

August 27, 2014



U.S. Department  
of Transportation

East Building, PHH-30  
1200 New Jersey Avenue S.E.  
Washington, D.C. 20590

**Pipeline and Hazardous  
Materials Safety Administration**

DOT-SP 13036  
(SEVENTH REVISION)

EXPIRATION DATE: June 30, 2018

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Microsemi  
Beverly, MA
2. PURPOSE AND LIMITATION:
  - a. This special permit authorizes the transportation in commerce of DOT Specification 3E cylinders containing hydrogen in metal hydride as an integral part of a hydrogen maser (atomic clock). This special permit provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein. The most recent revision supersedes all previous revisions.
  - b. The safety analyses performed in development of this special permit only considered the hazards and risks associated with transportation in commerce. The safety analyses did not consider the hazards and risks associated with consumer use, use as a component of a transport vehicle or other device, or other uses not associated with transportation in commerce.
  - c. Party status will not be granted to this special permit.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 173.301(f) and 173.222(b)(3) in that the DOT Specification 3E cylinders are fitted with pressure relief devices that do not meet the requirements of CGA Pamphlet S-1.1, and § 173.301(d) in that the material within the cylinder has the potential to endanger the cylinder's serviceability.

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5. BASIS: This special permit is based on the application of Microsemi dated July 1, 2014, submitted in accordance with § 107.109.
6. HAZARDOUS MATERIALS (49 CFR § 172.101):

<b>Hazardous Materials Description</b>			
<b>Proper Shipping Name</b>	<b>Hazard Class/ Division</b>	<b>Identification Number</b>	<b>Packing Group</b>
Dangerous Goods in Machinery <i>or</i> Dangerous Goods in Apparatus	9	UN3363	N/A
Metal hydride storage system contained in equipment <i>or</i> Hydrogen in a metal hydride storage system packed with equipment*	2.1	UN3468	N/A

\* This proper shipping name must be used for cylinders shipped separately from the hydrogen maser.

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a stainless steel DOT Specification 3E cylinder containing hydrogen absorbed in metal hydride. The cylinder is shipped separately or as an integral part of a hydrogen maser (atomic clock). The cylinder must be in conformance with the following:

(1) The maximum service pressure must be 1,800 psig. The maximum water capacity is 150cc.

(2) The cylinder must be equipped with a CGA C-7 pressure relief valve with a rated start to discharge pressure of 450 psig.

(3) The cylinder must be equipped with an internal configuration that prevents the metal hydride within from exerting detrimental forces on the cylinder. The internal design must be as described in the Datum application for special permit on file with the Office of Hazardous Materials Special Permits and Approvals (OHMSPA).

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(4) The cylinder must be helium leak tested and there must be no sign of leakage before the cylinder is charged with hydrogen gas.

b. TESTING - There is no requirement to periodically retest the DOT Specification 3E cylinder.

c. OPERATIONAL CONTROLS -

(1) The hydrogen maser (atomic clock) or the separate cylinder must be shipped in strong outside packaging in accordance with § 173.301(a)(9).

(2) The cylinder is not authorized to be refilled.

8. SPECIAL PROVISIONS:

a. A person who is not a holder of this special permit who receives a package covered by this special permit may reoffer it for transportation provided no modification or change is made to the package and it is reoffered for transportation in conformance with this special permit and the HMR.

b. A current copy of this special permit must be maintained at each facility where the package is offered or reoffered for transportation.

c. MARKING -

(1) Each cylinder must be plainly and durably marked "DOT-SP 13036".

(2) The outside of each package must be marked "INSIDE PACKAGING COMPLIES WITH DOT-SP 13036".

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle and cargo aircraft only.

10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each aircraft or motor vehicle used to transport packages covered by this special permit. The shipper must furnish a current copy of this special permit to the air carrier before or at the time the shipment is tendered.

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11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this special permit and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:

- o All terms and conditions prescribed in this special permit and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
- o Persons operating under the terms of this special permit must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
- o Registration required by § 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this special permit, including display of its number, when this special permit has expired or is otherwise no longer in effect.

Under Title VII of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)- 'The Hazardous Materials Safety and Security Reauthorization Act of 2005' (Pub. L. 109-59), 119 Stat. 1144 (August 10, 2005), amended the Federal hazardous materials transportation law by changing the term "exemption" to "special permit" and authorizes a special permit to be granted up to two years for new special permits and up to four years for renewals.

12. REPORTING REQUIREMENTS: Shipments or operations conducted under this special permit are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 Immediate notice of certain hazardous materials incidents, and 171.16 Detailed hazardous

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materials incident reports. In addition, the grantee(s) of this special permit must notify the Associate Administrator for Hazardous Materials Safety, in writing, of any incident involving a package, shipment or operation conducted under terms of this special permit.

Issued in Washington, D.C.:



for Dr. Magdy El-Sibaie  
Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Materials Safety Administration, Department of Transportation, Washington, D.C. 20590. Attention: PHH-31.

Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at [http://hazmat.dot.gov/sp\\_app/special\\_permits/spec\\_perm\\_index.htm](http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm) Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: CWF/dl