

<b>NRC FORM 7</b> (8-2011) 10 CFR 110	<b>U.S. NUCLEAR REGULATORY COMMISSION</b>	<b>APPROVED BY OMB: NO. 3150-0027</b>	<b>EXPIRES: 08/31/2012</b> Estimated burden per response to comply with this mandatory collection request 2.4 hours. This submittal is reviewed to ensure that the applicable statutory, regulatory, and policy considerations are satisfied. Send comments regarding burden estimate to the Information Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to <a href="mailto:Infocollects.Resource@nrc.gov">Infocollects.Resource@nrc.gov</a> , and to the Desk Officer, Office of Information and Regulatory Affairs, NE08-10202, (3150-0027), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.
<b>APPLICATION FOR NRC EXPORT OR IMPORT LICENSE, AMENDMENT, RENEWAL, OR CONSENT REQUEST(S)</b> (See Instructions on Pages 4 and 5)			
<b>PART A. FOR NRC USE ONLY</b>	<input checked="" type="checkbox"/> PUBLIC OR <input type="checkbox"/> NON-PUBLIC	DATE RECEIVED <b>JAN 13 2012</b>	
LICENSE NUMBER <b>X MAT 418</b>	DOCKET NUMBER <b>11005977</b>	ADAMS ACCESSION NUMBER	
<b>PART B. TO BE COMPLETED FOR ALL LICENSES, AMENDMENTS, RENEWALS, OR CONSENT REQUESTS</b> (If more space is needed to complete any of the items, use Pages 3-4 first, and then attach additional sheets, if necessary.)			
1. NAME AND ADDRESS OF APPLICANT/LICENSEE Sigma-Aldrich Corp. and subsidiaries 6000 North Teutonia Avenue Milwaukee, WI 53209  Attn: Jared Fenton		1a. NAME OF APPLICANT'S CONTACT Jared Fenton  1c. PHONE NUMBER (314) 286-8326  1e. E-MAIL ADDRESS jared.fenton@sial.com	1b. APPLICANT'S REFERENCE NUMBER none  1d. FAX NUMBER (314) 286-8005
2. TYPE OF ACTION REQUESTED (Check One)			
<input checked="" type="checkbox"/> EXPORT (Parts B, C, E) <input type="checkbox"/> IMPORT (Parts B, D, E) <input type="checkbox"/> AMENDMENT/RENEWAL (Current License Number: _____) <input type="checkbox"/> CONSENT REQUEST (Parts B, C) (Current License Number: _____)			
3. CONTRACT NUMBER(S) n/a	4. FIRST SHIPMENT DATE 02/01/2012	5. LAST SHIPMENT DATE 02/01/2014	6. PROPOSED EXPIRATION DATE 02/01/2014
<b>PART C. TO BE COMPLETED FOR EXPORT LICENSES, AMENDMENTS, RENEWALS OR CONSENTS</b> (If more space is needed to complete any of the items, use Pages 3-4 first, and then attach additional sheets, if necessary.)			
7. NAME(S) / ADDRESS(ES) OF SUPPLIERS AND/OR OTHER PARTIES TO THE EXPORT  Sigma-Aldrich Corporation 6000 North Teutonia Avenue Milwaukee, WI 53209	8. NAME(S) / ADDRESS(ES) OF INTERMEDIATE FOREIGN CONSIGNEE(S) n/a	9. NAME(S) / ADDRESS(ES) OF ULTIMATE FOREIGN CONSIGNEE(S)  Sigma Aldrich Chemicals Pvt Ltd Plot no 12, Bommasandra Jigani Link Road Bangalore 560 100 India	
7a. FUNCTION(S) PERFORMED/SERVICE(S) PROVIDED Information on pages 3-4	8a. INTERMEDIATE USE(S) n/a	9a. ULTIMATE END USE(S) Information on pages 3-4	
10. DESCRIPTION OF RADIOACTIVE MATERIALS, SEALED SOURCES, NUCLEAR FACILITIES, EQUIPMENT, OR COMPONENTS; FOR NUCLEAR EQUIPMENT INCLUDE TOTAL DOLLAR VALUE OF EQUIPMENT FOR EXPORT  Deuterium in the form of: 1. Deuterated compounds (see attached product list for examples) 2. Deuterium oxide 3. Deuterium gas	10a. MAX TOTAL VOLUME / ELEMENT WGT (KG), OR TOTAL ACTIVITY (TBq)  1,500 KG	10b. MAX ENRICHMENT OR WGT % n/a	10c. MAX ISOTOPE WGT (KG) n/a
11. FOREIGN OBLIGATIONS (BY COUNTRY AND BY PERCENTAGE OF MAXIMUM TOTAL VOLUME) Deuterium is of Canadian origin (100%)			

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**APPLICATION FOR NRC EXPORT OR IMPORT  
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LICENSE NUMBER

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DOCKET NUMBER

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ADAMS ACCESSION NUMBER

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**PART D. TO BE COMPLETED FOR IMPORT LICENSES, AMENDMENTS, OR RENEWALS**  
(If more space is needed to complete any of the items, use Pages 3-4 first, and then attach additional sheets, if necessary.)

