



KÖZLEKEDÉSBIZTONSÁGI
SZERVEZET

TRANSPORTATION SAFETY
BUREAU

FINAL REPORT

**2007-307-4
Serious incident**

**Budapest
14 July 2007**

**Boeing-747-236SF
TF-ATX**

The sole objective of the technical investigation is to reveal the causes and circumstances of aviation accidents, incidents or irregularities and to initiate the necessary technical measures and make recommendations in order to prevent similar cases in the future. It is not the purpose of this activity to apportion blame or liability.

This present investigation was carried out on the basis of

- Act XCVII of 1995 on aviation,
- Annex 13 to ICAO Convention on Civil Aviation, put in force in Hungary by MTCW (Ministry of Transport, Communications and Water) Decree 20/1997. (X. 21.) on the declaration of the annexes of the Convention on International Civil Aviation signed in Chicago on 7th December 1944,
- Act CLXXXIV of 2005 on the technical investigation of aviation, railway and marine accidents and incidents (hereinafter referred to as Kbvt.),
- MET Decree 123/2005 (XII. 29.) on the regulations of the technical investigation of aviation accidents, incidents and irregularities;
- In absence of other related regulation of the Kbvt., the Transportation Safety Bureau of Hungary carried out the investigation in accordance with Act CXL of 2004 on the general rules of administrative authority procedure and service,
- The Kbvt. and the MET Decree 123/2005 (XII. 29.) jointly serve the compliance with the following EU acts:
 - Council Directive 94/56/EC of 21 November 1994 establishing the fundamental principles governing the investigation of civil aviation accidents and incidents, with the exception of its Annex;
 - Directive 2003/42/EC of the European Parliament and of the Council of 13 June 2003 on occurrence reporting in civil aviation, with the exception of its Annex I and Annex II.
- The competence of the Transportation Safety Bureau of Hungary is based on the Kbvt. until 31st December 2006 and on Government Decree 278/2006 (XII. 23.) from 1st January 2007 respectively.

Under the aforementioned regulations

- The Transportation Safety Bureau of Hungary shall investigate aviation accidents and serious aviation incidents.
- The Transportation Safety Bureau of Hungary may investigate aviation incidents and irregularities which - in its judgement - would have resulted in accidents in other circumstances.
- The technical investigation is independent of any administrative, infringement or criminal procedures.
- In addition to the aforementioned laws, the ICAO DOC 6920 Manual of Aircraft Accident Investigation is applicable.
- This present Final Report shall not be binding, nor shall an appeal be lodged against it.
- Persons participating in the technical investigation did not act as experts in other procedures concerning the same case and shall not do so in the future.

The IC shall safe keep the data having come to their knowledge in the course of the technical investigation. Furthermore the IC shall not be obliged to make the data – regarding which the owner of the data could have refused the disclosure of the data pursuant to the relevant act – available to other authorities.

This present Final Report has been completed based on the Draft Report which was compiled by the IC and approved by the Director-General of TSB and sent to the concerned parties and organisations – defined by law - for reflections.

ABBREVIATIONS

AF	Air France
ATC	Air Traffic Control
ATPL	Air Transport Pilot Licence
CVR	Cockpit Voice Recorder
FDR	Flight Data Recorder
HC	HungaroControl
IATA DGR	International Air Transport Association Dangerous Goods Regulation
IC	Investigating Committee
ICAO	International Civil Aviation Organization
Kbvt.	Act CLXXXIV of 2005 on the technical investigation of aviation, railway and marine accidents and incidents
MET	Ministry of Economy and Transport
MH	Malaysia Airlines
MSDS	Material Safety Data Sheet
MTCW	Ministry of Transport, Communications and Water (Közlekedési, Hírközlési és Vízügyi Minisztérium, KHVM)
NOTOC	Notification to Captain
NTA AD	National Transport Authority, Aviation Directorate (Nemzeti Közlekedési Hatóság Légiközlekedési Igazgatósága, NKH LI)
PSN	Proper Shipping Name
TSB	Transportation Safety Bureau (of Hungary)
ULD	Unit Load Devices

BRIEF DESCRIPTION OF THE OCCURRENCE

Operator	Air Atlanta Icelandic
Manufacturer	Boeing
A/C type	B747-236SF
A/C nationality	Iceland
A/C registration mark	TF-ATX
Location of the occurrence	Budapest
Date and time of the occurrence	14 July 2007, 19:16 UTC

Notifications

The occurrence was reported to the dispatcher of the TSB at 21:08 LT on 14th of July 2007.

The dispatcher of the TSB:

- reported to TSB's head of department on duty at 21:32 on 14th of July 2007,
- notified the duty personnel of NTA AD at 21:48 on 14th of July 2007.

The Investigating Committee

On 14th July 2007 the Director-General of the TSB assigned the following Investigating Committee (hereinafter referred to as IC) for the investigation of the serious incident:

Investigator-in-Charge	Sándor SIPOS	Accident investigator
Member of the IC	Zsófia OLÁH	Accident investigator

Zsófia OLÁH terminated her labour contract with TSB in June 2008, therefore she was replaced by László GRÉZ in the IC on 1 June 2008.

Overview of the investigation procedure

The IC determined that a piece of cargo leaked and, due to lack of cooling, strong-odoured fumes were released into the cargo bay.

The IC has taken into consideration the reflections on the Draft Report received from the concerned parties when compiling the Final Report.

