

**Appendix F**  
**Hazardous Materials Factual Report**  
Misc. Information Provided by Emery

Rancho Cordova, CA  
DCA-00-MA-026



## SHIFT REPORT - NETWORK CONTROL

JD048 / February 20, 2000

1-(937)-264-6330

CONTROLLERS: Tom Andel (Network Control Manager), Dominic Van Schoyck (Network Control Supervisor), Brad Goertzen (Network Control Supervisor), Mark L. Miller (Network Control Supervisor)

TAIL#	STA		ETIC
8079U	MHR	AIRCRAFT INCIDENT	TBA

Operational Briefing:

- 0335z EB017/8079U (RNO/MHR/HDY) has blocked out of MHR.  
 0400z MC advises that their MHR mechanic saw EB017 crash shortly after take off.  
 0415z Have confirmation from SAC EWW that EB017 has crashed. Jim Adler/SAC Ops Supervisor & Steve Murphy/SAC Service Center Coordinator are at the sight. They have provided the MHR Emergency Response Team controlling officer with all hazmat and load paperwork regarding EB017.

TBA - TO BB ANNOUNCE D

MHR = MATHKA

MC = MAINTENANCE CONTROL

SAC = SACRAMENTO

EWW = EMERY WORLD WIDE



**EMERY**  
**WORLDWIDE**



# CHARTER UNIT LOAD

ORIGIN

DESTINATION

MANIFEST GROSS WEIGHT

SCALE WEIGHT

POSITION

FLIGHT

BREAKDOWN OR REMARKS

**WRITE HAZARD CLASS/DIV. NUMBER  
OF EACH HAZARDOUS MATERIAL  
LOADED INTO THIS CONTAINER.**


**PACKAGES BEARING 'DANGER'  
LABEL MUST BE ACCESSIBLE  
TO CREW IN FLIGHT.**

**(SEE LOADING PROCEDURES FOR EXCEPTIONS)**

CARGO COMPATIBILITY TABLE	A	B	C	D	E	F	G
<b>A. Explosives &amp; Blasting Agents (IATA 1)</b>	1	2	2	2	2	2	X
<b>B. Compressed Gases (IATA 2)</b>	2						
<b>C. Flammable Liquids (IATA 3)</b>	2					X	
<b>D. Flammable Solids and Liquids (labeled SPONTANEOUSLY COMBUSTIBLE) (IATA 4.2)</b>	2					X	X
<b>E. Flammable Solids (labeled DANGEROUS WHEN WET) (IATA 4.3)</b>	2					X	X
<b>F. Oxidizers (IATA 5.1) or Organic Peroxides (IATA 5.2)</b>	2		X	X	X		X
<b>G. Corrosive Materials (IATA 8)</b>	X			X	X	X	

Each hazardous material is preceded by a letter (such as A. Explosives & Blasting Agents). The letters along the top of the Table correspond with the letters on the left hand side. (A refers to Explosives & Blasting Agents).

Hazardous Materials listed in the Compatibility Table with an "X" at their intersections MAY NOT be loaded aboard an aircraft or into a ULD that will be loaded on an aircraft in a position next to each other and in a position that will permit the materials to react with each other in case of leakage. For example, a package containing a "Corrosive Material" and a package containing an "Oxidizer" may not be placed in a Freight Container (ULD) next to each other because there is an "X" at the intersection of the two entries in the Table.

if there is a number 1 at the intersection, it means that for import or export shipments, explosives that do not belong to the same compatibility group according to IATA must not be stowed together, whether or not they belong to the same division in the classification. However, explosives of Division 1.4 Compatibility Group S may be stowed with other compatibility groups, except Compatibility Groups A or L.

if there is a number 2 at the intersection, it means Explosives, other than safety explosives (IATA Division 1.4 Compatibility Group S) must not be stowed with this class.

# INITIAL REPORT OF MISHAP, DAMAGES, OR UNUSUAL EVENT

AIR-1013 (3/97) Lino U.S.A.



Telephone or fax to Operations Control within one hour after a mishap, unusual event or serious injury or fatality.

Phones: (800) 338-3471 (937) 264-6330 Fax: (937) 264-6083  
Report USPS events to Eagle Hub: Phones: (800) 248-2336 (317) 487-4400 Fax: (800) 448-7861

Note: Instructions for completing this form may be found in the EWA Safety Manual, Chapter 6. In addition, immediately notify the Chief Operating Officer, Director of Operations and Director of Airline Safety of major aircraft mishaps, substantial aircraft/equipment/facility damages, serious injury or fatality, or events that may receive news coverage.

Event date: 2/16/00 Time: 0345Z Event number: 00-048-01  
(Year - Julian Date - XX)

Event location: MHR  Inflight/Enroute SIC: \_\_\_\_\_

Person reporting event: Scott/ME Phone: \_\_\_\_\_

Person completing report form: MARK L. MILLER Phone: \_\_\_\_\_

Event type: (Check all applicable items.)

- |   |  |
|---|--|
| <input type="checkbox"/> No damage event                            | <input type="checkbox"/> Potential mishap or "close call"  |
| <input checked="" type="checkbox"/> EWA aircraft mishap/damage      | <input type="checkbox"/> Contractor aircraft mishap/damage |
| <input type="checkbox"/> Aborted takeoff                            | <input type="checkbox"/> FAA reportable event (M/MRR)      |
| <input checked="" type="checkbox"/> Air tumbuck                     | <input type="checkbox"/> Weather related damages           |
| <input type="checkbox"/> Block tumbuck                              | <input type="checkbox"/> Fuel/hazmat spill or incident     |
| <input type="checkbox"/> Engine shutdown                            | <input type="checkbox"/> Ground support equipment damage   |
| <input type="checkbox"/> Foreign object damage (FOD) or bird strike | <input type="checkbox"/> Freight handling equipment damage |
| <input type="checkbox"/> Motor vehicle damage                       | <input type="checkbox"/> Serious personal injury/fatality  |
| <input type="checkbox"/> Freight or freight container damage        | <input type="checkbox"/> Other _____                       |

Event description: After departure of EB017/8079U from MHR, the crew declared an emergency and attempted to land in MHL. The aircraft returned and crashed near the airport. Information to follow.

Aircraft number: 8079U Flight number: EB017

Describe damaged equipment, property, and/or freight: TBA

If contractor's aircraft, equipment, personnel, or services are involved:

Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Name of representative notified: \_\_\_\_\_ Date and Time: \_\_\_\_\_

Personnel involved:  EWA  Hub/EWW  Contractor  Vendor/Visitor  Unknown  
 Aircrew  Mechanics  Freight Handlers  Fueler/Ground Service

Damage repairs made?  N/A  Yes  No If yes:  Temporary  Permanent

Did emergency services (fire, spill response, police, etc.) respond?  Yes  No

Are FAA, NTSB, or OSHA initial notifications required?  Yes  No (See reverse)

Freight movement effect:  N/A  None  Delay of TBA Hours  Freight missed sort

Another aircraft/truck picked up freight  Freight shipped to another location for pickup

### Operations Control Actions:

Controller completing initial notifications: MARK L. MILLER

EMCON report sent?  Yes  No  Not Required

Copy of report to:  Chief Operating Officer  Director of Operations  Director Quality Control  
 Director Airline Safety  Maintenance Control  Flight Dispatch

A	MPN	SPK INVENTORY BY ATA				DATE:		19FEB00
		NOUN	CPN	S/N	FAIBASH	T	ALC	QTY
00	KITFUELSHUTOFFVALVE	KIT	D910028		S807905	0	1	1
00	KITGENERATOR	KIT	D919997		S807905	0	1	1
00	KITHEATEXCHANGER	KIT	D910098		S807905	0	1	0
00	KITMAINGEARCONTVLV	KIT	D910070		S807905	0	1	0
00	KITMAINHYDPUMPDRAIN	KIT	D910044		S807905	0	1	1
00	KITMEC	KIT	D910167		S807905	0	1	1
00	KITRUDDERPUMP	KIT	D910017		S807905	0	1	1
00	KITSPOILERCONTROLVLV	KIT	D910053		S807905	0	1	1
00	KITSPOILERPUMP	KIT	D919998		S807905	0	1	1
00	KITTHRUSTREVERSER	KIT	D910157		S807905	0	1	1
00	M83536-6-025M	CONNECTO	C901752		S807904	0	2	2
00	MS24513-4174	LAMP	D914089		S807904	0	10	10
00	MS29513-226	O RING	D914604		S807905	0	1	2
00	NAS1611	O RING K	D915762		S807904	0	1	1
00	S4892944-242	O-RING	D905172		S807905	0	1	1
00	ALS362	SEALANT	C900939		S807909	0	2	2
00	9044035-1	PLUG	8740050		S807909	1	2	2
00	AIR0092	LOGBOOK	C900917		S807911	0	0	1

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EMERG  
COMAT

COMAT

A.	MPN	SPK INVENTORY BY ATA			DATE:		19FEB00	
		NOUN	CPN	S/N	FAIBASH	T	ALC	QTY
00	S82026	PROTECTO	T000801		S807907	1	1	1
00	TQFR250C	WRENCH	T300064		S807907	3	1	0
11	30-326-1	CONTROL	8260022	017713	S807908	2	0	1
00	21-20-7-001	KIT	D901050		S807905	0	1	1
00	21-70-7-001	KIT	D901051		S807905	0	1	1
00	21-70-7-002	KIT	D901052		S807905	0	1	1
00	B7040-2	SENSOR	8210408		S807908	1	1	1
11	522-0532-004	COUPLER	8230035	000003	S807912	3	1	1
11	522-0536-016	COUPLER	8230022	000158	S807901	3	1	1
11	G4981	PANEL	8230201	000008	S807912	3	1	1
21	G1728-07	PANEL	8230167	000883	S807912	3	1	1
21	G1928A	PANEL	8230174	000266	S807912	3	1	1
00	ACF50	FUSE	C900859		S807904	0	10	10
00	HA9F106	RELAY	8240147		S807908	1	1	1
21	50130-003	PANEL	8240048	000145	S807912	3	1	1
21	50137-002	RELAY	8240050	4983ML	S807912	3	1	1
00	50044-1	LOCK	8250127		S807907	1	1	2
00	50044-523	LOCK	8250134		S807907	1	1	3

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MPN	SPK INVENTORY BY ATA			FAIBASH	DATE:		19FEB00
	NOUN	CPN	S/N		T	ALC	
0 AIR0114	LOGBOOK	C900919			0	0	1
0 968R3	TOOL	D912719		S807904	0	1	1
0 150-1	CAN	D919864		S807913	0	1	1
0 2702974	PAD	T000133		S807907	1	2	2
0 2703133	PAD	T000136		S807907	1	1	1
0 33410-70-5	ADAPTER	C901122		S807913	0	1	1
0 3708450	PAD	T000181		S807907	1	1	1
0 4655426	TOOL	D919820		S807907	0	1	1
0 4713966	WRENCH	T000232		S807913	1	1	1
0 4766049-1	WRENCH	T000237		S807913	1	1	1
0 5769883	TOOL	T000304		S807913	1	1	1
0 59565	TOOL	T000312		S807907	1	1	1
0 ATI300	GAUGE	T300034	A92894	S807907	3	1	1
0 HA2-7481	TOOL	T000632		S807907	1	1	3
0 JHA356	JACK	T000658		S807907	1	1	1
0 KT6253	PUMP	T000672		S807913	1	1	1
0 P142	PUMP	T000745		S807919	1	1	1
0 RPCS	COVER SE	T000675		S807913	1	1	1

MPN	SPK INVENTORY BY ATA				DATE:		19FEB00
	NOUN	CPN	S/N	FAIBASH	T	ALC	QTY
00 387	BULB	D903441		S807904	0	10	10
00 5557	BULB	D905855		S807903	0	0	2
00 77-10-001	SEAL KIT	D908278		S807905	0	1	1
00 ACF60	FUSE	C900862		S807904	0	10	10
00 AE2460000E0212	HOSE	D909188		S807912	0	1	1
00 AE2460000E0262	HOSE	D909193		S807912	0	1	1
00 AE2460000H0240	HOSE	D909209		S807912	0	1	1
00 AE2460000H0480	HOSE	D909213		S807912	0	1	1
00 KITAILERONPACKACTUAT	KIT	D910019		S807905	0	1	1
00 KITAUXPUMP	KIT	D919999		S807905	0	1	1
00 KITBRAKECONTROLVALVE	KIT	D910046		S807905	0	1	1
00 KITCSD	KIT	D919996		S807905	0	1	1
00 KITENGINEACDRFUELF	KIT	D910141		S807911	0	1	1
00 KITENGINEDRIVENHYDPU	KIT	D910074		S807905	0	1	1
00 KITFUELFLOWTX	KIT	D910114		S807905	0	1	1
00 KITFUELFLOWTXCFM56	KIT	D910144		S807905	0	1	1
00 KITFUELLEVELCONTVLV	KIT	D910027		S807905	0	1	1
00 KITFUEL PUMP	KIT	D910118		S807905	0	1	1

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A	MPN	SPK INVENTORY BY ATA			FAIBASH	DATE:		19FEB00
		NOUN	CPN	S/N		T	ALC	
	HARDLINEREPAIR	KIT	D902888		S807913	0	1	1
-23	63999-000	MICROPHO	8230282		S807908	1	2	2
-32	2020-18	BUNGEE	D901703		S807909	0	2	2
-33	307	BULB	D902513		S807904	0	10	10
-33	4559	LAMP	D904177		S807903	0	2	2
-00	11631	LAMP	D900431		S807904	0	10	10
-00	16870	LAMP	D900760		S807904	0	10	10
-00	29-10-002	KIT	D902168		S807905	0	1	1
-00	29-10-003	KIT	D902169		S807905	0	1	1
-00	29-20-001	KIT	D902172		S807905	0	1	1
-00	29-20-002	KIT	D902173		S807905	0	1	1
-00	29-30-001	KIT	D902174		S807905	0	1	1
00	310	BULB	D902534		S807904	0	10	10
00	311	BULB	D902549		S807904	0	10	10
00	313	BULB	D902558		S807904	0	10	10
00	313R	BULB	D902568		S807904	0	10	10
00	32-30-001	KIT	D902598		S807905	0	1	1
00	32-40-001	KIT	D902600		S807905	0	1	1