12. NAME(S) / ADDRESS(ES) OF FOREIGN  
SUPPLIERS AND/OR OTHER PARTIES  
TO IMPORT

n/a

13. NAME(S) / ADDRESS(ES) OF INTERMEDIATE  
CONSIGNEE(S)

n/a

14. NAME(S) / ADDRESS(ES) OF ULTIMATE U. S.  
CONSIGNEE(S)

n/a

12a. NRC EXPORT LICENSE NUMBER(S)  
(if applicable)

n/a

13a. LICENSE NUMBER(S) / EXPIRATION DATE(S)

n/a

14a. LICENSE NUMBER(S) / EXPIRATION DATE(S)

n/a

13b. INTERMEDIATE USE(S)

n/a

14b. ULTIMATE END USE(S)

n/a

15. DESCRIPTION OF RADIOACTIVE MATERIALS, SEALED SOURCES,  
NUCLEAR FACILITIES

n/a

15a. MAX TOTAL VOLUME /  
ELEMENT WGT (KG), OR  
TOTAL ACTIVITY (TBq)

n/a

15b. MAX ENRICHMENT  
OR WGT %

n/a

15c. MAX ISOTOPE  
WGT (KG)

n/a

16. FOREIGN OBLIGATIONS (BY COUNTRY AND BY PERCENTAGE OF MAXIMUM TOTAL VOLUME)

**PART E. TO BE COMPLETED FOR ALL LICENSES, AMENDMENTS, RENEWALS OR CONSENT REQUEST(S)**

17. ADDITIONAL INFORMATION  
PROVIDED ON PAGES 3, 4,  
AND/OR ON SEPARATE SHEETS?

 YES  NO

17a. COPIES OF RECIPIENTS'  
AUTHORIZATIONS PROVIDED?

 YES  NO

**18. CERTIFICATION:** I, the applicant's authorized official, hereby certify that this application is prepared in conformity with Title 10, Code of Federal Regulations, and that all information provided is correct to the best of my knowledge.

18a. PRINT NAME AND TITLE OF AUTHORIZED OFFICIAL

Jared Fenton  
Manager, Trade and Product Compliance  
Sigma-Aldrich

18b. SIGNATURE - AUTHORIZED OFFICIAL



18c. DATE

1/5/12

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ADDITIONAL INFORMATION (Reference applicable block numbers from page 1 and/or page 2 for each entry)

Box 7a.

Sigma-Aldrich will sell the various deuterium compounds to the ultimate consignee listed in Part C, Box 9 for further distribution into the Indian medical, pharmaceutical, chemical and industrial markets.

Box 9a.

Sigma-Aldrich products are for research purposes only. This type of scientific research may include identification of chemicals in reaction pathways, metabolic studies, or environmental analysis. Most products are sold in prepackaged units (see attached Product Examples) and delivered directly to the end-user/research facility. No material is to be used in any activity related to isotope separation, heavy water production, or in the fabrication of nuclear fuel.

Examples of end-users in India who purchase deuterated compounds include:

(1)  
National Institute of Pharmaceutical  
Education & Research  
The Director  
Sector 67A, S.A.S Nagar  
Mohali - 160062  
Punjab  
Telephone : 172-2214682-87  
Fax : 172-2214692  
Contact person: Nisha Sharma/ Alok Saxena

(2)  
University of Delhi - Chemistry  
North Campus  
Department of Chemistr  
New Delhi - 110007  
Telephone : 011-27666845  
Fax : 011-27666605  
Contact person: M.S.Chauhan

(3)  
Jubilant Chemsys Limited-B-34  
Gautam Budh Nagar  
B-34, Sector-58  
Noida (U.P.) - 201301  
Telephone :120 4093313  
Fax : 120 2580310  
Contact person: Mr.Dipti Ranjan/ Mr.Deepak Khurana - 9971614278 ( Mr.Dipti)

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(8-2011)  
10 CFR 110APPLICATION FOR NRC EXPORT OR IMPORT  
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LICENSE NUMBER	DOCKET NUMBER	ATAMS ACCESSION NUMBER	<input checked="" type="checkbox"/> PUBLIC	<input type="checkbox"/> OR	<input type="checkbox"/> NON-PUBLIC
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ADDITIONAL INFORMATION (Reference applicable block numbers from page 1 and/or page 2 for each entry)

Examples of end-users in India who purchase deuterated compounds include: (continued):

(4)