Synopsys

The aircrew noticed stinging odour in the cockpit while en route and decided to abort the flight. They turned back from Rumanian airspace toward Hungary and landed at Budapest Ferihegy Airport. While the overweight landing in progress, balloon pressure was lowered automatically on three wheels that subsequently got damaged during landing. The aircrew did not report emergency and did not request assistance. After landing, they told the authorities responding to the situation that it was most probably a piece of cargo that leaked some liquid with strong odour they felt. The check of the cargo area did not find traces of smoke, nor was there any indication of dangerous gases. The suspect cargo was found. There was no injury.

Time zone used in the report

Local time (LT) is used throughout the report.

1. FACTUAL INFORMATION

1.1 History of the flight

A cargo aircraft, flight No. MH6151, Manufacturer/Model Boeing-747-236SF, departed Milan-Linate (LIMC) on 14 July 2007 at 17:35 LT with a planned destination of Dubai (OMDB).

The crew felt unpleasant odour during the flight. Because the odour did not cease the captain decided to abort the flight and turned toward LHBP from Rumanian airspace. He notified the area ATC of HungaroControl at 21:16 LT while flying at FL330 of his intentions of landing at Budapest and the reason of the landing. He did not report an emergency and did not request assistance.

The airport authorities enacted the emergency action plan. The aircraft landed at 21:41 LT.

1.2 Injuries to persons

Injuries	Crew	Passengers	Total in the a/c	Others
Fatal				
Serious				
Minor				
None	3	2	5	

1.3 Damage to aircraft

None.

1.4 Other damage

During the flight, about 120 kgs of material hazardous to the environment evaporated from 6 (six) barrels that were stored in the cargo bay. The IC did not receive information on other damage by the closing of the investigation.

1.5 Personnel information

1.5.1 Pilot-in-Command

Age, gender		63-year-old male
Licence		ATPL
Type ratings		B-747, DC-3, DC-10
Licence validity	professional	29 SEP 2007
	medical	2 JUN 2007
	ratings	n/a
Flying experience total, hours		over 11,000 hours
Flying experience on the type, hours		3,000 hours

1.5.2 First Officer

Age, gender		49-year-old male
Licence		ATPL
Type ratings		B-727, B-747, L-1011
Licence validity	professional	5 MAR 2008
	medical	31 JAN 2009
	ratings	n/a
Flying experience total, hours		9,000 hours

1.5.3 Flight Engineer

Age, gender		53-year-old male
Licence		n/a
Type ratings		B-727, B-747, L-1011
Licence validity	professional	25 JUN 2008
	medical	23 NOV 2007
	ratings	n/a
Flying experience total, hours		12,000 hours

1.6 Aircraft information

The characteristics of the aircraft had no effect on the course of events therefore their analysis was not required.

1.7 Meteorological information

The meteorological parameters had no effect on the course of events therefore their analysis was not required.

1.8 Aids to navigation

The aircraft was equipped with navigational instruments described in the aircraft's airworthiness certificate and they functioned normally. They had no effect on the course of events therefore their analysis was not required.

1.9 Communication

The aircraft was equipped with communications instruments described in the aircraft's airworthiness certificate and they functioned normally. They had no effect on the course of events therefore their analysis was not required.

1.10 Aerodrome information

The parameters of the aerodrome had no effect on the course of events therefore their analysis was not required.

1.11 Flight recorders

The aircraft was equipped with a Cockpit Voice Recorder and a Flight Data Recorder as described in the aircraft's airworthiness certificate and they functioned normally.

1.11.1 Flight Data Recorder (FDR)

FDR data have not been evaluated because the aircraft proved to be not at fault of the incident.

1.11.2 Cockpit Voice Recorder (CVR)

The circuit breaker of the CVR was not pulled after landing, therefore whenever the external power source was connected to the aircraft, the CVR restarted. As a result, the tape did not contain information relevant to the incident flight.

1.12 Wreckage and impact information

There was no wreckage.

1.13 Medical and pathological information

The crew members of the aircraft had a valid medical certificate prior to the commencement of the flight. The IC does not have information on the crew's psycho-physical condition during the flight.

1.13.1 Medical forensics examination

Not applicable.

1.14 Fire

There was no fire.

1.15 Survival aspects

There has been no life-threatening situation during the occurrence.

There was no injury.

1.16 Tests and research

There was no need to conduct tests and research for reaching the conclusion.

1.17 Organisational and management information

The characteristics of the organizational and management environment had no effect on the course of events therefore their analysis was not required.

1.18 Additional information

The IC did not receive any relevant additional information.

1.19 Useful or effective investigation techniques

The investigation did not require techniques differing from the traditional approach.

2. ANALYSIS

A cargo aircraft, flight No. MH6151, Manufacturer/Model Boeing-747-236SF, arrived from Amsterdam (AMS) to Milan-Linate (LIMC) with a final destination of Dubai (OMDB). Since there have been long delays at both airports, the crew decided to continue the route to Dubai. The aircraft received a cargo containing hazardous material in Milan. According to the description, the material that was packed in plastic barrels was Category Level 9 „hazardous to the environment”.

After loading the cargo into the aircraft it departed Milan-Linate for Dubai at 17:35 LT on 14 July 2007.

The captain and the first officer felt a slight odour in the cockpit during the flight but they did not credit it much importance. Later, two passengers notified the crew that they felt a strong odour.

The captain asked the flight engineer (FE) to check the cargo bay in case they had overseen something. The FE returned a few minutes later, immediately donned his oxygen mask, and reported that a piece of cargo just under the cockpit was leaking vapour or fumes. He also told the captain he felt dizzy and was about to passing out.

It was that moment when the captain realised the first officer (FO) was acting strangely and showed the signs of hypoxia.

