

OREGON OFFICE OF STATE FIRE MARSHAL CR2K ANNUAL SUMMARY

2020





MISSION

To protect people, property, and the environment from fire and hazardous materials.

VISION

Premier Public Safety Services.

VALUES

Integrity

We believe in being honest, fair, and doing the right thing in everything we do.

Dedication

We are committed to performing our work the best we can in support of our mission, our customers, our stakeholders, the public, and each other.

Leadership

We are committed to be a leader in the Oregon fire service, to lead our organization, and lead ourselves as individuals in our day to day work.

Partnerships

We believe our success and the success of others depends on collaboration with our stakeholders.

Service to Others

We believe that serving others is a cornerstone of our mission, our day to day work and is all inclusive.

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. Report data is primarily submitted to the Office of State Fire Marshal (OSFM) by Oregon's structural fire agencies using the NFIRS format and standards.

Oregon ImageTrend Elite - Oregon's incident reporting system is a real-time web-based reporting system that is NFIRS compliant. Incident reports are required to be submitted to OSFM under ORS 476.210 and must be compliant with the current NFIRS reporting standard. Incident reports are submitted to OSFM from fire agencies in Oregon and are maintained in the OSFM fire data repositories. Data entered into ImageTrend software 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 vary from what is currently reported.

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 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 ImageTrend Reporting 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 2020 was taken on March 31, 2021, for the purpose of summarizing the information reported by first responders.

Data Quality - The source of data presented in this report is NFIRS reports submitted by Oregon's fire agencies. The fire agencies alone are responsible for the content of each report. OSFM is the custodian of these records only and do not alter the content in any way.



COMMUNITY RIGHT TO KNOW

Executive Summary

The Oregon Community Right to Know and Protection Act (ORS 453.307 to ORS 453.520) requires facilities that possess certain quantities of hazardous substances to submit an annual report to the Oregon Office of State Fire Marshal (OSFM), Community Right to Know (CR2K) program. This law also requires emergency responders to report to OSFM incidents involving the release, or threatened release, of hazardous substances.

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 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 (EHS) designated by the Environmental Protection Agency are reportable at the specific threshold planning quantity established for each substance. Radioactive substances that are not within 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 reports are frequently reviewed and validated. Types of validation include contacting facilities for clarification of submitted data, reviewing scheduled control queries, and conducting in-person and phone audits to confirm and assist with compliance. A hazardous substance information hotline and an electronic help desk are available to facilities for assistance with submitting their information.

The general public has access to all non-confidential information reported by facilities. They are also able to obtain information about hazardous substance incidents. Fire agencies, hazardous material response teams, law enforcement, emergency planners, health officials, and local and state agencies also have access to this information. The data helps these partners make informed decisions when taking steps to protect life, property, and the environment from a hazardous materials incident.

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 hazardous substance information collected by CR2K, please visit <https://www.oregon.gov/osp/programs/sfm/Pages/OSFM-Reports.aspx>, 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 top ten specific industry classifications with the most facilities that were required to report in 2020.

Top 10 Reported NAICS Codes 2020

Industry Description	Facilities
Wireless Telecommunications Carriers*	2,327
Other General Government Support	1,034
Electric Power Distribution	472
General Automotive Repair	348
Petroleum Bulk Stations and Terminals	347
Elementary and Secondary Schools	330
Wired Telecommunications Carriers	308
Automotive Parts and Accessories Stores	284
Gasoline Stations with Convenience Stores	245
Water Supply and Irrigation Systems	222

