

Executive Summary
Section 312, Tier II, Emergency & Hazardous Chemical Inventory Report for Calendar Year 2018

Puget Sound Naval Shipyard and Intermediate Maintenance Facility (PSNS & IMF), Bremerton site; Naval Base Kitsap at Bremerton; and tenant activities within the fence line of the Bremerton Naval Complex (BNC)

REFERENCES:

[Title 40 Code of Federal Regulations \(CFR\) Part 370.25](#)

[Dept. of Ecology, State of Washington: Emergency Planning and Community Right-to-Know Act \(EPCRA\)](#)

[Local Emergency Planning Committees within Washington State](#)

1. BACKGROUND:

1.1. The Washington State Emergency Response Commission (SERC), in accordance with the Federal Emergency Planning and Community Right-To-Know Act (EPCRA) Section 312, requires completion of a Tier Two - Emergency and Hazardous Chemical Inventory report by all facilities that stored reportable quantities of substances/chemicals during the previous calendar year.

1.2. The report must list each hazardous substance or product at the facility (BNC) in quantities equal to or greater than established Threshold Planning Quantity (TPQ) amounts. Environmental Protection Agency (EPA) [Consolidated List of Lists](#) defines all Extremely Hazardous Substances (EHS) and their reporting thresholds but does not list all reportable substances/chemicals. The reporting threshold for products or substances that are not listed is 10,000 pounds. [Hazardous chemical](#) is defined as any substance for which the facility must maintain a Safety Data Sheet (SDS) under OSHA Hazard Communication Standard, 29 CFR 1910.1200.

1.3. The report must be submitted by March 1, 2018 to:

- Washington State Emergency Response Commission (SERC) (*Dept. of Ecology, State of Washington*)
- Local Emergency Planning Committee (LEPC) (*Kitsap County Dept. of Emergency Management [DEM]*)
- Local fire department (*Fire Chief, Navy Region NW Fire and Emergency Services Puget Sound*)

1.4. Calculations are accomplished using a Microsoft Access database where inventory and usage data from multiple sources can be formatted, compiled and linked to a table delineating chemical composition by percentage for each hazardous product. All container types and sizes are converted to pounds. Pounds are the unit of measure for threshold determination and reporting.

1.5. Inventory data:

1.5.1. Data calls are initiated in late December and continue through early January including:

- Code 106.11: Updates for OHS tank list (reconcile with SPCC Program Manager)
- Code 411.1: Updates for compressed gas tanks (Airgas)
- Code 980: Updates for Safety-Kleen tank list
Updates for bldg. 873 plate shop tanks
- Shop 51: Updates for bldg. 978 battery shop tanks and bldg 978 lead/acid batteries
- Shop 56: Purchase/recovery report for Freon
- Contractors: Contractor usage is tracked in HMMS (no cradle to grave inventory tracking data).
- CNRNW: Region inventory/usage data from Enterprise Resource Program (ERP)

NOTE: Excepting the quarterly Chugach Corp. inventory reports, Enterprise Resource Program (ERP) data for region inventory on Bremerton Naval Complex (BNC) is unusable. Region does not use consumer product exemptions and Authorized Use Lists (AUL) cannot be correlated. Transactions are not serialized so container lifecycle is not traceable. An engineering estimate is used.

1.5.2. PSNS & IMF container data is extracted from Hazardous Material Management System (HMMS) using Jaspersoft ad hoc reports. Data collected from HMMS includes:

- Hazardous inventory for warehouse type issue points (building 997 and building 58 laboratory)
- Hazardous inventory existing in shipyard storage locations and flammable lockers
- Hazardous inventory that was used or disposed during the reporting year

1.5.3. PSNS & IMF Tanks are managed from a master table in the Tier II database. The table is updated when notified or annually, prior to report preparation.

1.6. Calculations: Inventory and usage data is standardized and compiled for calculation of maximum and average pounds on-site during the reporting year. All substances/chemicals exceeding 10,000 pounds are reported and all substances/chemicals greater than or equal to reporting Threshold Planning Quantity (TPQ) below 10,000 pounds are reported for maximum and average amounts on-site.

1.7. Report Elements: In addition to maximum and average amounts of each chemical reported, several additional data points are required for each chemical. Data points are in relation to “products containing the chemical” rather than the chemical itself.

1.7.1. OSHA physical and health hazards:

1.7.1.1. EPA requires reporting classification of 13 physical hazard categories and 11 health hazard categories as shown below.