They looked up in the emergency manual the required procedure regarding Level Nine hazardous material (see Appendix 1). According to the document, the required procedure was to use masks with 100% oxygen. The FO and the FE donned their masks. The captain, however, was using his only occasionally because he did not feel any symptom other than the odour.

The captain then decided to land at the closest available airport.

He notified the ATC that they felt some kind of odour in the cockpit but did not report an emergency. He, however, requested a technical landing at Budapest.

The aircraft proceeded with the flight to Budapest and the captain notified the area ATC of HungaroControl at 21:16 LT while flying at FL330 of his intentions of landing at Budapest and the reason of the landing. He again did not report an emergency and did not request assistance.

The captain's priority was to land as soon as possible; he did not want release fuel or burn fuel in the waiting pattern. He opted for the overweight landing.

The IC examined the shipping documentation and determined the following:

- The shipping manifest for dangerous goods, issued by Antibioticos S.P.A., states the following: „material hazardous to environment, solid (PWS-BAL5287), hazard level 9, packaging method 911 (reference to packaging instructions). The required storage temperature as per MSDS BAL5287 (+5 C°) was missing (see Appendix 2).
- The NOTOC (which had not been signed by the cargo load inspector) also listed the dangerous goods but without packaging and handling instructions. The NOTOC listed other special goods (vaccination) that required cooling between +2...+8 C° if available (see Appendix 3), and 90 kgs of chocolate, also needing refrigeration (see Appendix 4).
- The MSDS BAL5287 document was found on board of the aircraft, in a sealed envelope. In the IATA DGR book there is no reference of the chemical listed in paragraph 2 of the document. Paragraph 7 (Handling and Storage) determines storage conditions as a well-ventilated, dry, safe area with a temperature below

+5 C° (see Appendix 5). From the above conditions the temperature condition was not met.

- The form for listing the non-radioactive dangerous goods was a 2006 edition. The answer given to question No. 37 was incorrect. The answer to question No. 51 should read „No” because the position of the package labels was incorrect (see Appendix 6). There were several packages where the UN symbol, the UN number, the PSN number, or the sender's data were covered or otherwise not clearly visible. The required storage temperature was not indicated. The ULD identification tags contained the three-letter cargo IMP code, in contradiction with the IATA DGR which requires the usage of Class/Division Numbers (see Appendix 7).

The hazardous material in the cargo bay was a synthetic raw material that is used for manufacturing pharmaceutical active ingredients. This material is solid under +5 C°. At higher temperatures it becomes a liquid, then intensively evaporates.

At Milan-Linate airport the shipment first was moved to the cargo loading area, then loaded into the A2 section of the aircraft's cargo bay (see Appendix 8). The loading took several hours. Because the outside temperature was around +30 C° and the cargo bay temperature was even higher, the material was already in liquid phase during the loading. During the flight, due to lack of cooling in the cargo bay, the material evaporated and the non-airtight plastic barrels leaked out the vapours. The unpleasant odours of the vapours caused nausea. The use of the oxygen masks prevented the deterioration of the situation.

3. CONCLUSIONS

3.1 Direct causes of the occurrence

- The company that prepared the hazardous material BAL5287 for shipping (Antibioticos S.P.A.) did not indicate on the shipping documentation and on the storage containers the required temperature while in storage and during shipping, and did not provide airtight containers.
- The cargo loader – while being aware of the fact that they were handling dangerous goods – did not check the MSDS upon receipt (they did not open the envelope containing the document) therefore the required storage temperature of +5 C° was neither ensured nor noted on the NOTOC.
- The required temperature of +2...+8 C° in the aircraft's cargo bay was not provided for the 149 kgs of vaccination that was listed in the NOTOC and was transported in JL position.
- The required cooling in the aircraft's cargo bay was not provided for the 90 kgs of chocolate that was listed in the NOTOC and was transported in QL position.
- Due to lack of cooling, the crystallization of the material that could have prevented evaporation of dangerous vapours could not take place.
- The cargo load inspector did not sign the NOTOC and the captain accepted it without the signature.

3.2 Indirect causes of the occurrence

- The captain was aware of the procedures of the emergency manual for Category Nine dangerous goods but he did not consider the use of oxygen mask mandatory for himself.

3.3 Risk factors that cannot be linked to the occurrence

- There were several packages where the UN sign, the UN number, the PSN number, or the sender's data were covered or otherwise not clearly visible.
- The ULD identification tags contained the three-letter cargo IMP code, in contradiction with the IATA DGR which requires the usage of Class/Division Numbers.
- There were simultaneously Air Malaysia and Air France package ID labels on the packages which is not allowed.
- The form for listing the non-radioactive dangerous goods was a 2006 edition, and the answers given to questions No. 37 and No. 51 were incorrect.
- The medical check in the captain's pilot licence expired on 2 June 2007.

4. SAFETY RECOMMENDATIONS

Similar occurrences can be prevented by complying with the relevant rules and regulations therefore there is no need to issue a specific safety recommendation.

5. APPENDICES

1. Aircraft Emergency Response Drills (ERG drill code)
2. Shipper's Declaration for Dangerous Goods
3. Special Load – Notification to Captain (1)
4. Special Load – Notification to Captain (2)
5. Material Safety Data Sheet (2 pages)
6. Dangerous Goods Check List for a Non-radioactive Shipment (Version 2006)
7. Photo
8. Load Sheet
9. Certificate of registration

Budapest, “ “ January 2009.