*except Satellite

Hazard Class Reporting Frequency

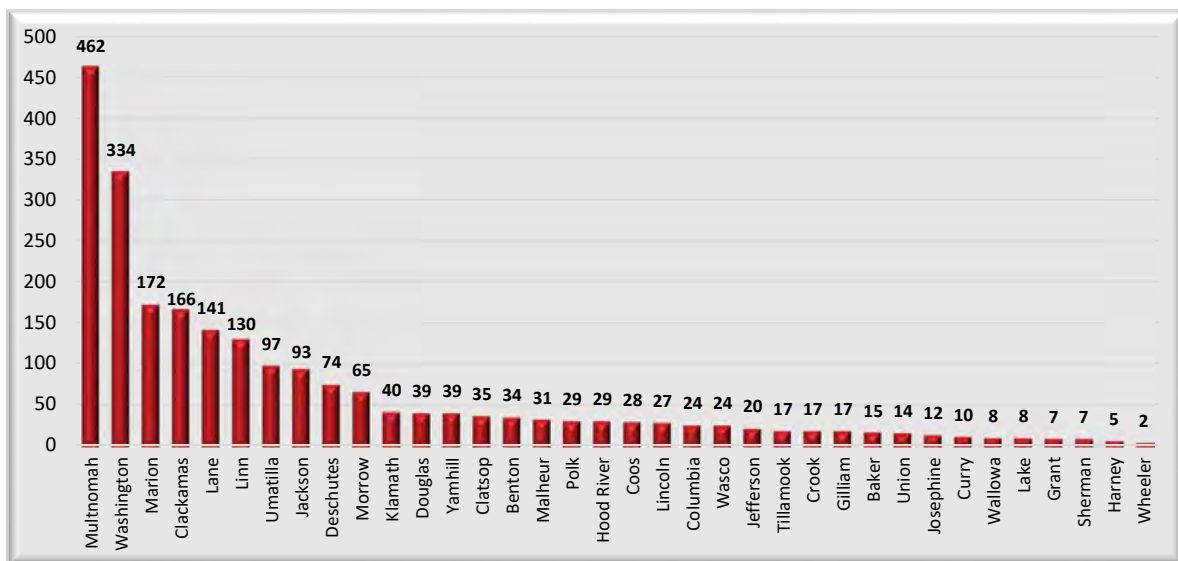
Facilities reporting substances to CR2K must also report the physical and health hazards associated with the substance. The hazards used for reporting are those adopted by the U.S. Environmental Protection Agency (EPA) from the Occupational Safety and Health Administration's (OSHA) Hazard Communication Standard (HCS) (29 CFR1910.1200). Several custom codes used only by the Oregon Community Right to Know program are also used. Facilities must identify all applicable hazards utilizing the substance's safety data sheet (SDS). Many substances have multiple hazards. This table shows how many times each hazard was reported for the 2020 reporting period.

Hazard	Times Reported
Serious Eye Damage or Eye Irritation	21,365
Skin corrosion or irritation	20,729
Flammable	13,770
Acute Toxicity	13,644
Respiratory or Skin Sensitization	12,493
Specific Target Organ Toxicity	9,923
Carcinogenicity	9,548
Gas under Pressure	9,342
Aspiration Hazard	6,848
Reproductive Toxicity	6,358
Corrosive to Metal	5,630
Explosive	5,518
Health - Hazard Not Otherwise Classified	4,816
Physical - Hazard Not Otherwise Classified	4,598
Simple Asphyxiant	3,983
Germ cell Mutagenicity	2,828
Oxidizer	2,328
Combustible Dust	1,230
Poisonous Material	1,167
Poisonous Gas	711
Fire Hazard	265
In contact with water emits flammable gas	253
Radioactive	250
Immediate Hazard	225
Delayed Hazard	194
Sudden Release of Pressure	117
Pyrophoric (Liquid or Solid)	111
Self-reactive	82
Pyrophoric Gas	78
Organic Peroxide	75
Infectious or Etiologic (Biological Hazard)	69
Reactive	60
Self-heating	58

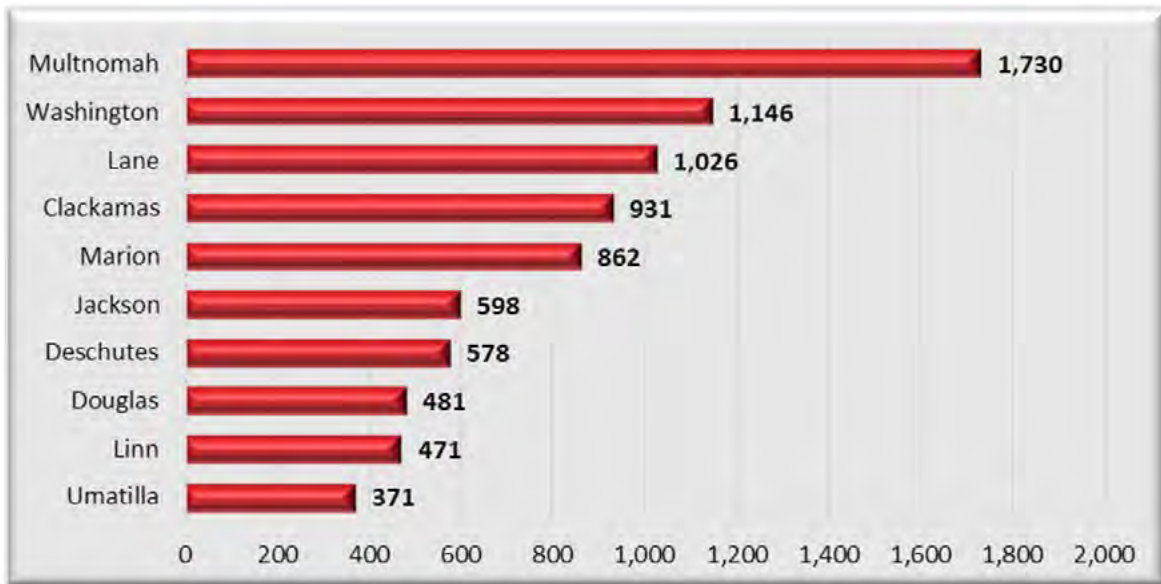
The following chart shows the number of facilities in each county that are reporting an extremely hazardous substance (EHS) at or above the Threshold Planning Quantity.

