Codebook for 2020 ChemLEXIS Measure-Level Data
As of January 6, 2020

Variable 001
Variable Name: State Name
Variable Description: UN Member State Names
Variable Values and Labels: e.g., Afghanistan …. Zimbabwe
Source: https://unstats.un.org/unsd/methodology/m49/
Special Coding Rules: N/A

Variable 002
Variable Name: Region Name
Variable Description: Region Name
Variable Values and Labels: N/A
Source(s): Determined by coders at The Henry L. Stimson Center.
Special Coding Rules: N/A

Variable 003
Variable Name: UN State Code
Variable Description: UN Member State M49 ISO codes
Variable Values and Labels: 004-894
Source: https://unstats.un.org/unsd/methodology/m49/
Special Coding Rules: N/A

Variable 004
Variable Name: State Measure Identifier
Variable Description: UN Member State M49 ISO code plus unique number for each measure.
Variable Values and Labels: M49 ISO numeric code plus 0.001-0.999
Source(s): https://unstats.un.org/unsd/methodology/m49/
Special Coding Rules: N/A

Variable 005
Variable Name: State Measure Type
Variable Description: Categorization of the type of measure (i.e. International Obligation, Transportation, Environmental, Trade, Chemical Safety, Industrial, Security, or Other).
Variable Values and Labels: International Obligation, Transportation, Environmental, Trade, Chemical Safety, Industrial, Security, or Other.
Source(s): Determined by coders at The Henry L. Stimson Center.
Special Coding Rules:

Chemical Safety - A measure to protect the life and health of humans and the environment against harmful effects arising from toxic/hazardous substances caused by their manufacturing, packaging, marketing, labeling, acquisition, transportation, import/export, storage, use or treatment. Outlines specific safety measures and duties of care. This type of law outlines measures to prevent major accidents and limit consequences related to chemical substances.

Environmental - A measure to manage and control hazardous substances and wastes throughout their life cycles to prevent any harmful effects on the environment and human health.

Industrial - A measure to regulate and control the importation, storage, manufacture, sale, transportation, disposal, custody, and use of pesticides and toxic chemicals. This type of law is different from 'Chemical Safety' because its primary purpose is procedural rather than protective for human/environmental health.

International Obligation - A measure to provide legislative basis for national implementation of the Chemical Weapons Convention to comply with international obligations.

Security – A measure to secure hazardous/toxic substances, wastes and/or related facilities from unauthorized access, theft, diversion, and illicit use.

Trade - A measure to manage and conduct domestic and foreign trade (import, export, re-export, transit, transshipment) of chemical-related goods.

Transportation - A measure to outline conditions under which transportation of toxic/hazardous substances and wastes is safely and securely performed and activities related to that transport (preparation for transport, loading, unloading, etc.).

Other - A measure that does not fit under any of the law types defined above.

Variable 006
Variable Name: State Measure Title
Variable Description: Official Title of Measure
Variable Values and Labels: N/A
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 007
Variable Name: Names of Regulatory Bodies
Variable Description: The name(s) of the government bodies in the measure that exercise regulatory jurisdiction over main elements of law or regulation.
Variable Values and Labels: N/A
Source(s): As specified in the legal measure.
Special Coding Rules: Include a URL to each body in parentheses.

Variable 008
Variable Name: Requirements to Secure Chemical Weapons-Related Materials and Facilities
Variable Description: Does the measure create requirements to secure toxic chemicals, other chemicals of proliferation concern, and/or related facilities, technology, and equipment by stakeholders (e.g. are authorized holders required to take steps to prevent unauthorized access to sources)?
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 009
Variable Name: Text Location of Requirements to Secure
Variable Description: Specific paragraph or article with security requirements
Variable Values and Labels: N/A
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 010
Variable Name: Defines Criminal Offenses and Violations
Variable Description: Does the measure define as offences or violations those criminal or intentional unauthorized acts involving or direct at toxic chemicals, other chemicals of proliferation concern, and/or related facilities, technology, and equipment?
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 011
Variable Name: Text Location of Offences Violations
Variable Description: Specific paragraph or article of definitions of offences or violations (i.e. **criminal or intentional unauthorized acts**)
Variable Values and Labels: N/A
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 012
Variable Name: Penalty Provision – Imprisonment
Variable Description: Does the measure include imprisonment as a penalty?
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 013
Variable Name: Maximum Prison Sentence
Variable Description: The measure's maximum prison sentence for any defined offense or violation in months, with a maximum of 600 months for life imprisonment.
Variable Values and Labels: 0-600, with no prison penalty option counted as 0.
Source(s): As specified in the legal measure.
Special Coding Rules: Life imprisonment = 600 months.