EPA Tier II
EPA Form No. 8700-30

Chemical Description	Physical Hazards	Health Hazards
<input type="checkbox"/> Check if information below is identical to the information submitted last year. Chemical Name: CAS No. EHS: Yes <input type="checkbox"/> No <input type="checkbox"/> <input type="checkbox"/> Solid <input type="checkbox"/> Liquid <input type="checkbox"/> Gas <input type="checkbox"/> Trade Secret	<input type="checkbox"/> Explosive <input type="checkbox"/> Flammable (gases, aerosols, liquids, or solids) <input type="checkbox"/> Oxidizer (liquid, solid or gas) <input type="checkbox"/> Self-reactive <input type="checkbox"/> Pyrophoric (liquid or solid) <input type="checkbox"/> Pyrophoric Gas <input type="checkbox"/> Self-heating <input type="checkbox"/> Organic peroxide <input type="checkbox"/> Corrosive to metal <input type="checkbox"/> Gas under pressure (compressed gas) <input type="checkbox"/> In contact with water emits flammable gas <input type="checkbox"/> Combustible Dust <input type="checkbox"/> Hazard Not Otherwise Classified	<input type="checkbox"/> Acute toxicity (any route of exposure) <input type="checkbox"/> Skin corrosion or irritation <input type="checkbox"/> Serious eye damage or eye irritation <input type="checkbox"/> Respiratory or skin sensitization <input type="checkbox"/> Germ cell mutagenicity <input type="checkbox"/> Carcinogenicity <input type="checkbox"/> Reproductive toxicity <input type="checkbox"/> Specific target organ toxicity (single or repeated exposure) <input type="checkbox"/> Aspiration hazard <input type="checkbox"/> Simple Asphyxiant <input type="checkbox"/> Hazard Not Otherwise Classified

1.7.1.2. Dept. of Ecology, State of Washington requires reporting of the old OSHA hazard categories that predate revisions to OSHA Hazard Communication Standard (HCS). These were: Fire, Sudden Release of Pressure, Reactive, Health Acute, and Health Chronic.

Dept. of Ecology, State of Washington Tier II

Chemical Description	Physical and Health Hazards (check all that apply)
CAS 000095-63-6 Trade Secret <input type="checkbox"/> Chem. Name 1,2,4-Trimethyl Benzene Check all that apply <input type="checkbox"/> Pure Mix <input checked="" type="checkbox"/> Solid <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Gas EHS EHS Name EHS CAS# (if different)	<input checked="" type="checkbox"/> Fire <input checked="" type="checkbox"/> Sudden Release of pressure <input checked="" type="checkbox"/> Reactivity <input checked="" type="checkbox"/> Immediate (acute) <input checked="" type="checkbox"/> Delayed (chronic)

NOTE: While not a flammable substance, silica will be checked as flammable if it's a component of a flammable product. See [Section 2, Regulatory Changes](#) for more information.

1.7.2. Chemical State: This identifies whether the chemical is pure. These are Pure and Mix. In most cases, both are marked. The physical state of the chemical as inherent to the products it is in is also defined as Solid, Liquid or Gas. While silica is a solid, it will be marked Liquid if one or more of the products containing silica is a liquid.

NOTE: Since 2012, EPA requires pure chemical and mixtures be combined for threshold determination but reported separately. 40 CFR, Chapter I, Subchapter J, §370.40; (c) states "You should contact the SERC to determine that State's requirements for inventory reporting formats, procedures, and to obtain inventory forms." Washington State SERC has not modified reporting software or instructions to require reporting mixtures separately. The database was modified to produce an EPA Tier II report, calculating pure chemical and mixtures separately, but the functionality is not currently used.

1.7.3. Types of containers the chemical is stored in (see Appendix 1 for more information):

A	Above ground tank	K	Box
B	Below ground tank	L	Cylinder
C	Tank inside building	M	Glass bottles or jugs
D	Steel drum	N	Plastic bottles or jugs
E	Plastic or non-metallic drum	O	Tote bin
F	Can	P	Tank wagon
G	Carboy	Q	Rail car
H	Silo	R	Other
I	Fiber drum	S	Lead Acid Battery
J	Bag		

1.7.4. Storage Condition Code (temperature and pressure) for each container type:

- 1 Ambient pressure
- 2 Greater than ambient pressure
- 3 Less than ambient pressure
- 4 Ambient temperature
- 5 Greater than ambient temperature
- 6 Less than ambient temperature but not cryogenic
- 7 Cryogenic conditions

1.7.5. Storage Locations: A description of where the chemical is located on property for each container type (see *Appendix 1*).

1.8. Report review and submittal:

1.8.1. Reportable quantities are compared to the Tier II report from the previous year. Significant variances are investigated to isolate source. Manual corrections are made to allow immediate recalculation and repair tickets are submitted to Sphera Solutions or Hill Enterprise Data Center (HEDC) when chemical composition percentages are determined to be incorrectly entered for source SDSs.

