U.S. Department of Transportation
Pipeline and Hazardous Materials Safety Administration

1200 New Jersey Ave, S.E.
Washington, D.C. 20590

MAR 17 2009

Mr. Thomas Reese
DuPont Sourcing & Logistics
Distribution Safety & Security Team
4417 Lancaster Pike, Barley Mill Plaza 22/2226
Wilmington, DE 19805

Ref. No. 09-0045

Dear Mr. Reese:

This responds to your February 24, 2009 email requesting clarification of international regulations authorized for use under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Specifically, you ask for clarification of whether a portable tank, containing a Division 2.2 fire extinguishing agent, past the due date for periodic inspection or testing may be transported in accordance with the International Maritime Dangerous Goods (IMDG) Code back to the United States to be emptied and retested.

In a follow-up telephone discussion with a member of my staff, you stated that each portable tank is actually emptied, with approximately 3% of the contents remaining in each tank, and that the tanks are to be shipped back to the United States for periodic testing. You ask whether your company must comply with both additional conditions specified in 6.7.3.15.6 of the IMDG Code to be allowed to transport the portable tanks past the retest date if your company is unable to comply with the general allowance that permits transportation of portable tanks that are not more than three months past their retest dates.

The answer is no, you do not need to meet both of the additional conditions specified in 6.7.3.15.6 of the IMDG Code when transporting a portable tank that has passed its retest date. A portable tank filled prior to its retest date may be transported for a period of not more than three months beyond the retest date. Along with the general allowance, 6.7.3.15.6 provides for two additional options. A portable tank may be transported past its retest date after emptying but before cleaning, for purposes of performing the next required inspection or test (see 6.7.3.15.6.1). Further, a portable tank may be transported for a period of not more than six months beyond its retest date to allow the return of hazardous materials for disposal or recycling (see 6.7.3.15.6.2). Thus, your company's emptied portable tanks may be transported past their retest dates in accordance with

6.7.3.15.6.1 of the IMDG Code in order to perform the next required inspection or test. Finally, as authorized by §§ 171.22 and 171.25 of the HMR, these portable tanks may be transported to the United States in accordance with the IMDG Code.

I hope this information is helpful. If you have further questions, please do not hesitate to contact this office.

Sincerely,

Charles E. Betts
Chief, Standards Development
Office of Hazardous Materials Standards

Der Kinderen
§171.25(c)
§173.32(a)(2)
Portable Tanks / IMDG
09-0045

Drakeford, Carolyn <PHMSA>

From: Betts, Charles <PHMSA>
Sent: Tuesday, February 24, 2009 1:55 PM
To: Drakeford, Carolyn <PHMSA>
Cc: Kelley, Shane <PHMSA>; Gorsky, Susan <PHMSA>; Pfund, Duane <PHMSA>
Subject: FW: IMDG Code 6.7.3.15.6
Importance: High
Attachments: FE-227 MSDS.pdf; FE-227 Technical Bulletin.pdf; CCRU537029_5_21062005.pdf; CCRU537218_5_01082005.pdf; CCRU537257_5_12072005.pdf

From: Thomas C Reese [mailto:Thomas.C.Reese-1@USA.dupont.com]
Sent: Tue 2/24/2009 9:38 AM
To: Kelley, Shane <PHMSA>
Subject: IMDG Code 6.7.3.15.6

To: Shane Kelley - DOT Washington, DC

Good morning Shane. I support DuPont's FluoroChemicals Business which is located in Wilmington, DE. The business requested me to ask the DOT to send DuPont a letter indicating our three out of test portable tanks containing residual DuPont FE-227, and currently located in India, are allowed to be shipped back to the United States to be emptied and retested in accordance with section 6.7.3.15.6 of the IMDG Code. We also request the letter include a brief paragraph indicating the DOT's interpretation of the word "and" which appears between 6.7.3.15.6.1 and 6.7.3.15.6.2. Previous communications from the DOT stated the word "and" is intended to mean "or", such that the two conditions are separate and not tied together.

