

A.2-1

PAYLOAD FLIGHT HAZARD REPORT		a. NO:	AMS-02-F02
b. PAYLOAD	Alpha Magnetic Spectrometer-02 (AMS-02)		c. PHASE: II
d. SUBSYSTEM:	Materials, AMS-02 DDRS-02	e. HAZARD GROUP: Injury/Illness	f. DATE: May 22, 2006
g. HAZARD TITLE:	Toxic Material Offgassing		i. HAZARD CATEGORY: CATASTROPHIC CRITICAL X
h. APPLICABLE SAFETY REQUIREMENTS:	NSTS 1700.7B 209.3		
j. DESCRIPTION OF HAZARD:	<p style="text-align: center;">Offgas evolution of toxic vapors from materials of construction of hardware used within the crew habitable volume can result in injury/illness.</p> <p>This hazard report covers the AMS-02 provided hardware to be used within the Shuttle Orbiter crew habitable volume during AMS-02 systems check out prior to deployment to the ISS. This hardware consists of interface cables and a commercial off the shelf (COTS) RS 422 interface card to be installed within a standard Orbiter PGSC expansion chassis.</p>		
k. CAUSES	<p style="text-align: center;">1. Use of hardware/materials of construction which offgas excessive levels of toxic products.</p> <p><i>(list)</i></p>		
o. APPROVAL	PAYLOAD ORGANIZATION	SSP/ISS	
PHASE I			
PHASE II			
PHASE III			

JSC 49978

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1. HAZARD CONTROL (CONTROL), m. SAFETY VERIFICATION METHODS (SVM), n. STATUS OF VERIFICATIONS (STATUS)			OPS CONTROL
1. CAUSE: Use of hardware/materials of construction which offgas excessive levels of toxic products.			
1.1 CONTROL: Materials of construction of cabling of for the DDRS2 have been selected based on material ratings and past flight experience for cable construction. 1.1.1 SVM: Material Selection Assessment for Offgas Rating. 1.1.2 SVM: JSC ES4 approval of material certification. 1.1.3 SVM: QA certification of as built hardware. 1.1.1 STATUS: Open 1.1.2 STATUS: Open 1.1.3 STATUS: Open			
1.2 CONTROL: The DDRS2 interface card COTS hardware will be conformally coated and assessed for offgas potential. 1.2.1 Review of Design. 1.2.2 QA inspection of flight hardware. 1.2.3 Material certification approval by JSC/ES4. 1.2.1 STATUS: Open 1.2.2 STATUS: Open 1.2.3 STATUS: Open			
Notes:			

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ACRONYMS

AMS-02 – Alpha Magnetic Spectrometer 02	Ops – Operations
COTS – Commercial Off the Shelf	QA – Quality Assurance
DDRS2 – Digital Data Recording System 2	SVM – Safety Verification Method
PGSC – Payload General Support Computer	