Variable 014
Variable Name: Maximum Minimum Prison Sentence
Variable Description: The measure's maximum for any minimum prison sentence for any defined offense or violation in months, with a maximum of 600 months for life imprisonment.
Variable Values and Labels: 0-600, with no minimum prison penalty counted as 0
Source(s): As specified in the legal measure.
Special Coding Rules: Life imprisonment = 600 months.

Variable 015
Variable Name: Penalty Provision – Fines
Variable Description: Does the measure include fines as a penalty?
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 016
Variable Name: Maximum Monetary Penalty
Variable Description: The measure's maximum monetary penalty for any defined offense or violation in national currency and/or US dollars (as converted in 2019).
Variable Values and Labels: 0-999,999,999, with no monetary penalty option counted as 0. 'Undefined' indicates that the measure has fines but does not define what the monetary amount is.
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 017
Variable Name: Maximum Minimum Monetary Penalty
Variable Description: The measure's maximum for any minimum monetary penalty for any defined offense or violation in national currency and/or US dollars (as converted in 2019).
Variable Values and Labels: 0-999,999,999, with no monetary penalty option counted as 0. 'Undefined' indicates that a measure has fines but does not define what the monetary amount is.
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 018
Variable Name: Defines Other Penalties
Variable Description: Does the measure include penalties other than imprisonment or fines (e.g. search and seizure, suspension of license, etc.)?
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 019
Variable Name: Text Location for Other Penalties
Variable Description: Specific paragraph or article of the other penalties (e. g., suspend, stop, seize)
Variable Values and Labels: N/A
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 020
Variable Name: Registration System
Variable Description: Does the measure require facilities or users to register toxic chemicals, other chemicals of proliferation concern, and/or related facilities, technology, and equipment?
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 021
Variable Name: Authorization or Licensing System
Variable Description: Does the measure establish or maintain a system for authorizing activities, e.g., issuing licenses for toxic chemicals, other chemicals of proliferation concern, and/or related facilities, technology, and equipment?
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 022
Variable Name: Inspector Authority or System
Variable Description: Does the measure establish or maintain a system for inspecting users, activities, stockpiles, or facilities?
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 023
Variable Name: Requires Access Controls
Variable Description: Does the measure require controls on access to toxic chemicals, other chemicals of proliferation concern, and/or related facilities, technology, and equipment?
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 024
Variable Name: Requires Physical Security
Variable Description: Does the measure require physical security or physical protection measures (e.g. gates)?
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 025
Variable Name: Requires Security Guards
Variable Description: Does the measure require use of security guards for facilities or activities?
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 026
Variable Name: Requires Background Checks
Variable Description: Does the measure require background checks for users or those accessing facilities or chemicals of proliferation concern?
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 027
Variable Name: National Registry of Chemicals of Concern
Variable Description: Does the measure establish or refer to a national registry of chemicals of concern?
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: The national registry refers only to a national registry of chemicals or items of concern that indicates who controls the chemical, the nature of the chemical, and where it is located (including if it's mobile). It does not refer to a HS code or appearance on a trade control list of similar listing. Needs specific reference to chemicals.

Variable 028
Variable Name: National Registry of Registrations / Licenses
Variable Description: Does the measure establish a national registry of user registrations or licenses?
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: It does not refer to a HS code or appearance on a trade control list of similar listing, nor to the registry of chemicals of concern, if one exists. It needs to be explicit.

Variable 029
Variable Name: Refers to a List of Controlled Chemicals, Technologies, and/or Equipment of Concern
Variable Description Does the measure establish, include, or reference a list of controlled chemicals, technologies, and/or equipment of concern?
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: This differs from a registry because a registry is a list of *everything* a facility has. This is a list of only what is *controlled*.