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A	MPN	SPK INVENTORY BY ATA			DATE:		19FEB00
		NOUN	CPN	S/N	FAIBASH	T ALC	QTY
						L	
-00	50044-525	LOCK	8250135		S807907	1	2
-00	KT6400	HOSE	D912718		S807913	0	1
-00	899096	DETECTOR	8260072		S807913	1	1
-00	899097	DETECTOR	8260073		S807913	1	1
-00	899098-2	DETECTOR	8260075		S807913	1	1
-00	899098-2T	DETECTOR	8260076		S807913	1	1
-00	899099-2	DETECTOR	8260078		S807913	1	1
-21	899827	BOTTLE	8260081			3	1
-00	AE2460002E0212	HOSE	D906641		S807912	0	1
-00	AE2460002E0224	HOSE	D906644		S807912	0	1
-00	AE2460002E0262	HOSE	D906647		S807912	0	1
-00	AE2460002E0270	HOSE	D906648		S807912	0	1
-00	AE3663212F0480	HOSE	D909304		S807905	0	1
-00	H14-1008	SWITCH	8270340		S807909	1	1
-41	300425-02	ACTUATOR	8270033	9-23AA	S807906	3	1
-00	1327-566098	CAP	8280058		S807909	1	1
-00	28-20-001	SEAL KIT	D902106		S807905	0	1
-00	AE2460000E0224	HOSE	D909189		S807912	0	1

RE

QTY	MPN	SPK INVENTORY BY ATA			FAIBASH	DATE:		19FEB00
		NOUN	CPN	S/N		T	ALC	
00	AE2460000E0270	HOSE	D909194		S807912	0	1	1
00	AE2460010G0301	FLEX LIN	D918490		S807912	0	2	2
21	57155A	PUMP/MOT	8290100	-17028	S807903	3	1	1
31	ST7T	TRANSMIT	8290207	001866	S807908	2	1	1
00	M0105	DETECTOR	8300062		S807908	1	1	1
00	KITFLAPCONTROLVALVE	KIT	D910083		S807905	0	1	1
00	KITFUELPRESSURETX	KIT	D910106		S807905	0	1	1
00	KITFUELTANKSELECTOR	KIT	D910020		S807905	0	1	1
00	KITSTEERINGCONTROLVVL	KIT	D910093		S807905	0	1	1
00	3-5716694	KIT	D902277		S807906	0	1	1
00	3-5759145-1	KIT	D902278		S807906	0	1	1
00	3754475-1	BOLT	8320092		S807902	1	1	1
00	3890309-1	PLATE	D903476		S807907	0	1	1
00	3891195-1	TUBE	8320110		S807907	1	1	0
00	AE2460002E0300	HOSE	D906615		S807912	0	1	2
00	AE2460002G0200	HOSE	D906617		S807912	0	1	2
00	AE2463944E0200	HOSE	D909283		S807912	0	1	1
00	H14-1003	SWITCH	8320327		S807909	1	1	1

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SPK INVENTORY BY ATA

DATE: 19FEB00

A	MPN	NOUN	CPN	S/N	FAIBASH	DATE:		QTY
						T	ALC	
						L		
-00	H14-6	SWITCH	D919881		S807909	0	0	1
-30	5616554-5503	CYLINDER	8320404	044450	S807912	2	0	1
-40	39-069B	VALVE	8320115	01844B	S807903	3	0	1
-41	154251-1	WHEEL	8320396		S807917	1	2	2
-41	9550328	WHEEL	8320395		S807917	1	2	2
-43	154252-2	BRAKE	8320022	B-2825	S807917	3	1	1
-43	154252-2	BRAKE	8320022	0C1229	S807917	3	1	1
-00	327	BULB	D902641		S807904	0	10	10
-00	43335-11-16870	LIGHT	8330333	000699	S807910	3	0	1
-00	4551	LAMP	D904172		S807903	0	2	3
-42	43325-16870	LIGHT	8330174	000116	S807910	3	1	1
-00	2588302-4	GYRO	A340009	040329	S807911	3	0	1
-00	522-4363-007	INDICATO	A340014	000238	S807906	3	0	1
-00	851CU1	TUBE	D919618		S807908	0	1	1
-00	ACF30	FUSE	C900854		S807904	0	10	10
-12	D40341-10-276	ALTIMETE	8340762	OK577A	S807906	3	1	1
-13	B0243-81925	INDICATO	8340664	000822	S807906	3	0	1
-14	SLZ9145	INDICATO	8340879	Y2972D	S807906	3	0	1

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A	MPN	SPK INVENTORY BY ATA			FAIBASH	DATE:		19FEB00
		NOUN	CPN	S/N		T	ALC	
						L		
19	C26707-2	TRANSDUC	8340733	000614	S807908	3	1	1
21	2587927-902	AMPLIFIE	8340230		S807912	3	1	0
22	1783993-485	INDICATO	8340111	020552	S807906	3	1	1
23	1784775-442	INDICATO	8340118	02014B	S807906	3	1	1
32	522-4280-101	RECEIVER	8340433	014221	S807902	3	1	1
41	622-5122-103	TRANSCEI	8340515	001147	S807901	3	1	1
41	622-6514-001	INDICATO	8340531	001038	S807912	3	1	1
00	H20-6B	SWITCH	D912022		S807909	0	1	1
00	9043187-23	LEAD	8740047		S807909	1	1	2
00	62632	SPLINE	8800038		S807904	1	1	1
00	80-00-7-002	KIT	D908521		S807905	0	1	1
99	2602096	SPACER	D901457		S807909	0	1	1
99	305-557-002-0	BOLT	D902424		S807907	0	2	2
99	305-557-302-0	BOLT	D902426		S807907	0	2	2
99	73-10-7-001	SEAL KIT	D907870		S807905	0	1	1
99	78-30-7-001	SEAL KIT	D908408		S807905	0	1	1
99	79-20-7-001	SEAL KIT	D908457		S807905	0	1	1
99	79-21-7-001	SEAL KIT	D908458		S807905	0	1	1

IE

A	MPN	SPK INVENTORY BY ATA			DATE:		19FEB00
		NOUN	CPN	S/N	FAIBASH	T ALC	
99	80-00-7-001	SEAL KIT	D908520		S807905	0 1	1
99	9057M50P01S	SEAL	D908740		S807905	0 1	1
99	AE2460000G0104	HOSE	D900795		S807912	0 2	2
99	AE2460002E0240	HOSE	D900824		S807912	0 1	1

END OF OUTPUT \*\*

SPK  
N 8079

E





## MEMORANDUM

**TO:** Mike Smyth  
Paul Maksym

**FROM:** Thomas M. Wood, Director Quality Control *TMW*

**SUBJECT:** NTSB Data Request for N8079U

**DATE:** February 18, 2000

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Attached is the information per your request. I have made these copies from the original records I have secured in my possession.

- 1) Flight Crew Training Records for: Kevin Stables  
George Land  
Russell Hicks
  
- 2) N8079U had on board two cases of Hydraulic Fluid and two cases of Engine oil. The attached Material Safety Data Sheets are attached for these items.

Please call if you have any further request or questions.

TMW/lc

Material Safety Data Sheet  
CHEVRON  
Material Safety Data Sheet  
CHEVRON  
Material Safety Data Sheet  
CHEVRON  
Material Safety Data Sheet  
CHEVRON

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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CHEVRON HYJET IV-A

PRODUCT NUMBER(S): CPS247701

COMPANY IDENTIFICATION

Chevron International Oil Co.  
P.O. Box 7146  
San Francisco, CA 94120-7146

EMERGENCY TELEPHONE NUMBERS

HEALTH (24 hr): (800)231-0623 or  
(510)231-0623 (International)  
TRANSPORTATION (24 hr): CHEMTREC  
(800)424-9300 or (202)463-7516

PRODUCT INFORMATION: (800)344-5650

SPECIAL NOTES: For Product Information from outside the United States  
call (415) 894-5341.

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2. COMPOSITION/INFORMATION ON INGREDIENTS

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100.0% CHEVRON HYJET IV-A

CONTAINING

COMPONENTS	AMOUNT	LIMIT/QTY	AGENCY/TYPE
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ADDITIVES INCLUDING THE FOLLOWING  
< 23.0%

CYCLOALIPHATIC EPOXIDE  
< 3.2%

TRIARYLPHOSPHATE

1 LBS

CERCLA 302.4

RQ

THE BALANCE OF THE FORMULATION IS

Revision Number: 10      Revision Date: 05/20/94      MSDS Number: 003559

NDA - No Data Available      NA - Not Applicable

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the Toxicology and Health Risk Assessment Unit, CRTC, P.O. Box 4054, Richmond, CA 94804  
CHEVRON HYJET IV-A      Page 2 of

8

TRIBUTYL PHOSPHATE

Chemical Name: TRIBUTYL PHOSPHATE  
CAS125738

0.2 ppm  
5 mg/m3

ACGIH TWA  
OSHA PEL

COMPOSITION COMMENT:

All the components of this material are on the Toxic Substances Control Act Chemical Substances Inventory.

TLV - Threshold Limit Value      TWA - Time Weighted Average  
STEL - Short-term Exposure Limit      TPQ - Threshold Planning Quantity  
RQ - Reportable Quantity      PEL - Permissible Exposure Limit  
C - Ceiling Limit      CAS - Chemical Abstract Service

Number

A1-5 - Appendix A Categories      ( ) - Change Has Been Proposed

3. HAZARDS IDENTIFICATION

\*\*\*\*\* EMERGENCY OVERVIEW \*\*\*\*\*

Clear purple liquid.

- HARMFUL IF SWALLOWED
- CAUSES EYE AND SKIN IRRITATION
- MAY CAUSE SENSITIZATION BY SKIN CONTACT
- POSSIBLE RISK OF IRREVERSIBLE EFFECTS

\*\*\*\*\*

POTENTIAL HEALTH EFFECTS

EYE:

This substance is a moderate eye irritant and could cause prolonged (weeks) impairment of your vision. The degree of the injury will depend on the amount of material that gets into the eye and the speed and thoroughness of the first aid treatment.

SKIN:

This substance is a severe skin irritant so contact with the skin could cause prolonged (weeks) injury to the affected area. The degree of injury will depend on the amount of material that gets on the skin and the speed and thoroughness of the first aid treatment. This substance can cause allergic skin reactions in laboratory test animals and this may also happen in some exposed individuals. If absorbed through the skin, this substance is considered practically non-toxic to internal organs. Read the Toxicology Information section (11) of this document for more

information.

**INGESTION:**

This substance is slightly toxic to internal organs if swallowed. The degree of injury will depend on the amount absorbed from the gut.

**INHALATION:**

The systemic toxicity of this substance has not been determined.

However,

it should be practically non-toxic to internal organs if inhaled. This substance may be irritating if inhaled.

**SIGNS AND SYMPTOMS OF EXPOSURE:**

Revision Number: 10      Revision Date: 05/20/94      MSDS Number:

003559

NDA - No Data Available

NA - Not Applicable

CHEVRON HYJET IV-A

Page 3 of

8

**EYE:** May include pain, tears, swelling, redness, and blurred vision.

**SKIN:** May include pain or a feeling of heat, discoloration, swelling,

and

blistering. **SKIN:** May include discoloration, itching, and swelling.

**INHALATION:** Respiratory tract irritation may include, but may not be limited to, one or more of the following: nasal discharge, sore throat, coughing, bronchitis, pulmonary edema and difficulty in breathing.

---

**4. FIRST AID MEASURES**

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**EYE:**

Flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open. Remove contact lenses if worn. If irritation persists, see a doctor.

**SKIN:**

Remove contaminated clothing. Wash skin thoroughly with soap and water. See a doctor if any signs or symptoms described in this document occur. Discard contaminated non-waterproof shoes and boots. Wash contaminated clothing.

**INGESTION:**

If swallowed, give water or milk to drink and telephone for medical advice. Consult medical personnel before inducing vomiting. If medical advice cannot be obtained, then take the person and product container to the nearest medical emergency treatment center or hospital.

**INHALATION:**

If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.

---

**5. FIRE FIGHTING MEASURES**

---

**FLAMMABLE PROPERTIES**

**FLASH POINT:** (COC) 350F (177C)

**AUTOIGNITION:** 800F (427C) (ASTM-D2155)

**FLAMMABILITY LIMITS** (% by volume in air): Lower: NDA Upper: NDA

**EXTINGUISHING MEDIA:**

CO2, dry chemical, foam and water fog.

**NFPA RATINGS:** Health 2; Flammability 1; Reactivity 0.

**FIRE FIGHTING INSTRUCTIONS:**

For fires involving this material, do not enter any enclosed or confined

fire space without proper protective equipment, including self-contained breathing apparatus.

**COMBUSTION PRODUCTS:**

Normal combustion forms carbon dioxide and water vapor and may produce oxides of sulfur and phosphorus. Incomplete combustion can produce carbon monoxide.

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**6. ACCIDENTAL RELEASE MEASURES**

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CHEMTREC EMERGENCY NUMBER (24 hr): (800)424-9300 or (202)483-7616

Revision Number: 10      Revision Date: 05/20/94      MSDS Number: 003559

NDA - No Data Available      NA - Not Applicable  
CHEVRON HYJET IV-A      Page 4 of

8

**ACCIDENTAL RELEASE MEASURES:**

Stop the source of the leak or release. Clean up releases as soon as possible, observing precautions in Exposure Controls/Personal Protection. Contain liquid to prevent further contamination of soil, surface water or groundwater. Cover spill with a generous amount of Oil Dry, cat litter, clay, rags or other absorbent. Use a stiff broom to mix thoroughly. Sweep up and place in a disposable container. Scrub contaminated area with detergent and water using a stiff broom. Pick up liquid with additional absorbent and place in a disposable container.

---

**7. HANDLING AND STORAGE**

---

**HANDLING AND STORAGE:**

READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL. DO NOT weld, heat or drill container. Replace cap or bung. Emptied container still contains hazardous material which may ignite with explosive violence if heated sufficiently. CAUTION! Do not use pressure to empty drum or drum may rupture with explosive force.

---

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

---

**PERSONAL PROTECTIVE EQUIPMENT**

**EYE/FACE PROTECTION:**

Do not get this material in your eyes. Eye contact can be avoided by wearing chemical goggles.

**SKIN PROTECTION:**

Do not get on skin or on clothing. Wear protective clothing including gloves when handling. Laboratory tests indicate that impermeable clothing

or gloves made with Butyl rubber or Polyethylene may give adequate protection for up to 8 hours. "Rubber gloves" are not all alike -- BE CERTAIN YOU ARE USING A CORRECT TYPE.

**RESPIRATORY PROTECTION:**

No special respiratory protection is normally required. If operating conditions result in airborne mists or vapors of this material, the use of

an approved respirator is recommended.  
ENGINEERING CONTROLS:  
Use this material only in well ventilated areas.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

---

### PHYSICAL DESCRIPTION:

Clear purple liquid.

pH: NDA  
VAPOR PRESSURE: 0.5 mm Hg @ 200F (93C)  
VAPOR DENSITY  
(AIR=1): NDA  
BOILING POINT: 550F (288C)  
FREEZING POINT: NDA

Revision Number: 10      Revision Date: 05/20/94      MSDS Number:  
003559

NDA - No Data Available      NA - Not Applicable

CHEVRON HYJET IV-A

Page 5 of

8

MELTING POINT: NA  
SOLUBILITY: Soluble in hydrocarbon solvents; insoluble in water.  
SPECIFIC GRAVITY: 0.997 @ 25C/25c (77F/77F)  
EVAPORATION RATE: NDA  
VISCOSITY: 10.6 cSt @ 100F  
PERCENT VOLATILE  
(VOL): NDA  
MOLECULAR WEIGHT: 265 (Avg.)