1.8.2. Verified data is transferred from the mockup report generated by the Microsoft Access database to the [SecureAccess WASHINGTON \(SAW\) Tier II database](#) after which a pending Tier II report can be printed for routing and review. The review process, as established in 2015 includes at least one peer review followed by Branch Head, Deputy Director and Division Head.

1.8.3. Following internal review, the report is electronically submitted to the SERC via the SecureAccess WASHINGTON (SAW) reporting software. Hardcopy reports are sent to the LEPC and COMNAVREG N321 (local fire dept.).

2. REGULATORY NOTES FOR 2018:

2.1. Dept. of Ecology, State of Washington has not updated their software. EPA required "...states that have their own reporting software for section 312...modify their software by January 1, 2018. Facilities are required to comply with reporting the new physical and health hazards on their Tier II inventory form effective March 1, 2018". Sphera adapted HMMS for this change but the report provides incomplete data because of our organizational structure. The Code 106.33 HMC&M Program Manager is engaged with Sphera developers to enhance Hazardous Material Management System (HMMS) so the revised Tier II report generated by HMMS will report properly for naval shipyards.

2.1.1. In preparation for this change, the Tier II database developed by the HMC&M Program Manager was modified to produce an EPA Tier II report, calculating pure chemical and mixtures separately and marking applicable GHS physical and health hazard categories.

2.1.2. We can produce an EPA Tier II report using the database but it is only inclusive of available AUL data for GHS SDSs. It is known that GHS hazards are missing for some inventory items. Per 40 CFR, Chapter I, Subchapter J, §370.40; (c), "You should contact the SERC to determine that State's requirements for inventory reporting formats, procedures, and to obtain inventory forms." Because the CFR requires us to satisfy our SERC and the SERC reporting software has not been updated for the change, it is unlikely we would need to produce a Tier II report that complies with the new format. The law is contradictory, requiring our facility to complete the "new form" but our state requires electronic reporting that is not in compliance with the requirement. Data sets for completing the new form are administratively available if needed but will not display all possible hazards for the chemicals reported until all contributing inventory is sourcing from GHS SDSs.

3. REPORTING HIGHPOINTS for 2018:

3.1. 58 chemicals are being reported for 2018.

3.2. Significant non-typical increases from 2017 reporting year:

CAS No.	Chemical Name	Increase Pct.	Variance Evaluation	Primary Source
8009038	PETROLATUM	86.36	88 55-GAL DRUMS TECTYL 435D (82.5%) AT 997 AND 49 DRUMS AT DD6 (<i>Verified in MAT</i>)	CORROSION PREVENTIVE COMPOUNDS
21645512	ALUMINUM HYDROXIDE	62.76	HIGH VOLUME 714 LAGGING ADHESIVE (37.5% ALUMINUM HYDROXIDE) AT BLDG 107, 893 & 997. SDS WAS AUTHORIZED MARCH 2018. PRODUCT IS NOT ON 2017 REPORT.	PRIOR TO AUTH OF SDS 480116, PRIMARY SOURCE WAS INTERIOR ENAMEL (CHLORINATED ALKYD RESIN). LAGGING ADHESIVE USURPED AS PRIMARY SOURCE FOR THIS CAS.
68476302	FUEL OIL, [NO. 2]	94.45	THE 3 SDS WITH THIS CAS ARE ONLY AUTH. FOR CONTRACTORS. PSNS HAS NO CONTRIBUTION.	ULTRA LOW SULFUR DIESEL, DYED

3.3. Added to report for 2018:

CAS	Chemical Name	Evaluation	Primary Source
76142	CFC-114	TYPICAL FLUCTUATION	FREON RECOVERY MULTIPLE PROJECTS
98566	P-CHLOROBENZOTRIFLUORIDE	TYPICAL FLUCTUATION	MIL-DTL-1115E ENAMEL
100425	STYRENE	TYPICAL FLUCTUATION	LAMINATING RESIN
471341	CALCIUM CARBONATE	TYPICAL FLUCTUATION	NRP, SEALING COMPOUND
8009038	PETROLATUM	FLUCTUATION NOT TYPICAL	CORROSION PREVENTIVE COMPOUND
21645512	ALUMINUM HYDROXIDE	FLUCTUATION NOT TYPICAL	LAGGING ADHESIVE & INT. ENAMEL
64742525	HYDROTREATED HEAVY NAPHTHENIC DISTILLATES (PETROLEUM)	TYPICAL FLUCTUATION	DIESEL ENGINE OIL
64742570	RESIDUAL OILS (PETROLEUM), HYDROTREATED	TYPICAL FLUCTUATION	DIESEL ENGINE OIL
68476302	FUEL OIL, [NO. 2]	FLUCTUATION NOT TYPICAL	ULTRA LOW SULFUR DIESEL, DYED

