OREGON OFFICE OF STATE FIRE MARSHAL

CR2K ANNUAL SUMMARY

2017

Mission

Protecting citizens, their property, and the environment from fire and hazardous materials.

Vision

Premier Public Safety Services.

Values

PROFESSIONALISM

We are a highly skilled and competent workforce.

CREDIBILITY

We demonstrate trust and accountability through our actions.

COLLABORATION

We partner with others to achieve our mission.

LEADERSHIP

We are dedicated to an environment for success.

DEDICATION

We believe our mission is worthy of our efforts.

Statutory Authority
Oregon Revised Statutes:
Chapters 336, 453, 470,
476, 478, 479, 480

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INTRODUCTION

About the data in this report

NFIRS - The National Fire Incident Reporting System (NFIRS) was developed by the U.S. Fire Administration and is a uniform system of incident reporting that uses a common set of definitions and associated numerical codes. NFIRS provides general guidance and standards to be used when completing incident reports. Data submitted by Oregon fire agencies to the OSFM using the NFIRS format and standards is the primary source of information for this report.

Oregon Fire Bridge™ - Oregon's incident reporting system, Oregon Fire Bridge/Elite™, is a real-time reporting system that is web based and NFIRS compliant. Incident reports submitted to the OSFM are required under ORS 476.210 and must be compliant with the current NFIRS incident reporting standard. Incident reports are submitted to the OSFM from local fire agencies in Oregon and are maintained in the OSFM fire data repositories. Data entered into the Oregon Fire Bridge/Elite™ by local fire agencies can be changed, modified, or updated at any time as newer information becomes available. Data that was not reported in previous years may also be entered at any time. These variables may cause information previously reported by OSFM to be different than what is currently reported.

Statewide Incident Summary - The data in this section was obtained from the Oregon Fire Bridge/Elite™ and includes every type of incident reported, not just fire incidents. The data in this section includes only incidents reported to the OSFM on or before 3/31/2018.

Community Right To Know Report - The Community Right to Know and Protection Act was passed by the Oregon Legislature in 1985 (ORS 453.307 to ORS 453.520). Oregon's Community Right to Know (CR2K) program is administered by the Oregon Office of State Fire Marshal (OSFM), and meets or exceeds certain requirements of the federal Emergency Planning and Community Right to Know Act. The law requires the OSFM to survey facilities annually in order to collect, validate, and disseminate information on hazardous substances located throughout the state. This supplemental report summarizes the information reported by facilities on the Hazardous Substance Information Survey.

Certain hazardous substance incidents are required to be reported to the OSFM under ORS 453.342. The Oregon Fire Bridge/Elite™ system is the online database the OSFM makes available for fire agencies to enter hazardous substance incidents. A snapshot of the hazardous substance incidents that occurred in 2017 was taken on March 31, 2018, for the purpose of summarizing the information reported by first responders.

Methodologies

Aid Given - To isolate individual fire incidents, only reports from the primary agencies are included. Excluded from this report are any incidents where agencies reported that mutual or automatic aid was given. An exception is where aid given totals are specifically identified.

Casualties - Information on fire service and civilian casualties in this report is based on data provided in either the NFIRS Fire Service Casualty Module or the Civilian Fire Casualty Module. Casualty data entered only in the NFIRS Basic Module was not included.

Estimated Loss Amounts - Dollar amounts listed in this report are estimates made by on-scene firefighters and are not actual insurance totals. Methodologies for determining estimated loss amount and pre-loss amounts are established independently by each local fire agency.

Note: Totals in the following charts and graphs may not add up to 100 percent due to rounding.

COMMUNITY RIGHT TO KNOW

Executive Summary

The Oregon Community Right to Know and Protection Act (ORS 453.307 to ORS 453.520) requires facilities with certain quantities of hazardous substances to annually report information about those substances to the Oregon Office of State Fire Marshal (OSFM), Community Right To Know (CR2K) unit using the Oregon Hazardous Substance Information Survey (HSIS). This law also requires emergency responders to report to OSFM incidents involving the release, or threatened release, of hazardous substances.

The federal Emergency Planning and Community Right to Know Act (EPCRA Section 312) requires certain facilities to report hazardous substance information to the State Emergency Response Commission (SERC), Local Emergency Planning Committees (LEPC), and local fire agencies. In Oregon, the OSFM serves as the SERC, and this reporting requirement is accomplished by completion and submittal of the HSIS.

The CR2K unit collects demographic information about both the facility and hazardous substance details for chemicals on site that meet reportable quantity thresholds. A hazardous substance is defined as a substance for which the Oregon Occupational Safety and Health Administration (OR OSHA) requires the manufacturer to develop a Material Safety Data Sheet. The reportable quantity thresholds for most substances are:

- 500 pounds of a solid
- 500 gallons of a liquid
- 500 cubic feet of a vaporous gas
- 500 gallons of a liquefied or cryogenic gas

For highly toxic substances or explosives, the thresholds are:

- 5 gallons of a liquid
- 10 pounds of a solid
- 20 cubic feet of a gas

Extremely Hazardous Substances designated by the Environmental Protection Agency are reportable at the specific threshold planning quantity established for each substance. Radioactive substances that are not a sealed source are reportable at any quantity (OAR 837-085-0070 (2)(a)).

The reportable quantity threshold for gasoline and diesel in underground storage tanks at retail gasoline service stations is 75,000 gallons and 100,000 gallons respectively.

The HSIS data is frequently validated to ensure it is correct for those who rely upon it. Types of validation include manually reviewing surveys, calling facilities about specific data not clarified on the survey, electronic validation through monthly quality control queries, and conducting in-person and phone audits to confirm and assist with compliance. A hazardous substance information hotline is available to facilities for assistance on completing the HSIS.

The public has access to most HSIS information at individual facilities, and information about hazardous substance incidents. HSIS information is provided to the Oregon's SERC, LEPCs, fire agencies, regional hazmat teams, county and local emergency planners, county health administrators, Public Safety Answering Points (PSAP 911 call centers), and local and state agencies. The data helps these partners make informed decisions about how to protect life, property, and the environment from hazardous materials incidents.

For more information, please visit our CR2K website or call the Hazardous Substance Information Hotline at 503-378-6835 or 1-800-454-6125. To request or obtain information from the HSIS, please visit our CR2K Information Access website, complete the CR2K Information Request form, email sfm.cr2k@state.or.us, or call 503-934-8353.

Hazardous Substance Storage

FACILITIES REPORTING

Reporting Frequency by North American Industry Classification System (NAICS) Codes

This table lists the ten specific industry classifications with the most facilities that were sent a survey in 2017.