We are asking the DOT to provide this letter because we have not been able to locate a facility in India to empty the tanks, clean them or retest them. Based on experience working with the ocean carriers operating out of India, we are confident they will refuse a shipment of any out of test tanks containing the residue of a dangerous good without a letter from the U.S. DOT. Lastly, our personnel located in India have tried contacting the Directorate General of Shipping in India to request a variance or a competent authority approval allowing the out of test tanks to be shipped. They have not had any success.
The following information regarding DuPont FE-227 and the three tanks is provided.

Product Information
The product in the portable tanks is **DuPont™ FE-227™ Fire Extinguishing Agent.**

DG Transport Information

Proper Shipping Name : Heptafluoropropane
Hazard Class : 2.2
I.D. No. : UN 3296

Portable Tank Information

Each tank contains 500-600 kilograms (1102-1322 pounds) FE-227.

My address is noted below. If you have any questions, please call me on (302) 992-3483.

Any assistance you can provide to help us resolve this issue quickly is greatly appreciated.

Have a great day. TomReese
HazMat Regulatory Compliance Consultant

DuPont Sourcing & Logistics
Distribution Safety & Security Team
4417 Lancaster Pike
Barley Mill Plaza 22/2226
Wilmington, DE 19805
Phone: (302) 992-3483 (Ducom 9923483)
FAX: 1-302-355-2891 (This not a Ducom number)
Internet: Thomas.C.Reese-1@usa.dupont.com
Hours: 8:00 AM - 5:00 PM

The MSDS format adheres to the standards and regulatory requirements of the United States and may not meet regulatory requirements in other countries.

FE-227
6160FR Revised 5-JUN-2006

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

FE-227 is a registered trademark of DuPont.

CAS Number	: 431-89-0
Formula	: CF3 CHF CF3
Molecular Weight	: 170.03
CAS Name	: Propane, 1,1,1,2,3,3,3-Heptafluoro-

Tradenames and Synonyms

2-Hydroperfluoropropane
Propane, 1,1,1,2,3,3,3-Heptafluoro-
HFC-227ea
2-Hydroheptafluoropropane
Heptafluoropropane
2-H-heptafluoropropane
1,1,1,2,3,3,3-Heptafluoropropane

Company Identification

MANUFACTURER/DISTRIBUTOR
DuPont Fluoroproducts
1007 Market Street
Wilmington, DE 19898

PHONE NUMBERS

Product Information	: 1-800-441-7515 (outside the U.S. 302-774-1000)
Transport Emergency	: CHEMTREC 1-800-424-9300(outside U.S. 703-527-3887)
Medical Emergency	: 1-800-441-3637 (outside the U.S. 302-774-1000)

COMPOSITION/INFORMATION ON INGREDIENTS

Components

Material	CAS Number	%
1,1,1,2,3,3,3-Heptafluoropropane	431-89-0	99.95

HAZARDS IDENTIFICATION

Potential Health Effects

Based on animal data, exposure to HFC-227ea by inhalation may cause suffocation, if air is displaced by vapors, and irregular heart beat with a strange sensation in the chest, "heart thumping," apprehension, lightheadedness, feeling of fainting, dizziness, weakness, sometimes progressing to loss of consciousness and death.

HFC-227ea may cause frostbite if liquid or escaping vapor contacts the skin.

HFC-227ea may cause "frostbite-like" effects if the liquid or escaping vapors contact the eyes.

In one study, human volunteers were selected to inhale HFC-227ea at a concentration of 6000 ppm but the study was terminated due to a rise in pulse rate that was believed to be unrelated to the chemical. In a subsequent study with human volunteers inhaling concentrations up to 8000 ppm no clinically significant effects were observed for any of the measured laboratory parameters.

Individuals with preexisting diseases of the cardiovascular system or nervous system may have increased susceptibility from excessive exposures.

Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

FIRST AID MEASURES

First Aid

INHALATION

If inhaled, immediately remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SKIN CONTACT

Treat for frostbite if necessary by gently warming affected area.

EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

(FIRST AID MEASURES - Continued)

INGESTION

Ingestion is not considered a potential route of exposure.

FIRE FIGHTING MEASURES

Flammable Properties

1,1,1,2,3,3,3-Heptafluoropropane is not flammable, however in the presence of a flame or ignition source it may decompose to form toxic hydrogen fluoride or carbonyl fluoride.

Non-flammable.

Extinguishing Media

Use media appropriate for surrounding material.

Fire Fighting Instructions

Self-contained breathing apparatus (SCBA) may be required if cylinders rupture or release under fire conditions.

Keep cylinders cool with water spray applied from a safe distance.

ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus. Keep upwind of leak - evacuate until gas has dispersed.

Initial Containment

Use forced ventilation to disperse vapors.

HANDLING AND STORAGE

Handling (Personnel)

Do not breathe gas. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling. Wash clothing after use.

Storage

Store in a well ventilated place. Store in a cool, dry place. Keep container tightly closed.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Use only with adequate ventilation. Keep container tightly closed.

Personal Protective Equipment

EYE/FACE PROTECTION

Wear safety glasses or coverall chemical splash goggles.

RESPIRATORS

Wear NIOSH approved respiratory protection, as appropriate.

PROTECTIVE CLOTHING

Where there is potential for skin contact have available and wear as appropriate impervious gloves, apron, pants, and jacket.

Exposure Guidelines

Exposure Limits
FE-227
AEL * (DuPont) : 1000 ppm, 8 & 12 Hr. TWA

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

Boiling Point	: -16.4 C (2.5 F)
Melting Point	: -131 C (-204 F)
Vapor Pressure	: 65.7 psia @ 25 C (77 F) (453.3 kPa)
Liquid Density	: 1.386 g/cm3 @ 25 C (77 F) (86.53 lb/ft3)
Critical temperature	: 101.6 C (214.9 F)
Critical pressure	: 424.7 psia (2930 kPa)

(PHYSICAL AND CHEMICAL PROPERTIES - Continued)

Odor : None.
Form : Liquified Gas

STABILITY AND REACTIVITY

Chemical Stability

Stable at normal temperatures and storage conditions.

Avoid sources of heat or open flame.

Incompatibility with Other Materials

Incompatible with strong reducing agents such as alkali metals (e.g., sodium, potassium), alkali-earth metals (e.g., magnesium, calcium), and powdered aluminum or zinc.

Decomposition

Decomposes by reaction with high temperature (open flames, glowing metal surfaces, etc.) forming hydrofluoric acid, carbonyl fluorides, carbon monoxide and carbon dioxide.

Polymerization

Polymerization will not occur.

TOXICOLOGICAL INFORMATION

Animal Data

HFC-227ea

Inhalation 4 hour LC50: > 788,698 ppm in rats

Repeated exposure of rats by inhalation for 4 weeks at concentrations up to 50,000 ppm revealed no toxicologically significants effects. The NOEL for this study was 50,000 ppm. A 90-day inhalation study in rats did not find any exposure related effects at 105,000 ppm. The NOEL for this study was 105,000 ppm.

Cardiac sensitization, a potentially fatal disturbance of heart rhythm associated with a heightened sensitivity to the action of epinephrine, occurred in dogs at 105,000 ppm. The NOAEL for cardiac sensitization was 90,000 ppm. In a different study to evaluate cardiac sensitization in dogs, concentrations of 90,000, 105,000, and 140,000 ppm caused a dose-related increase in incidence and severity; at 90,000 ppm efffects were minimal or mild in nature.

Inhalation studies of HFC-227ea in rabbits and rats do not

(TOXICOLOGICAL INFORMATION - Continued)

suggest developmental toxicity at concentrations up to 105,000 ppm. Tests have shown that HFC-227ea does not cause genetic damage in bacterial or mammalian cell cultures. Tests in animals for carcinogenicity or reproductive toxicity have not been conducted.

DISPOSAL CONSIDERATIONS

Waste Disposal

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Incinerate material in accordance with Federal, State/Provincial and Local requirements.