Sándor SIPOS
IIC

László GRÉZ
IC member

N^o 5/1

MATERIAL SAFETY DATA SHEET

In accordance with EC Guidelines 91/155/EEC and 2001/58/EC

BAL5287

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

Trade name: BAL 5287

Other name: PWS

Actual use: Synthetical intermediate for the production of an Active Pharmaceutical Ingredient (API)

Manufacturer (India): DIVIS LABORATORIES LTD. Div. Towers, 7-1, 77/E/1/303, Dharam Karan Road, Ametipet, Hyderabad - 500 016, Andhra Pradesh, India
Tel: +91 40 23752921, Fax: +91 40 23754252

Contact address (Europe): Antibioticos, Strada Rivoltana km 6-7, 20090 Rodano (MI), Italy
Tel: +39 0295233374, Fax: +39 0295321134

Phone number for emergencies: +91 8694 272259 or +91 8694 272260 (India)
+39 0295233374 (Italy)

Date Revised: Not applicable: Original data sheet

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS reg no.	Symbol	R-phrases	Content (%)
Mixture of	376653-42-8	Xn, Xi, N	R22, R41, R51/53	ca. 92% (w/w)
(1-tert-butoxycarbonyl-2-oxo-1,3(R)-dihydro-3(R)-yl) triphenyl phosphonium bromide and				
(1-tert-butoxycarbonyl-2-oxo-1,3(R)-dihydro-3(S)-yl) triphenyl phosphonium bromide				

3. HAZARD IDENTIFICATION

Most important hazards:

Ingestion: Harmful if swallowed

Irritation: Risk of serious damage to eyes

Inhalation: May be harmful after inhalation

Environment: Toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment

Specific hazards: Under fire situation, this material may generate toxic gases such as COx, NO2 and poisonous and corrosive fumes of HBr

4. FIRST-AID MEASURES

Symptoms and effects



AIRCRAFT EMERGENCY RESPONSE DRILLS (ERG DRILL CODE)

ERG

Rev. 1 del 27/03/2007

DRILL LETTER	INHERENT RISK	RISK TO AIRCRAFT	RISK TO OCCUPANTS	SPILOVERLEAK PROCEDURE	FIRE FIGHTING PROCEDURE	ADDITIONAL CONSIDERATION
01	Explosion may cause structural failure	Fire and/or explosion	As indicated by the drill letter(s)	Use 100% oxygen; no smoking	All agents according to availability; use standard fire procedure	Possible abrupt loss of pressurisation
02	Gas, non flammable, pressure may create hazard in fire	Minimal	As indicated by the drill letter(s)	Use 100% oxygen; establish and maintain maximum ventilation for "A", "I" or "P" drill letter	All agents according to availability; use standard fire procedure	Possible abrupt loss of pressurisation
03	Flammable liquid or solid	Fire and/or explosion	Smoke, fumes and heat, and as indicated by the drill letter(s)	Use 100% oxygen; establish and maintain max. ventilation; no smoking; min. electrics	All agents according to availability; no water on "W" drill letter	Possible abrupt loss of pressurisation
04	Spontaneously combustible or pyrophoric when exposed to air	Fire and/or explosion	Smoke, fumes and heat, and as indicated by the drill letter(s)	Use 100% oxygen; establish and maintain maximum ventilation	All agents according to availability; no water on "W" drill letter	Possible abrupt loss of pressurisation; minimum electrics if "F" or "H" drill letter
05	Oxidiser, may ignite other materials, may explode in heat of a fire	Fire and/or explosion, possible corrosion damage	Eye, nose, and throat irritation; skin damage on contact	Use 100% oxygen; establish and maintain maximum ventilation	All agents according to availability; no water on "W" drill letter	Possible abrupt loss of pressurisation
06	Toxic, may be fatal if inhaled ingested or absorbed by skin	Contamination with poisonous liquid or solid	Acute toxicity, effects may be delayed	Use 100% oxygen; establish and maintain maximum ventilation	All agents according to availability; no water on "W" drill letter	Possible abrupt loss of pressurisation; minimum electrics if "F" or "H" drill letter
07	Radiation from broken/unshielded packages	Contamination with spilled radioactive material	Exposure to radiation and personnel contamination	Do not move packages avoid contact	All agents according to availability; no water on "W" drill letter	Call for a qualified person to meet the aircraft
08	Corrosive, fumes disabling if inhaled or in contact with skin	Possible corrosion damage	Eye, nose, and throat irritation; skin damage on contact	Use 100% oxygen; establish and maintain maximum ventilation; do not touch without gloves	All agents according to availability; no water on "W" drill letter	Possible abrupt loss of pressurisation; minimum electrics if "F" or "H" drill letter
09	No general inherent risk	As indicated by the drill letter	As indicated by the drill letter	Use 100% oxygen; establish and maintain maximum ventilation if "A" drill letter	All agents according to availability; no water on "W" drill letter	None
10	Gas, flammable high fire risk if any ignition source present	Fire and/or explosion	Smoke, fumes and heat, and as indicated by the drill letter(s)	Use 100% oxygen; establish and maintain max. ventilation; no smoking; min. electrics	All agents according to availability	Possible abrupt loss of pressurisation
11	Infectious substances may affect humans or animals if inhaled, ingested or absorbed through the mucous membrane or an open wound	Contamination with infectious substances	Delayed infection to humans or animals	Do not touch. Minimum recirculation and ventilation in affected area	All agents according to availability. No water on "Y" drill letter	Call for a qualified person to meet the aircraft
DRILL LETTER	ADDITIONAL RISK	DRILL LETTER	ADDITIONAL RISK	DRILL LETTER	ADDITIONAL RISK	ADDITIONAL RISK
A	ANAESTHETIC	I	IRRITANT/TEAR PRODUCING	S	SPONTANEOUSLY COMBUSTIBLE OR PYROPHORIC	
C	CORROSIVE	L	OTHER RISK LOW OR NONE	W	IF WET GIVES OFF POISONOUS OR FLAMMABLE GAS OXIDISER	
E	EXPLOSIVE	M	MAGNETIC	X	OXIDISER	
F	FLAMMABLE	N	NOXIOUS	Y	Depending on the type of substance, the appropriate national authority may be required to quarantine individuals, animals, cargo and the aircraft	
H	HIGHLY IGNITABLE	P	TOXIC* (= POISON)		*Toxic has the same meaning as poison	