NAICS Code	NAICS Description	Facilities
517212	Cellular & Other Wireless Telecommunication	2,107
921190	Other General Gov Support	1,075
517110	Wired Telecommunications Carriers	462
221122	Electric Power Distribution	356
611110	Elementary & Secondary Schools	342
424710	Petroleum Bulk Stations & Terminals	292
811111	General Automotive Repair	255
441310	Automotive Parts & Accessories Stores	249
447110	Gasoline Stations With Convenience Stores	216
441110	New Car Dealers	171

Compliance Rate for Retuning the Hazardous Substance Information Survey – by County

County	Surveys Sent	Surveys Received	Compliance Rate
Baker	145	142	97.9%
Benton	254	243	95.7%
Clackamas	947	888	93.8%
Clatsop	188	164	87.2%
Columbia	190	155	81.6%
Coos	336	323	96.1%
Crook	104	103	99.0%
Curry	121	118	97.5%
Deschutes	568	544	95.8%
Douglas	511	487	95.3%
Gilliam	40	40	100.0%
Grant	71	70	98.6%
Harney	79	78	98.7%
Hood River	108	97	89.8%
Jackson	585	567	96.9%
Jefferson	112	101	90.2%
Josephine	224	217	96.9%
Klamath	377	375	99.5%
Lake	99	98	99.0%

County	Surveys Sent	Surveys Received	Compliance Rate
Lane	1,090	1,038	95.2%
Lincoln	246	229	93.1%
Linn	482	465	96.5%
Malheur	189	183	96.8%
Marion	876	830	94.7%
Morrow	126	127	100.8%
Multnomah	1,819	1,593	87.6%
Polk	176	161	91.5%
Sherman	53	48	90.6%
Tillamook	161	149	92.5%
Umatilla	352	340	96.6%
Union	153	151	98.7%
Wallowa	67	65	97.0%
Wasco	158	148	93.7%
Washington	1,109	1,013	91.3%
Wheeler	25	23	92.0%
Yamhill	303	285	94.1%
TOTAL	**12,444**	**11,658**	**93.7%**

FACILITIES REPORTING

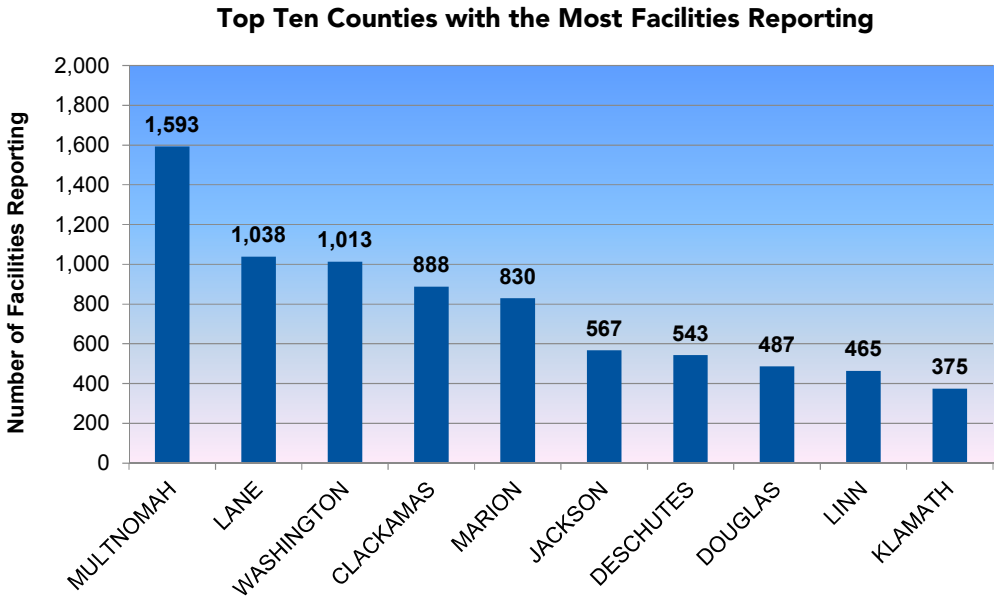
Hazard Class Reporting Frequency

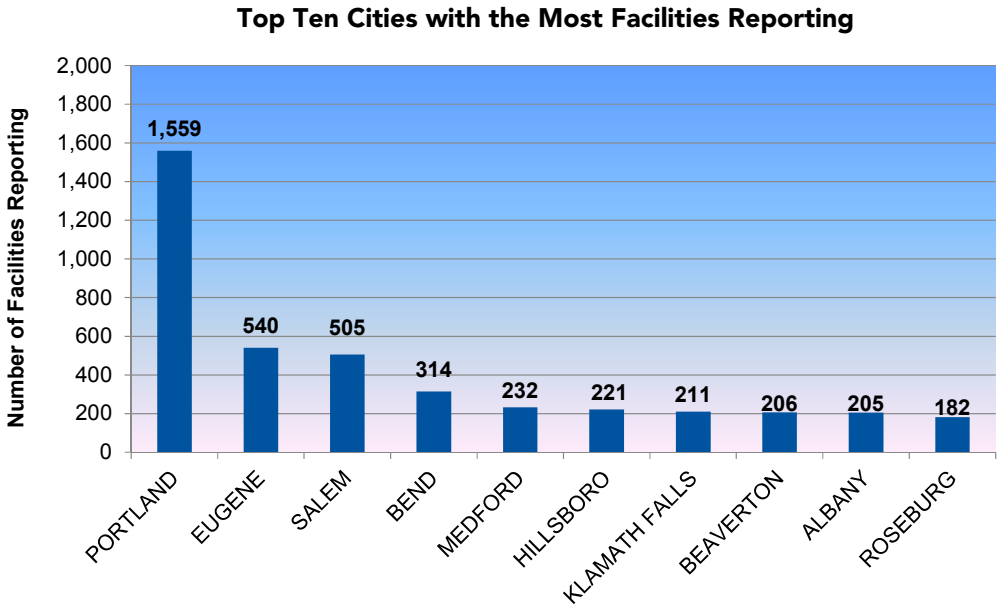
Facilities reporting substances on the survey must also report the hazard class associated with the substance. Hazard classes used for reporting are mainly United Stated Department of Transportation (USDOT) hazard class codes, along with several custom codes used only by the Oregon Community Right To Know program. A substance can be assigned up to three hazard class codes.

This table shows how many times a substance with the hazard class was reported. For example, the table shows that facilities reported a Hazard Class 6.3 substance 15,210 times on the survey in 2017. .

Hazard Class Code	Hazard Class Description	Number of Times Hazard Class Reported
6.3	Acute Health Hazard	15,210
3.0	Flammable and Combustible Liquid	6,816
4.5	Combustible Material	5,426
9.0	Miscellaneous Hazardous Material	4,827
2.2	Non-flammable Gas	3,902
2.1	Flammable Gas	3,724
5.1	Oxidizers	2,217
8.0	Corrosive Material	2,134
6.4	Chronic Health Hazard	982
4.4	Reactive Material	854
6.1	Poisonous Material	839
2.3	Poisonous Gas	539
7.0	Radioactive Material	395
1.3	Explosives (with predominately a fire hazard)	292
6.5	Pesticide	254
4.1	Flammable Solids	145
4.3	Dangerous When Wet	122
1.4	Explosives (with no significant blast hazard)	60
1.1	Explosives (with a mass explosion hazard)	43
4.2	Spontaneously Combustible Material	40
1.5	Very Insensitive Explosives; Blasting Agents	30
5.2	Organic Peroxides	10
1.2	Explosives (with a projection hazard)	8
6.2	Infectious Substance (Etiologic agent)	2