3.4. Dropped below reporting threshold for 2018:

CAS	Chemical Name	Evaluation	Primary Source
74986	PROPANE	TYPICAL FLUCTUATION	PROPANE

CAS	Chemical Name	Evaluation	Primary Source
107211	ETHYLENE GLYCOL	TYPICAL FLUCTUATION	HYDRAULIC FLUID & COOLANT
1344281	ALUMINA	TYPICAL FLUCTUATION	EPOXY COATING KITS
1344952	CALCIUM SILICATE	TYPICAL FLUCTUATION	CEMENT,INSULATION,HIGH TEMP
8052424	ASPHALT	TYPICAL FLUCTUATION	PAVING, TILE ADHESIVE, COR. PREV.
37244965	NEPHELINE SYENITE	TYPICAL FLUCTUATION	EPOXY PRIMER/RESIN
64742558	DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC	TYPICAL FLUCTUATION	GREASE & HOCUT
65997173	GLASS, OXIDE, CHEMICALS	TYPICAL FLUCTUATION	HIGH TEMP CEMENT & GLASS BUBBLES
68131748	ASHES	TYPICAL FLUCTUATION	CEMENT & EPOXY UNDERLAYMENT

See APPENDIX 1 for more information.

APPENDIX 1

NOTES ON EXPECTATION FOR ACCURACY:

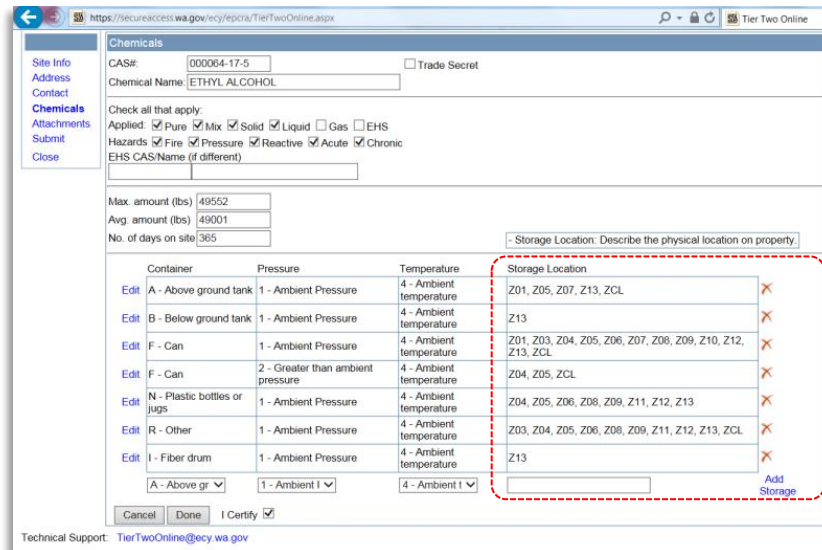
Reported totals are as accurate and comprehensive as possible, compiling an immense amount data from multiple sources. The level of accuracy is adequate for the purposes of this report, to facilitate community planning for foreseeable emergencies. It is meant to ensure we have adequate community or on-site resources to manage emergencies. It is not designed for first responders.

Washington Dept. of Ecology requires entry of the maximum and average pounds stored during the reporting year. This significantly exceeds the EPA requirement to report in range codes (see below). Due diligence is exercised to produce the best possible report, inclusive of all obtainable data expending a practical amount of effort and resources. However, the Range Code table from 40CFR, Chapter I, Subchapter J, §370.43 below suggests the intent of the regulation includes a reasonable allowance for engineering estimates where exact numbers are not possible or would require unreasonable time and labor to acquire.

Range Code	From	To
01	0	99
02	100	499
03	500	999
04	1000	4999
05	5000	9999
06	10000	24999
07	25000	49999
08	50000	74999
09	75000	99999
10	100000	499999
11	500000	999999
12	1000000	9999999
13	10000000	100000000000

EXPLANATION OF STORAGE LOCATION DATA:

Below is a screen print of the chemical data input screen in the Secure Access Washington (SAW) database.



Storage locations (bottom-right in red border) must be added individually for each reported chemical and be specific to the container type, pressure code and temperature code for every container the chemical exists in at the facility. Reporting by building number is not practical since most reported chemicals exist in dozens to more than a hundred buildings. Tier II Instructions on the Dept. of Ecology website state: "Provide a simple description of where the chemical is located on property..." We provide a map with site coordinate legend identifying general areas within the

shipyard using 13 Zones. EPA Tier II Instructions for a Confidential Location Information Sheet allow for this approach. The SERC and LEPC accepted the map below with site coordinate legend (top) without comment for the past three years.

US Navy, Bremerton Naval Complex WA2170023418 Facility Map:

