NRC FORM 250 (10-07)

UNITED STATES OF AMERICA

Nuclear Regulatory Commission Washington, D.C. 20555

NRC LICENSE NO.: XMAT410/03

Page 1 of 2

NRC DOCKET NO.: 11005754

LICENSE EXPIRES

December 31, 2021

Pursuant to the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974 and the regulations of the Nuclear Regulatory Commission (NRC) issued pursuant thereto, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued to the licensee authorizing the export of the materials and/or production or utilization facilities listed below, subject to the terms and conditions herein.

LICENSEE

ULTIMATE CONSIGNEE(S) IN FOREIGN COUNTRY(IES)

Sigma-Aldrich Co. LLC 3050 Spruce Street St. Louis, MO 63103

See page 2

Attn: Jared Fenton

INTERMEDIATE CONSIGNEE(S) IN FOREIGN COUNTRY(IES)

None

OTHER U.S. PARTY(IES) TO EXPORT

See page 2

APPLICANT'S REFERENCE NO.: Appl. dated 01/18/17

ULTIMATE DESTINATION(S): Japan

QUANTITY(IES)

DESCRIPTION OF MATERIAL(S) OR FACILITY(IES)

This license is amended to increase the quantity of materials for export by 5,000 kilograms (kg), and extend the date of expiration from December 31, 2017 to December 31, 2021.

The licensee is authorized to export a cumulative total of 10,000 kg of deuterium in the form of deuterated compounds, deuterium oxide (heavy water), and deuterium gas.

All other conditions remain the same.

Neither this license nor any right under this license shall be assigned or otherwise transferred in violation of the provisions of the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974.

This license is subject to the right of recapture or control by Section 108 of the Atomic Energy Act of 1954, as amended, and to all of the other provisions of said Acts, now or hereafter in effect and to all valid rules and regulations of the NRC.

THIS LICENSE IS INVALID UNLESS SIGNED BELOW BY AUTHORIZED NRC REPRESENTATIVE

SIGNATURE:

NAME AND TITLE:

David L. Skeen, Deputy Director

Office of International Programs

MAR 23 2017

DATE OF ISSUANCE:

ULTIMATE CONSIGNEE(S) IN FOREIGN COUNTRY(IES):

 SIGMA-ALDRICH Japan KK 2-2-24 Higashi-Shinagawa Shinagawa-Ku Tokyo, 1400002 Japan

(for distribution into the medical, pharmaceutical, chemical, and industrial markets for non-nuclear end use)

 Taiyo Nippon Sanso Corporation Toyo Bldg, 1-3-26 Koyama Shinagawa-Ku Tokyo, 1428558 Japan

(for distribution into the medical, pharmaceutical, chemical, and industrial markets for non-nuclear end use)

 SIGMA-ALDRICH Japan KK 368 Oomachi Ichikawa-Shi Chiba-Ken, 2720801 Japan

(for distribution into the medical, pharmaceutical, chemical, and industrial markets for non-nuclear end use)

OTHER U.S. PARTY(IES) TO EXPORT:

 Aldrich Chemical Co. LLC 6000 N. Teutonia Avenue Milwaukee, WI 53209

(supplier)

 Aldrich Chemical Co. LLC 3858 Benner Road Miamisburg, OH 45342

(supplier)

 Aldrich Chemical Co. LLC 6950 Ambassador Drive Allentown, PA 18106

(supplier)