Nº 2

SHIPPER'S DECLARATION FOR DANGEROUS GOODS						
Shipper ANTIBIOTICOS S.P.A. STR. RIVOLTANA KM 6/7 20090 RODANO (MI) ITALY DR. M.PURICELLI PH.+39 02952331				Air Waybill No. 232-92073185 Page 1 of 1 Pages Shipper's Reference Number (optional)		
Consignee DIVI'S LABORATORIES LIMITED DIVI TOWERS, 7-1-77/E/1/303 DHARAM KARAN ROAD AMEERPET HYDERABAD-500 016 ANDHRA PRADESH INDIA - PH.+914023752921				 EMBASSY FREIGHT SERVICES S.p.A. GLOBAL FREIGHT FORWARDERS		
Two completed and signed copies of this Declaration must be handed to the operator				WARNING Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties.		
TRANSPORT DETAILS						
This shipment is within the limitations prescribed for (delete non applicable)		Airport of Departure				
<table border="1"><tr><td>PASSENGER AND CARGO AIRCRAFT</td><td>CARGO ONLY</td></tr></table>		PASSENGER AND CARGO AIRCRAFT	CARGO ONLY			
PASSENGER AND CARGO AIRCRAFT	CARGO ONLY					
Airport of Destination: HYDERABAD				Shipment type (delete non applicable) NON-RADIOACTIVE RADIOACTIVE		
NATURE AND QUANTITY OF DANGEROUS GOODS						
Dangerous Goods Identification				Quantity and type of packing	Packing Inst.	Authorization
UN or ID No.	Proper Shipping Name	Class or Division (Subsidiary Risk)	Pack-ing Group			
UN 3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (PWS -BAL5287)	9	III	72 Plastic drums X 25 KGS NET 1 Plastic drums X 5,5 KGS NET 2 Plastic drums X 7,5 KGS NET 1 Plastic drums X 3,5 KGS NET 1 Plastic drums X 8,5 KGS NET 1 Plastic drums X 10,5 KGS NET	911	
Additional Handling Information						
24-HOURS FOR EMERGENCY PHONE NUMBER : 00-39-0295231 IN ITALY						
I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged marked and labelled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. I declare that all of the applicable air transport requirements have been met.				Name/Title of Signatory F. MONTOLI EXPORT MANAGER Place and Date RODANO 12/07/2007 Signature (see warning above)  ANTIBIOTICOS		



SPECIAL LOAD - NOTIFICATION TO CAPTAIN



NOTOC

Rev. 1 del 26/01/05

Station of loading: MXP	Carrier: Malaysia Airlines	Flight Number: MH 6151	Date: 14/07/07	Aircraft registration: 74FCC	Prepared by: (Name & sign) MXPFAZ PARADISO GIORGIO
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Station of Unloading: KUL

Station of Unloading	Air Waybill	UN or ID Number	Proper Shipping Name (including Technical Name, if any)	Class or Div. for Class I-Comp. Group (Sub Risk)	Number of Packages	Packing Instruction Number	Net Quantity or Index per package	Radioactive Material Category	Packing Group	IMP Code	CAO (X)	ERG (Drill) Code	LOADED	
													ULD Identification	Position
KUL	232-92073785	UN3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	9	72	911	25 KG		III	RMD		9L	PMC-60006MH	A2
				9	1	911	5,5 KG		III	RMD		9L	PMC-60006MH	
				9	2	911	7,5 KG		III	RMD		9L	PMC-60006MH	
				9	1	911	3,5 KG		III	RMD		9L	PMC-60006MH	
				9	1	911	8,5 KG		III	RMD		9L	PMC-60006MH	
				9	1	911	10,5 KG		III	RMD		9L	PMC-60006MH	

OTHER SPECIAL LOAD:

Station of Unloading	Air Waybill	Contents and Description	Number of Packages	Quantity	Supplementary Information	IMP Code	ULD Identification	Position
KUL	232-93978172	VACCINES	10	149 KG	PLS. KEEP COOL BETWEEN +2/+8 C° IF POSSIBLE	PER	PMC-0069IMH	DL