---

## 10. STABILITY AND REACTIVITY

---

### HAZARDOUS DECOMPOSITION PRODUCTS:

NDA

### CHEMICAL STABILITY:

Stable.

### CONDITIONS TO AVOID:

No data available.

### INCOMPATIBILITY WITH OTHER MATERIALS:

May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

### HAZARDOUS POLYMERIZATION:

Polymerization will not occur.

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## 11. TOXICOLOGICAL INFORMATION

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### EYE EFFECTS:

The Draize Eye Irritation Score (range, 0-110) in rabbits is 13.5.

### SKIN EFFECTS:

The Draize Skin Primary Irritation Score (range, 0-8) for a 4-hour exposure (rabbits) is 5.4. This material was determined to be a skin sensitizer in the Buehler Guinea Pig Sensitization Test. This material contains a component that was determined to be a skin sensitizer in the modified Buehler Guinea Pig Sensitization Test. This material was

the urinary bladder in both sexes (3000 ppm only, NOEL = 700 ppm). Urinary bladder hyperplasia was noted in both sexes at the mid and high doses. Tributyl phosphate has been shown to be neither a mutagen nor a clastogen in genotoxicity studies conducted in vivo and in vitro.

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## 12. ECOLOGICAL INFORMATION

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### ECOTOXICITY:

This material is toxic to aquatic organisms and should be kept out of sewage and drainage systems and all bodies of water.

### ENVIRONMENTAL FATE:

No data available.

---

## 13. DISPOSAL CONSIDERATIONS

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SPECIAL NOTES: For Chemical Emergency information from outside the United States call (202) 483-7616.

### DISPOSAL CONSIDERATIONS:

Place contaminated materials in disposable containers and dispose of in a

Revision Number: 10                      Revision Date: 05/20/94                      MSDS Number:

003559

NDA - No Data Available                      NA - Not Applicable

CHEVRON HYJET IV-A

Page 7 of

8

manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

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## 14. TRANSPORT INFORMATION

---

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

DOT HAZARD CLASS: 9 (MISCELLANEOUS HAZARDOUS MATERIAL)

DOT IDENTIFICATION NUMBER: UN3082

DOT PACKING GROUP: III

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## 15. REGULATORY INFORMATION

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SARA 311 CATEGORIES:	1. Immediate (Acute) Health Effects:	YES
	2. Delayed (Chronic) Health Effects:	YES
	3. Fire Hazard:	NO
	4. Sudden Release of Pressure Hazard:	NO
	5. Reactivity Hazard:	NO

REGULATORY LISTS SEARCHED:

determined to be a weak skin sensitizer in human patch testing. The dermal LD50 in rabbits is greater than 5 g/kg.

ACUTE ORAL EFFECTS:

The oral LD50 in rats is 2.5 g/kg.

ACUTE INHALATION EFFECTS:

No product toxicology data available. The hazard evaluation was based on data on the components.

ADDITIONAL TOXICOLOGY INFORMATION:

This product contains a cycloaliphatic epoxide additive. This ingredient caused cancer in the skin of mice when applied as a 15% solution in acetone. The epoxide was applied three times per week for a year and never removed. Since the acetone would quickly evaporate, this equates

to

continuous skin contact with 100% cycloaliphatic epoxide. As a result of this exposure, 15% of the treated mice developed skin cancer. The

epoxide

was also tested in the Ames Mutagenicity Test and was found to be negative. The epoxide produced chromosomal aberrations in an in vitro test using Chinese Hamster Ovary cells.

Revision Number: 10

Revision Date: 05/20/94

MSDS Number:

003559

NDA - No Data Available

NA - Not Applicable

CHEVRON HYJET IV-A

Page 5 of

8

Because of the international sale and use of CHEVRON Hyjet fluids, the label uses a risk phrase mandated by the European Economic Community (EEC). The label warning "Possible Risk of Irreversible Effects" is intended to convey our concern that prolonged and repeated skin contact with the epoxide can be harmful. It is our belief that CHEVRON Hyjet can be worked with safely with no further precautions than would be required for any aviation hydraulic fluid using similar base stocks.

CHEVRON Hyjet containing the epoxide was tested in guinea pigs for skin sensitization potential and found to be negative. However, when the epoxide alone was injected under the skin of guinea pigs, an allergic

skin

reaction was produced.

This product contains a triarylphosphate which when given in large oral doses (4 g/kg) to hens caused delayed nerve damage that resulted in loss of coordination and difficulty in walking; these effects were not

observed

in hens given 2 g/kg. In another study, hens given 3 g/kg also showed no effects. Continuous daily dermal exposure to 50 mg/kg of this material for 5 days/week for 4 months similarly did not result in any nerve damage in hens. Evaluations of the manufacturer's workers who make this and similar chemicals have not demonstrated any unusual pattern of mortality or disease. We believe that there should be no risk of nerve damage to workers who handle this product when the precautions outlined in this

MSDS

and on the product label are followed to minimize exposure.

In a long term feeding study in mice tributyl phosphate caused an increased incidence of benign livers tumors in male CD-1 mice (3500 ppm only, NOEL = 1000 ppm) which was accompanied by liver enlargement. No tumors were observed in female mice in this study. In male and female CD rats a chronic feeding study resulted in benign and malignant tumors of



01=SARA 313	11=NJ RTK	22=TSCA Sect 5(a)(2)
02=MASS RTK	12=CERCLA 302.4	23=TSCA Sect 6
03=NTP Carcinogen	13=MN RTK	24=TSCA Sect 12(b)
04=CA Prop 65-Carcin	14=ACGIH TWA	25=TSCA Sect 8(a)
05=CA Prop 65-Repro Tox	15=ACGIH STEL	26=TSCA Sect 8(d)
06=IARC Group 1	16=ACGIH Calc TLV	27=TSCA Sect 4(a)
07=IARC Group 2A	17=OSHA PEL	28=Canadian WHMIS
08=IARC Group 2B	18=DOT Marine Pollutant	29=OSHA CEILING
09=SARA 302/304	19=Chevron TWA	30=Chevron STEL
10=PA RTK	20=EPA Carcinogen	

The following components of this material are found on the regulatory lists indicated.

**TRIBUTYL PHOSPHATE**

is found on lists: 02,10,11,13,14,17,24,25,27,28,

**TRIARYLPHOSPHATE**

is found on lists: 12,

**EEC RISK AND SAFETY STATEMENTS:**

Harmful

Irritating to eyes and skin.

May cause sensitization by skin contact.

Possible risk of irreversible effects.

Revision Number: 10

Revision Date: 05/20/94

MSDS Number:

003559

NDA - No Data Available

NA - Not Applicable

CHEVRON HYJET IV-A

Page 8 of

8

Avoid contact with eyes and skin.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable eye/face protection.

Wear suitable protective clothing and gloves.

**WHMIS CLASSIFICATION:**

Class D, Division 2, Subdivision B: Toxic Material

-Skin or Eye Irritation

**16. OTHER INFORMATION**

**NFPA RATINGS:** Health 2; Flammability 1; Reactivity 0; (Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

**REVISION STATEMENT:**

This revision updates Section 15 (Regulatory Information).

\*\*\*\*\*

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be

unfamiliar and since data made available subsequent to the date hereof  
may suggest modification of the information, we do not assume any  
responsibility for the results of its use. This information is furnished upon  
condition that the person receiving it shall make his own determination  
of the suitability of the material for his particular purpose.

Revision Number: 10      Revision Date: 05/20/94      MSDS Number:  
103559  
NDA - No Data Available      NA - Not Applicable



# Material Safety Data Sheet

Page 1 of 8

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**CHEVRON HyJet IV-A plus**

PRODUCT NUMBER(S): CPS247700

### COMPANY IDENTIFICATION

Chevron International Oil Co.  
P.O. Box 7146  
San Francisco, CA 94120-7146

### EMERGENCY TELEPHONE NUMBERS

HEALTH (24 hr): (800)231-0623 or  
(510)231-0623 (International)  
TRANSPORTATION (24 hr): CHEMTREC  
(800)424-9300 or (202)483-7616

PRODUCT INFORMATION: (800)344-5650

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

100.0 % CHEVRON HyJet IV-A plus

### CONTAINING

COMPONENTS	AMOUNT	LIMIT/QTY	AGENCY/TYPE
TRIBUTYL PHOSPHATE Chemical Name: TRIBUTYL PHOSPHATE CAS126738	74.0%	0.2 ppm 5 mg/m3	ACGIH TWA OSHA PEL
ADDITIVES INCLUDING THE FOLLOWING 26.0%			
TRIARYLPHOSPHATE		1 LBS	CERCLA 302.4 RQ

### COMPOSITION COMMENT:

All the components of this material are on the Toxic Substances Control

Revision Number: 7      Revision Date: 01/24/96      MSDS Number: 005501  
NDA - No Data Available      NA - Not Applicable

Prepared according to the OSHA Hazard Communication Standard  
(29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the Toxicology  
and Health Risk Assessment Unit, CRTC, P.O. Box 4054, Richmond, CA 94804

## Act Chemical Substances Inventory.

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	TPQ - Threshold Planning Quantity
RQ - Reportable Quantity	PEL - Permissible Exposure Limit
C - Ceiling Limit	CAS - Chemical Abstract Service Number
Al-5 - Appendix A Categories	() - Change Has Been Proposed

---

**3. HAZARDS IDENTIFICATION**


---

\*\*\*\*\* **EMERGENCY OVERVIEW** \*\*\*\*\*

Clear purple liquid with a sweet odor.

- **HARMFUL IF SWALLOWED**
- **CAUSES EYE AND SKIN IRRITATION**
- **MAY CAUSE SENSITIZATION BY SKIN CONTACT**
- **POSSIBLE RISK OF IRREVERSIBLE EFFECTS**

\*\*\*\*\*

**POTENTIAL HEALTH EFFECTS****EYE:**

This substance is a moderate eye irritant and could cause prolonged (weeks) impairment of your vision. The degree of the injury will depend on the amount of material that gets into the eye and the speed and thoroughness of the first aid treatment.

**SKIN:**

This substance is a severe skin irritant so contact with the skin could cause prolonged (weeks) injury to the affected area. The degree of injury will depend on the amount of material that gets on the skin and the speed and thoroughness of the first aid treatment. If absorbed through the skin, this substance is considered practically non-toxic to internal organs.

**INGESTION:**

This substance is slightly toxic to internal organs if swallowed. The degree of injury will depend on the amount absorbed from the gut.

**INHALATION:**

The systemic toxicity of this substance has not been determined. However, it should be practically non-toxic to internal organs if inhaled. This substance may be irritating if inhaled.

**SIGNS AND SYMPTOMS OF EXPOSURE:**

**EYE:** May include pain, tears, swelling, redness, and blurred vision.  
**SKIN:** May include pain or a feeling of heat, discoloration, swelling, and blistering. **INHALATION:** Respiratory tract irritation may include, but may not be limited to, one or more of the following: nasal discharge, sore throat, coughing, bronchitis, pulmonary edema and difficulty in breathing.

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Revision Number: 7      Revision Date: 01/24/96      MSDS Number: 005501  
 NDA - No Data Available      NA - Not Applicable

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#### 4. FIRST AID MEASURES

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**EYE:**

Flush eyes immediately with fresh water for at least 15 minutes while holding the eyelids open. Remove contact lenses if worn. If irritation persists, see a doctor.

**SKIN:**

Remove contaminated clothing. Wash skin thoroughly with soap and water. See a doctor if any signs or symptoms described in this document occur. Discard contaminated shoes and boots. Wash contaminated clothing.

**INGESTION:**

If swallowed, give water or milk to drink and telephone for medical advice. Consult medical personnel before inducing vomiting. If medical advice cannot be obtained, then take the person and product container to the nearest medical emergency treatment center or hospital.

**INHALATION:**

If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues.

---

#### 5. FIRE FIGHTING MEASURES

---

**SPECIAL NOTES:** Flame Propagation: Material will not sustain flame when ignition source is removed.

**FLAMMABLE PROPERTIES:**

FLASH POINT: 352F (178C)

AUTOIGNITION: 766F (408C)

FLAMMABILITY LIMITS (% by volume in air): Lower: NDA Upper: NDA

**EXTINGUISHING MEDIA:**

CO<sub>2</sub>, dry chemical, foam and water fog.

**NFPA RATINGS:** Health 2; Flammability 1; Reactivity 0.

**FIRE FIGHTING INSTRUCTIONS:**

For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

**COMBUSTION PRODUCTS:**

Normal combustion forms carbon dioxide and water vapor and may produce oxides of sulfur and phosphorus. Incomplete combustion can produce carbon monoxide.

---

#### 6. ACCIDENTAL RELEASE MEASURES

---

**CHEMTREC EMERGENCY NUMBER (24 hr):** (800)424-9300 or (202)483-7616

**ACCIDENTAL RELEASE MEASURES:**

Stop the source of the leak or release. Clean up releases as soon as possible, observing precautions in Exposure Controls/Personal Protection. Contain liquid to prevent further contamination of soil, surface water or groundwater. Cover spill with a generous amount of Oil Dry, cat litter,

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Revision Number: 7

Revision Date: 01/24/96

MSDS Number: 005501

NDA - No Data Available

NA - Not Applicable

clay, rags or other absorbent. Use a stiff broom to mix thoroughly. Sweep up and place in a disposable container. Scrub contaminated area with detergent and water using a stiff broom. Pick up liquid with additional absorbent and place in a disposable container.

---

## 7. HANDLING AND STORAGE

---

READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL. DO NOT weld, heat or drill container. Replace cap or bung. Emptied container still contains hazardous material which may ignite with explosive violence if heated sufficiently. CAUTION! Do not use pressure to empty drum or drum may rupture with explosive force.

---

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

---

### ENGINEERING CONTROLS

Use this material only in well ventilated areas.

### PERSONAL PROTECTIVE EQUIPMENT

#### EYE/FACE PROTECTION:

Do not get this material in your eyes. Eye contact can be avoided by wearing chemical goggles.

#### SKIN PROTECTION:

Do not get on skin or on clothing. Wear protective clothing including gloves when handling. Laboratory tests indicate that impermeable clothing or gloves made with Butyl rubber or Polyethylene may give adequate protection for up to 8 hours. "Rubber gloves" are not all alike -- BE CERTAIN YOU ARE USING A CORRECT TYPE.