County	Number of Facilities Reporting	County	Number of Facilities Reporting
Multnomah	462	Coos	28
Washington	334	Lincoln	27
Marion	172	Columbia	24
Clackamas	166	Wasco	24
Lane	141	Jefferson	20
Linn	130	Tillamook	17
Umatilla	97	Crook	17
Jackson	93	Gilliam	17
Deschutes	74	Baker	15
Morrow	65	Union	14
Klamath	40	Josephine	12
Douglas	39	Curry	10
Yamhill	39	Wallowa	8
Clatsop	35	Lake	8
Benton	34	Grant	7
Malheur	31	Sherman	7
Polk	29	Harney	5
Hood River	29	Wheeler	2

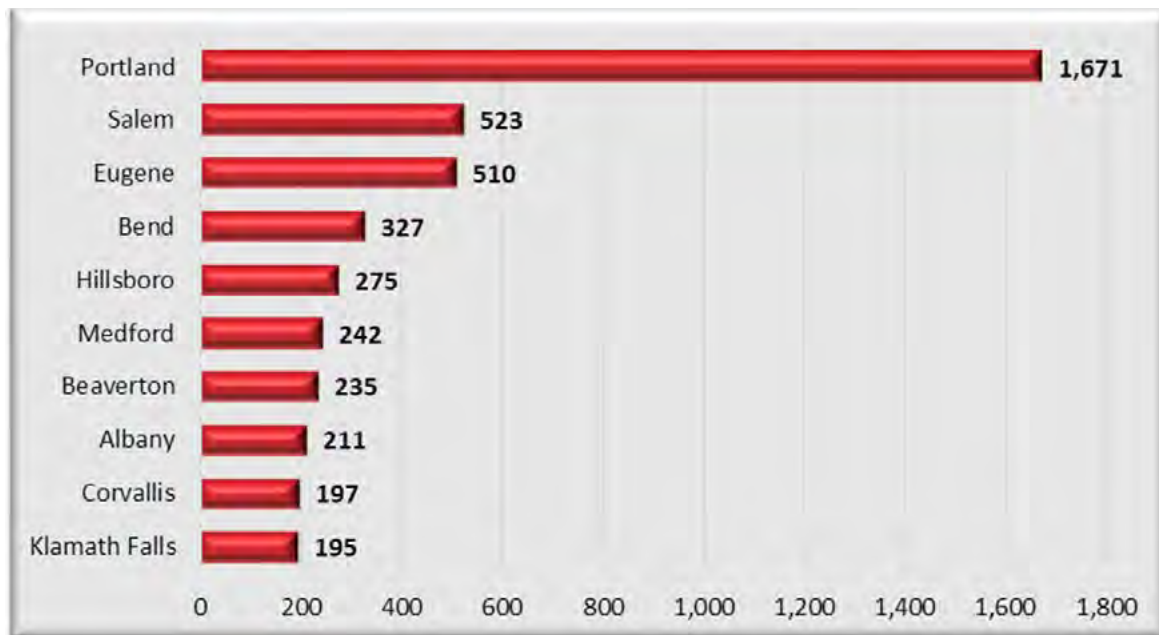
**Facilities Reporting an Extremely Hazardous Substance (EHS)
at the Threshold Planning Quantity (TPQ) by County**



Top Ten Counties with the Most Facilities Reporting

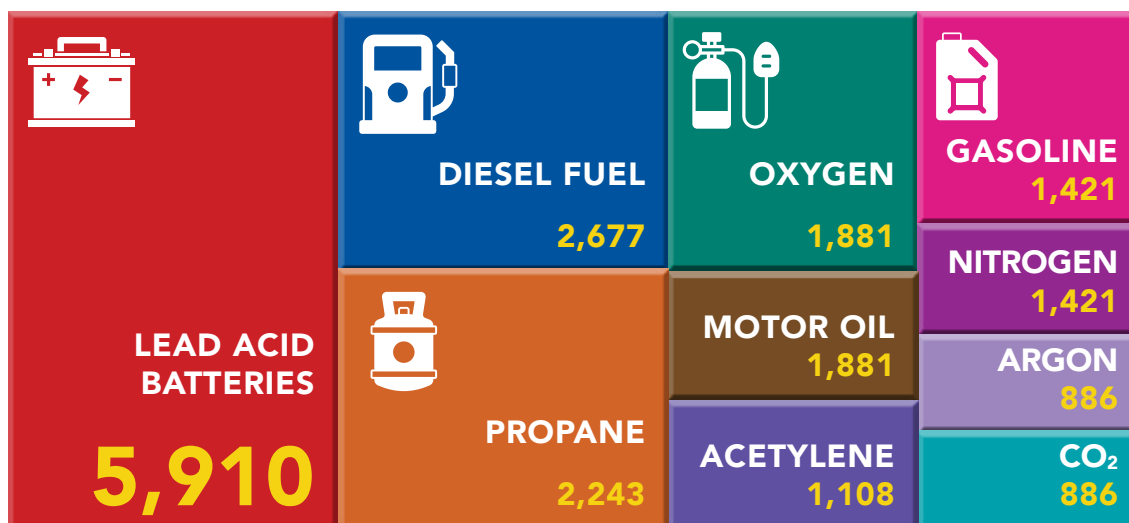


Top Ten Cities with the Most Facilities Reporting

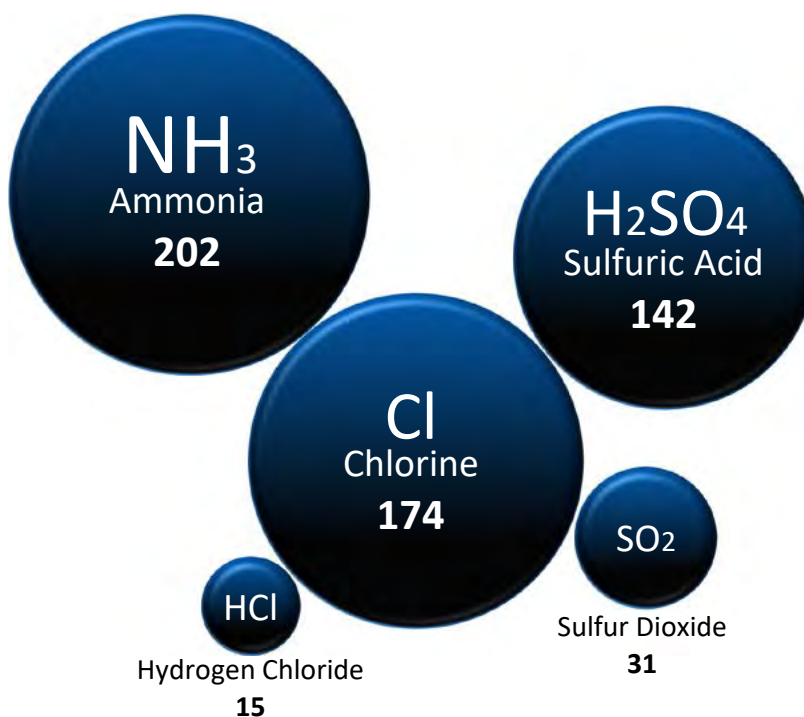


Substances Reported

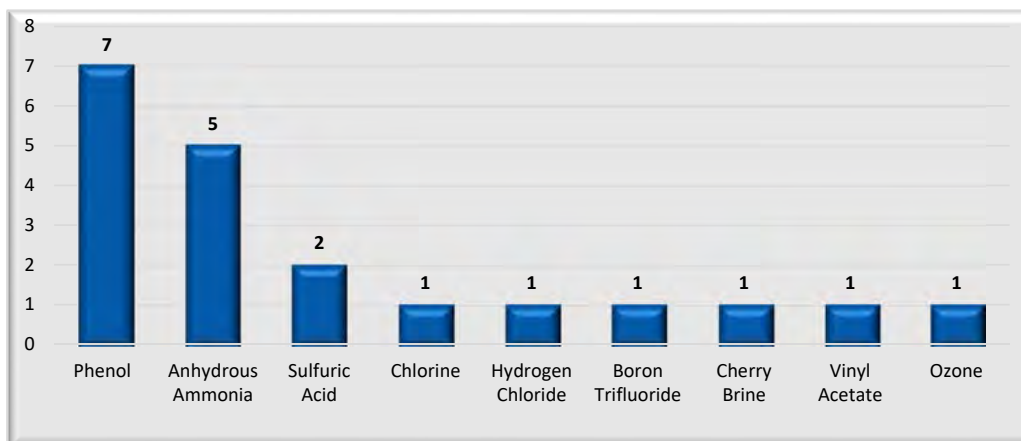
Top Ten Most Frequently Reported Substances



