

## Pathogens and Toxins

Listed below are dual-use export control-listed pathogens and toxins from the Department of Commerce. These pathogens and toxins are found on the Commerce Control List (CCL) in Category 1, at ECCNs 1C351 through 1C360. Note that export controls also apply to genetic elements and genetically modified organisms that contain DNA associated with the pathogenicity of these biological materials. Severe civil/criminal penalties apply to international shipments without an export license of ANY export-controlled pathogen or genetic material containing the controlled DNA. **Contact NDSU’s Export Control Officer if your research requires an export-controlled pathogen or genetic material containing the controlled DNA to be sent outside of the U.S.** Export licenses need to be prepared and approved (4-6 weeks).

Also note that the International Traffic in Arms Regulations (ITAR) control certain military-related toxins and pathogens at Category XIV of the U.S. Munitions List (USML). The ITAR treats as a defense article any “biological agent or biologically derived substance specifically developed or modified to increase its capability to produce casualties in humans or livestock or to degrade equipment or damage crops.” These ITAR export control-listed biological materials also will require an export license. **Furthermore, foreign nationals may not access ITAR-controlled biological materials or their disclosure-restricted technologies in the U.S. without Government approval. In the unlikely event that you need access to a disclosure-restricted ITAR-controlled biological material or its technology at NDSU, you must first contact NDSU’s Export Control Officer.**

ALPHABETICAL INDEX	PATHOGEN	TOXIN
<b>A</b>	African horse sickness virus African swine fever virus Andean potato latent virus (Potato Andean latent tymovirus) Andes virus Avian Influenza, identified as having high pathogenicity**	Abrin Aflatoxins  **AI viruses that have an intravenous pathogenicity index in 6-week-old chickens greater than 1.2; AI viruses that cause at least 75% mortality in 4- to 8-week-old chickens infected intravenously; AI viruses of the H5 or H7 should be submitted to further testing.
<b>B</b>	Bacillus anthracis Blue Tongue virus Brucella abortus Brucella melitensis Brucella suis Burkholderia mallei (Pseudomonas mallei) Burkholderia pseudomallei	Botulinum toxins
<b>C</b>	Chapare virus Chikungunya virus Chlamydia psittaci (Chlamydia psittaci) Choclo virus Clavibacter michiganensis subspecies sepedonicus (Corynebacterium sepedonicum) Clostridium Argentinense, botulinum neurotoxin producing strains (Clostridium botulinum Type G) Clostridium baratii, botulinum neurotoxin producing strains Clostridium botulinum Clostridium butyricum Clostridium perfringens (epsilon toxin producing type) Coccidioides immitis Coccidioides posadasii Cochliobolus miyabeanus (Helminthosporium oryzae)	Cholera toxin Clostridium perfringens toxin Conotoxins

ALPHABETICAL INDEX	PATHOGEN	TOXIN
<b>C (continued)</b>	Colletotrichum kahawae (Colleototrichum coffeanum var. virulans) Congo-Crimean haemorrhagic fever virus Coxiella burnetii	
<b>D</b>	Dengue fever virus Dobrava-Belgrade virus	Diacetoxyscirpenol toxin
<b>E</b>	Eastern equine encephalitis virus Ebola virus	
<b>F</b>	Foot and Mouth Disease virus Francisella tularensis	
<b>G</b>	Goat Pox virus Guanarito virus	
<b>H</b>	Hantaan virus Hendra virus	HT-2 toxin
<b>I</b>	None listed	
<b>J</b>	Japanese Encephalitis virus Junin virus	
<b>K</b>	Kyasanur Forest virus	
<b>L</b>	Laguna Negra virus Lassa fever virus Louping Ill virus Lujo virus Lumpy Skin Disease virus Lymphocytic choriomeningitis virus Lyssa virus	
<b>M</b>	Machupo virus Magnaporthea grisea (Pyricularia oryzae) Marburg virus Microcyclus ulei (Dothidella ulei) Monkeypox virus Murray Valley encephalitis virus Mycoplasma capricolum subspecies capripneumoniae (strain F38) Mycoplasma mycoides subspecies mycoides small colony (contagious bovine pleuroneumonia)	Microcystin (Cyanginosin) Modeccin toxin
<b>N</b>	Newcastle disease virus Nipah virus	
<b>O</b>	Omsk haemorrhagic fever virus Oropouche Virus	
<b>P</b>	Peronosclerospora philippinensis (Peronosclerospora sacchari) Peste des Petitis Ruminants virus Phoma glycinicola (Pyrenochaeta glycines) Porcine enterovirus type 9 (swine vesicular disease virus) Porcine herpes virus (Aujeszky's disease) Potato spindle tuber viroid Powassan virus Puccinia Graminis (Puccinia graminis f. sp. Tritici) Puccinia striiformis (Puccinia glumarum)	
<b>P (continued)</b>		

ALPHABETICAL INDEX	PATHOGEN	TOXIN
<b>Q</b>	None listed	
<b>R</b>	Ralstonia solanacearum Race 3, biovar 2 Rathayibacter toxicus Reconstructed replication competent forms of the 1918 pandemic influenza virus containing any portion of the coding regions of all eight gene segment Rickettsia prowazekii Rift Valley fever virus Rinderpest virus Rocio virus	Ricin
<b>S</b>	Sabia virus Salmonella typhi SARS-associated coronavirus (SARS-CoV) Sclerophthora rayssiae var.zeae Seoul virus Sheep Pox virus Shigella dysenteriae Sin Nombre virus St. Louis encephalitis Swine Fever virus (Hog cholera virus) Synchytrium endobioticum	Saxitoxin Shiga toxin Shiga toxin producing Escherichia coli (STEC) of serogroups 026, 045, 0103, 0104, 0111, 0121, 0145, 0157, and other shiga toxin producing serogroups (EGEC or VTEC) Staphylococcus aureus enterotoxins, hemolysin alpha toxin, and toxic shock syndrome toxin (Staphylococcus enterotoxin F)
<b>T</b>	Teschen Disease virus Thecaphora solani Tick-borne encephalitis virus (Far Eastern Subtype) Tick-borne encephalitis virus (Siberian Subtype) Tilletia indica	T-2 toxin Tetrodotoxin
<b>U</b>	None listed	
<b>V</b>	Variola virus Venezuelan Equine Encephalitis virus Vesicular stomatitis virus Vibrio cholerae	Verotoxin and other Shiga-like ribosome inactivating proteins Viscum Album Lectin 1 (Viscumin) Volkensin toxin
<b>W, X, Y, Z</b>	Western Equine Encephalitis virus Xanthomonas alibilineans Xanthomonas axonopodis pv. Citri (Xanthomonas campestris pv. citri) Xanthomonas oryzae pv. Oryzae (Pseudomonas campestris pv. Oryzae) Yellow fever virus Yersinia pestis	

For more information contact the Export Control Office at (701) 231-6455 or [ndsu.exportcontrols@ndsu.edu](mailto:ndsu.exportcontrols@ndsu.edu) See also [www.ndsu.edu/research/integrity\\_compliance/export\\_controls/](http://www.ndsu.edu/research/integrity_compliance/export_controls/).

Current Version: 12/22/15.

Export control laws are complex and fact-specific. Regulations, rules, and lists for specifying who or what is considered export-sensitive – and where export controls apply – are subject to change. This material is intended to provide a very brief outline of basic export controls. It should not be taken as formal legal advice, and NDSU cannot – and does not – warrant the legal sufficiency of the information contained herein.