#### RESPIRATORY PROTECTION:

No special respiratory protection is normally required. If operating conditions result in airborne mists or vapors of this material, the use of an approved respirator is recommended.

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

---

### PHYSICAL DESCRIPTION:

Clear purple liquid with a sweet odor.

pH:	NDA
VAPOR PRESSURE:	0.5 mm Hg @ 200F (93C)
VAPOR DENSITY (AIR=1):	NDA
BOILING POINT:	550F (288C)
FREEZING POINT:	NDA
MELTING POINT:	NA
SOLUBILITY:	Soluble in hydrocarbon solvents; insoluble in water.
SPECIFIC GRAVITY:	0.995 @ 25C/25C (77F/77F)
EVAPORATION RATE:	NDA
VISCOSITY:	10.33 cSt @ 100F (38C)

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Revision Number: 7

Revision Date: 01/24/96

MSDS Number: 005501

NDA - No Data Available

NA - Not Applicable

---

**PERCENT VOLATILE**

(VOL): .01-.03%  
MOLECULAR WEIGHT: 265 (Avg.)

---

**10. STABILITY AND REACTIVITY**

---

**HAZARDOUS DECOMPOSITION PRODUCTS:**

NDA

**CHEMICAL STABILITY:**

Stable.

**CONDITIONS TO AVOID:**

No data available.

**INCOMPATIBILITY WITH OTHER MATERIALS:**

May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

**HAZARDOUS POLYMERIZATION:**

Polymerization will not occur.

---

**11. TOXICOLOGICAL INFORMATION**

---

**EYE EFFECTS:**

No product toxicology data available. The hazard evaluation was based on data from similar materials.

**SKIN EFFECTS:**

No product toxicology data available. The hazard evaluation was based on data from similar materials. This material contains a component that was determined to be a skin sensitizer in the modified Buehler Guinea Pig Sensitization Test.

**ACUTE ORAL EFFECTS:**

No product toxicology data available. The hazard evaluation was based on data from similar materials.

**ACUTE INHALATION EFFECTS:**

No product toxicology data available. The hazard evaluation was based on data on the components.

**SUBCHRONIC EFFECTS:**

This product contains a triarylphosphate which when given in large oral doses (4 g/kg) to hens caused delayed nerve damage that resulted in loss of coordination and difficulty in walking; these effects were not observed in hens given 2 g/kg. In another study, hens given 3 g/kg also showed no effects. Continuous daily dermal exposure to 50 mg/kg of this material for 5 days/week for 4 months similarly did not result in any nerve damage in hens. Evaluations of the manufacturer's workers who make this and similar chemicals have not demonstrated any unusual pattern of mortality or disease. We believe that there should be no risk of nerve damage to workers who handle this product when the precautions outlined in this MSDS and on the product label are followed to minimize exposure.

In a long term feeding study in mice tributyl phosphate caused an increased incidence of benign livers tumors in male CD-1 mice (3500 ppm only, NOEL = 1000 ppm) which was accompanied by liver enlargement. No

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**Revision Number: 7****Revision Date: 01/24/96****MSDS Number: 005501****NDA - No Data Available****NA - Not Applicable**

tumors were observed in female mice in this study. In male and female CD rats a chronic feeding study resulted in benign and malignant tumors of the urinary bladder in both sexes (3000 ppm only, NOEL = 700 ppm). Urinary bladder hyperplasia was noted in both sexes at the mid and high doses. Tributyl phosphate has been shown to be neither a mutagen nor a clastogen in genotoxicity studies conducted in vivo and in vitro.

---

## 12. ECOLOGICAL INFORMATION

---

### ECOTOXICITY:

No data available.

### ENVIRONMENTAL FATE:

This material may be toxic to aquatic organisms and should be kept out of sewage and drainage systems and all bodies of water.

---

## 13. DISPOSAL CONSIDERATIONS

---

Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations. Contact local environmental or health authorities for approved disposal of this material.

---

## 14. TRANSPORT INFORMATION

---

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT SHIPPING NAME: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(TRIARYLPHOSPHATE)  
DOT HAZARD CLASS: 9 (MISCELLANEOUS HAZARDOUS MATERIAL)  
DOT IDENTIFICATION NUMBER: UN3082  
DOT PACKING GROUP: III  
LABEL/PLACARD: CLASS 9 PLACARD

---

## 15. REGULATORY INFORMATION

---

SARA 311 CATEGORIES:

1. Immediate (Acute) Health Effects:	YES
2. Delayed (Chronic) Health Effects:	YES
3. Fire Hazard:	NO
4. Sudden Release of Pressure Hazard:	NO
5. Reactivity Hazard:	NO

REGULATORY LISTS SEARCHED:

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Revision Number: 7      Revision Date: 01/24/96      MSDS Number: 005501  
NDA - No Data Available      NA - Not Applicable



01=SARA 313	11=NJ RTK	22=TSCA Sect 5(a)(2)
02=MASS RTK	12=CERCLA 302.4	23=TSCA Sect 6
03=NTP Carcinogen	13=MN RTK	24=TSCA Sect 12(b)
04=CA Prop 65-Carcin	14=ACGIH TWA	25=TSCA Sect 8(a)
05=CA Prop 65-Repro Tox	15=ACGIH STEL	26=TSCA Sect 8(d)
06=IARC Group 1	16=ACGIH Calc TLV	27=TSCA Sect 4(a)
07=IARC Group 2A	17=OSHA PEL	28=Canadian WHMIS
08=IARC Group 2B	18=DOT Marine Pollutant	29=OSHA CEILING
09=SARA 302/304	19=Chevron TWA	30=Chevron STEL
10=PA RTK	20=EPA Carcinogen	

The following components of this material are found on the regulatory lists indicated.

**TRIBUTYL PHOSPHATE**

is found on lists: 02,10,11,13,14,17,24,26,27,28,

**TRIARYLPHOSPHATE**

is found on lists: 12,

**EEC RISK AND SAFETY STATEMENTS:**

Harmful.

May cause sensitization by skin contact.

Possible risk of irreversible effects.

Irritating to eyes and skin.

Avoid contact with eyes and skin.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Wear suitable eye/face protection.

Wear suitable protective clothing and gloves.

**WHMIS CLASSIFICATION:**

Class D, Division 2, Subdivision B: Toxic Material

-Skin or Eye Irritation

**16. OTHER INFORMATION**

**NFPA RATINGS: Health 2; Flammability 1; Reactivity 0;**

(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

**REVISION STATEMENT:**

This revision updates Section 14 ( Transport Information).

\*\*\*\*\*

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may

Revision Number: 7                      Revision Date: 01/24/96                      MSDS Number: 005501  
 NDA - No Data Available                      NA - Not Applicable

suggest modification of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

**EXXON COMPANY, U.S.A.**  
A DIVISION OF EXXON CORPORATION

DATE ISSUED: 08/01/94  
SUPERSEDES DATE: 09/15/93

## MATERIAL SAFETY DATA SHEET

EXXON COMPANY, U.S.A. P.O. BOX 2180 HOUSTON, TX 77252-2180

### A. IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT NAME  
TURBO OIL 2380

PRODUCT CODE  
217556 - 02380

PRODUCT CATEGORY  
Aviation Synthetic Lubricant

PRODUCT APPEARANCE AND ODOR  
Clear liquid, yellow color  
Mild fatty odor

MEDICAL EMERGENCY TELEPHONE NUMBER  
(713) 656-3424

### B. COMPONENTS AND HAZARD INFORMATION

COMPONENTS	CAS NO. OF COMPONENTS	APPROXIMATE CONCENTRATION
Base lubricant of polyol esters and Proprietary additives	Mixture	100%

All components of this product are listed on the U.S. TSCA inventory.

See Section E for Health and Hazard Information.

See Section H for additional Environmental Information.

#### HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

Health	Flammability	Reactivity	BASIS
1	1	0	Recommended by Exxon

EXPOSURE LIMIT FOR TOTAL PRODUCT  
5 mg/m<sup>3</sup> for oil mist (aerosol) for an 8-hour workday

BASIS  
OSHA Regulation 29 CFR 1910.1000 and recommended by the American Conference of Governmental Industrial Hygienists (ACGIH). ACGIH states that the air is to be sampled by a method that does not collect vapor; in addition, it lists a 10 mg/m<sup>3</sup> STEL.

### C. PRIMARY ROUTES OF ENTRY AND EMERGENCY AND FIRST AID PROCEDURES

#### EYE CONTACT

If splashed into the eyes, flush with clear water for 15 minutes or until irritation subsides. If irritation persists, call a physician.

#### SKIN

In case of skin contact, remove any contaminated clothing and wash skin with soap and water. Launder or dry-clean clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical

## E. HEALTH AND HAZARD INFORMATION

### VARIABILITY AMONG INDIVIDUALS

Health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

### EFFECTS OF OVEREXPOSURE (Signs and symptoms of exposure)

Prolonged or repeated skin contact may cause skin irritation.

### POTENTIAL HAZARDS OUTSIDE OF NORMAL USE CONDITIONS:

Product may decompose at elevated temperatures or under fire conditions and give off irritating, noxious and toxic vapors/fumes. Refer to Section D, Decomposition Products Under Fire Conditions. Symptoms from acute exposure in confined spaces may include headache, nausea, eye, nose and throat irritation. With prolonged exposure, serious health consequences such as lung damage and death may occur if exposures are allowed to continue without proper respiratory protection. Minimize breathing vapor/fume/smoke. Follow guidance of Section I, Protection and Precautions.

### NATURE OF HAZARD AND TOXICITY INFORMATION

Repeated and prolonged overexposure to oil mists may result in droplet deposition, oil granuloma formation, inflammation and increased incidence of infection.

In accordance with the current OSHA Hazard Communication Standard criteria, this product does not require a cancer hazard warning. This is because the product is formulated from base stocks which are severely hydrotreated, severely solvent extracted, and/or processed by mild hydrotreatment and extraction. Alternatively, it may consist of components not otherwise affected by IARC criteria, such as atmospheric distillates or synthetically derived materials, and as such is not characterized by current IARC classification criteria.

This product and/or similar products have been evaluated for the potential to cause delayed neurotoxic effects in animals (hens). At a maximal dose of 5 gm/kg, there was no evidence of delayed neurotoxic potential. Federal EPA Guidelines indicate that materials evaluated at the maximal dose of 5 gm/kg which do not exhibit neurotoxic potential need not be tested further for delayed neurotoxicity (EPA TSCA Test Guidelines, 1985).

Prolonged or repeated skin contact with this product tends to remove skin oils, possibly leading to irritation and dermatitis; however, based on human experience and available toxicological data, this product is judged to be neither a "corrosive" nor an "irritant" by OSHA criteria.

Product contacting the eyes may cause eye irritation.

Product has a low order of acute oral and dermal toxicity, but minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

This product is judged to have an acute oral LD50 (rat) greater than 5 g/kg of body weight, and an acute dermal LD50 (rabbit) greater than 3.16 g/kg of body weight.

### PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE

None recognized

## F. PHYSICAL DATA

The following data are approximate or typical values and should not be used for precise design purposes.

### BOILING RANGE

Approximately 400°C (752°F) IBP  
to 540°C (1004°F) FBP

### VAPOR PRESSURE

Less than 0.01 mm Hg @ 20°C

## I. PROTECTION AND PRECAUTIONS

### VENTILATION

Use local exhaust to capture vapor, mists or fumes, if necessary. Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. No smoking, or use of flame or other ignition sources.

### RESPIRATORY PROTECTION

Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

### PROTECTIVE GLOVES

Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

### EYE PROTECTION

Use splash goggles or face shield when eye contact may occur.

### OTHER PROTECTIVE EQUIPMENT

Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing, which could result in prolonged or repeated skin contact.

### WORK PRACTICES / ENGINEERING CONTROLS

Keep containers closed when not in use. Do not store near heat, sparks, flame or strong oxidants.

In order to prevent fire or explosion hazards, use appropriate equipment.

Information on electrical equipment appropriate for use with this product may be found in the latest edition of the National Electrical Code (NFPA-70). This document is available from the National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269.

### PERSONAL HYGIENE

Minimize breathing vapor, mist or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-clean before re-use. Remove contaminated shoes and thoroughly clean before re-use; discard if oil-soaked. Cleanse skin thoroughly after contact, before breaks and meals, and at end of work period. Product is readily removed from skin by waterless hand cleaners followed by washing thoroughly with soap and water.

## J. TRANSPORTATION AND OSHA RELATED LABEL INFORMATION

### TRANSPORTATION INCIDENT INFORMATION

For further information relative to spills resulting from transportation incidents, refer to latest Department of Transportation Emergency Response Guidebook for Hazardous Materials Incidents.

### U.S. DOT HAZARDOUS MATERIALS SHIPPING DESCRIPTION

Not regulated

### OSHA REQUIRED LABEL INFORMATION

In compliance with hazard and right-to-know requirements, where applicable OSHA Hazard Warnings may be found on the label, bill of lading or invoice accompanying this shipment.

Note: Product label may contain non-OSHA related information also.

HYJET IV-A PLUS

**EXXON** COMPANY, U.S.A.  
A DIVISION OF EXXON CORPORATION

DATE ISSUED: 07/18/96  
SUPERSEDES DATE: \*\*\*\*\*

**MATERIAL SAFETY DATA SHEET**

EXXON COMPANY, U.S.A. P.O. BOX 2180 HOUSTON, TX 77252-2180

**A. IDENTIFICATION AND EMERGENCY INFORMATION**

**PRODUCT NAME** HYJET IV-A PLUS **PRODUCT CODE** 212334 - 02334  
**PRODUCT CATEGORY** Aviation Synthetic Hydraulic Fluid  
**PRODUCT APPEARANCE AND ODOR** Clear purple liquid  
 Sweet odor  
**MEDICAL EMERGENCY TELEPHONE NUMBER** (713) 656-3424

**B. COMPONENTS AND HAZARD INFORMATION**

COMPONENTS	CAS NO. OF COMPONENTS	APPROXIMATE CONCENTRATION
Tributyl Phosphate	126-73-8	74%
Proprietary additives	Mixture	26%

This product, as manufactured by Exxon, does not contain polychlorinated biphenyls (PCB's).

All components of this product are listed on the U.S. TSCA inventory.

See Section E for Health and Hazard Information.

See Section H for additional Environmental Information.

**HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)**  
 Health 2 Flammability 1 Reactivity 0 **BASIS** Recommended by Exxon

**EXPOSURE LIMIT FOR TOTAL PRODUCT**  
 5 mg/m3 for oil mist (aerosol) for an 8-hour workday **BASIS** OSHA Regulation 29 CFR 1910.1000 and recommended by the American Conference of Governmental Industrial Hygienists (ACGIH). ACGIH states that the air is to be sampled by a method that does not collect vapor; in addition, it lists a 10 mg/m3 STEL.

0.2 ppm (2.2 mg/m3) for Tributyl Phosphate for an 8-hour workday **BASIS** Recommended by the American Conference of Governmental Industrial Hygienists (ACGIH)

combustion.

**"EMPTY" CONTAINER WARNING**

"Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to clean since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. For work on tanks refer to Occupational Safety and Health Administration regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

## E HEALTH AND HAZARD INFORMATION

**VARIABILITY AMONG INDIVIDUALS**

Health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

**EFFECTS OF OVEREXPOSURE (Signs and symptoms of exposure)**

Prolonged or repeated skin contact may cause skin irritation.

**POTENTIAL HAZARDS OUTSIDE OF NORMAL USE CONDITIONS:**

Product may decompose at elevated temperatures or under fire conditions and give off irritating, noxious and toxic vapors/fumes. Refer to Section D, Decomposition Products Under Fire Conditions. Symptoms from acute exposure in confined spaces may include headache, nausea, eye, nose and throat irritation. With prolonged exposure, serious health consequences such as lung damage and death may occur if exposures are allowed to continue without proper respiratory protection. Minimize breathing vapor/fume/smoke. Follow guidance of Section I, Protection and Precautions.

**NATURE OF HAZARD AND TOXICITY INFORMATION**

Repeated and prolonged overexposure to oil mists may result in droplet deposition, oil granuloma formation, inflammation and increased incidence of infection.

In accordance with the current OSHA Hazard Communication Standard criteria, this product does not require a cancer hazard warning. This is because the product is formulated from base stocks which are severely hydrotreated, severely solvent extracted, and/or processed by mild hydrotreatment and extraction. Alternatively, it may consist of components not otherwise affected by IARC criteria, such as atmospheric distillates or synthetically derived materials, and as such is not characterized by current IARC classification criteria.

This product contains a triarylphosphate which when given in large oral doses (4 g/kg) to hens caused delayed nerve damage that resulted in loss of coordination and difficulty in walking; these effects were not observed in hens given 2 g/kg. In another study, hens given 3 g/kg also showed no effects. Continuous daily dermal exposure to 50 mg/kg of this material for 5 days/week for 4 months similarly did not result in any nerve damage in hens. Evaluations of the manufacturer's workers who make this and similar chemicals have not demonstrated any unusual pattern of mortality or disease. There should be no risk of nerve damage to workers who handle this product when the precautions outlined in this Material Safety Data Sheet and on the product label are followed to minimize exposure.

In a long term feeding study in mice tributyl phosphate caused an increase incidence of benign liver tumors in male CD-1 mice (3500 ppm only, NOEL = 1000 ppm) which was accompanied by liver enlargement. No tumors were observed in female mice in this study. In male and female CD rats, a chronic feeding study resulted in benign and malignant tumors of the urinary bladder in both sexes (3000 ppm only, NOEL = 700 ppm). Urinary bladder hyperplasia was noted in both sexes at the mid and high doses. Tributyl phosphate has been shown to be neither a mutagen nor a clastogen in genotoxicity studies conducted in vivo and in vitro.

HYJET IV-A PLUS

watercourses, or extensive land areas.

May be toxic to Aquatic organisms.

Assure conformity with applicable governmental regulations.

THE FOLLOWING INFORMATION MAY BE USEFUL IN COMPLYING WITH VARIOUS STATE AND FEDERAL LAWS AND REGULATIONS UNDER VARIOUS ENVIRONMENTAL STATUTES:

THRESHOLD PLANNING QUANTITY (TPQ), EPA REGULATION 40 CFR 355 (SARA Sections 301-304)

No TPQ for product or any constituent greater than 1% or 0.1% (carcinogen).

TOXIC CHEMICAL RELEASE REPORTING, EPA REGULATION 40 CFR 372 (SARA Section 313)

No toxic chemical is present greater than 1% or 0.1% (carcinogen).

HAZARDOUS CHEMICAL REPORTING, EPA REGULATION 40 CFR 370 (SARA Sections 311-312)

EPA HAZARD CLASSIFICATION CODE:	Acute Hazard XXX	Chronic Hazard XXX	Fire Hazard	Pressure Hazard	Reactive Hazard	Not Applicable
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TOXIC SUBSTANCE CONTROL ACT

This product contains the following TSCA 12b reportable chemical substance(s): Tributyl Phosphate CAS # 126-73-8

CANADA - WHMIS CLASSIFICATION

Class D, Division 2, Subdivision B: Toxic Material  
Skin or eye irritation

EUROPE (EEC) RISK AND SAFETY PHRASES

Harmful	Avoid contact with skin
Possible risk of irreversible effects	Wear suitable protective clothing
Irritating to the eyes and skin	Wear suitable gloves

## I. PROTECTION AND PRECAUTIONS

### VENTILATION

Use local exhaust to capture vapor, mists or fumes, if necessary. Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. No smoking, or use of flame or other ignition sources.

### RESPIRATORY PROTECTION

Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

### PROTECTIVE GLOVES

Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

### EYE PROTECTION

Use splash goggles or face shield when eye contact may occur.

### OTHER PROTECTIVE EQUIPMENT

Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing, which could result in prolonged or repeated skin contact.

### WORK PRACTICES / ENGINEERING CONTROLS

Keep containers closed when not in use. Do not store near heat, sparks, flame or strong oxidants.

In order to prevent fire or explosion hazards, use appropriate equipment.

Information on electrical equipment appropriate for use with this product may be found in the latest edition of the National Electrical Code (NFPA-70). This document is available from the National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269.



HYJET IV-A PLUS

FOR FUELS TECHNICAL ASSISTANCE CALL: 713-656-4955

FOR AN MSDS OR ASSISTANCE WITH AN MSDS, DIRECT INQUIRIES TO THE ADDRESS  
BELOW OR CALL:

MARKETING TECHNICAL SERVICES

EXXON COMPANY, U.S.A.

ROOM 2344

P. O. BOX 2180

HOUSTON, TX 77252-2180

(713) 656-5949

IF YOU HAVE AN IMMEDIATE NEED FOR AN MSDS, DIAL 1-800-298-4007 FOR A  
FAXED COPY.

# IG SHEET DC8-71

FLT.# 017

DATE 2/16/00

OF-523-71 (07/98)

ACFT.# 8079U

PIC Stables

9887	8687	8687	6887	6887	6887	6887	6887	5913
9887	7007	7007	6887	6887	6887	6887	6887	5913

10	11	12	13	14	15	16	17	18	19
HDY	HDY	HDY	HDY	HDY	HDY	HDY	HDY	HDY	
3126	30153	30625	3257	2411	<del>30625</del>	31399	17396	30814	
1940	1310	4210	4580	3060	<del>4925</del>	5700	3410	4400	

2935    4503    -0-    2429    2173    2172    1244

FWD LOWER 19350 LBS.	11B	12B	13B*	14B	15B	16B	17B
	HDY	HDY	/	HDY	HDY	HDY	HDY
150 LBS. →	960 + 400	350 + 400		400	400		
	1360	750					

CAUTION:  
INSTALL TAIL  
STAND BEFORE  
LOADING OR  
UNLOADING  
AIRCRAFT.

DO NOT EXCEED UPPER LIMITATION:

10	11+	12+	13+	14+	15+	16+	17+	18	19
	11B	12B	13B	14B	15B	16B	17B		
1940	1710	4610	4580	3460	<del>4925</del>	5700	3410	4400	

LOWER DECK MAXIMUM FLOOR LOADING 120 LBS/SQ. FT. ALL

## TRIP INFORMATION

INDEX: <u>-324.9</u>	BOW: <u>149241</u>
TTL CARGO WGT ON THIS STATION: <u>61980</u>	
TTL MAIL WGT ON THIS STATION: <u>6004</u>	
TOTAL GROSS WEIGHT: <u>211221</u>	
ORIG: <u>MHR</u>	DEST: <u>HDY</u>
ATA: _____	AID: _____
HM INSPECTED BY: <u>R. Knipschild</u>	
LOAD PREPARED BY: <u>R. Knipschild</u>	
PIC NOTIFICATION: <u>[Signature]</u>	

\*AIRCRAFT 8177U & 811AL  
WEIGHT LIMITS FOR:  
3B = 2910 AND 13B = 4503

GROUP A		
500MH	801GP	8076U
8079U	8084U	8085U
8087U	8091U	8177U
GROUP B		
811AL		

DC-8-71 USE W&B FORM OF-521

certify all cargo, ULDs, and associated cargo restraining devices have been inspected and meet the standards prescribed in the EWA Aircraft Loading Manual. I have supervised the loading of all cargo and ULDs and have determined the cargo is secure in the positions described on this load planning sheet.

2/16/00  
(Date)

(Signature Line)

**EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE**


This is to certify that

*Steve Murphy*

has been trained and tested, as required by 49 CFR 175.20(a):

<u>DATE</u>	<u>COURSE TITLE</u>	<u>HOURS</u>
9-11-99	Air Transportation of Dangerous Goods for Dockworkers/Ground Handling Personnel	4

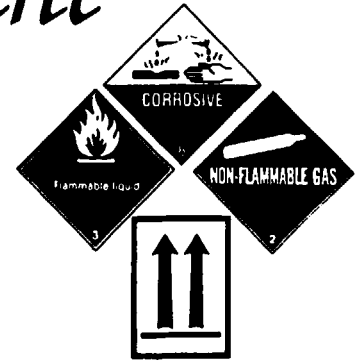
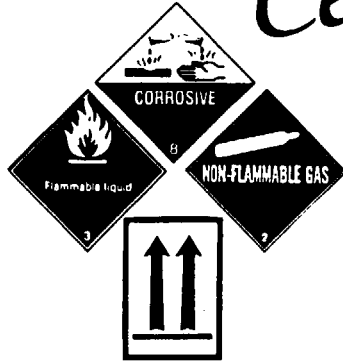
**INSTRUCTOR SIGNATURE:**

  
\_\_\_\_\_  
EMERY WORLDWIDE - A CNF COMPANY  
3678 LEMAY STREET  
MATHER, CALIFORNIA 95655

Dangerous Goods training materials are located at Emery Worldwide  
Environmental Affairs Department, One Emery Plaza, Vandalia, Ohio.

**EMERY  
WORLDWIDE**  
A CNF COMPANY

# Certificate of Accomplishment



to  
**Steven Murphy**

for successful completion of the  
**Emery Worldwide Training Program**  
EMERY WORLDWIDE  
for  
**Dangerous Goods Specialists**

including

- demonstrated understanding of the I.A.T.A. Dangerous Goods Regulations
- use of a checklist to accept or reject shipments
- successful completion of all related course work

**EMERY**  
**WORLDWIDE**  
A **CNF** COMPANY

  
\_\_\_\_\_  
Administrator

April 22, 1999  
\_\_\_\_\_  
Date

**EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE**

This is to certify that

**Ann L. Miler (SAC)**

has been trained and tested, as required by 49 CFR 175.20(a):

**DATE**

2/11/99

**COURSE TITLE**

Dangerous Goods Specialist  
Acceptance Program

**INSTRUCTOR SIGNATURE:**

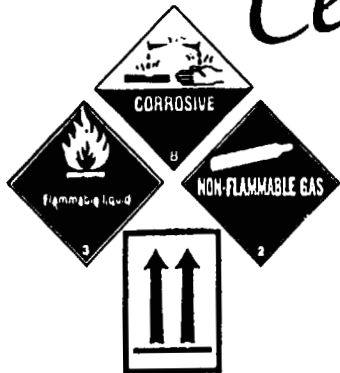


**EMERY WORLDWIDE - A CNF COMPANY  
16010 STRATHERN STREET  
VAN NUYS, CALIFORNIA 91406**

Dangerous Goods training materials are located at Emery Worldwide Environmental Affairs Department, One Emery Plaza, Vandalia, Ohio.



# Certificate of Accomplishment



to

*Ann L. Miler*




for successful completion of the  
*Emery Worldwide Training Program*  
for  
*Dangerous Goods Specialists*

*including*

- *demonstrated understanding of the I.A.T.A. Dangerous Goods Regulations*
- *use of a checklist to accept or reject shipments*
- *successful completion of all related course work*

**EMERY**  
**WORLDWIDE**  
A CNF COMPANY

  
\_\_\_\_\_  
Administrator  
February 11, 1999

\_\_\_\_\_  
Date

**EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE**

This is to certify that

**James Alder (SAC)**

has been trained and tested, as required by 49 CFR 175.20(a):

**DATE**

3/15/99

**COURSE TITLE**

Dangerous Goods Specialist  
Acceptance Program

**INSTRUCTOR SIGNATURE:**

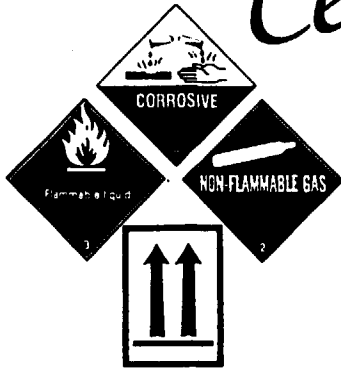


**EMERY WORLDWIDE - A CNF COMPANY  
16010 STRATHERN STREET  
VAN NUYS, CALIFORNIA 91406**

Dangerous Goods training materials are located at Emery Worldwide Environmental Affairs Department, One Emery Plaza, Vandalia, Ohio.

**EMERY  
WORLDWIDE**  
A CNF COMPANY

# Certificate of Accomplishment



to

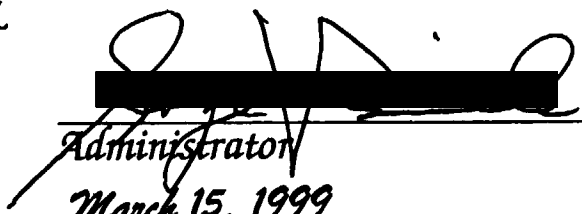
*James Alder*

for successful completion of the  
*Emery Worldwide Training Program*  
for  
*Dangerous Goods Specialists*

including

- demonstrated understanding of the I.A.T.A. Dangerous Goods Regulations
- use of a checklist to accept or reject shipments
- successful completion of all related course work

**EMERY**  
**WORLDWIDE**  
A **CNF** COMPANY

  
\_\_\_\_\_  
Administrator

March 15, 1999

\_\_\_\_\_  
Date



**EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE**

This is to certify that

**Edward Chancellor (SAC)**

has been trained and tested, as required by 49 CFR 175.20(a):

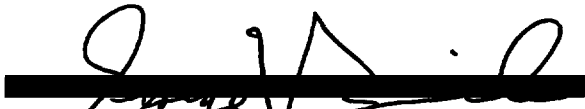
**DATE**

3/15/99

**COURSE TITLE**

Dangerous Goods Specialist  
Acceptance Program

**INSTRUCTOR SIGNATURE:**

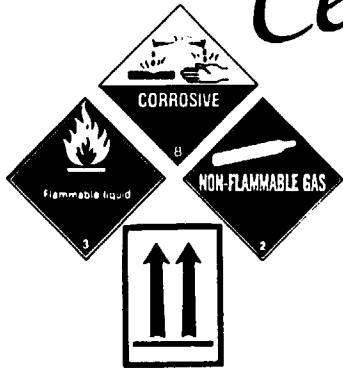


**EMERY WORLDWIDE - A CNF COMPANY  
16010 SPRATHERN STREET  
VAN NUYS, CALIFORNIA 91406**

Dangerous Goods training materials are located at Emery Worldwide Environmental Affairs Department, One Emery Plaza, Vandalia, Ohio.