THERE IS NO EVIDENCE THAT ANY DAMAGED OR LEAKING PACKAGES CONTAINING DANGEROUS GOODS HAVE BEEN LOADED ON THE AIRCRAFT

Aircraft Loaded by (to be signed by Loading Supervisor):	Captain's Signature: Ben J Light	Other Information:
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DANGEROUS GOODS IMP CODE:				OTHER SPECIAL LOAD IMP CODE:			
RCL Cryogenic Liquid	RGW Dangerous When Wet	ROX Oxidizer	RSC Spontaneously Combustible	AVI Live Animals	LHO Living Human Organ	PER Perishable	PEP Foods & Vegetables
RCM Corrosive	RGX Explosive 1.3G (CAO)	RPB Toxic substance	RXB Explosive 1.4B (CAO)	EAT Foodstuffs	MAG Magnetized Material	PES Fish & Seafood	PES Fish & Seafood
RCX Corrosive	RIS Infectious Substance	RPG Toxic Gas (CAO)	RXC Explosive 1.4C (CAO)	FIL Undeveloped Films	MUN Munitions of war	RSB Polymers & Resins	RSB Polymers & Resins
RFG Flammable Gas	RMD Miscellaneous	RRW Radioactive cat. I white	RXD Explosive 1.4D (CAO)	FRO Frozen Goods	PEA Explosives made from or containing parts of species listed in CITES	SHL Save Human Life	SHL Save Human Life
RFL Flammable Liquid	RNG Non-Flammable/Non-Toxic Gas	RRY Radioactive cat. II yellow	RXE Explosive 1.4E (CAO)	HEG Hatching Eggs	PEF Flowers	SWP Sporting Weapons	SWP Sporting Weapons
RFS Flammable Solid	ROP Organic Peroxide	RRY Radioactive cat. III yellow	RXS Explosive 1.4G (CAO)	HUM Human Remains	PEM Meat	VAL Valuable Cargo	VAL Valuable Cargo
Distribution: Captain, Handler, Ramp							

SPECIAL LOAD - NOTIFICATION TO CAPTAIN



Station of Loading

AMS

Flight Number

MH6151KUL

Date

JUL-14

Aircraft Registration

TF-AIX

Prepared by

FELDER

Page 1 of 1

DANGEROUS GOODS

Station of Unloading	Air Waybill Number	Proper Shipping Name	Class or Division For Class 1 comp, grp	UN or ID Number	Sub Risk	Number of Packages	Net quantity or weight per package	Radio- active Mat. Catg.	HAZ. Code	ERG	UN ID	PGS
KUL	232-82883365	BATTERIES, WET, FILLED WITH ALKALI	8	UN 2795		1	155KG		PG	ERG	UN ID	PGS
There is no evidence that any damaged or leaking packages containing dangerous goods have been loaded on the aircraft. (see mass and balance documentation)												

OTHER SPECIAL LOAD

Station of Unloading	Air Waybill Number	Contents and Description	Number of Packages	Quantity	Supplementary information	Code	UN ID	PGS
KUL	232-85204642	PLANTS	4	28KG		PEF	PMC-0207 MH	100
KUL	232-85206344	PLANTS	16	100KG		PEF	PMC-0207 MH	100
KUL	232-94154620	CHOCOLATES	3	90KG	KEEP COOL	EAY	PMC-0540 MH	GR

Other information

Captain's signature:

Loading supervisor's signature:

Building supervisor's signature:

0206032435

100% OK

6.000000

Skin contact:

Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

Eye contact:

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid if victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

Ingestion:

Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear. DO NOT use mouth-to-mouth respiration.

Inhalation:

Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear. DO NOT use mouth-to-mouth respiration.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:

Foam, carbon dioxide (CO₂), water spray

Not suitable extinguishing media:

Not known

Special protective equipment for firefighters:

In the event of fire, wear a self-contained breathing apparatus and a protective suit.

Exposure hazards (combustion products):

Under fire situation, this material may generate toxic gases such as CO, NO₂, and poisonous and corrosive fumes of HBr.

Special methods (on small fires):

If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. CO₂ extinguishers tanks with spray water.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Wear appropriate personal protective equipment (refer to Section 8) during clean up. Avoid contact with eyes and skin. Avoid inhalation. Stay down.

Environmental precautions:

Do not flush into storm water or sanitary sewer system. If accidental spillage or leakage enters drains or watercourses, inform local Environmental Agency.

Methods for cleaning up:

Soak up spill with absorbent material. Sweep up, place in a solid waste container for later disposal. Residual trace can be wiped away.

7. HANDLING AND STORAGE

Handling:

Handle with appropriate personal protective equipment (refer to Section 8), under ventilation. Avoid contact with eyes and skin.

Technical measures/Precautions:

Keep away from heat and sources of ignition. Wear personal protective equipment.

Safe handling:

Storage:

Keep containers tightly closed in a dry and well-ventilated place at 5 °C. Store in a place accessible by authorized persons only.

Technical measures/Storage conditions:

Incompatible with strong acids and bases.

Incompatible products:

JUS GOODS CHECK LIST FOR A NON-RADIOACTIVE SHIPMENT (Version 2006)

I refuse a shipment before all items have been checked. If any question is answered with "NO" refuse the shipment!

JUL 07	AWB: 232-92073785	DEST: HYD	DRILL CODE(S)
II & SCHIAVONI Srl	Signature:	Whose check Full name: F. L. P. Colletti	Signature:

DATE (MM)

04664590157

SHIPPER'S DECLARATION

1 Two copies in English

2 Full name and address of

Shipper and Consignee

3 Name and Telephone Number

of a responsible person for

Division 6.2

4 If the Air Waybill number, Airport

of Departure/Destination is not

shown enter it.

5 The number of pages shown

6 The non-applicable Aircraft Type

and the word "Radioactive"

deleted

IDENTIFICATION

7 Proper Shipping Name(s) and

technical name(s) in parentheses

for asterisked entries

8 Class or Division, and for

Class 1 the Compatibility group

9 UN or ID number, preceded by

prefix

10 Packing group -

11 Subsidiary Risk

QUANTITY AND TYPE OF PACKING

12 Number and Type of Packages

13 Quantity and unit of measure

(net or Gross, as applicable) per

package

14 If different Dangerous Goods are

packed in one outer packaging,

are the following rules applied:

- Compatible

- Containing Class 6.2

- All packed in one...