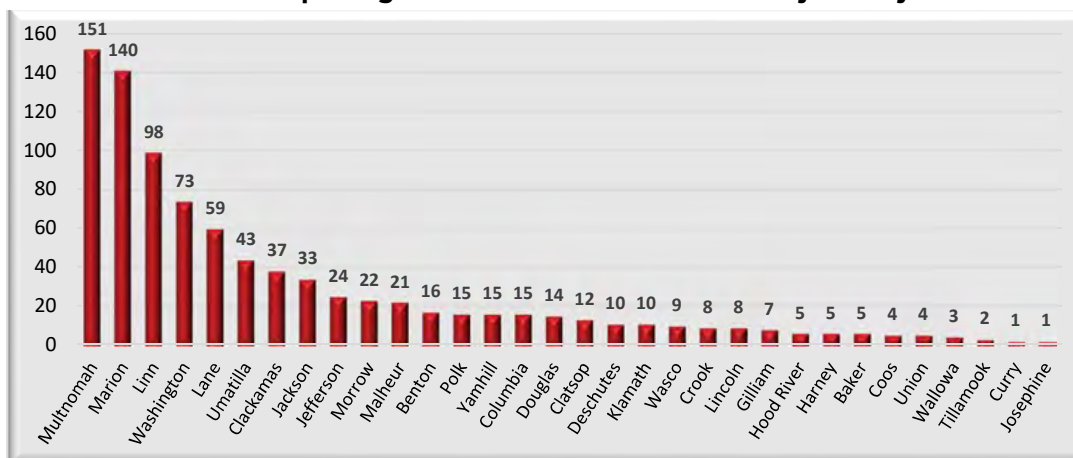
Top Five Most Frequently Reported Pure Extremely Hazardous Substances (EHS)



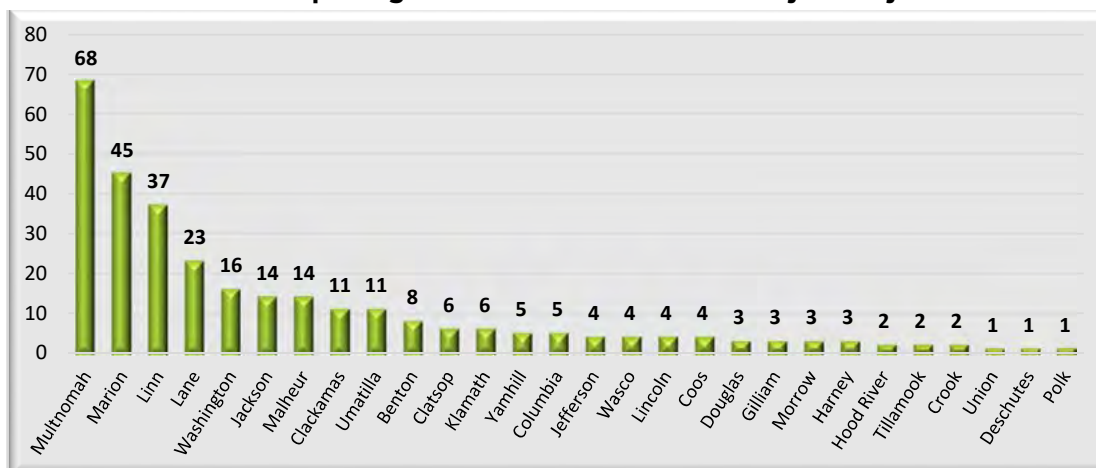
Pure Extremely Hazardous Substances (EHS) Reported over 100k Units



Facilities Reporting Substances over 250k Units – by County



Facilities Reporting Substances over 1M Units – by County



The chart below shows the substances that were reported in quantities exceeding 1 million pounds, gallons, or cubic feet, and the number of times each was reported.

Facility count is based upon the chemical name as reported by the facility. The chart may contain duplicates because of the use of a different name for the same substance.