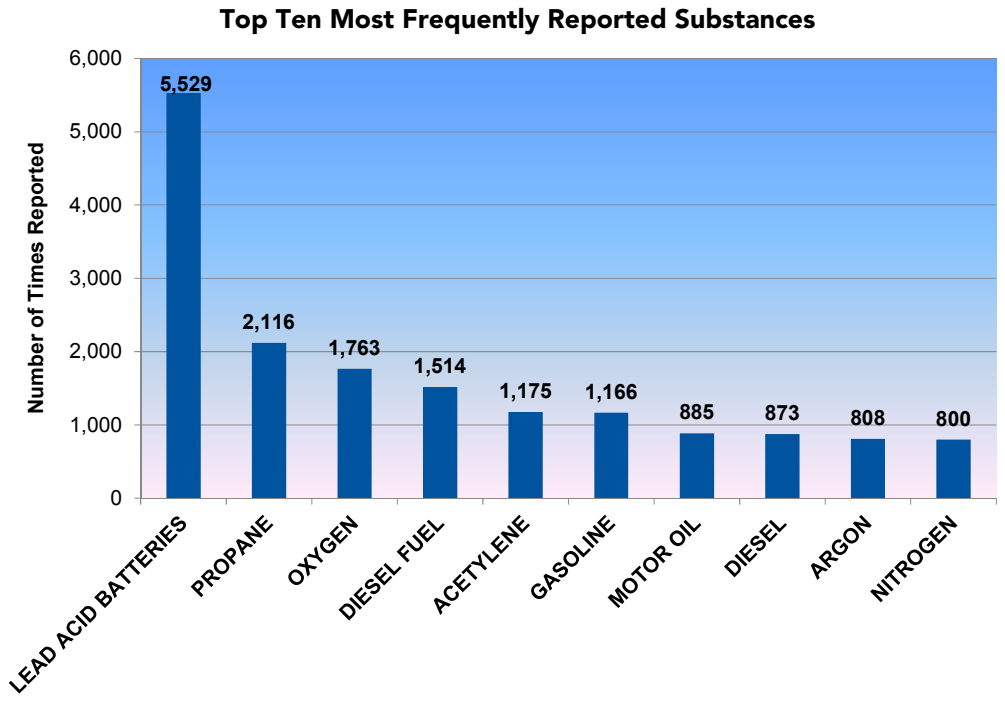
FACILITIES REPORTING

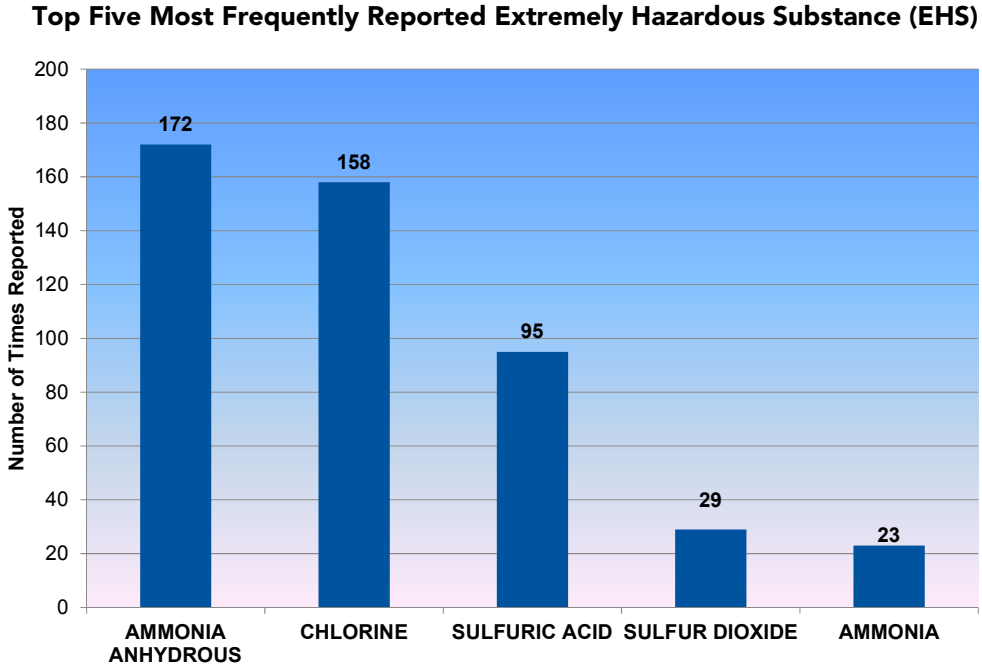




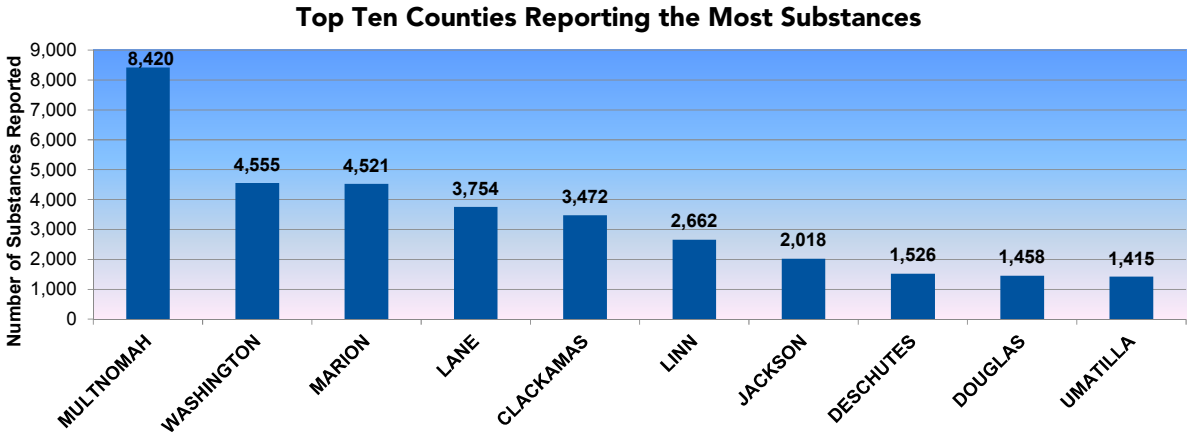
SUBSTANCES REPORTED

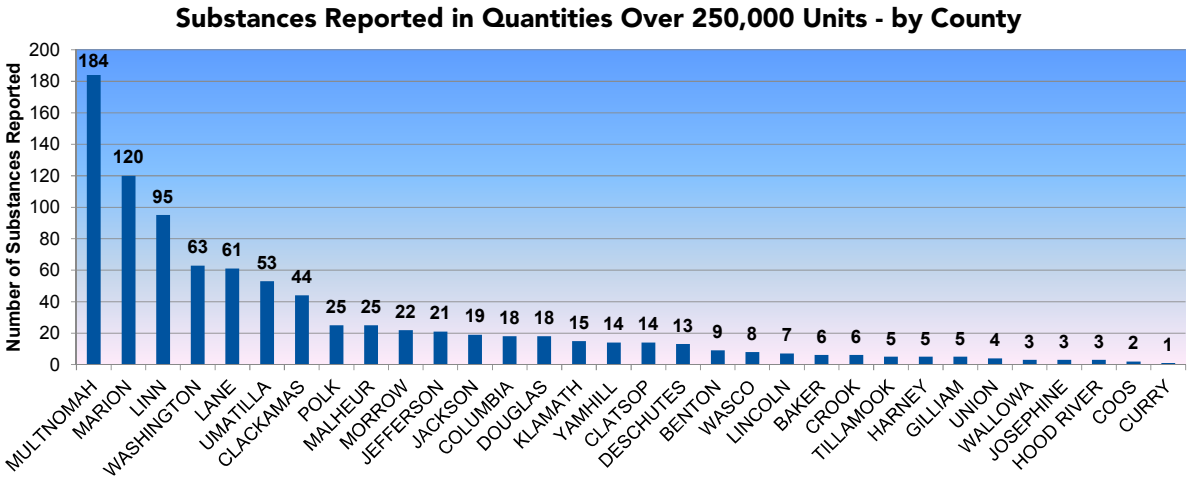
The chart below shows the top ten substances most frequently reported. In many cases, substances reported using various names have been combined under one name in this chart. For example, Diesel, Diesel 2, Diesel Fuel 2 Ultra Low Sulfur, and Diesel Oil were combined as Diesel Fuel.

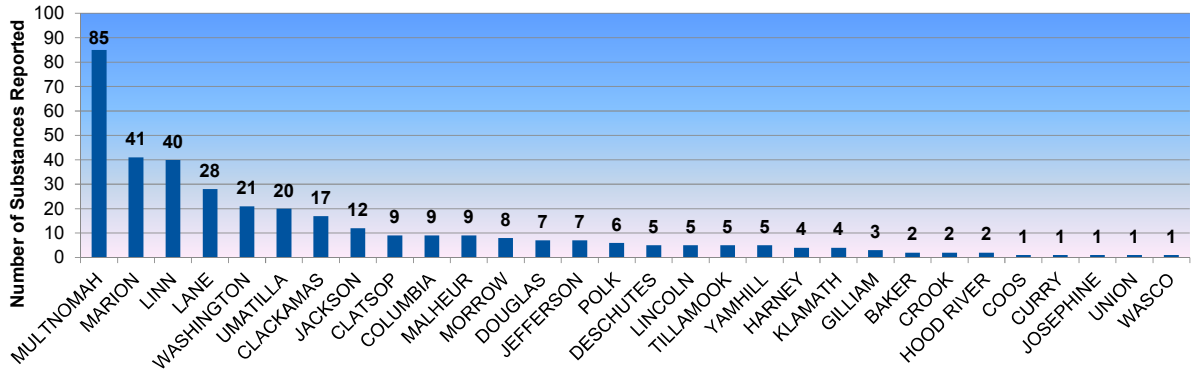




SUBSTANCES REPORTED







SUBSTANCES REPORTED

Substances Reported in Quantities Exceeding One Million Units

This chart below shows the substances that were reported in quantities exceeding 1,000,000 pounds, gallons, or cubic feet, and the number of times reported.

Chemical Name	Count
Urea	14
Gasoline	13
Diesel Fuel	12
Fertilizer 46-0-0	12
Lead Acid Batteries	11
Portland Cement	9
Fertilizer Urea	8
Monoammonium Phosphate Fertilizer	7
Diesel	6
Ammonium Sulfate	5
Ethanol	5
Fertilizer 11-52-0	5
Wood Dust	5
Asphalt Liquid	4
Fertilizer Muriate of Potash	4
Motor Oil	4
Aluminum Ingots	3
Ammonium Sulfate Fertilizer	3
Black Liquor	3
Diesel 2	3
Fertilizer 0-0-62	3
Fertilizer 20-0-0-24	3
Fertilizer 21-0-0 Ammonium Sulfate	3
Fertilizer Ammonium Sulfate	3
Green Liquor	3
Jet A Fuel	3
Muriate of Potash	3
Peat Moss	3
Sand	3
Ammonia Anhydrous	2
Cement	2
Cooking Oil	2
Fertilizer 0-0-39-14S	2
Fertilizer 0-0-60	2
Fertilizer 16-20-0	2
Fertilizer 16-20-0-13	2
Fertilizer 32-0-0	2
Fertilizer Sul Po Mag	2
Flour	2
Ground Limestone	2
Lead Acid Batteries-Dry	2
Limestone	2
Monoammonium Phosphate	2
Natural Gas	2
Nitrogen Cryogenic	2