TRANSPORTATION INFORMATION

Shipping Information

DOT

Proper Shipping Name	: Heptafluoropropane
Hazard Class	: 2.2
I.D. No. (UN/NA)	: UN 3296
DOT Label(s)	: Nonflammable Gas

REGULATORY INFORMATION

U.S. Federal Regulations

TSCA Inventory Status : Listed.

TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312

Acute	: Yes
Chronic	: No
Fire	: No
Reactivity	: No
Pressure	: No

OTHER INFORMATION

NFPA, NPCA-HMIS

NFPA Rating

Health	: 1
Flammability	: 0
Reactivity	: 1

NPCA-HMIS Rating

Health	: 1

(Continued)

Flammability : 0
Reactivity : 0

Personal Protection rating to be supplied by user depending on use conditions.

The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS : MSDS Coordinator
> : DuPont Fluoroproducts
Address : Wilmington, DE 19898
Telephone : (800) 441-7515

# Indicates updated section.

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.

End of MSDS

DuPont™ FE-227™

FIRE EXTINGUISHING AGENT

Technical Information

Description

Ever since Halon 1301 was targeted as a serious ozone-depleting substance, DuPont has been instrumental in developing and manufacturing non-ozone-depleting replacement agents. The most recent addition to DuPont's full line of Halon replacements is FE-227™, or heptafluoropropane (HFC-227ea), which is the world's most widely used in-kind replacement for Halon 1301 in total flooding applications. FE-227™ effectively prevents or extinguishes all major classes of fires and is safe, clean, and electrically nonconductive. Its boiling point is –16.45°C (2.4°F) making it useful for total flooding of enclosures at normal ambient temperatures.

FE-227™ as a fire extinguishing composition is disclosed in U.S. Patent 5,084,190 which is assigned to DuPont. In addition, DuPont has a license to U.S. patent 5,124,053 which covers a method for extinguishing a fire.

Performance

The extinguishing concentration of FE-227™ on heptane fuel is 6.7% by volume as determined by the cup burner test. According to the 2000 edition of National Fire Protection Association (NFPA) standard 2001, the minimum design concentration for Class B fires shall be 1.3 times the cup burner value. For Class A fuels the minimum design concentration is 1.2 times the extinguishing concentration for wood and polymeric materials as tested according to UL 2166, Standard for Halocarbon Clean Agent Extinguishing System Units.

In comparison to Halon 1301, FE-227™ is a less efficient extinguishing agent, but this is not unexpected given the absence of bromine in the molecule. (It is bromine that made the Halon compounds extremely effective fire extinguishants, but also made them potent ozone depleters.) To overcome the lack of bromine, about two times as much FE-227™ must be used to achieve suppression under equivalent conditions. This presents no problem in designing and installing new systems, but makes it unlikely that existing Halon 1301 systems could simply be refilled with an equal quantity of FE-227™ and achieve the same level of performance. Nevertheless, FE-227™ is expected to replace the majority of uses for Halon 1301.

Applications

FE-227™ has its greatest benefit when used as a total flooding agent to protect high-value critical equipment requiring a clean (leaves no residue), electrically nonconductive gaseous agent that is safe for people in the event of exposure. These applications typically exist in telecommunication facilities, computer rooms, process control centers and other electromechanical equipment rooms.

A comparison of some properties of FE-227™ to Halon 1301 is in **Table 1**.

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Table 1
Properties Comparison
Halon 1301 to FE-227™

	Halon 1301	FE-227™
Chemical Formula	CF_3Br	CF_3CHFCF_3
Ozone-Depletion Potential	10	0
Molecular Weight	148.9	170.03
Boiling Point, °C (°F)	–57.7 (–72.0)	–16.45 (2.3)
Critical Temperature, °C (°F)	67.0 (152.6)	101.7 (215)
Liquid Density at 77°F, lb/ft³	96.01	86.53
Vapor Pressure at 77°F, psia	234.8	66.0
Heat of Vaporization at Boiling Point, Btu/lb	35.5	56.7
Extinguishing Concentration, Heptane, Cup Burner, vol%	3.5	6.7
Acute Toxicity, ALC or LC_{50} Rats; 4 hr-ppm	400,000–800,000*	>788,000