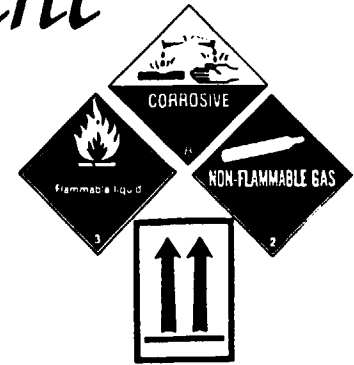
**EMERY  
WORLDWIDE**  
A CNF COMPANY

# Certificate of Accomplishment



to

*Edward Chancellor*



*for successful completion of the  
Emery Worldwide Training Program  
for  
Dangerous Goods Specialists*

*including*

- *demonstrated understanding of the I.A.T.A. Dangerous Goods Regulations*
- *use of a checklist to accept or reject shipments*
- *successful completion of all related course work*

**EMERY  
WORLDWIDE**  
A CNF COMPANY

  
\_\_\_\_\_  
Administrator

*March 15, 1999*

\_\_\_\_\_  
Date

**EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE**


This is to certify that

***David Labbe***

has been trained and tested, as required by 49 CFR 175.20(a):

<u>DATE</u>	<u>COURSE TITLE</u>	<u>HOURS</u>
8-28-99	Air Transportation of Dangerous Goods for Dockworkers/Ground Handling Personnel	4

**INSTRUCTOR SIGNATURE:**

  
\_\_\_\_\_  
EMERY WORLDWIDE - A CNF COMPANY  
3678 LEMAY STREET  
MATHER, CALIFORNIA 95655

Dangerous Goods training materials are located at Emery Worldwide  
Environmental Affairs Department, One Emery Plaza, Vandalia, Ohio.

**EMERY  
WORLDWIDE**  
A CNF COMPANY

**EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE**

This is to certify that

***David Labbe***

has been trained and tested, as required by 49 CFR 172.704:

**DATE**

8-28-99

**COURSE TITLE**

Driver Training for Surface  
Transport of Dangerous Goods

**INSTRUCTOR SIGNATURE:**



**EMERY WORLDWIDE / A CNF COMPANY**  
**3678 LEMAY STREET**  
**MATHER, CALIFORNIA 95655**

Dangerous Goods training materials are located at Emery Worldwide  
Environmental Affairs Department, One Emery Plaza, Vandalia, Ohio.

**EMERY**  
**WORLDWIDE**  
A CNF COMPANY

**EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE**

This is to certify that

*Sergio Ramos*

has been trained and tested, as required by 49 CFR 175.20(a):

<u>DATE</u>	<u>COURSE TITLE</u>	<u>HOURS</u>
9-11-99	Air Transportation of Dangerous Goods for Dockworkers/Ground Handling Personnel	4

**INSTRUCTOR SIGNATURE:**

  
\_\_\_\_\_  
EMERY WORLDWIDE - A CNF COMPANY  
3678 LEMAY STREET  
MATHER, CALIFORNIA 95655

Dangerous Goods training materials are located at Emery Worldwide  
Environmental Affairs Department, One Emery Plaza, Vandalia, Ohio.

**EMERY  
WORLDWIDE**  
A CNF COMPANY

**EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE**

This is to certify that

*Charles Brown*

has been trained and tested, as required by 49 CFR 172.704:


**DATE**

8-28-99

**COURSE TITLE**

Driver Training for Surface  
Transport of Dangerous Goods

**INSTRUCTOR SIGNATURE:**

  
\_\_\_\_\_  
EMERY WORLDWIDE - A CNF COMPANY  
3678 LEMAY STREET  
MATHER, CALIFORNIA 95655

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Environmental Affairs Department, One Emery Plaza, Vandalia, Ohio.

**EMERY  
WORLDWIDE**  
A CNF COMPANY

**EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE**


This is to certify that

*Charles Brown*

has been trained and tested, as required by 49 CFR 175.20(a):

<u>DATE</u>	<u>COURSE TITLE</u>	<u>HOURS</u>
8-28-99	Air Transportation of Dangerous Goods for Dockworkers/Ground Handling Personnel	4

**INSTRUCTOR SIGNATURE:**

---

*EMERY WORLDWIDE - A CNF COMPANY*  
*3678 LEMAY STREET*  
*MATHER, CALIFORNIA 95655*

Dangerous Goods training materials are located at Emery Worldwide  
Environmental Affairs Department, One Emery Plaza, Vandalia, Ohio.

**EMERY  
WORLDWIDE**  
A CNF COMPANY

**EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE**

This is to certify that

*Ariel Quantero*

has been trained and tested, as required by 49 CFR 175.20(a):

<u>DATE</u>	<u>COURSE TITLE</u>	<u>HOURS</u>
9-11-99	Air Transportation of Dangerous Goods for Dockworkers/Ground Handling Personnel	4

**INSTRUCTOR SIGNATURE:**

  
\_\_\_\_\_  
*EMERY WORLDWIDE - A CNF COMPANY*  
*3678 LEMAY STREET*  
*MATHER, CALIFORNIA 95655*

Dangerous Goods training materials are located at Emery Worldwide Environmental Affairs Department, One Emery Plaza, Vandalia, Ohio.

**EMERY  
WORLDWIDE**  
A CNF COMPANY



**EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE**

This is to certify that

*Curtis Doyle*

has been trained and tested, as required by 49 CFR 175.20(a):

<u>DATE</u>	<u>COURSE TITLE</u>	<u>HOURS</u>
9-11-99	Air Transportation of Dangerous Goods for Dockworkers/Ground Handling Personnel	4

**INSTRUCTOR SIGNATURE:**



*EMERY WORLDWIDE - A CNF COMPANY  
3678 LEMAY STREET  
MATHER, CALIFORNIA 95655*

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Environmental Affairs Department, One Emery Plaza, Vandalia, Ohio.

**EMERY  
WORLDWIDE**  
A CNF COMPANY

**EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE**

This is to certify that

*Emilio Lansang*

has been trained and tested, as required by 49 CFR 175.20(a):

<u>DATE</u>	<u>COURSE TITLE</u>	<u>HOURS</u>
9-11-99	Air Transportation of Dangerous Goods for Dockworkers/Ground Handling Personnel	4

**INSTRUCTOR SIGNATURE:**

  
\_\_\_\_\_  
*EMERY WORLDWIDE - A CNF COMPANY  
3678 LEMAY STREET  
MATHER, CALIFORNIA 95655*

Dangerous Goods training materials are located at Emery Worldwide Environmental Affairs Department, One Emery Plaza, Vandalia, Ohio.

**EMERY  
WORLDWIDE**  
A CNF COMPANY

**EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE**


This is to certify that

***Karen L. Gribble***

has been trained and tested, as required by 49 CFR 175.20(a):

<u>DATE</u>	<u>COURSE TITLE</u>	<u>HOURS</u>
8-28-99	Air Transportation of Dangerous Goods for Dockworkers/Ground Handling Personnel	4

**INSTRUCTOR SIGNATURE:**

  
\_\_\_\_\_  
EMERY WORLDWIDE - A CNF COMPANY  
3678 LEMAY STREET  
MATHER, CALIFORNIA 95655

Dangerous Goods training materials are located at Emery Worldwide  
Environmental Affairs Department, One Emery Plaza, Vandalia, Ohio.

**EMERY  
WORLDWIDE**  
A CNF COMPANY

**EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE**

This is to certify that

*Karen L. Gribble*

has been trained and tested, as required by 49 CFR 172.704:

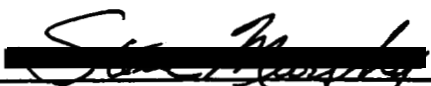
**DATE**

8-28-99

**COURSE TITLE**

Driver Training for Surface  
Transport of Dangerous Goods

**INSTRUCTOR SIGNATURE:**

  
**EMERY WORLDWIDE - A CNF COMPANY**  
3678 LEMAY STREET  
MATHER, CALIFORNIA 95655

Dangerous Goods training materials are located at Emery Worldwide  
Environmental Affairs Department, One Emery Plaza, Vandalia, Ohio.

**EMERY  
WORLDWIDE**  
A CNF COMPANY

**EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE**

This is to certify that

***Thomas G. Frizzell***

has been trained and tested, as required by 49 CFR 172.704:

**DATE**

9-11-99

**COURSE TITLE**

Driver Training for Surface  
Transport of Dangerous Goods

**INSTRUCTOR SIGNATURE:**



**EMERY WORLDWIDE - A CNF COMPANY  
3678 LEMAY STREET  
MATHER, CALIFORNIA 95655**

Dangerous Goods training materials are located at Emery Worldwide  
Environmental Affairs Department, One Emery Plaza, Vandalia, Ohio.

**EMERY  
WORLDWIDE**  
A CNF COMPANY

**EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE**


This is to certify that

*Thomas G. Frizzell*

has been trained and tested, as required by 49 CFR 175.20(a):

<u>DATE</u>	<u>COURSE TITLE</u>	<u>HOURS</u>
9-11-99	Air Transportation of Dangerous Goods for Dockworkers/Ground Handling Personnel	4

**INSTRUCTOR SIGNATURE:**

  
\_\_\_\_\_  
EMERY WORLDWIDE - A CNF COMPANY  
3678 LEMAY STREET  
MATHER, CALIFORNIA 95655

Dangerous Goods training materials are located at Emery Worldwide  
Environmental Affairs Department, One Emery Plaza, Vandalia, Ohio.

**EMERY  
WORLDWIDE**  
A CNF COMPANY

**EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE**

This is to certify that

*David L. Carroll*

has been trained and tested, as required by 49 CFR 175.20(a):

<u>DATE</u>	<u>COURSE TITLE</u>	<u>HOURS</u>
9-11-99	Air Transportation of Dangerous Goods for Dockworkers/Ground Handling Personnel	4

**INSTRUCTOR SIGNATURE:**

  
\_\_\_\_\_  
EMERY WORLDWIDE - A CNF COMPANY  
3678 LEMAY STREET  
MATHER, CALIFORNIA 95655

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Environmental Affairs Department, One Emery Plaza, Vandalia, Ohio.

**EMERY  
WORLDWIDE**  
A CNF COMPANY

**EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE**

This is to certify that

*David L. Carroll*

has been trained and tested, as required by 49 CFR 172.704:

**DATE**

9-11-99

**COURSE TITLE**

Driver Training for Surface  
Transport of Dangerous Goods

**INSTRUCTOR SIGNATURE:**

  
  
EMERY WORLDWIDE - A CNF COMPANY  
3678 LEMAY STREET  
MATHER, CALIFORNIA 95655

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**EMERY  
WORLDWIDE**  
A CNF COMPANY



**EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE**


This is to certify that

***Tito F. Alvarez***

has been trained and tested, as required by 49 CFR 175.20(a):

<u>DATE</u>	<u>COURSE TITLE</u>	<u>HOURS</u>
8-28-99	Air Transportation of Dangerous Goods for Dockworkers/Ground Handling Personnel	4

**INSTRUCTOR SIGNATURE:**

  
\_\_\_\_\_  
EMERY WORLDWIDE - A CNF COMPANY  
3678 LEMAY STREET  
MATHER, CALIFORNIA 95655

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**EMERY  
WORLDWIDE**  
A CNF COMPANY

EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE

This is to certify that

*Tito F. Alvarez*

has been trained and tested, as required by 49 CFR 172.704:


DATE

8-28-99

COURSE TITLE

Driver Training for Surface  
Transport of Dangerous Goods

INSTRUCTOR SIGNATURE:

  
\_\_\_\_\_  
EMERY WORLDWIDE - A CNF COMPANY  
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**EMERY**  
**WORLDWIDE**  
A CNF COMPANY

**EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE**


This is to certify that

*Marcus Mongo*

has been trained and tested, as required by 49 CFR 175.20(a):

<u>DATE</u>	<u>COURSE TITLE</u>	<u>HOURS</u>
8-28-99	Air Transportation of Dangerous Goods for Dockworkers/Ground Handling Personnel	4

**INSTRUCTOR SIGNATURE:**

  
\_\_\_\_\_  
EMERY WORLDWIDE - A CNF COMPANY  
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MATHER, CALIFORNIA 95655

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**EMERY**  
**WORLDWIDE**  
A CNF COMPANY

**EMERY WORLDWIDE - A CNF COMPANY  
COMPLETION OF TRAINING CERTIFICATE**

This is to certify that

*Marcus Mongo*

has been trained and tested, as required by 49 CFR 172.704:

**DATE**

8-28-99

**COURSE TITLE**

Driver Training for Surface  
Transport of Dangerous Goods

**INSTRUCTOR SIGNATURE:**



**EMERY WORLDWIDE - A CNF COMPANY**  
3678 LEMAY STREET  
MATHER, CALIFORNIA 95655

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Environmental Affairs Department, One Emery Plaza, Vandalia, Ohio.

**EMERY  
WORLDWIDE**  
A CNF COMPANY



March 14, 2000

National Transportation Safety Board, James E. Henderson  
490 L'Enfant Plaza East, S.W.  
Washington, DC 20594

RE: Shipping Documentation for Hazardous Materials

Dear James:

The attached letter and documentation contains the information you requested. If any questions were not answered thoroughly enough, or further clarification is needed please feel free to call or e-mail.

Again, thank you for your time and patience.

Respectfully,

A handwritten signature in cursive script that reads "P. M. Maksym". The signature is written in black ink and is positioned above a thick black horizontal line that redacts the name.

Paul M. Maksym  
Supervisor, Ground Safety  
EWA Safety Department

PM



Description Of Company Procedures and Methods to Provide Information to Emergency Responders about the Dangerous Goods On-Board an Aircraft if the Shipping Documents on the Aircraft are Destroyed or Cannot be Immediately Retrieved. (Please provide sample copies.)

**Found in Emery Worldwide Dangerous Goods Manual. Crew also carries the ICAO Emergency Response Guidebook. Information regarding dangerous goods shipments being carried on board is available from Network Control which is manned 24 hours a day, 365 days a year.**

What Specific Information about the Dangerous Goods On-Board does your Company Believe is Needed by Emergency Responders to an Aviation Accident or Incident?