Chemical Name	Count	Chemical Name	Count
Gasoline	10	Jet A Fuel	2
Fertilizer Urea	9	Jin-032C3	2
Lead Acid Batteries	9	Lead Acid Batteries-Dry	2
Diesel	6	Limestone	2
Fertilizer Muriate Of Potash	6	Melamine	2
Portland Cement	6	Natural Gas	2
Wood Dust	6	Paper Products	2
Fertilizer 46-0-0	5	Pf Wash Water	2
Alcohol Denatured Fuel Grade	4	Steel Alloys	2
Fertilizer 0-0-60 Potash	4	Titanium Base Alloys (Solids)	2
Sand	4	Titanium Ingots	2
Asphalt Liquid	3	Urea Solid	2
Brown Sugar (Light And Dark)	3	White Liquor	2
Diesel Fuel	3	Wood Chips And Dust	2
Fertilizer Ammonium Sulfate	3	3M Brand Roofing Granules	1
Peat Moss	3	Aluminum Alloy	1
Sugar	3	Ammonium Sulfate Fertilizer	1
Ammonium Sulfate 21-0-0 Plus 24(S)	2	Asphalt Cement	1
Asphalt	2	Asphalt Crack Filler	1
Biodiesel B5	2	Aviation Gasoline	1
Black Liquor Georgia-Pacific	2	Bakken Crude Oil	1
Denatured Ethanol	2	Biodiesel	1
Diesel Fuel 2	2	Biodiesel 2	1
Diesel Fuel 2 Low Sulfur	2	Biodiesel B100	1
Dolomite	2	Bnz Aggregates	1
Ethanol	2	Cellulose Fiber	1
Fertilizer 0-0-21 K-Mag	2	Cement	1
Fertilizer 16-20-0-13	2	Coke	1
Fertilizer Un-32/Ns-1	2	Compressed Natural Gas	1
Fly Ash Class C	2	Crude Oil	1
Granular Trio	2	Diatomaceous Earth	1
Green Liquor	2	Diesel 2	1
Hydrogen 5.7%/Nitrogen 94-99%	2	Diesel Fuel #2 Low Sulfur On-Road	1

Chemical Name	Count
Diesel Fuel 2 Ultra Low Sulfur	1
Diesel Fuel With 5% Biodiesel	1
Diesel Oil	1
Distillate (304205/304206)	1
Dolomite Lime	1
Duration	1
Fertilizer 11-52-0 Ssp	1
Fertilizer 11-52-0 Wilco	1
Fertilizer 12-40-0 Forty Rock	1
Fertilizer 12-40-0-10S Me Sz	1
Fertilizer 16-20-0	1
Fertilizer 20-0-0-24	1
Fertilizer 21-0-0-24	1
Fertilizer Scu Koch Agronomic	1
Fertilizer Uran 32-0-0	1
Fertilizer Urea 46-0-0	1
Flour	1
Fly Ash	1
Foul Condensate	1
Garden Blend	1
Garden Compost	1
Grain Dust	1
Graphite	1
Green Waste	1
High Density Polyethylene	1
High Iron-Iron Sand	1
Hv 13	1
Icekicker High Performance Road Salt	1
Kingsford Charcoal Briquets	1
Kingsford Matchlight Briquets	1
Kmg-B Penta Block	1
Lime Sludge	1
Lime-Calcium Carbonate	1
Limestone Pelletized	1
Liquor Black Weak	1

Chemical Name	Count
Liquor Green	1
Liquor White	1
Lpe Pf Wash Water	1
Magnesium Chloride	1
Medium Density Fiberboard	1
Monoammonium Phosphate Fertilizer	1
Moss Out Granular	1
Motor Oil	1
Nickel Base Alloy Electralloy	1
Organic Base Blend	1
Polyethylene Pellets	1
Potash	1
Potting Soil With Fertilizer	1
Pvc Suspension Resin	1
Quicklime	1
Salt	1
Scrap Metal - Recycle	1
Scrap Metal-Recycle Titanium-Pcc	1
Sodium Chlorate Crystals	1
Sulfate Of Potash	1
Tesoro Low/Ultra Low Sulfur Diesel	1
Ti 6-4 Aero	1
Titanium Alloy Ati	1
Transmix	1
Urea Ammonium Nitrate Solution	1
Used Oil	1
Wastewater Tmt Sludge	1
Weakwash	1
Wheat Flour	1
Zirconium Base Alloys	1