Polyvinyl Chloride Resin	2
Potassium Chloride	2
Soda Ash	2
Wheat	2
Wheat Flour	2
White Liquor	2
Abs Plastic	1
Aerosil 90	1
Alcohol Denatured Fuel Grade	1
Aluminum Oxide (Dny)	1
Aluminum Oxide (Mny)	1
Aluminum Oxide (P20)	1
Ammonia	1
Ammonium Hydroxide	1
Ammonium Phosphate	1
Ammonium Phosphate Nitrate	1
Argon Liquid	1
Asphalt	1
Asphalt Cement	1
Asphalt Coating	1
Asphalt Flux	1
Asphalt Laminate Adhesive	1
Asphalt Windseal Adhesive	1
Biodiesel B5	1
Blu 20	1
Brown Sugar	1
Bunker C Fuel Oil	1
Calcium Carbonate	1
Calcium Oxide	1
Carbon Dioxide	1
Cement Kiln Dust	1
Chevron Neutral Oil	1
Christy Minerals Calcined Flint	1
Clays	1
Coal	1
Concrete Block	1
Contig Site-Fertilizer Urea	1
Contig Site-Rubber Styrene Butadiene	1
Contig Site-Wood Dust	1
Corn	1
Corn Flour	1
Crude Oil	1
Denatured Ethanol	1
Diatomaceous Earth	1
Diesel Fuel 2	1
Diesel Fuel 2 Ultra Low Sulfur	1
Diesel Oil	1
Dolomite Lime	1

Chemical Name	Count
Duration	1
Eg-44 Clay	1
Fertilizer 0-0-50	1
Fertilizer 0-0-60 Mop	1
Fertilizer 0-0-60 Mur/Crs	1
Fertilizer 10-34-0	1
Fertilizer 12-0-0-26S	1
Fertilizer 20-0-0	1
Fertilizer 20-0-0-24S Plus Zinc	1
Fertilizer 21-0-0-24	1
Fertilizer Iron Sulfate	1
Fertilizer K-Mag	1
Fertilizer K-Mag Premium	1
Fertilizer Muriate Of Potash 0-0-62	1
Fertilizer Un-32/Ns-1	1
Fertilizer Uran 32-0-0	1
Fly Ash	1
Fly Ash Class C	1
Formaldehyde Solution 50%	1
Glas Mat	1
Gp Phenolic Plywood Resin	1
Grain Dust	1
Graphite	1
Green Diamond Sand	1
Green Liquor Dregs-Slaker Grits-Lime Mud	1
Helium	1
Hydrogen Chloride	1
Hydrogen Peroxide	1
Iron Sulfate	1
Kingsford Charcoal Briquets	1
Kingsford Matchlight Briquets	1
Kmg-B Penta Block	1
Laticrete Sanded Grout	1
Laticrete Thinset Mortar	1