- "Q" value

15 Overpack:

- Indication "Overpack used"

- Compatible

- Multi-overpack marks and

quantity per overpack

PACKING INSTRUCTIONS

16 Packing Instruction Number

Yes No N/A

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AUTHORIZATIONS

17 If "Y" packing instruction used

the word "Limited Quantity"

18 Special provision A1, A2, A51

A81 or A109 if applicable

19 Indication that Governmental

authorization is attached

20 Requirements for Class 1 if

packed according P.I 101

ADDITIONAL HANDLING INFORMATION

21 State and Operator variations

22 Emergency Contact Number for:

South-Africa or via South Africa

United Arab Emirates

Canada or via Canada

23 For Self-Reactive and related

substance of Class 4.1 and

Organic peroxides of Class 5.2

The mandatory statement shown

24 Prior arrangement statement

for Class 6.2 infectious

substance shown

25 Name and Title of signatory

Place and Date indicated

26 Signature of shipper

27 Amendment or alteration(s)

signed with same signature

U.S.A. OR VIA U.S. TERRITORY ONLY

28 For transit via U.S.A.:

3 copies of the DGD present

29 The Emergency Contact

Number as per USG-12

30 For UN 1057; approval

obtained as per USG-07,

permit number mentioned on DGD

and piece(s) marked accordingly

31 For UN 3356; approval

obtained as per USG-03

32 For Class 1, Explosives,

approval obtained and

EX number mentioned on

Piece(s) as per USG-05

33 For UN 3268 is the EX number

mentioned on the DGD

Yes No N/A

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AIRWAYBILL

34 The handling information box

shows the applicable statement

PACKAGE(S) AND OVERPACKS

35 Packaging conforms with P.I.

and is undamaged

36 Same number and type of

packagings and overpacks

delivered as shown on DGD

MARKINGS

37 For UN specification Packaging

are they marked according

6.0.4. & 6.0.5

- Specification code

- X, Y, Z, agreed with Packing

Group/Instruction

- Maximum Gross Weight within

limits

- Infectious substance package

38 The Proper Shipping Name(s)

including technical name where

required, and the UN or ID Number

39 The full name and address of

Shipper and Consignee

40 The Net Quantity of Explosives

And the Gross weight of the

Package

41 The Name and Telephone

number of a person responsible

for Division 6.2 shipment

42 If applicable, the special

requirements show for

P.I. 202, 917

43 The Net weight of Carbon

Dioxide in the package

44 For Limited Quantities: "Ltd Qty"

or "Limited Quantities"

LABELLING

45 The Primary Risk label(s)

with Class or Division

46 The Subsidiary Risk labels

next to Primary Risk labels

with Class or Division number

47 Cargo Aircraft Only label

on the same surface near

the Hazard label(s)

Yes No N/A

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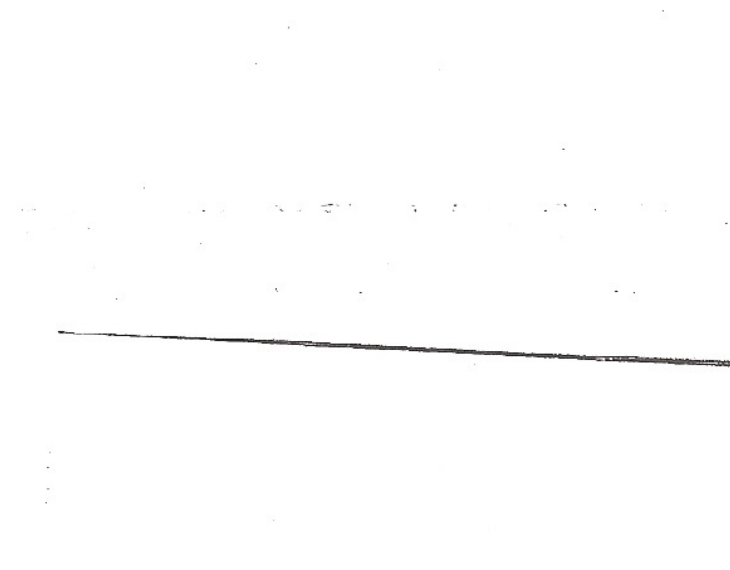
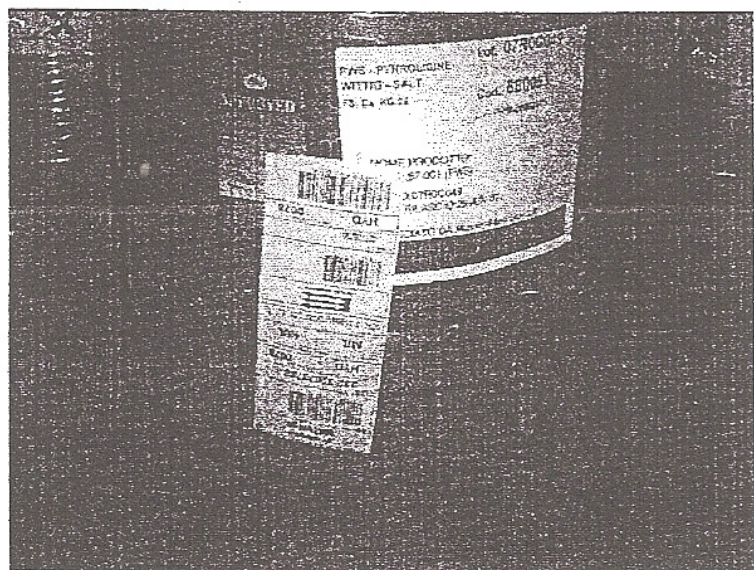
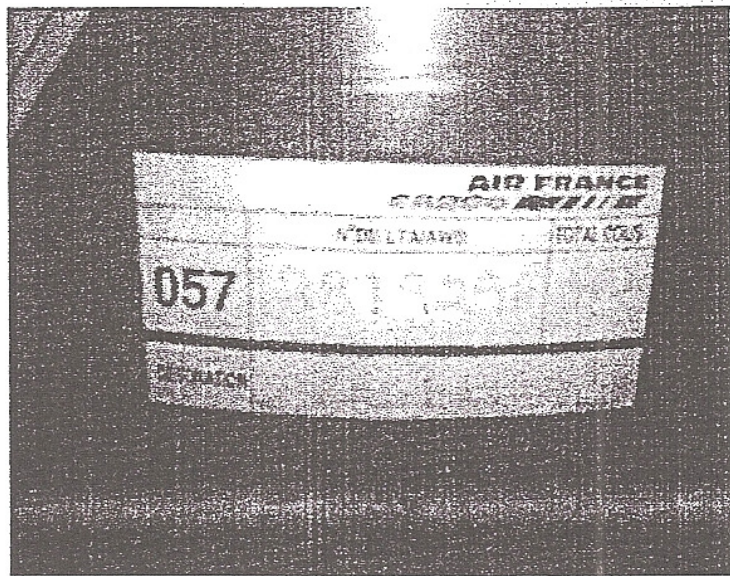
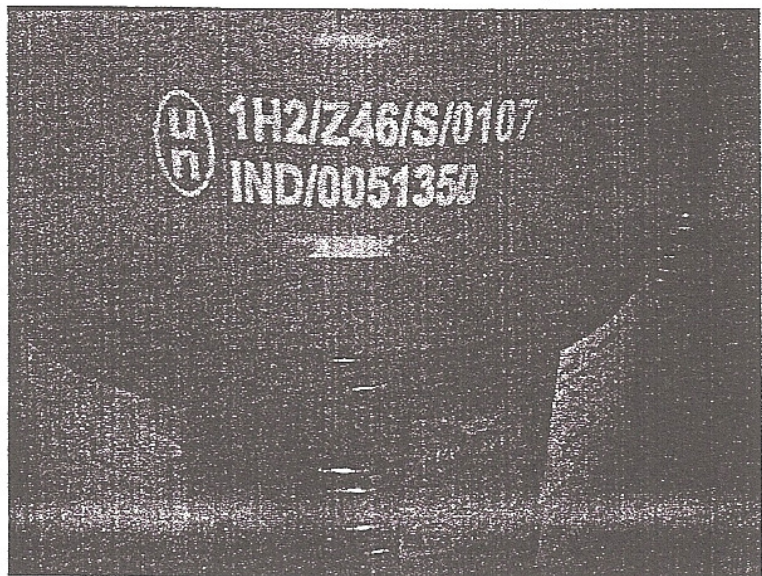
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MAH 6454