Variable 030
Variable Name: Requires Supply Chain Verification
Variable Description: Does the measure require some supply chain verification practices (e.g. end-user verification)?
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 031
Variable Name: Requires Proliferation-Resistant Chemistry
Variable Description: Does the measure require some efforts to design or operate in ways that reduce the risk of proliferation (e.g. reducing the mixtures of chemicals of concern)? Similar to the concept of Green Chemistry.
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 032
Variable Name: Requires Incident Reporting
Variable Description: Does the measure require reporting of incidents to authorities?
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: Incidents include theft, diversion, fraud, breach of facility, tampering with material/equipment, cyber sabotage, etc. For instance, see US DHS Risk-Based Performance Standards Guidance Document.

Variable 033
Variable Name: Requires Threat Reporting
Variable Description: Does the measure require reporting of threats to authorities?
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: Threats include threats of theft, diversion, fraud, breach of facility, cyber sabotage, other criminal activity. For instance, see American and European versions of Responsible Care Security Code.

Variable 034
Variable Name: Requires Risk-Based Security System
Variable Description: Does the measure require facilities or users to implement a risk-based security system or risk-based security plans?
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 035
Variable Name: Training for Stakeholders
Variable Description: Does the measure establish or maintain a training program for key stakeholders (e.g. users, industry, other governmental ministries, etc.)?
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: Stakeholders include: users, industry, other government ministries, facility employees, contractors, service providers, value chain partners, transport staff, scientists, students, safety officers, researchers—all personnel who do come into contact with chemical materials, equipment, and technology. For instance, see US DHS *Chemical Sector Security Awareness Guide* and The Hague Ethical Guidelines.

Variable 036
Variable Name: Awareness Raising for Stakeholders
Variable Description: Does the measure establish or maintain awareness-raising activities for stakeholders (e.g. users, industry)?
Variable Values and Labels: 'Yes' or 'No'
Source(s): As specified in the legal measure.
Special Coding Rules: N/A

Variable 037
Variable Name: Chemical Security Measure Index Score
Variable Description: A cumulative score of chemical security indicators found within an individual measure that ranges from 0 (a measure has no security indicators) to 21 (a measure has all security indicators).
Variable Values and Labels: Ranges from 0 (no indicators) to 21 (has all chemical security indicators)
Source(s): Determined by coders at The Henry L. Stimson Center. Index scores are based upon the number of 'Yes' values indicated in the following variables:
      010 Defines Criminal Offenses and Violations
      013 Penalty Provision: Imprisonment
      015 Penalty Provision: Fines
      018 Defines Other Offenses
      020 Registration through 036 Awareness Raising for Stakeholders (inclusive)
Special Coding Rules: N/A

Variable 038
Variable Name: URL Link to Legal Text
Variable Description: Link to text of state measure.
Variable Values and Labels:
Source(s):
Special Coding Rules: N/A

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<u>Search Strategy Decisions</u>

- Only include acts that include chemicals or other items of chemical weapons proliferation concern. Exclude general customs, health or environmental acts without specific references to those terms.

- Laws/regulations related to pesticides and/or dangerous/hazardous substances and/or wastes that are defined as chemicals and/or toxic should be coded.

- Start with the measures listed in the 1540 Matrix for each country, using the sections on accounting for, securing and physically protecting chemical weapons related materials and the sections on trade in such materials. Also review the narrative national reports for each country.

- Search for additional measures on the websites of the national authorities for the CWC, then other related regulatory bodies as they are identified

- Review http://www.paclii.org/, ILO's NATLEX, FAO, Lexadin, wipolex, https://www.oecd-ilibrary.org/fr/nuclear-energy/nuclear-law-bulletin,or similar databases

- Special search terms: penalty, violation, offence (or offense), regist(ry), cadastre, fine, (im)prison, license, authoriz(ation), chemical, sanction, infringe(ment), infraction, seize, Chemical Weapons Convention, Chemical(s) of Concern (COC), physical security, toxic chemical(s)

- Review statements by States at the CWC Conference of State Parties since 2015 for new measures

- Laws/regulations that only discuss 'hazardous waste' and 'hazardous substances' and make no explicit reference to chemical substances/materials/waste and/or toxic substances/materials/waste should **not** be coded.

- Laws/regulations that discuss 'explosive' substances/chemicals for demolition and pyrotechnic purposes should **not** be coded.

- Laws/regulations implementing the CWC that require security for an actual chemical weapon (either abandoned or in the process of destruction) and/or that require security of OPCW inspectors should **not** be coded.

- If a measure does not talk about chemical storage in a sense that the chemicals must be physically secured during storage, then the measure should **not** be coded.