Chemical Name	Count
Laticrete Unsanded Grout	1
Lead Alloys And Scrap	1
Lead Oxide	1
Lignite	1
Lime Sludge	1
Limestone Pelletized	1
Liquid Phenol Extender (Lpe)-90	1
Liquor Black Weak	1
Liquor Green	1
Liquor White	1
Lubricating Oil	1
Marine Fuel Oil	1
Melamine	1
Methanol	1
Methyl Alcohol	1
Monoethanolamine	1
Muriate Of Potash 0-0-60	1
Newsprint	1
Nickel	1
Nitrogen Liquid	1
Oil Bunker C	1
Oxygen Liquid	1
Paint Thermoplastic White	1
Pebble Quicklime	1
Perlite Ore	1
Phenol	1
Phenol Formaldehyde Resin	1
Ply Veneer	1
Polyethylene	1
Polyethylene Pellets	1
Polystyrene Insulation	1
Potash	1
Potato Starch	1
Pumice	1
Pvc Suspension Resin	1
Quicklime	1

Chemical Name	Count
Recycled Glass	1
Refractory Brick	1
Residual Marine Fuels, Rmb-Rmk	1
Resin Coated Silica Sand	1
Roofing Granules	1
Rubber Styrene Butadiene	1
Scrap Metal - Recycle	1
Silica Sand	1
Silica Sand/Starblast	1
Sodium Sulfite	1
Soybean Meal	1
Sr03	1
Sugar	1
Sulfuric Acid 35-96%	1
Sweet Crude Oil	1
Titanium/Titanium Alloy Sponge And Chips	1
Tmah 25%	1
Transmix	1
Urea 46-0-0 Fertilizer	1
Urea Ammonium Nitrate Solution	1
Urea Fertilizer	1
Used Oil	1
Waste Blast Media	1
Waste Boiler Fly Ash	1
Waste Foul Concentrate	1
Waste Lead Acid Batteries	1
Wastewater Tmt Sludge	1
Wheat Flour-Nfp	1
Wood Pulp	1
Zirconium Base Alloys	1
Zirconium Ingots	1
Zirconium Oxide	1

Hazardous Substance Incidents

INCIDENT COUNTS

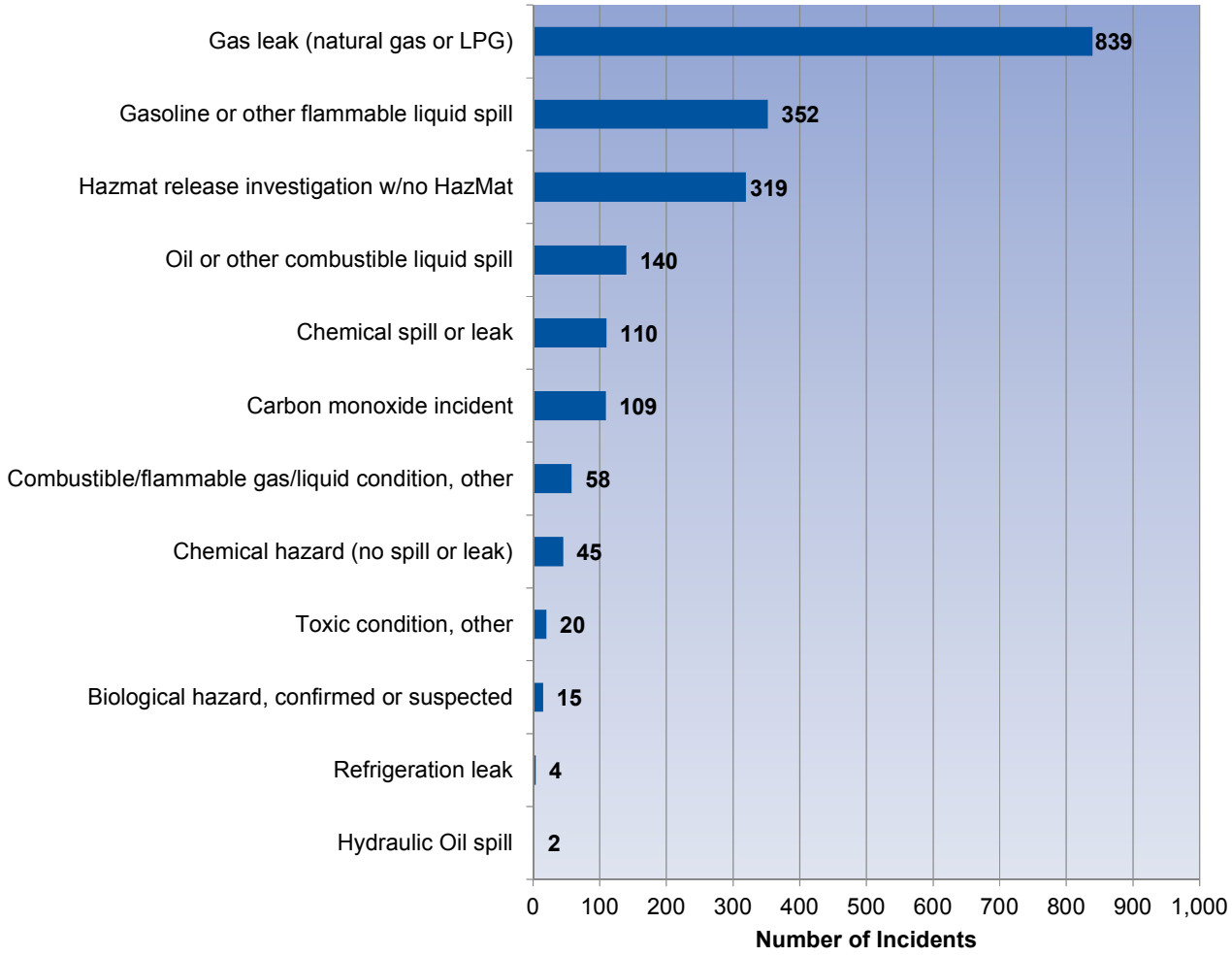
Oregon Fire Bridge™

Under the Oregon Community Right to Know and Protection Act, those who responded to an incident involving hazardous substances must report information about that incident to the OSFM. The OSFM currently provides responders with an online incident reporting system called Oregon Fire Bridge™.

Fire agencies and OSFM Hazmat teams reported 2,013 hazardous substance incidents in 2017. These incidents resulted in 6 civilian injuries, 2 civilian deaths, and 3 fire service injuries.

