	A	
Stress Cracking Instruments N° 539		Toyo Seiki	B	A	
Melt Indexer N° 522 T-01	80-350 °C	Toyo Seiki	A	A	
High Temperature Furnace FJ-41	500-1500°C	Yamato	A	A	
Gas Chromatograph GC-14APF	max 400°C	Shimadzu	A	A	

-100-

MV: 10496-08

Equipment	Specification-Range	Manufacturer	Operation	Maintenance	Remarks
Gas Chro-Gas Permeability	0.000007-700 cm ³ /m ² .d.atm	Rikaselki	B	A	
Liquid Chrom. LC-10 AD		Shimadzu	B	A	
UV-Vis Spectrophotometer UV-2201	190-900 nm	Shimadzu	B	A	
Fourier Transf. Infrared Sp. FTIR-8101	0-7900 1/cm	Shimadzu	A	A	
Water Vapor Transm. Permatran-W	0.01 - 60 g/m ² .d	Mocon	A	A	
Oxygen Transm. OX-Tran 2/20M	0.005 - 2000 cm ³ /m ² .d.atm	Mocon	A	A	
Profile Projector V-12A	5X - 500X	Nikon	B	A	
Plastomill N° 655, ME 25	max. 274 J	Toyo Seiki	C		
Laboratory Press N° 694	max. 30 t	Toyo Seiki	A	A	
Pneumatic punching machine N° 213	147-886 kPa	Toyo Seiki	A	A	
Sample machine MD N° 618	max 1500 rpm.	Toyo Seiki	A	A	
Notch cutting device N° 529 N	max 1000 rpm.	Toyo Seiki	A	A	

Operation: A: many times in effective
 B: few times in effective
 C: no time since the termination

Maintenance: A: good
 B: necessary to repair (operating now)
 C: necessary to repair (stopping now)

- d. Relations with other bilateral and multilateral aid agencies
The Sector has no relation with other bilateral and multilateral aid agencies.

(3) Budgetary condition

- a, b Settlement account & Budget of LATU and Plastics Section 1995-1999

Budget of LATU (thousands of US\$)

	1995	1996	1997	1998	1999
Incomes					
Non- traditional exports	4.422	5.367	5.972	6.200	4.980
Temporary Admission	2.800	2.571	2.384	2.886	2.240
Imported Products	1.240	1.601	2.488	2.643	2.380
Incomes by Services	2.897	3.273	3.346	3.218	3.272
Other incomes		484	290	115	110
TOTAL	11.359	13.746	14.480	15.062	12.962
Expenses					
Operational expenses	8.758	11.677	12.473	13.184	12.698
Financial expenses	215	210	550	638	635
Investments	1.340	945	1.472	785	0
TOTAL	10.313	12.832	14.495	14.607	13.333

Estimated Budget of the Plastics Sector (thousands of U\$S)

	1995	1996	1997	1998	1999
Total Operational Expenses	150	156	161	154	155

Value of the test done (external requests, thousands of U\$S)

	1995	1996	1997	1998	1999
Total value of the external works	63	100	134	119	125

- c. **Main equipment provided by the Uruguayan side from 1995-1999 and projection**
 There was no new investment in the Plastics Sector, only maintenance and consumables.
 According to the forecast of investments of LATU it is not possible to consider investments in new equipments.

2. Contents of the Aftercare Programme

(1) Taking additional care of the machinery and equipment already provided by JICA

Annex 08: Necessity of repair, spare parts and consumables of Machinery and equipment provided by JICA

N°	Name	Priority of repair & detail	Priority of spare parts and consumables & detail	Availability in Uruguay	Remarks
1	Columns and accesories for Gas Chro, HPLC, DSC, FTIR, UV, etc.			-	For supplementary technical cooperation in identification and quantification of plastics, fillers and additives
2	Low range measuring cells for Shimadzu Autograph AG 2000 A		A: 3 units 5 kg (340-43034-07), 20 kg, 100 kg (340-43034-03)	No	
3	Xenon Water cooled long life lamps and accesories set for Sunshine Xenon Weather Meter WEL-GXS-HC,B.Ec.S		A: 10 sets	No	
4	Furnace for Differential Scanning Calorimeter DCS-50	A: 1 unit		No	
5	Sample cells for differential Scan. DCS-50		A: 5000 cells	No	
6	Glass columns 14 G 3.2-3.1& microliter syringes (1, 5, 10) Gas Chro GC-14APF		A: 4 sets	No	
7	Plain cutter steel, Sample Machine MD 618		A: 2 sets	No	
8	Medium Volume Chamber MS-110	A: refrigeration system repair			
9	Ubbelohde viscosimeter 2613-001		A: 4 units		
10	Chart paper 3L 100-2050 Higrothermograph		B: 50 rolls	No	
11	Chart paper 340-41025 Autograph		B: 100 rolls	No	
12	Silicon oil for HDT-Toyoseiki N° 533		B: 2 refills	No	

(2) Supplementary technical cooperation within the scope of R/D

- a. Fields within the scope of R/D which need supplementary technical cooperation by the Japanese short-term experts and the contents of the activities in detail

Annex 09 Themes which need Supplementary Technical Cooperation by the Japanese Short-term Experts