*Estimated values

Toxicity

FE-227™ has very low acute toxicity by inhalation. As with many other halocarbons and hydrocarbons, FE-227™ produces a cardiac sensitization response in experimental screening studies. This cardiac sensitization response is observed in dogs at approximately 105,000 ppm (10.5% LOAEL), but not at 90,000 ppm (9.0% NOAEL). In 1999, further research using an EPA-approved, physiologically-based pharmacokinetic (PBPK) model demonstrated that human exposure to FE-227™ for up to 5 minutes at concentrations of up to 10.5% v/v would not produce a blood level of FE-227™ associated with cardiac sensitization. As with all HFC agents used as fire suppressants, human exposure to concentrations above the NOAEL is limited to 5 minutes in duration.

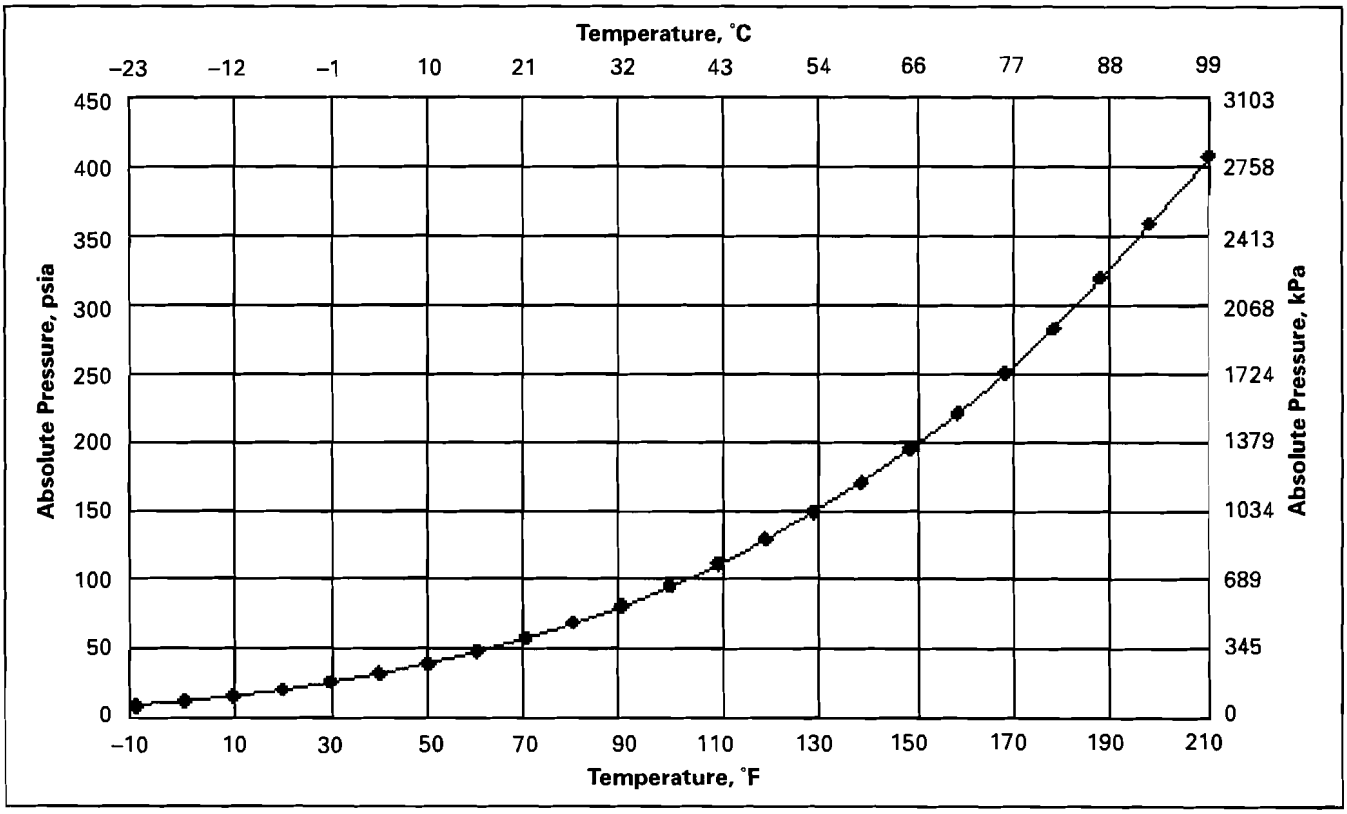
No other adverse effects were observed in rats exposed by inhalation at concentrations of up to 105,000 ppm for up to 90 days.

FE-227™ is not mutagenic.

Environmental

FE-227™ or heptafluoropropane (CF_3CHFCF_3) is environmentally acceptable with an ozone-depletion potential (ODP) of zero, a global warming potential of 2,900, based on a 100-yr horizon relative to CO_2, and an atmospheric lifetime of 36.5 years.

Figure 1. Saturated Vapor Pressure of DuPont™ FE-227™



In 1994 the EPA rated HFC-227ea as acceptable for use as a total flooding agent in occupied spaces under their Significant New Alternatives Policy (SNAP) program.

Materials Compatibility

Selected elastomers were immersed in a liquid/vapor mixture of FE-227™ for two weeks at room temperature (23°C [74°F]). Eight of the nine common elastomers exhibited negligible swelling, weight gain, or hardness change after exposure. This is shown in **Table 2**.

Plastics were evaluated in the same manner as the elastomers. Six of the plastics showed negligible effect (weight gain and surface condition). Results are summarized in **Table 3**.

Most of the common metals such as steel, cast iron, brass, copper, tin, lead, and aluminum can be used in contact with FE-227™ under normal conditions. Vessels storing FE-227™ should be free of moisture.

Availability

FE-227™ is available from DuPont in 150-pound cylinders, 1,200-pound containers and either 37,000-pound tank trailers or ISO containers depending upon location. Regional stocks of FE-227™ are maintained globally in accordance with local demand.

Specifications

FE-227™ is of high organic purity and essentially residue-free, meeting the following quality specifications:

Purity, % by weight, minimum	99.0
Moisture, ppm by weight, maximum	10
Acidity, ppm by weight, expressed as HCl, maximum	0.5
Residue, % by volume, maximum	0.03

Table 2
Elastomer Compatibility

Elastomer	Linear swell, %	Weight Gain, %	Hardness Change, units
Butyl	0	0.37	0
Nordel® EPDM	0.20	1.44	1.6
Neoprene W	0.05	0.66	0
NBR	0	1.86	4.0
Hypalon® CSM	0.19	1.41	2.4
Viton® A	9.49	26.83	–44.0
Epichlorohydrin homopolymer	0.15	0.08	5.5
FA polysulfide	0.05	0.06	6.9
Hytrel® TPE	1.33	5.71	4.6

Table 3
Plastic Compatibility

Plastic	Weight Gain, %	Surface Condition
High-density polyethylene (HDPE)	0.11	No Change
Polystyrene (PS)	–0.03	No Change
Polypropylene (PP)	0.06	No Change
Acrylonitrile-butadiene-styrene (ABS)	–0.03	No Change
Polycarbonate (PC)	–0.10	No Change
Polymethyl methacrylate (PMMA)	*	*
Nylon	–0.17	No Change
Teflon® PTFE	5.23	No Change

*Partly dissolved, deformed, and destroyed

For further information regarding DuPont Fire Extinguishing Agents, contact:

Americas

DuPont Fluoroproducts
Chestnut Run Plaza 702-1274E
P.O. Box 80702
Wilmington, DE 19880
Tel: (800) 473-7790

Europe

DuPont de Nemours International S.A.
2, Chemin du Pavillon
CH-1218 Le Grand-Saconnex
Geneva, Switzerland
Tel: 41-22-717-5376

Asia

DuPont Taiwan, Limited
13F, Hung Kuo Building
167 Tun Hwa North Road
Taipei, Taiwan 105
ROC
Tel: 886-2-25144488

cleanagents.dupont.com

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Tank Container Periodic Inspection Report

Office: Houston

Control No: 20051283

Date: 21 June 2005

This certifies that the undernoted tank container has been reinspected in accordance with the regulations indicated.
Note: RID/ADR Certification will be supplied upon request.