Hazardous Substance Incidents

INCIDENT COUNTS

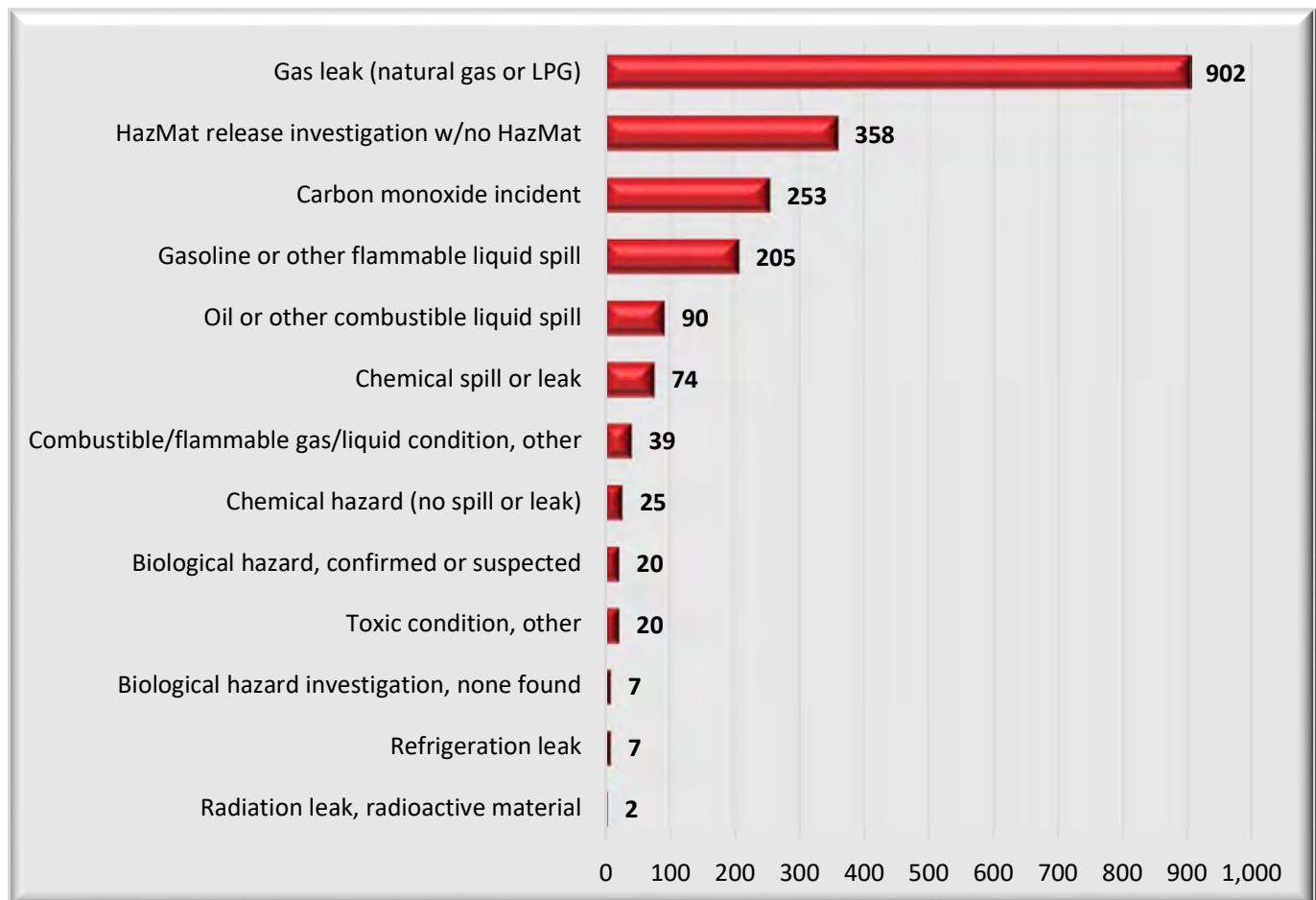
Under the Oregon Community Right to Know and Protection Act, those who responded to an incident involving hazardous substances must report information about the incident to OSFM. OSFM currently provides responders with an online incident reporting system.

Fire agencies and OSFM Hazmat teams reported 2,002 hazardous substance incidents in 2020. **These incidents resulted in no deaths or injuries to civilians or fire service personnel.**

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, sending an e-mail to sfmcr2k@state.or.us, or from our website at: <https://www.oregon.gov/osp/programs/sfm/Pages/OSFM-Reports.aspx>.

Incident reporters categorize Hazmat incidents into one of several categories. These categories describe the general types of responses to incidents.