**Proper Shipping Name; Hazard Class; UN Number; quantity of material; location on aircraft**

**D. Additional Comments**

Prepared by: Paul M. Maksym

For FEBRUARY 2000:

**Primetime**

Outbound weight (February 2000): **64,239,500**  
% difference from February 1999 = **+6.13%**  
Number of operating days (February 2000): **21**  
Number of operation days (February 1999): **20**  
Average Primetime Outbound Weight (February 2000): **3,059,024**  
% difference from February 1999 = **+1.08%**

**Daylight**

Outbound weight (February 2000): **24,363,869**  
% difference from February 1999 = **-7.94%**  
Number of operating days (February 2000): **20**  
Number of operating days (February 1999): **20**  
Average Daylight outbound weight (February 2000): **1,218,193**  
% difference from February 1999 = **-7.94%**

Total Outbound Weight (February 2000): **88,603,369**  
% difference from February 1999: **+1.85%**

Primetime On-Time A/C average:

Actual: **+24**  
Adjusted: **+9**

Daylight On-Time A/C average:

Actual: **+19**  
Adjusted: **-3**



24 Hr. Productivity

**403**



WEIGHT PER DAY													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
<b>1998</b>	4,354,347	4,344,612	4,654,548	4,271,138	4,374,206	4,476,471	4,137,816	4,522,400	4,701,925	4,877,081	4,589,848	4,473,580	1,179,369,188
<b>1999</b>	4,185,748	4,024,546	4,050,176	3,893,021	4,008,015	4,478,303	4,013,376	4,333,372	4,506,389	4,338,944	4,227,527	4,357,506	1,100,228,269
<b>2000</b>	3,780,125	3,981,271											79,382,622

**SHIPPER'S DECLARATION FOR DANGEROUS GOODS**

Shipper	Air Waybill No.  Page      of      Pages Shipper's Reference Number <i>(optional)</i>						
Consignee	 						
Seven completed and signed copies of this Declaration must be handed to the operator.	<b>WARNING</b>  Failure to comply in all respects with the applicable Dangerous Goods Regulations may be in breach of the applicable law, subject to legal penalties. This Declaration must not, in any circumstances, be completed and/or signed by a consolidator, a forwarder or an IATA cargo agent.						
<b>TRANSPORT DETAILS</b>  This shipment is within the limitations prescribed for: <i>(delete non-applicable)</i>	Airport of Departure						
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; padding: 2px;">PASSENGER AND CARGO AIRCRAFT</td> <td style="width:50%; padding: 2px;">CARGO AIRCRAFT ONLY</td> </tr> </table>	PASSENGER AND CARGO AIRCRAFT	CARGO AIRCRAFT ONLY	Airport of Destination:				
PASSENGER AND CARGO AIRCRAFT	CARGO AIRCRAFT ONLY						
Shipment type: <i>(delete non-applicable)</i> <b>NON-RADIOACTIVE</b>   <b>RADIOACTIVE</b>							
<b>NATURE AND QUANTITY OF DANGEROUS GOODS</b>							
Dangerous Goods Identification							
Proper Shipping Name	Class or Division	UN or ID No.	Packing Group	Subsidiary Risk	Quantity and type of packing	Packing Inst.	Authorization
<b>Additional Handling Information</b>  This shipment prepared according to: <input type="checkbox"/> 49CFR <input type="checkbox"/> IATA/ICAO Regulations      24 hr. Emergency Contact Tel. No. _____							
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.					Name/Title of Signatory  Place and Date  Signature <i>(see warning above)</i>		

CONSIGNEE COPY



DANGEROUS GOODS SPECIALIST'S IATA/ICAO CHECKLIST FOR A NONRADIOACTIVE SHIPMENT

N = Not Acceptable - missing or incorrect information.
A = Acceptable
N A = Not Applicable
(Circle the appropriate letter(s) by each item below)

Please press firmly when completing form.

Waybill Number: \_\_\_\_\_ Origin Office: \_\_\_\_\_ Destination: \_\_\_\_\_

EXCEPTED QUANTITIES

- N A If the label "Dangerous Goods in Excepted Quantities" appears on the package, insure compliance of labeling requirement 2.7.5 and Waybill requirements of 2.7.6. No other requirements apply. No Shipper's Declaration required.

SHIPPER'S DECLARATION

- N A Name/Address of Shipper and Consignee.
N A Waybill Number.
N A Page of Pages.
N A Correct nonapplicable aircraft deleted.
N A Airport or city of Departure - full name.
N A Airport or city of Destination - full name.
N A Radioactive deleted.

DANGEROUS GOODS IDENTIFICATION (DG)

- N A Proper Shipping Name (plus technical name in parens for (★) n.o.s. entries).
N A Class or Division Number and for Class 1, compatibility group.
N A UN or ID Number - preceded by UN or ID.
N A Packing Group, if relevant.
N A Subsidiary Risk - if required by ALDG.
N A Additional descriptive information when required, e.g., "RQ" (USG-04).

QUANTITY AND TYPE OF PACKING

- N A Number of packages.
N A Type of packaging.
N A Net quantity or gross mass as applicable and is within limits for aircraft indicated.
N A "Q" Value, if applicable. Does not exceed 1.
N A Words "Overpack used," if relevant.
N A For multi-overpacks, the total quantity of DG per overpack must be indicated.

PACKING INSTRUCTIONS

- N A Packing Instruction Number and permitted for packing group shown.

AUTHORIZATION

- N A If relevant, the words "Limited Quantity" or "Ltd Qty".
N A Special Provision number, if A1, A2, or A109.
N A Authorization entries with copy attached to Declaration, if required.
N A For Class 1 explosives, prior approval number issued by the appropriate Competent Authority.

ADDITIONAL HANDLING INFORMATION

- N A 24 hr. Emergency Contact Tel. No. (USG-12).
N A If 4.1 and 5.2 division, see 8.1.6.10 and 8.1.6.11.
N A Name/Title of Signatory/Place and Date.
N A Signature - signed or stamped.
N A If relevant, amended or altered declaration signed by shipper.
N A All State and Operator Variations complied with.

Dry Ice shipped under P.I.904 - no Shipper's Declaration required, Class 9, Miscellaneous Label required. Some accumulators shipped under P.I. 208 - no Shipper's Declaration required. Dangerous Goods in excepted quantities - no Shipper's Declaration required.

PACKAGE MARKINGS

- N A Proper Shipping Name.
N A Technical name in parens if required.
N A UN or ID Number.
N A Letters "RQ" if on declaration (USG-04).
N A Name and Address of Shipper AND Consignee.
N A Old labels/markings removed or obliterated.
N A UN Specification markings, if required.
N A For multiple overpacks, the total quantity of dangerous goods contained per overpack, as declared on the Shipper's Declaration, indicated on the overpack.
N A If specification packagings are overpacked and the Specification markings are not visible, is overpack marked "inner packages comply with prescribed specifications."
N A Net weight of dry ice per package, if relevant.
N A Class 1 Explosives - Net Quantity of explosives in package and gross weight of package.
N A Class 2 Refrigerated gases packed under P.I. 202 require "Keep Upright" placed at 120" intervals around the package and marked "Do Not Drop - Handle With Care."
N A If relevant, the words "Limited Quantity" or "Ltd Qty."
N A Class 6.1 Toxic - The words "Packing Group III" or "PG III" marked under the hazard or subsidiary risk poison label - EWW Policy.

PACKAGE LABELING

- N A Hazard Class Label(s) attached and correctly affixed.
N A Handling Label(s) on package(s) or overpack(s).
N A Subsidiary Risk label (must not show class/division number).
N A "Danger Cargo Aircraft Only" label affixed adjacent to Hazard Label(s). (If passenger & Cargo AC deleted on Declaration.)
N A 2 Package Orientation Arrow labels for liquids in combination packages and overpacks on opposite vertical sides.
N A Placement of multiple labels - next to each other and are correctly affixed.

PACKAGING

- N A Type of packaging corresponds with type shown on Declaration.
N A Condition - good appearance, free from any damage or leakage and sufficient to withstand air transportation.

WAYBILL

- N A Piece Count - agrees with Waybill.
N A Words, "Dangerous Goods as per Attached Shipper's Declaration" or "Dangerous Goods as per 'DGD'" shown in the "Description or Remarks" box.
N A Words, "Cargo Aircraft Only" or "CAO" if Passenger & Cargo AC deleted on Declaration shown in the "Description or Remarks" box.
N A For P.I. 208 and 904, 8.2.3 complied with.

OTHER REQUIREMENTS

- N A Attach Emery DG Sort Label next to the waybill or thermal label for all DG pieces.
N A Attach Emery Thermal Label with the notation "HAZ-MAT" entered.
N A Attach Shipper's Declaration to freight.
N A Attach Waybill to the largest Dangerous Goods piece.
N A Provide one copy of the Shipper's Declaration and checklist to the flight crew.
N A Attach copy of Specialist's Checklist to freight.

IF ANY ITEM IS INDICATED "N", THIS SHIPMENT CANNOT BE ACCEPTED FOR AIR TRANSPORTATION.

[ ] ACCEPTED FOR AIR TRANSPORTATION. [ ] REJECTED for reasons noted above and:

Checked by: \_\_\_\_\_ Signature \_\_\_\_\_ Date/Time \_\_\_\_\_ Employee No. \_\_\_\_\_

**THE EMERY WAYBILL**

Pieces Count - agrees with waybill. ( ) ( )  
 All packages appear to be in good condition and not leaking. ( ) ( )

**THE SHIPPER'S DECLARATION**

- 1. **49CFR** or **IATA** box checked. (Not applicable if there is no box). ( ) ( ) ( )
- 2. Shipper and Consignee boxes completed. ( ) ( )
- 3. Word "Radioactive" deleted as appropriate. ( ) ( )
- 4. **Proper Shipping Name (PSN)**. ( ) ( )
- 5. **Hazard Class Number**. ( ) ( )
- 6. **Identification Number**. ( ) ( )  
 Proper Shipping Name, Hazard Class, ID Number, in sequence. ( ) ( )  
 Letters "RQ" if package marked with "RQ" (USG-04). ( ) ( ) ( )
- 7. Packing Group, if applicable. ( ) ( ) ( )
- 8. Subsidiary risk, if applicable. ( ) ( ) ( )
- 9. Number of Packages, Type Packaging, and Net Quantity per package indicated in metric. ( ) ( )
- 10. Comply with special handling, if indicated. ( ) ( ) ( )
- 11. 24-hr. Emergency Contact Tel. No. (USG-12). ( ) ( )
- 12. Declaration signed. ( ) ( )

**PACKAGE MARKINGS**

Proper Shipping Name and Identification Number agree with Dec and are marked on each piece. ( ) ( )  
 Letters "RQ" if Declaration has "RQ" entry (USG-04). ( ) ( ) ( )  
 Name and address of Shipper and Consignee marked on each piece. ( ) ( )  
 Required Hazard label(s) affixed next to each other on each piece. ( ) ( ) ( )  
 If there is an inside container containing liquid Dangerous Goods outside container must be: ( ) ( ) ( )  
 Labeled with two ARROW labels on two opposite vertical sides.  
**PLACARDING.** All vehicles must be placarded as follows:  
**FLAMMABLE SOLID/W** or the **DANGEROUS WHEN WET** placard if transporting any packages required to be labeled with the blue "Dangerous When Wet" label.  
 Request these from the shipper.  
 1001 or more lbs. (454 Kgs.) of any other Dangerous Goods.  
 If two or more different hazard classes are offered, the shipper may offer either 4 placards for each different hazard class or 4 "Dangerous" placards.  
**YES = Acceptable**  
**NO = Not Acceptable**  
**N/A = Not Applicable**  
 (Put an "X" in the appropriate box.)

**\* IF ANY ITEM IS MARKED NO, SHIPMENT IS NOT ACCEPTABLE FOR HIGHWAY TRANSPORTATION. ATTACH THIS CHECKLIST TO THE WAYBILL.**

Driver's Signature \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_



**Emery Worldwide will not accept shipments of Explosives 1.1, 1.2, 1.3, 1.4F, 1.5, and 1.6; Poisons bearing the Skull and Crossbones of packing group I or II (whether primary or subsidiary risk); Poison Gas; Etiologic Agents or Infectious Substances; and Hazardous Waste.**

**NOTE: Shipments bearing the Poison label (with a primary or subsidiary risk of packing group III) MUST NOT be loaded in the same transport vehicle with material that is marked as or known to be foodstuffs, feed or any edible material intended for consumption by humans or animals.**





# TERMS AND CONDITIONS OF CONTRACT

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## *United States, Canada, and International*

These Terms and Conditions of Contract (the "Terms") are effective December 1, 1999 and are subject to change without notice. For the most current version of the Terms, please refer to the Terms on Emery's website at <http://www.emeryworld.com>, which Terms shall supersede these Terms.

In tendering the shipment for delivery, the Shipper, Consignee and any other party with an interest in the shipment (or anyone claiming by, through or on behalf of such parties) agree to these Terms and these Terms shall supersede all previous Terms. These Terms shall apply to all shipments unless otherwise required or mandated by a federal, state or foreign law, rule or regulation applicable to the shipment. Shipments originating outside the U.S. for U.S. or other international destinations are subject to local tariffs and the terms and conditions of the Emery subsidiary, branch or independent contractor which accepted the shipment, if such terms and conditions are different from these Terms.

NO EMPLOYEE, AGENT OR REPRESENTATIVE OF EMERY, OTHER THAN AN OFFICER OF EMERY, NOR ANY OTHER PERSON OR PARTY IS AUTHORIZED TO CHANGE OR MODIFY THESE TERMS. If there is a conflict between these Terms and the terms and conditions on any Emery Air Waybill ("Air Waybill") or other transit documentation, the Terms contained herein shall control to the extent not in conflict with the rules relating to liability for international carriage established by the Convention for the Unification of Certain Rules Relating to International Carriage by Air signed at Warsaw on 12 October 1929 ("Warsaw Convention"), as amended by the protocol done at The Hague on 28 September 1955 ("Hague Protocol") and the protocol number 4 done at Montreal on 25 September 1975 ("Montreal Protocol 4"), as applicable, and all other applicable amendments to the Warsaw Convention, or any applicable tariff, convention or treaty. These Terms supersede all previous and other prior statements concerning the conditions of the Emery service to which it applies. Should any provision(s) of these Terms for any reason be declared by any court of competent jurisdiction to be invalid or unenforceable, such decision shall not affect the validity of any remaining provisions, or portions thereof, of the Terms, which remaining provisions shall continue in full force and effect. Any failure to enforce or apply a term, condition or provision of these Terms shall not constitute a waiver of that term, condition or provision or otherwise impair our right to enforce or apply such term, condition or provision in the future.