Sai Advantium Pharma Ltd.  
Grd Flr, 1st Flr, 2nd Flr, & 3rd Flr  
Bldg. 1, Plot# 2  
Phase - II, Hinjiwadi  
International Biotech Park  
Chrylasis Enclave  
Pune - 411057  
Maharashtra  
Telephone : (0260)2431484  
Contact Name: Mr.Raghavendra

(5)

Anthem Biosciences Pvt. Ltd.  
Bommasandra Industrial Area  
Phase - I, Hosur Road, Bommasandra  
49, Canara Bank Road  
Bangalore - 560099  
Mobile Phone : 9880290701  
Fax : (080)25524272  
Mr.Muthukumar/Mr.Anupama

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

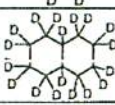
## Product Examples

Structure	Name and CAS	Product Number	Packaging	Isotopic Purity	MW	Refractive Index	BP	Density
	Chlorobenzene-d <sub>5</sub> [3114-55-4]	176605	1, 5 g in ampule	99 atom %D	117.60	n <sub>20</sub> /D 1.522(lit)	130-130.5 C (lit)	1.157 g/ml at 25C (lit)
CDCl <sub>3</sub>	Chloroform-d [865-49-6]	151858	10, 50 g in glass bottle	99.96 atom % D	120.38	n <sub>20</sub> /D 1.444(lit)	60.9 C (lit)	1.500 g/mL at 25C (lit)
CDCl <sub>3</sub>	Chloroform-d [865-49-6]	453285	10 x 0.25 mL in ampule	99.96 atom % D	120.38	n <sub>20</sub> /D 1.444(lit)	60.9 C (lit)	1.500 g/mL at 25C (lit)
CDCl <sub>3</sub>	Chloroform-d [865-49-6]	236918	10 x 0.5 in ampule	99.96 atom % D	120.38	n <sub>20</sub> /D 1.444(lit)	60.9 C (lit)	1.500 g/mL at 25C (lit)
CDCl <sub>3</sub>	Chloroform-d [865-49-6]	444731	10 x 0.75 mL in ampule	99.96 atom % D	120.38	n <sub>20</sub> /D 1.444(lit)	60.9 C (lit)	1.500 g/mL at 25C (lit)
CDCl <sub>3</sub>	Chloroform-d [865-49-6]	423092	10 x 1mL in ampule	99.96 atom % D	120.38	n <sub>20</sub> /D 1.444(lit)	60.9 C (lit)	1.500 g/mL at 25C (lit)
CDCl <sub>3</sub>	Chloroform-d [865-49-6]	494275	10, 50 g in ampule	99.96 atom % D	120.38	n <sub>20</sub> /D 1.444(lit)	60.9 C (lit)	1.500 g/mL at 25C (lit)
CDCl <sub>3</sub>	Chloroform-d [865-49-6]	494283	10 x 0.75 mL in ampule	99.96 atom % D	120.38	n <sub>20</sub> /D 1.444(lit)	60.9 C (lit)	1.500 g/mL at 25C (lit)
CDCl <sub>3</sub>	Chloroform-d [865-49-6]	431915	10, 50 mL in ampule	99.96 atom % D	120.38	n <sub>20</sub> /D 1.444(lit)	60.9 C (lit)	1.500 g/mL at 25C (lit)
CDCl <sub>3</sub>	Chloroform-d [865-49-6]	151823	1, 1.5 kg in glass btl 150 g in Sure/Seal™ 250 g in glass btl 50, 100 g in glass btl	99.8 atom % D	120.38	n <sub>20</sub> /D 1.444(lit)	60.9 C (lit)	1.500 g/mL at 25C (lit)
CDCl <sub>3</sub>	Chloroform-d [865-49-6]	522015	10 x 0.6 mL in ampule	99.8 atom % D	120.38	n <sub>20</sub> /D 1.444(lit)	60.9 C (lit)	1.500 g/mL at 25C (lit)
CDCl <sub>3</sub>	Chloroform-d [865-49-6]	441333	10 x 0.75 mL in ampule	99.8 atom % D	120.38	n <sub>20</sub> /D 1.444(lit)	60.9 C (lit)	1.500 g/mL at 25C (lit)
CDCl <sub>3</sub>	Chloroform-d [865-49-6]	236896	5x1, 10x1 mL in ampule	99.8 atom % D	120.38	n <sub>20</sub> /D 1.444(lit)	60.9 C (lit)	1.500 g/mL at 25C (lit)
CDCl <sub>3</sub>	Chloroform-d [865-49-6]	225789	100 g in glass btl 150 g in Sure/Seal™ 500 g in glass btl	99.8 atom % D	120.38	n <sub>20</sub> /D 1.444(lit)	60.9 C (lit)	1.500 g/mL at 25C (lit)
CDCl <sub>3</sub>	Chloroform-d [865-49-6]	423661	10 x 1 mL in ampule	99.8 atom % D	120.38	n <sub>20</sub> /D 1.444(lit)	60.9 C (lit)	1.500 g/mL at 25C (lit)
CDCl <sub>3</sub>	Chloroform-d [865-49-6]	612200	100 g in glass btl	99.8 atom % D	120.38	n <sub>20</sub> /D 1.444(lit)	60.9 C (lit)	1.500 g/mL at 25C (lit)
CDCl <sub>3</sub>	Chloroform-d [865-49-6]	434875	100 g in glass btl 150 g in Sure/Seal™ 500 g in glass btl	99.8 atom % D	120.38	n <sub>20</sub> /D 1.444(lit)	60.9 C (lit)	1.500 g/mL at 25C (lit)

