



U.S. Department
of Transportation
**Research and
Special Programs
Administration**

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

NOV 21 2003

DOT-E 12068
(NINTH REVISION)

EXPIRATION DATE: October 31, 2005

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. **GRANTEE:** Sea Launch Company, L.L.C.
Long Beach, CA

2. **PURPOSE AND LIMITATION:**
 - a. This exemption authorizes the transportation in commerce of certain hazardous materials (listed in paragraph 6 of this exemption) contained in the Sea Launch Integrated Launch Vehicle with and without payload. The launch vehicle, a three-stage, liquid-fueled rocket of Russian and Ukrainian design, will be transported via ocean onboard the Assembly and Command Ship (ACS) or an exclusive-use "roll-on roll-off (Ro-Ro)" cargo vessel to the Home Port in Long Beach, California, and subsequently after assembly, testing, and integration by Launch Platform to the launch operations site near the equator. This exemption does not cover transportation of the payload to the home port or transportation of hazardous materials that are not contained in the integrated launch vehicle or one of the stages. This exemption provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein.

 - b. The safety analyses performed in development of this exemption only considered the hazards and risks associated with transportation in commerce.

3. **REGULATORY SYSTEM AFFECTED:** 49 CFR Parts 106, 107 and 171-180.

4. **REGULATIONS FROM WHICH EXEMPTED:** 49 CFR Part 172 Subparts C, D, E, and F; § 173.62; and Part 173 Subparts E, F, and G only when hazardous materials are in transportation as part of one of the stages or the integrated launch vehicle.

5. **BASIS:** This exemption is based on the application of Sea Launch Company dated November 3, 2003 submitted in accordance with § 107.109.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/Division	Identification Number	Packing Group
Hazardous Materials in Launch Vehicle			
Air, compressed	2.2	UN1002	N/A
Cartridges, power device *	1.4C	UN0276	II
Cartridges, power device *	1.4S	UN0323	II
Detonators, non-electric <i>for blasting</i>	1.4B	UN0267	II
Dimethylhydrazine, unsymmetrical	6.1	UN1163	I, Hazard Zone B
Dinitrogen tetroxide	2.3	UN1067	Hazard Zone A
Flammable liquids, n.o.s.	3	UN1993	III
Fuzes, detonating, with <i>protective features</i>	1.4D	UN0410	II
Fuzes, detonating	1.4S	UN0367	II
Igniters *	1.3G	UN0315	II
Igniters *	1.4S	UN0454	II
Kerosene	3	UN1223	III
Lithium Battery	9	UN3090	II
Methylhydrazine	6.1	UN1244	I, Hazard Zone A
Pyrophoric liquids, organic, n.o.s.	4.2	UN2845	I
Release devices, explosive *	1.4S	UN0173	II
Rocket motors	1.3C	UN0186	II

Hazardous Materials Description			
Proper Shipping Name	Hazard Class/Division	Identification Number	Packing Group
Hazardous Materials Permitted in Payload			
Ammonia, anhydrous	2.3	UN1005	Hazard Zone D
Articles, explosive, n.o.s.	1.4S	UN0349	II
Dinitrogen tetroxide	2.3	UN1067	Hazard Zone A
Helium, compressed	2.2	UN1046	N/A
Hydrogen, compressed	2.1	UN1049	N/A
Hydrazine, anhydrous, or Hydrazine aqueous solutions with more than 64 percent of hydrazine, by mass	8	UN2029	I
Methylhydrazine	6.1	UN1244	I, Hazard Zone A
Potassium hydroxide solution	8	UN1814	II, III
Toluene	3	UN1294	II
Xenon, compressed	2.2	UN2036	N/A

* Preliminary classifications recommended in application.

7. SAFETY CONTROL MEASURES:

a. Quantities of hazardous materials transported as part of the launch vehicle will not exceed those specified in the exemption application.

b. Safety provisions will be in accordance with the Sea Launch System Safety Plan dated 1 February, 1997, or subsequent revisions. Revisions to this document or any associated manuals addressing hazardous materials requirements must be provided to the Office of Hazardous Materials Exemptions and Approvals (OHMEA) within 30 days of their issuance.

c. Block DM third stage and payload propellants will not be added to the launch vehicle prior to integration and testing at the Home Port.

8. SPECIAL PROVISIONS:

a. Transportation is authorized by Assembly and Command Ship (ACS), exclusive-use "roll-on roll-off (Ro-Ro)" cargo vessel, and Launch Platform only.

b. United States Sea Launch must provide descriptions of any design changes impacting how hazardous materials in the integrated launch vehicle, except for the payload, are stored, pressurized, or used and an assessment of how these changes affect risk to OHMEA not later than 60 days prior to transportation covered by this exemption.

c. Payload tanks containing hazardous materials must meet the requirements of MIL-STD-1522A, "Standard General Requirements for Safe Design and Operation of Pressurized Missile and Space Systems" or demonstrate an equivalent level of safety if designed to other standards. A design burst pressure to maximum expected operating pressure safety factor of 2.0 must be maintained during transportation prior to launch activities unless adequate evaluation data is provided that establishes a design with a lower safety factor will perform safely in the Sea Launch transportation environment. In no case, however, will this safety factor be less than 1.5. The evaluation data must be provided to OHMEA no later than 30 days prior to integration of the payload into the launch vehicle at the Home Port.

d. Descriptions, drawings, and specifications for tanks for hypergolic liquids and related pressure controlling systems contained in the payload will be provided to OHMEA for all payload designs no later than 30 days prior to integration of the payload into the launch vehicle at the Home Port.

9. MODES OF TRANSPORTATION AUTHORIZED: Cargo vessel.

10. MODAL REQUIREMENTS: A current copy of this exemption must be carried aboard each cargo vessel used to transport packages covered by this exemption and maintained at the Home Port.

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

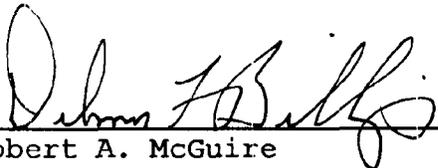
- o All terms and conditions prescribed in this exemption and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
- o Registration required by § 107.601 et seq., when applicable.

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

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

12. REPORTING REQUIREMENTS: The carrier is required to report any incident involving loss of packaging contents or packaging failure to the Associate Administrator for Hazardous Materials Safety (AAHMS) as soon as practicable. (Sections 171.15 and 171.16 apply to any activity undertaken under the authority of this exemption.) In addition, the holder(s) of this exemption must inform the AAHMS, in writing, of any incident involving the package and shipments made under the terms of this exemption.

Issued in Washington, D.C.:



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Robert A. McGuire
Associate Administrator for
Hazardous Materials Safety

NOV 21 2003

(DATE)

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

Copies of this exemption may be obtained by accessing the
Hazardous Materials Safety Homepage at
<http://hazmat.dot.gov/exemptions> Photo reproductions and legible
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this exemption is prohibited.

PO:ADReeves/KFWong/sln