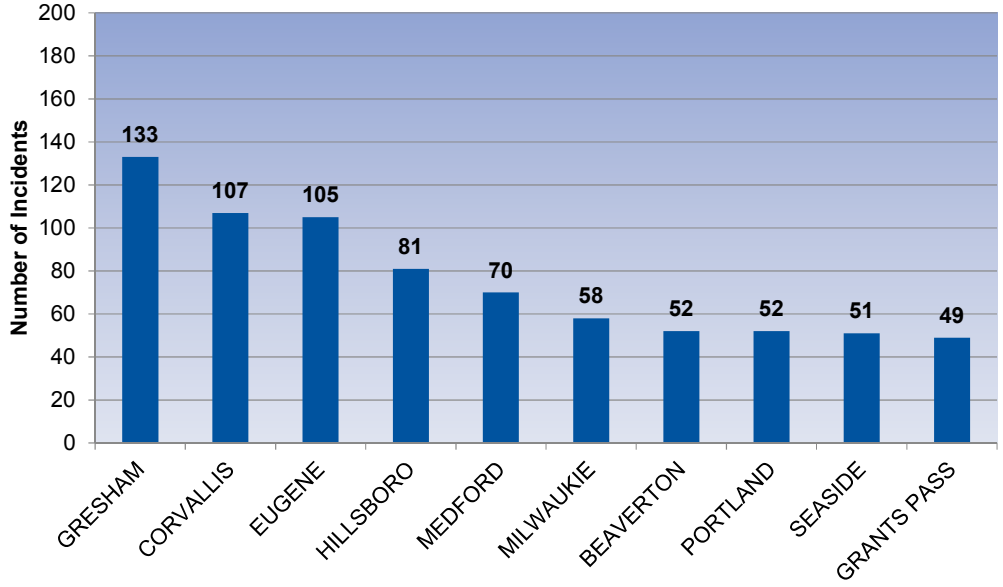
Using information collected in Oregon Fire Bridge™, this section presents several snapshot views of hazardous substance incidents in Oregon. More information can be requested by contacting the CR2K Information Assistant at 503-934-8353, emailing sfm.cr2k@state.or.us, or from our website at http://www.oregon.gov/osp/SFM/Pages/CR2K_InformationAvailable.aspx.

Types of Hazardous Substance Incidents



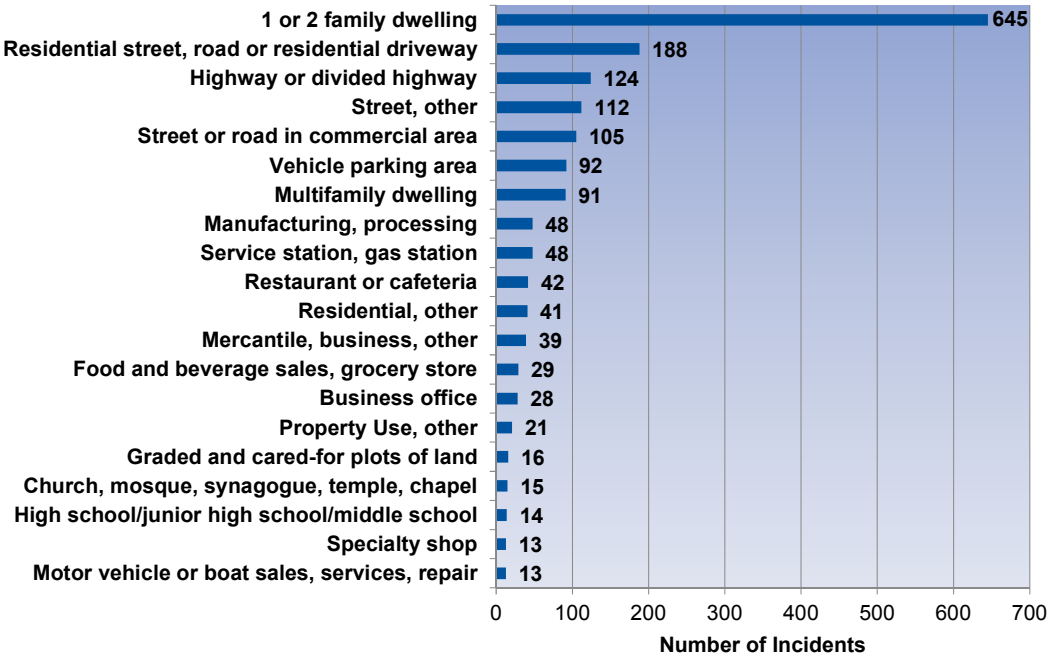
Incident reporters categorize hazmat incidents in one of several broad categories. These categories describe the general types of responses to incidents.

Cities with the Most Reported Hazardous Substance Incidents



This chart shows the ten cities with the highest number of hazardous substance incidents reported. The cities listed in this graph are based on the zip code of the address in which the incident occurred, and may not necessarily be within the city limits.

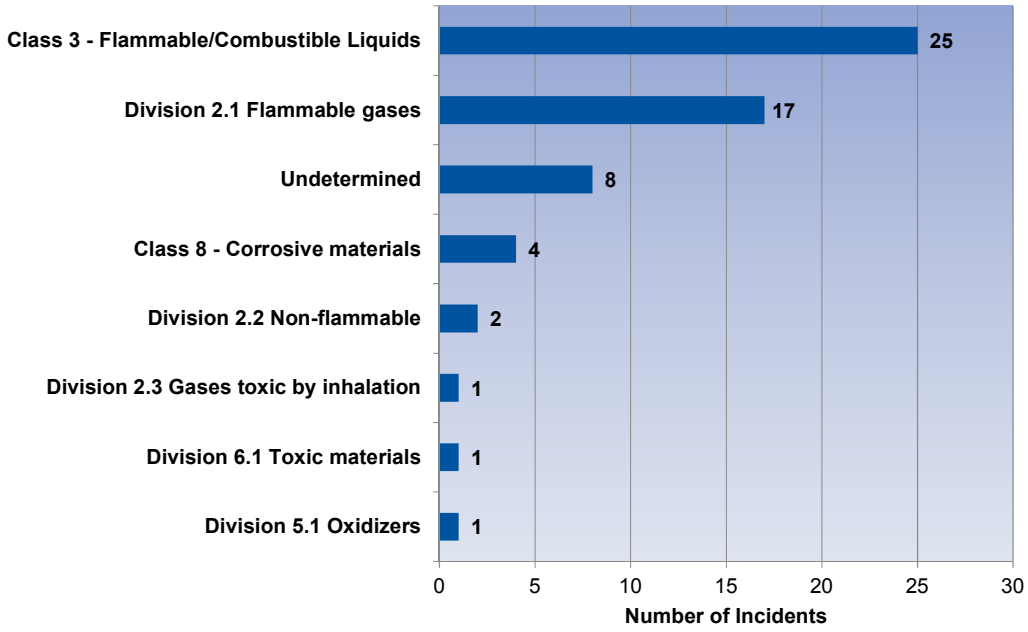
Types of Property Uses Where Hazardous Substance Incidents Occurred



This chart shows the 20 types of property uses where the most reported hazardous substance incidents took place. This is a count only and does not reflect the severity of the incidents.