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$\text{CDCl}_3$	Chloroform-d [865-49-6]	151831	150 g in Sure/Seal™ 250 g in glass btl 50, 100g in glass btl	99.8 atom % D	120.38	n20/D 1.444(lit)	60.9 C (lit)	1.500 g/mL at 25C (lit)
$\text{CDCl}_3$	Chloroform-d [865-49-6]	416754	100, 250 g in glass btl	99.8 atom % D	120.38	n20/D 1.444(lit)	60.9 C (lit)	1.500 g/mL at 25C (lit)
$\text{CDCl}_3$	Chloroform-d [865-49-6]	530735	100, 250 g in glass btl	99.8 atom % D	120.38	n20/D 1.444(lit)	60.9 C (lit)	1.500 g/mL at 25C (lit)
$\text{CDCl}_3$	Chloroform-d [865-49-6]	569569	5x1, 10x1 mL in ampule	99.8 atom % D	120.38	n20/D 1.444(lit)	60.9 C (lit)	1.500 g/mL at 25C (lit)
$\text{CDCl}_3$	Chloroform-d [865-49-6]	570699	50 g in glass btl	99.8 atom % D	120.38	n20/D 1.444(lit)	60.9 C (lit)	1.500 g/mL at 25C (lit)
	Cyclohexane-d <sub>12</sub> [1735-17-7]	151866	1, 5, 10 g in ampule	99.6 atom % D	96.23	n20/D 1.421(lit)	80.7 C (lit)	0.893 g/mL at 25C (lit)
	Cyclohexane-d <sub>12</sub> [1735-17-7]	269735	10 x 1 mL in ampule	99.6 atom % D	96.23	n20/D 1.421(lit)	80.7 C (lit)	0.893 g/mL at 25C (lit)
	Decahydronaphthalene-d <sub>18</sub> [28788-42-3]	217131	1 g in ampule	98.0 atom % D	156.40	n20/D 1.475(lit)	193 C (lit)	1.012 g/mL at 25C
$\text{D}_2\text{O}$	Deuterium oxide [7789-20-0]	191701	10 g in ampule 50 g in glass btl	99.990 atom % D	20.03	n20/D 1.328(lit)	101.4 C (lit)	1.107 g/mL at 25C (lit)
$\text{D}_2\text{O}$	Deuterium oxide [7789-20-0]	453366	10 x 0.5 mL in ampule	99.990 atom % D	20.03	n20/D 1.328(lit)	101.4 C (lit)	1.107 g/mL at 25C (lit)
$\text{D}_2\text{O}$	Deuterium oxide [7789-20-0]	192341	10, 30 g in serum btl	99.96 atom % D	20.03	n20/D 1.328(lit)	101.4 C (lit)	1.107 g/mL at 25C (lit)
$\text{D}_2\text{O}$	Deuterium oxide [7789-20-0]	151890	1, 4 kg in glass btl 10, 50 g in glass btl 125 g in Sure/Seal™ 20 kg in poly drum 250 g in glass btl	99.96 atom % D	20.03	n20/D 1.328(lit)	101.4 C (lit)	1.107 g/mL at 25C (lit)
$\text{D}_2\text{O}$	Deuterium oxide [7789-20-0]	269786	10 x 0.5 mL in ampule	99.96 atom % D	20.03	n20/D 1.328(lit)	101.4 C (lit)	1.107 g/mL at 25C (lit)
$\text{D}_2\text{O}$	Deuterium oxide [7789-20-0]	441368	10 x 0.75 mL in ampule	99.96 atom % D	20.03	n20/D 1.328(lit)	101.4 C (lit)	1.107 g/mL at 25C (lit)
$\text{D}-\text{Br}$	Deuterium bromide [13536-59-9]	486515	5 L in steel cyl	99 atom % D	81.92	Vapor pressure = 334.7 psi (21C)	-67 C (lit)	2.71 (20C, vs air)
$\text{DCI}$	Deuterium chloride [7698-05-7]	488682	5 L in steel cyl	99 atom % D	37.47	Vapor pressure = 613 psi (21.1C)	-85 C (lit)	1.3 (vs air)

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