



U.S. Department  
of Transportation

Research and  
Special Programs  
Administration

400 Seventh Street, S.W.  
Washington, D.C. 20590

APR 17 1998

Mr. George Plum  
USA Services, Inc.  
P.O. Box 12103  
Norfolk, Virginia 23541-0103

Dear Mr. Plum:

This is in response to your letter of February 10, 1998, requesting clarification of the periodic retest requirements for cylinders under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Specifically, you ask whether Halon 1301 (bromotrifluoromethane), a non-corrosive fire extinguishing agent, is a fluorinated hydrocarbon gas and would qualify for the exception in § 173.34(e)(13).

Yes, Bromotrifluoromethane is a fluorinated hydrocarbon gas. Section 173.34(e)(13) states that cylinders made in compliance with DOT-3A, DOT-3AA, DOT-3A480X, DOT-4B, DOT-4BA, DOT-4BW, DOT-4E and used exclusively for fluorinated hydrocarbons and mixtures thereof which are commercially free from corroding components can be given a complete visual inspection instead of a periodic hydrostatic retest at the time periodic retest comes due. Therefore, bromotrifluoromethane qualifies for the provisions in § 173.34(e)(13) allowing a periodic visual inspection instead of a periodic hydrostatic retest of the above identified cylinders.

I hope this answers your inquiry. If you need additional assistance, do not hesitate to contact us.

Sincerely,

Delmer F. Billings  
Chief, Standards Development  
Office of Hazardous Materials Standards

Contractors  
File: 172101(c)(13)  
SC 170, 174

B 0985

- REQUEST
- CONDITION REPORT
- PROGRESS REPORT
- MEMO FOR RECORD
- OTHER



P.O. Box 12103, • 1111 Ingleside Road, Norfolk, Virginia 23541-0103  
1-800-727-2628 • 757-855-2233 • FAX 757-855-7533

Branch Locations: Annapolis, MD • Oriental, NC • Wilmington, NC

DIVISION \_\_\_\_\_

FROM: GEORGE PLUM

DATE 2-10-98 TIME \_\_\_\_\_

TO: MR. EDWARD T. MAZZULLO DIR. OFFICE OF HAZMAT STANDARDS

SUBJ: 49 CFR 173.34(e)(13) AND TABLE

COPY TO: \_\_\_\_\_

COMMENTS: QUESTION: DOES HALON 1301 (BROMOTRIFLUOROMETHANE, CBrF<sub>3</sub>) A NON-CORROSIVE FIRE EXTINGUISHING AGENT MEET THE CRITERIA OF THE PORTION OF THE TABLE IN (e) (13) UNDER THE HEADING "USED EXCLUSIVELY FOR-" "FLUORINATED HYDROCARBONS AND MIXTURES..."

IF HALON DOES NOT MEET THE AFOREMENTIONED CRITERIA PLEASE STATE THE REASON.

THANK YOU.

George Plum

ACTION REQUIRED	PHYSICAL PROPERTIES OF DU PONT HALON 1301	
	Molecular Weight	148.93
	Boiling Point at 1 atm, °F	-71.96
	Boiling Point at 1 atm, °C	-57.75
	Freezing Point, °F	-270
	Freezing Point, °C	-168
	Critical Temperature, °F	152.6
	Critical Temperature, °C	67.0
	Critical Pressure, psia	575
	Critical Pressure, atm	39.1
	Critical Volume, cu. ft. per lb	0.0215
	Critical Density, lb per cu. ft.	46.5
	Critical Density, gm per cu. cm.	0.745
	Specific Heat, Liquid (Heat Capacity) at 77°F, Btu per lb per °F	0.208
	Specific Heat, Vapor, at constant pressure (1 atm) 77°F, Btu per lb per °F	0.112
	Heat of Vaporization at 1 atm, 81w per lb.	51.08
	Thermal Conductivity of Liquid at 77°F, Btu/(hr) (ft) (°F).	0.025
	Viscosity, Liquid at 77°F, centipoise	0.15
	Viscosity, Vapor at 77°F, 1 atm, centipoise	0.018
	Surface Tension at 77°F, dynes per cm.	1.238
	Refractive Index of Liquid at 77°F	1.83
	Relative Ozoneic Strength at 1 atm, 77°F (Nitrogen = 1)	0.03
	Solubility of Halon 1301 in Water at 1 atm, 77°F, wt%	0.0095
	Solubility of Water in Liquid Halon 1301 at 70°F, wt%	

RECEIVED BY: \_\_\_\_\_

TIME \_\_\_\_\_