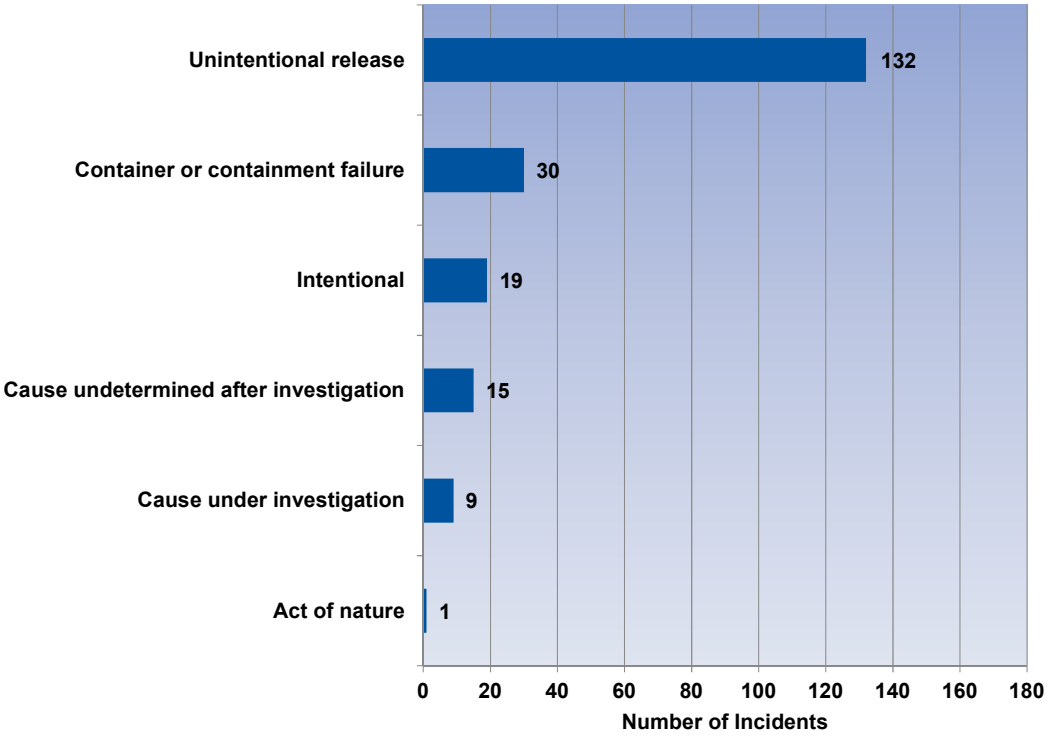
INCIDENT COUNTS

Count of Hazardous Substance Incidents by U.S. DOT Hazard Classes



This chart was derived from reported incidents. The hazard classes of the substances involved were not always clearly stated by the responder reports. Of the 2,013 hazardous substance incidents reported, only 59 are identifiable by the hazard class.

Causes of Hazardous Substance Incidents

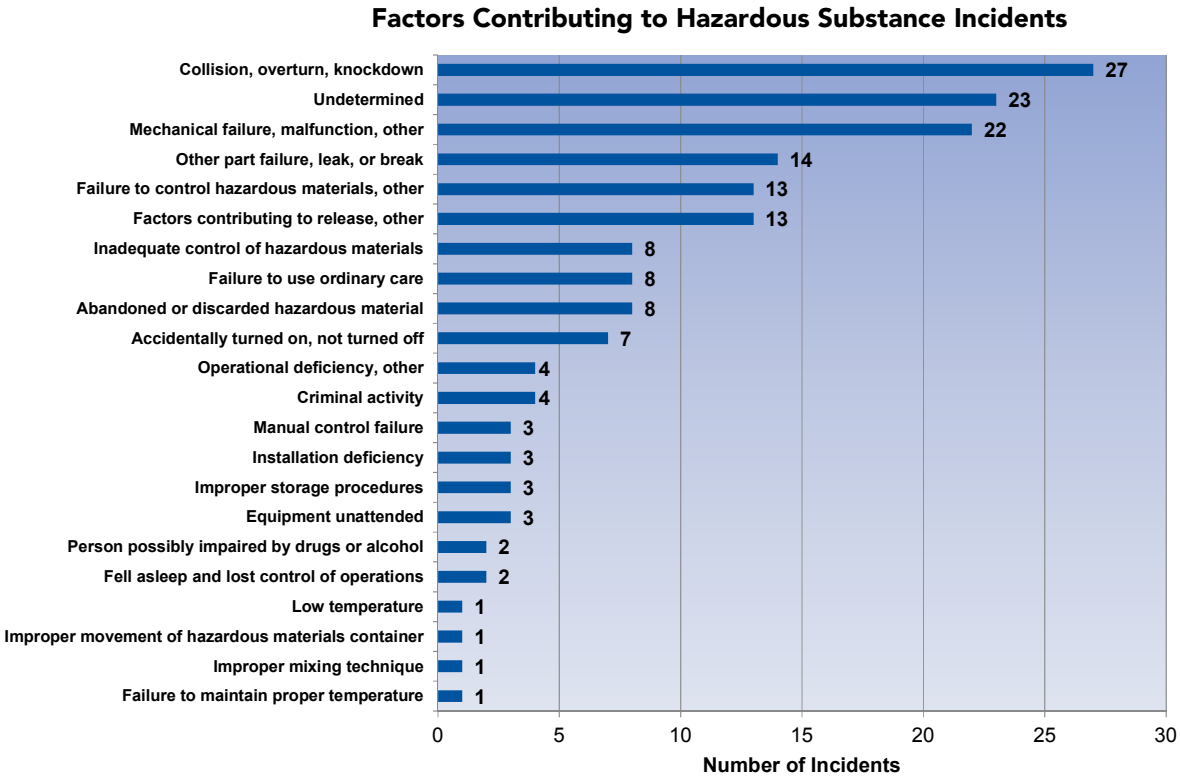


Several options are given for causes of a hazardous substance incident. Not all reports list the cause of an incident. This chart illustrates the reported causes.

INCIDENT COUNTS

The following is a brief description of the incidents reflected in these reported casualties:

This chart shows the reported casualties associated with hazardous substance incidents in 2017. They are categorized by fire service personnel and civilian. They are further separated based on whether the injury or death was caused by the hazardous substance, or by some other factor in the incident.



Several options are given for contributing factors to a hazardous substance incident. Not all reports list a contributing factor. This chart lists the reported contributing factors.

	Injuries - Exposure	Deaths - Exposure	Injuries - Other	Deaths - Other	Total
Civilian	6	2	0	0	8
Fire service	1	0	2	0	3
Total	**7**	**2**	**2**	**0**	**11**

Incident 1 1 civilian was killed due to oxygen displacement
Incident 2 1 civilian was killed due to oxygen displacement
Incident 3 3 civilians were injured due to exposure to a hazardous material
Incident 4 1 civilian was injured due to exposure to Hydrofluoric Acid
Incident 5 1 civilian was injured due to exposure to a hazardous material
Incident 6 1 civilian was injured due to exposure to Chlorine gas
Incident 7 1 fire service member was injured responding to a hazardous material release
Incident 8 1 fire service member was injured responding to a hazardous material release
Incident 9 1 fire service member was injured responding to a hazardous material release

5 buildings and 48 people were evacuated in these incidents

INCIDENT COUNTS

Hazmat Teams Responding to Incidents

Oregon's 13 Regional Hazmat Emergency Response Teams responded to 73 incidents in 2017. The following table shows the number of responses for each team. A map of the Regional Hazmat Emergency Response Team boundaries is on the following page.