TFATX

MXP

DXB

14/3/2007

B747-200/300 Cargo

AIR ATLANTA
CARGO AND LOG

Mark Positions Loaded with Dangerous Goods

Item	Weight	Index
Dry Operating Weight and Index	15,992.0	7.0
Dry Operating Weight and Index - Correction	0	0
CORRECTED DOW AND INDEX	15,992.0	7.0

TOTAL CARGO AND INDEX	3,383.5	-18
ADDITIONAL PERSONS AND INDEX		
PAYLOAD FUEL AND INDEX		

NOTE: DETAILS ON LOADPLAN		
TOTAL TRAFFIC LOAD AND INDEX	3,383.5	-18
Dry operating weight and index	15,992.0	7.0

ZERO FUEL WEIGHT AND INDEX	2,597.55	5.2
MAX: 86764.9 Kgs		
Take-off fuel and index	786.00	-3
Ramp Fuel: 80000		
TAKE-OFF WEIGHT AND INDEX	3,383.55	4.9

MAX: 37784.2 Kgs		
TOT FUEL	6500.0	
ESTIMATED LANDING WEIGHT	2733.55	
MAX: 28576.3 Kgs		

DO NOT DANGEROUS GOODS CANNOT		
BE CARRIED ALONG WITH DANGEROUS		
GOODS		
IF THE DANGEROUS GOODS ARE CARRIED		
IN THE SAME CARGO HOLD AS DANGEROUS		
GOODS, THE FOLLOWING MUST BE COMPLETED		
AND THE DANGEROUS GOODS CANNOT		
BE CARRIED		

YES	YES	NO
YES	YES	NO
YES	YES	NO
YES	YES	NO

YES	YES	NO
YES	YES	NO
YES	YES	NO
YES	YES	NO

YES	YES	NO
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YES	YES	NO

A		B		C		D		E		F		G		H		I		J		K		L		M		N		O		P		Q		R		S		T		U		V		W		X		Y		Z																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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REPORTED BY: *CHINE AIRLINE*

DATE: *14/3/2007*

SIGNATURE: *[Signature]*

ICELANDIC CIVIL AVIATION ADMINISTRATION

CERTIFICATE OF REGISTRATION

No. 842

1. Registration:

TF-ATX

2. Manufacturer and Model of Aircraft:

Boeing 747-238SF

3. Aircraft Serial No.:

23741

4. Owner **Bullfinch Limited**

5. Address

Clarendon House, 2 Church Street, Hamilton HM1, Bermuda

6. Holder

Flugfélagið Atlanta hf (Air Atlanta Icelandic) id. 650387-1038

7. Address

Hlíðasmára 3 201 Kópavogur Ísland

8. Remarks

9. It is hereby certified that the above described aircraft has been duly entered on the Civil Aircraft Register of Iceland in accordance with the Convention on International Civil Aviation of 7 December 1944, and according to current Icelandic Law and Regulations.

Date of issue: **17.8.2005**

Signature