Scope: [ ] 2½ Year Inspection [X] 5 Year Inspection

Place of Inspection:	**Boasso, Houston**	**Owner's Serial Number**	
Owner:	**Eurotainer**	**CCRU 537029-6**	
Manufacturer:	**CKT Rootselaar**	**Manufacturer's Serial Number**	**18339 154129**

Applicable Regulations:

- [X] **CSC** F BC 736 89
- [X] **IMO** 5
- [X] **RID/ADR** F 3046
- [ ] **BAM**
- [X] **TIR** NL 5 333 86
- [X] **US-DOT** 51
- [X] **AAR 600**
- [X] **TC Impact**
- [X] **UIC** 70
- [ ] **UN**

Tank Information

Max. Gross Weight:	30 480	kg
Tare Weight:	8 000	kg
Capacity:	16 800	lt.
Design Temp:	55	°C
Test Pressure:	29.7	bar
MAWP:	18.5	bar
Top Discharge:	N	
Bottom Discharge:	Y	
+ no. of closures in series:	3	
Fusible link:	Y	
Shell Material:	A 299	
Shell Thickness:	17.5	mm
Heads Material:		
Heads Thickness:		mm
Frame dimensions: Length: 20' Width: 8' Height:		8'

Pressure Relief Valves	***1st***	***2nd***
Manufacturer/Type	Gimeg	Gimeg
Serial Number	613	595
Full Flow Rate	480 m^3/min	480 m^3/min
Operating Pressure	18.5 bar	18.5 bar
Vacuum Setting	N	N
Bursting Disc	N	N

Inspection Dates

Initial Hydro Test:	02 90	Witness:	BV
Last Hydro Test:	10 01	Witness:	BV
This Inspection:	06 05	Witness:	LR
Next Inspection Due:	12 07		

Inspections Performed	***N/A***	***In Order***	***Comments***
Internal Inspection		X	
External Inspection		X	
Hydraulic Test Pressure:		X 29.7 bar	
Leak Test Pressure:		X 6.9 bar	
Fittings Inspection		X	
Frame Inspection		X	
Decals Inspection		X	
Steam Coils Test Pressure:	X		

Comments:

Passed inspection

Surveyor

M. Stevenson

LLOYD'S REGISTER TECHNICAL SERVICES, INC. Lloyd's Register HOUSTON

Stamping:

Main Data Plate:	06 05 LR
CSC Plate:	12 07

Lloyd's Register

Tank Container Periodic Inspection Report

Office: Houston

Control No: 20051563

Date: 1 August 2005

This certifies that the undernoted tank container has been reinspected in accordance with the regulations indicated.
Note: RID/ADR Certification will be supplied upon request.

Scope: [ ] 2½ Year Inspection [X] 5 Year Inspection

Place of Inspection: STS, Houston	**Owner's Serial Number**
Owner: Eurotainer	**CCRU 537218-0**
Manufacturer: CKT Rooteselaar	**Manufacturer's Serial Number** 1703 18 19113

Applicable Regulations:

[X]	CSC F BC 736 89	[X]	US-DOT 51
[X]	IMO 6	[X]	AAR 600
[X]	RID/ADR F 3767	[X]	TC Impact
[ ]	BAM	[X]	UIC 87
[X]	TIR NL 5 723 93	[ ]	UN