Team		Number of Incidents
Team 1	Roseburg	1
Team 2	Eugene	4
Team 3	Gresham/Multnomah Co.	13
Team 4	Klamath Falls	1
Team 5	Linn/Benton	5
Team 7	Portland	0
Team 8	Southern Oregon	5

Team		Number of Incidents
Team 9	TVF&R	15
Team 10	Hermiston	11
Team 11	Astoria	4
Team 13	Salem	8
Team 14	Ontario	4
Team 15	Coos Bay	2
TOTAL		**73**

Substances Involved in Hazmat Team Responses

Of the 73 incidents responded to by a Regional Hazmat Emergency Response Team, a total of 38 different substances were involved.

Substance Name
Acetone
Anhydrous ammonia
Ammonia
Ammonium chloride
Capsine
Carbon monoxide
Caustic soda
Chlorine
Chlorine dioxide
Cobalt formate
Diesel
Diesel fuel
Diphenyl methane diisocyanate

Substance Name
Ethyl alcohol
Formic acid
Gasoline
Hydrochloric acid
Hydrofluoric acid
Hydrogen peroxide (35% solution)
Hydrogen (cryogenic liquid)
Liquefied natural gas
Liquid oxygen
LPG
Mercury
Motor fuel
Muriatic acid

Substance Name
Naphtha
Natural gas
Other
Paint thinner
Paint, latex
Pentane
Petroleum
Petroleum distillate
Phenol (solid)
Propane
White powder
Xylene

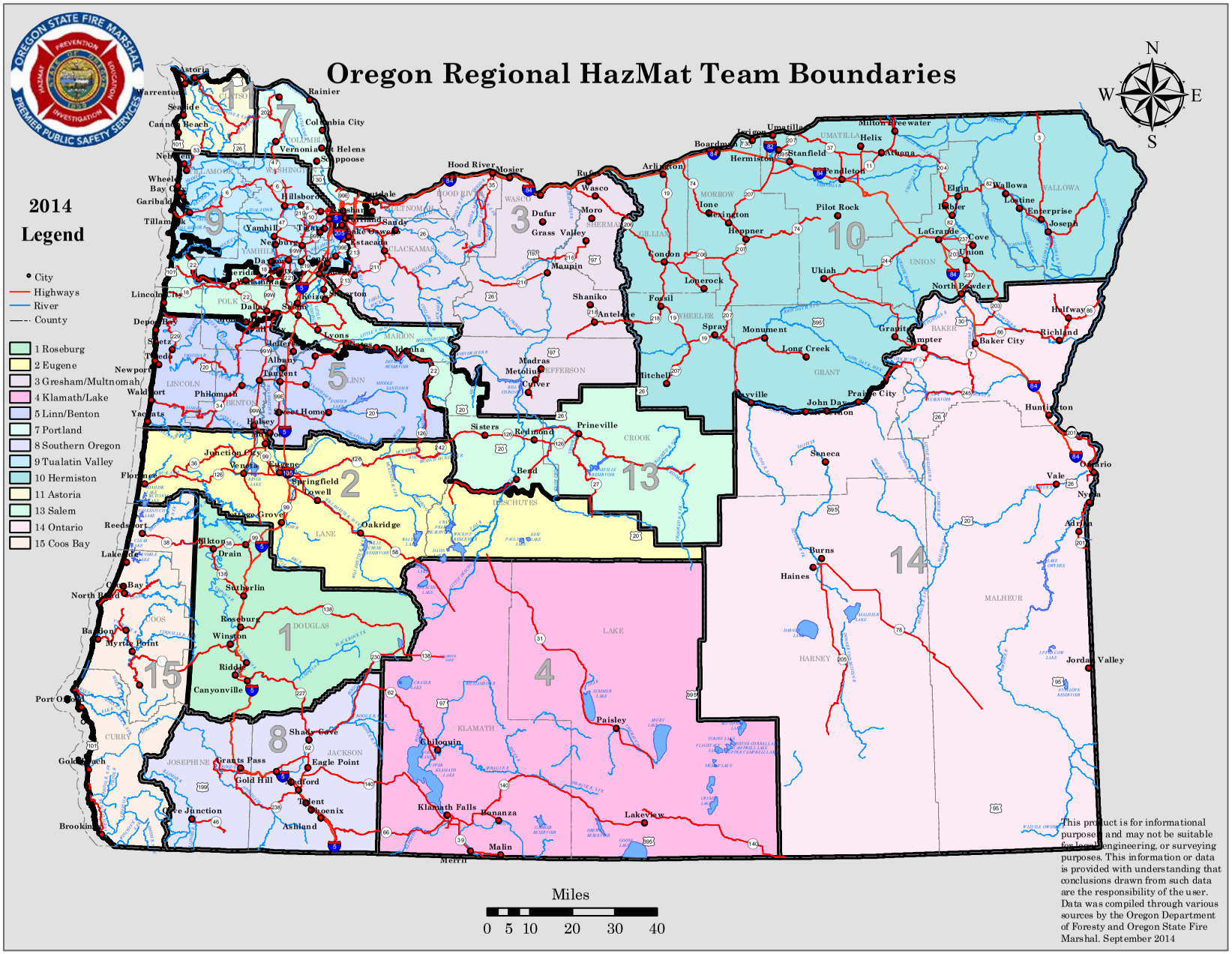
Oregon Regional Hazmat Team Responses

Outreach

In 2017, Oregon Regional Hazmat Emergency Response Teams conducted 40 outreach events and training sessions for 1,382 students across the state. Most training was conducted at local fire agencies within the response regions, and often included representatives from industries within the region. Outreach training conducted by the hazmat teams ensures local responders are prepared to respond quickly and safely, and assist the hazmat team in the event of a hazardous substance incident. The table below identifies the number of outreach events conducted by each team.

2017 Regional HazMat Outreach

Team #		Events	Student Counts
Team 1	Roseburg	6	327
Team 2	Eugene	3	63
Team 3	Gresham/Multnomah Co.	1	14
Team 4	Klamath Falls	0	0
Team 5	Linn/Benton	1	15
Team 7	Portland	7	128
Team 8	Southern Oregon	1	40
Team 9	TVF&R	1	20
Team 10	Hermiston	3	39
Team 11	Astoria	2	33
Team 13	Salem	2	35
Team 14	Ontario	2	39
Team 15	Coos Bay	11	629
TOTAL		**40**	**1,382**


Oregon Regional HazMat Team Boundaries
2014
Legend
City
Highways
River
County
1 Roseburg
2 Eugene
3 Gresham/Multnomah
4 Klamath/Lake
5 Linn/Benton
7 Portland
8 Southern Oregon
9 Tualatin Valley
10 Hermiston
11 Astoria
13 Salem
14 Ontario
15 Coos Bay
N
S
E
W
Miles
0 5 10 20 30 40
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This publication contains information about the activities and resources of Oregon's structural fire protection agencies in 2017. While this information is published primarily as a service to fire protection agencies, we hope it will be a useful resource for any agency or individual seeking information on Oregon's fire service.

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