N°	Fields of the Japanese Experts	Necessity and Urgency	Duration of Assignment			Detail subjects to be covered by experts	Required qualification of experts
			From	To	total months		
1	Identification and quantification of plastics compositions, fillers and additives I Specification of required accessories	Through the Project was acquired some capacity to roughly orient about the composition of plastics. However users of the Laboratory are very frequently requesting more detailed tests about plastics identification and compositions, fillers, additives, etc. requiring a more specialized specific training of counterparts	May 2000	July 2000	2 months	Identification and quantification of composition of plastics, fillers, additives (slipping agents, antioxidants, impact modifiers, UV stabilizers), etc. Specification of the more appropriate spare parts and accessories for the equipment donated by JICA .	Expert in the determination of plastics composition and additives If possible using similar equipments: DSC, FTIR, Gas chro, HPLC, TGA, TMA, UV, etc
2	identification and quantification of plastics compositions, fillers and additives II Installation and training on the use of the required accessories	Same as above	May 2001	July 2001	2 months	Identification and quantification of composition of plastics, additives (blowing agents, mold release agents, antistatic agents, plasticizers), thermodegradation compounds, etc. Instruction on the use of the more appropriate spare parts and accessories for the equipment donated by JICA .	Same as above

- b. Name, quantity, specification, manufacture, reasons of necessity and availability in Uruguay of the machinery and equipments needed to be provided in order to transfer the technology on the said fields.

Annex 10 List of the Machinery and Equipment needed to be provided in order to transfer the technology on the said fields.

Theme N°	N°	Name of machinery and Equipment	Quantity	Specification	Manufacturer Price Unit U\$S	Reasons of necessity	Availability in Uruguay
	1	Gas permeability tester	1	(Lyssy type, fast measuring)	45.000 *		
	2	Thermal Insulation of plastic foams and other plastics construction materials	1		35.000		
	3	Glow wire flammability tester	1		15.000		
	4	Refrigerated water cooled bath 1 kw	1		3.000		

: estimated price

Attached Paper 1: Estimation of Total Necessary Testing Equipment and their cost

N°	Field	Name of Equipment	Number of equipments	Amount U\$S
1	I	Columns and accesories for identification of the components of plastics	1 set	25.000
2	PF&P	Gas permeability tester (Lyssy type, fast measuring)	1	45.000
3	PF&P	Low range measuring cells (5, 20 and 100 kg) for Shimadzu Autograph AG-2000 A	3	6.000
4	CM	Thermal Insulation of plastic foams and other plastics construction materials	1	35.000
5	CM	Glow wire flammability tester	1	15.000
6	CM	Xenon Water cooled long life lamps and accesories set for Sunshine Xenon Weather Meter WEL-GXS-HC,B.Ec.S	10 sets	20.000
7	CM	Refrigerated water cooled bath 1 kw	1	3.000
8	I	Furnace for Differential Scanning Calorimeter Sample cells for differential Scanning DCS-50	1 5000	3.000
9	PF&P	Glass columns 14 G 3.2-3.1& microliter syringes (1, 5, 10) Gas Chro GC-14APF	4 sets	800
10	CM	Plain cutter steel, Sample Machine MD 618	2 sets	400
11	CM	Chart paper 3L 100-2050 Higrothermograph Chart paper 340-41025 Autograph	50 rolls 100 rolls	1000
12	CM	Silicon oil for HDT-Toyoseiki N° 533	2 refills	1.300
13	CM	Ubbelholde viscosimeter 2613-001	4	700
			TOTAL	166.200

Remarks:

I : Identification of plastics and additives
 PF&P : Plastics films and packages
 CM : Construction Materials

c. Plan for assignment of the Uruguayan counterpart personnel for the Aftercare Programme

Annex-11 Uruguayan Counterpart Personnel for the Aftercare Programme

N°	Name	Age	Sex	Present Position	Qualification	Remarks
1	Remersaro, Jorge	42	m	Chief of Plastics Packages Section	Pharmaceutical Chemist	Managing tests of raw materials for films, plastic films and packages
2	Ono, Andr�e	33	m	Chief of Plastic Products Section Quality Coordinator of Sector	Chemical Engineer	Managing tests of raw materials and plastic products, coordination of the ISO 9000 quality process in the Sector
3	Abe, Nelson	36	m	Technical Assistant raw materials	Bachelor in Chemistry	Tests on plastics raw materials, assistant for the implementation of the ISO 9000 quality process.
4	Silva, Diyar	53	m	Maintenance, technical assistant	Mechanician	Maintenance & physical tests
5	Medina, Daniel	26	m	Assistant, plastic films & packages	Student of Chemistry	Tests plastic films and packages
6	Venturini, Andr�s	28	m	Assistant, plastic films & packages	Student of Chemistry	Tests plastic films and packages
7	Stotz, Fernando	49	m	Chief of Plastics Sector (Plastics Packages & Plastic Products Sections)	Chemical Engineer	Management of Sector

Organización del LATU

A través de esta página Ud. podrá recorrer las diferentes gerencias y direcciones que posee el LATU.

Gerencia General



Gerencia de Administración



Gerencia de Análisis y Ensayos



Gerencia de Aseguramiento de la Calidad



Gerencia de Comercio Exterior y PromoExport



Gerencia de Informática



Gerencia de Metrología Legal



Gerencia de Promoción y Comercialización



Gerencia de Tecnología



Dirección de Contaduría



Dirección de Espacio Ciencia



Dirección de Ingeniería y Mantenimiento

Dirección de Información Técnica