As used herein, the words "Emery", "our," "we," and "us" shall refer to Emery Worldwide, a CNF Company, and its employees and agents. For international shipments, "pound(s)" shall be converted to applicable metric weight.

## **XI. DANGEROUS GOODS**

- A. If the shipment contains Dangerous Goods, as hereafter defined, the Shipper shall have the responsibility to so state on the Air Waybill and, if required by applicable regulations, shall also submit a signed Shipper's Declaration for Dangerous Goods.
- B. Dangerous Goods means those commodities that are transported in accordance with the provisions set forth in one or more of the following:
1. Title 49 of the U.S. Code of Federal Regulations ("CFR"), revisions thereto or reissues thereof. The only Dangerous Goods we will accept under Title 49 CFR will be Consumer Commodities.
  2. The "Dangerous Goods Regulations" published by the International Air Transport Association ("IATA"), revisions thereto or reissues thereof.
  3. The "Technical Instructions for the Safe Transport of Dangerous Goods by Air" published by the International Civil Aviation Organization ("ICAO"), revisions thereto or reissues thereof.

C. We accept the following Dangerous Goods:

<b>ICAO/IATA HAZARD NAME AND CLASS</b>	<b>NO. AMERICA</b>	<b>INTL</b>
Explosives (1.1,1.2,1.3,1.4F,1.5,1.6)	NO	NO
Explosives 1.4	YES	YES
Flammable Gas (2.1)	YES	YES
Non-Flammable Gas (2.2)	YES	YES
Poisonous Gas (2.3)	NO	NO
Flammable Liquid (3)	YES	YES
Flammable Solid (4.1)	YES	YES
Spontaneously combustible (4.2)	YES	YES
Dangerous When Wet (4.3)	YES	YES
Oxidizers (5.1)	YES	YES
Organic Peroxides (5.2)	YES	YES
Toxic Substances (Packing Group I and II)	NO	NO
Toxic Substances (Packing Group III)	YES	YES
Infectious Substance(6.2)	NO	NO
Radioactive I, II, III (7)	YES	YES (IATA Only)
Corrosive (8)	YES	YES
Magnetized Material (9)	YES	YES



Dry Ice (9)	YES	YES
Diagnostic Specimens	YES	NO
Hazardous Waste	NO	NO

The only material we accept for air transport under 49CFR is ORM-D (Consumer Commodities), and this is only within the contiguous 48 U.S. States.

- D. For shipments moving between points in the United States, between points in the United States and Canada, and between points in Canada, shipments of Dangerous Goods are only accepted as AM and PM service. An additional charge will be assessed in addition to all other applicable charges. (See Emery's Accessorial Guide for a listing of current charges).
- E. From points in the United States and Canada, to International points, shipments of Dangerous Goods are only accepted as Standard Service. Shipments are rated at the applicable IATA rate plus the airline surcharge for each article having a description which differs from that of another article(s) carried in the same shipment, plus an Emery surcharge. (See Emery's Accessorial Guide for a listing of current charges).
- F. Between all other points not specified in Subsections D and E above, the charges for handling and transporting dangerous goods may vary. For shipments within the United States, or Canada, or between the United States and Canada please contact 1-800-HI-Emery for charges. For other international shipments, contact the local Emery office.
- G. Dangerous Goods must not be included in the same shipment with non-dangerous goods.
- H. Diagnostic specimens are only accepted when packaging meets IATA regulations. For shipments within the United States, or Canada, or between the United States and Canada please contact 1-800-HI-Emery for additional information.
- I. If the commodity being shipped is not Dangerous Goods but could be confused as such, the Shipper must place the words "NOT RESTRICTED" on the Air Waybill to indicate that the Shipper has reviewed the shipment against the appropriate regulations.

## Henderson James

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**From:** Wood, Thomas M [REDACTED]  
**Sent:** Sunday, March 26, 2000 4:09 PM  
**To:** [REDACTED]  
**Subject:** FW: Dangerous Goods Weight

Jim: Here is the additional info you requested. Note: This accounts for freight that was moved through the Dayton Hub only. The estimated gross weight. 1998-- 23,685,945 1999-- 53,335,668.  
I will forward the other info on Monday.

Thomas M. Wood  
Senior Director Quality Control/Assurance  
[REDACTED]

> -----Original Message-----

> From: Maksym, Paul M  
> Sent: Friday, March 24, 2000 3:42 PM  
> To: Massie, Mike A  
> Cc: Sowers, Mike S; Wood, Thomas M  
> Subject: Dangerous Goods Weight

>  
> Mike, I received a call from the NTSB regarding the following question and  
> response provided by Mr. Sowers:

> • Volume of Dangerous Goods Shipped per Day, Month, or Year:

> Shipments per: Year 92,038 Pieces per: Year

> 267,827

> Month 7,669 Month

> 22,318

> Day 383 Day

> 1,115

> The question the NTSB has, is what volume of Dangerous Goods as in pounds  
> is shipped per year (1998 and 1999)? Again, if the exact weight cannot be  
> provided an estimate would be sufficient.

> If you could please e-mail Mr. Thomas Wood this information by Monday, 27  
> March, this would be greatly appreciated. Sorry for the short deadline,  
> but me and Thom will be out of town after Monday, and the NTSB needs this  
> information soon. Thank you for your support.

>  
> Paul M Maksym  
> Emery Worldwide Airlines  
> Supervisor, Ground Safety  
> [REDACTED]

**Air Waybill Investigation**  
**EMERY WORLDWIDE AIRLINES, Flight #017, February 16, 2000**

The following investigations were conducted in conjunction with NTSB activities surrounding the Accident Number DCA-00-MA-026.

<b>Date / Time</b>	February 18, 2000 / 0933
<b>Shipper:</b>	TELEDYNE ELECTRONIC TECHNOLOGIES
<b>Contact Name/Number:</b>	Mr. Walt Weber / [REDACTED]
<b>Emery Air Waybill #:</b>	160 874 982 - 4
<b>Summary:</b>	Mr. Weber stated that the contents of the shipment were a "Traveling Wave Tube" consigned to NORTHROP GRUMMAN CORPORATION. A "Traveling Wave Tube" is a high power radio frequency device used in airborne electronic warfare. Mr Weber stated the shipment did not contain Dangerous Goods. Mr. Weber faxed invoice at 1045.

<b>Date / Time</b>	February 18, 2000 / 0940
<b>Shipper:</b>	AGES Support Team
<b>Contact Name/Number:</b>	Mr. Wayne Kuni / [REDACTED]
<b>Emery Air Waybill #:</b>	167 406 956 - 2
<b>Summary:</b>	Mr. Weber stated that the contents of the shipment were a "Traveling Wave Tube" consigned to NORTHROP GRUMMAN CORPORATION. Stated the shipment contained no Dangerous Goods. Mr. Weber faxed invoice at 1045.

<b>Date / Time</b>	February 18, 2000 / 0945
<b>Shipper:</b>	MASTERCRAFT MANUFACTURING CORPORATION
<b>Contact Name/Number:</b>	Mr. Mike Newlin / [REDACTED]
<b>Emery Air Waybill #:</b>	183 485 851 - T / 183 485 850 - 9
<b>Summary:</b>	Mr. Newlin stated that the shipment contained aluminum pieces. The shipment did not contain any Dangerous Goods. Faxed invoice at 1501. Invoice list the contents as stainless steel frames and aluminum trim

<b>Date / Time</b>	February 18, 2000 / 0948
<b>Shipper:</b>	INTEL
<b>Contact Name/Number:</b>	Ms. Amy Trainer / [REDACTED]
<b>Emery Air Waybill #:</b>	182 090 355 - 7
<b>Summary:</b>	Ms. Trainer stated that the shipment contained microcircuits and electronic equipment. The shipment did not contain any Dangerous Goods. Faxed invoice at 0948. Invoice gives no details as to content.

<b>Date / Time</b>	February 18, 2000 / 0954
<b>Shipper:</b>	PARKER HANNIFIN
<b>Contact Name/Number:</b>	Mr. Gary Oliver [REDACTED]
<b>Emery Air Waybill #:</b>	182 648 257 - 0
<b>Summary:</b>	Mr. Oliver stated that the shipment contained no Dangerous Goods, and consisted of an element assembly for a fuel filter. Invoice lists material as simply "elements".

<b>Date / Time</b>	February 19, 2000 / 0850
<b>Shipper:</b>	MSAS SKYKING GLOBAL LOGISTICS
<b>Contact Name/Number:</b>	Mr. Emmett McKnight / [REDACTED]
<b>Emery Air Waybill #:</b>	181 529 568 - 0
<b>Summary:</b>	Mr. McKnight stated that this shipment contained computer parts. He also stated that MSAS normally ships about 200 pounds of freight per flight on Emery. MSAS regularly tenders consolidations of computer parts for the Emery flights. Their main shipper is APPLE COMPUTERS.

<b>Date / Time</b>	February 19, 2000 / 0900
<b>Shipper:</b>	PELCO
<b>Contact Name/Number:</b>	Mr. Mark Ashburner / [REDACTED]
<b>Emery Air Waybill #:</b>	183 223 219 - 3 / 183 223 220 - 4 / 183 223 226 - T
<b>Summary:</b>	Invoices listed freight as "Surveillance Eqpt". Mr. Ashburner stated that the cargo consisted of an electronic input component for a 16-camera surveillance system and one corner-mount camera. No Dangerous Goods were included in this shipment.

<b>Date / Time</b>	February 22, 2000 / 0731
<b>Shipper:</b>	UNITED STATES WELDING CORPORATION
<b>Contact Name/Number:</b>	Mr. Don Nelson / [REDACTED]
<b>Emery Air Waybill #:</b>	179 407 257 - 7
<b>Summary:</b>	Mr. Nelson stated this shipment contained 1 spool of welding wire and 1, 25lb box of welding rod. Mr. Nelson provided copies of an invoice listing the contents. This shipment did not contain any Dangerous Goods.

<b>Date / Time</b>	February 22, 2000 / 0840
<b>Shipper:</b>	GREENHECK FAN CORPORATION

<b>Contact Name/Number:</b>	Mr. Tom Green / [REDACTED]
<b>Emery Air Waybill #:</b>	183 202 450 - 2
<b>Summary:</b>	Mr. Green stated that this shipment contained "Fire Smoke Dampers" for duct work. The dampers are used in building ventilation systems for fire safety. This shipment did not contain Dangerous Goods. Mr. Green provided copies of an invoice listing the contents.

<b>Date / Time</b>	February 22, 2000 / 0900
<b>Shipper:</b>	PORSCHE CARS NORTH AMERICA (Parts Distribution Center)
<b>Contact Name/Number:</b>	Mr. Pat Thedford
<b>Emery Air Waybill #:</b>	849 337 964 -2 / 965 - 3 / 966 - 4 / 967 - 5 / 968 - 6 / 969 - 7
<b>Summary:</b>	Mr. Thedford provided a auto parts packing list for all the listed Emery numbers tendered on 2/16/2000. Upon reviewing the entire packing list it has been determined these shipments did NOT contain any Dangerous Goods or threat items.

<b>Date / Time</b>	February 22, 2000 / 0905
<b>Shipper:</b>	PACIFIC POWDER COATING
<b>Contact Name/Number:</b>	Mr. Justin Klatt / [REDACTED]
<b>Emery Air Waybill #:</b>	170 193 827 - 1
<b>Summary:</b>	Mr. Klatt stated that the shipment contained partitions for an office cubicle. This shipment did not contain any paint or paint related Dangerous Good.

<b>Date / Time</b>	February 22, 2000 / 1300
<b>Shipper:</b>	HEWLETT PACKARD PPMD
<b>Contact Name/Number:</b>	Mr. Paul Cross / [REDACTED]
<b>Emery Air Waybill #:</b>	183 577 443 - 5
<b>Summary:</b>	Mr. Cross stated that this shipment contained "low level" electronic components consisting primarily of hard drives. HEWLETT PACKARD ships a large quantity of Class 9, Magnetized Material, out of its facilities in Northern California. I asked Mr. Cross regarding Magnetized Material and he stated that this shipment did not contain Magnetized Material or any other form of Dangerous Goods.

<b>Date / Time</b>	February 24, 2000 / 0805
<b>Shipper:</b>	EGS ELECTRICAL GROUP
<b>Contact Name/Number:</b>	Ms. Evonne Watts / [REDACTED]
<b>Emery Air Waybill #:</b>	545 705 529 – 6
<b>Summary:</b>	Ms. Watts was able to provide a copy of an invoice for this shipment. This shipment consisted of 1 skid of electrical transformer parts weighing 210lbs. Ms. Watts stated that this shipment did not contain any Dangerous Goods.

<b>Date / Time</b>	February 24, 2000 / 0900
<b>Shipper:</b>	HELLMAN WORLDWIDE
<b>Contact Name/Number:</b>	Mr. Nathan Nicholson / [REDACTED]
<b>Emery Air Waybill #:</b>	182 607 725 – 3
<b>Summary:</b>	Mr. Nicholson stated that this shipment consisted of Aircraft Parts. No Dangerous Goods in this shipment. Actual contents are plastic PVC pipes used in the construction of aircraft seats. The materials were consigned to BE AEROSPACE who constructs aircraft seats at its facility located in Florida.

<b>Date / Time</b>	February 24, 2000 / 1134
<b>Shipper:</b>	GENERAL MOTORS CORPORATION
<b>Contact Name/Number:</b>	Mr. Joe Russel / [REDACTED]
<b>Emery Air Waybill #:</b>	400 531 269 – 6
<b>Summary:</b>	Mr. Russel stated that this shipment contained auto parts. There were no Dangerous Goods included in this shipment. Mr. Russel stated that his division will not ship Dangerous Goods via air transportation. Dangerous Goods shipments will be transported via the ground mode only. This shipment was primarily made up of wheel cylinders and electrical terminals.

<b>Date / Time</b>	February 24, 2000
<b>Shipper:</b>	Mr. John Westrick
<b>Contact Name/Number:</b>	
<b>Emery Air Waybill #:</b>	186 262 573 – 2 4pc / 80 lbs 186 262 574 – 3 1pc / 362 lbs
<b>Summary:</b>	According to a Shipment Tracking Request ran on February 24, 2000, these two shipments were delivered on February 21, 2000, in Washington, DC (IAD). The shipments were signed for and picked up by S. Rabey at 1116 hours on February 21, 2000.

<b>Date / Time</b>	February 24, 2000
<b>Shipper:</b>	EMERY WORLDWIDE

<b>Contact Name/Number:</b>	Mather Operations / [REDACTED]
<b>Emery Air Waybill #:</b>	186 959 328 – 6 1pc / 333 lbs
<b>Summary:</b>	According to a Shipment Tracking Request ran on February 24, 2000, these two shipments were delivered on February 21, 2000, in Philadelphia, PA (PHL). The shipments were signed for and picked up by L. Spinner at 1213 hours on February 21, 2000.