Tank Information

Max. Gross Weight:	30 480	kg
Tare Weight:	8 430	kg
Capacity:	18 800	lt.
Design Temp:	55	°C
Test Pressure:	40	bar
MAWP:	18.46	bar
Top Discharge:	N	
Bottom Discharge:	Y	
* no. of closures in series:	3	
Fusible link:	Y	
Shell Material:		
Shell Thickness:	19.11	mm
Heads Material:		
Heads Thickness:	17.89	mm
Frame dimensions: Length: 20' Width: 8' Height: 8'		

Inspection Dates

Initial Hydro Test:	09 93	Witness:	BV
Last Hydro Test:	04 03	Witness:	LR
This Inspection:	08 05	Witness:	LR
Next Inspection Due:	02 08		

Inspections Performed	*N/A*	*In Order*	*Comments*
Internal Inspection		X	
External Inspection		X	
Hydraulic Test		X	
Pressure:		40 bar	
Leak Test		X	
Pressure:		6.0 bar	
Fittings Inspection		X	
Frame Inspection		X	
Decals Inspection		X	
Steam Coils Test	X		
Pressure:			

Pressure Relief Valves	*1st*	*2nd*
Manufacturer/Type	MT	MT
Serial Number	941	104
Full Flow Rate		
Operating Pressure	18.46 bar	18.45 bar
Vacuum Setting	N	N
Bursting Disc	N	N

Comments:

Early 5 year test as directed by owner; Passed Inspection

Surveyor

M. Stevenson

Stamping:

Main Data Plate: 08 05 LR

CSC Plate: 02 08

Gold cert 1/2005

Tank Container Periodic Inspection Report

Office: Houston

Control No: 20051441

Date: 12 July 2005

This certifies that the undernoted tank container has been reinspected in accordance with the regulations indicated.
Note: RID/ADR Certification will be supplied upon request.

Scope: [ ] 2½ Year Inspection [X] 5 Year Inspection

Place of Inspection:	**STS, Houston**	**Owner's Serial Number**
Owner:	**Eurotainer**	**CCRU 537257-6**
Manufacturer:	**CKT Tankbouw Rootselaar**	**Manufacturer's Serial Number 1703 5719195**

Applicable Regulations:

- [X] CSC F BV 736 89
- [X] IMO 5
- [X] RID/ADR F 5017 BV 00
- [ ] BAM
- [X] TIR NL 5 723 93
- [X] US-DOT 51 E 10291
- [X] AAR 600
- [X] TC Impact
- [X] UIC 87
- [ ] UN

Tank Information

Max. Gross Weight:	30 480	kg
Tare Weight:	8 390	kg
Capacity:	16 800	lt.
Design Temp:	55	°C
Test Pressure:	40	bar
MAWP:	18.45	bar
Top Discharge:	N	
Bottom Discharge:	Y	
+ no. of closures in series:	3	
Fusible link:	Y	
Shell Material:		
Shell Thickness:	19.1	mm
Heads Material:		
Heads Thickness:		mm
Frame dimensions: Length: 20' Width: 8' Height:		8'

Inspection Dates

Initial Hydro Test:	11 95	Witness:	BV
Last Hydro Test:	04 03	Witness:	LR
This Inspection:	07 05	Witness:	LR
Next Inspection Due:	01 08		

Pressure Relief Valves	***1st***	***2nd***
Manufacturer/Type	Gimeg	Gimeg
Serial Number	699	692
Full Flow Rate		
Operating Pressure	18.45 bar	18.45 bar
Vacuum Setting	N	N
Bursting Disc	N	N

Inspections Performed	***N/A***	***In Order***	***Comments***
Internal Inspection		X	
External Inspection		X	
Hydraulic Test Pressure:		X 40 bar	
Leak Test Pressure:		X 6.9 bar	
Fittings Inspection		X	
Frame Inspection		X	
Decals Inspection		X	
Steam Coils Test Pressure:	X		

Comments:

* Hydro test early as directed by owner due to welding of barrels; Passed inspection

Surveyor

M. Stevenson

LLOYD'S REGISTER Lloyd's Register HOUSTON TECHNICAL SERVICES, INC.

Stamping:

Main Data Plate:	07 05 LR
CSC Plate:	01 08