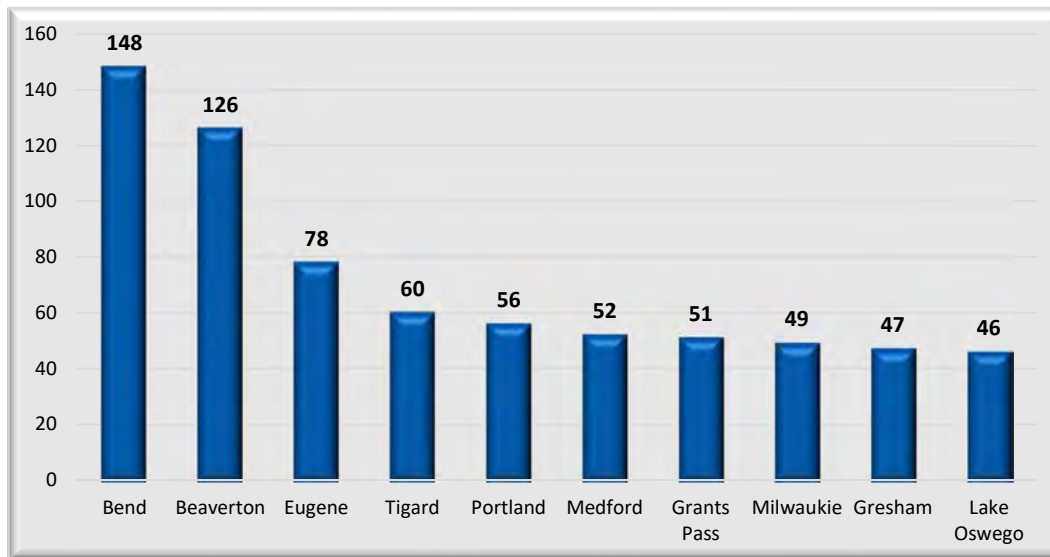
2020 Hazardous Substance Incident Types



OSFM Analytics & Intelligence Unit, 2021, NFIRS_Hazmat_FireAgencies_2020 Data Set, Fire Incidents (Fire agency submitted NFIRS reports)

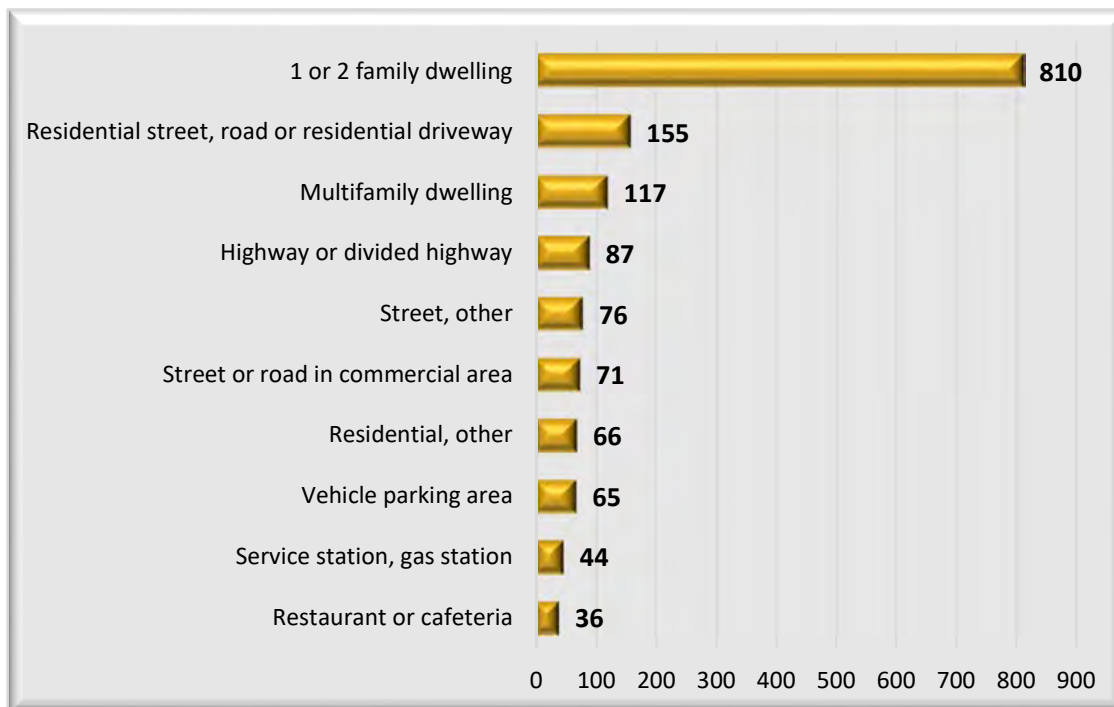
The cities listed in this graph are based upon the zip code of the address for which the incident occurred and may not necessarily be within the city limits.

Top Ten Cities with the Most Reported Hazardous Substance Incidents



This chart shows only incident counts and does not reflect the severity of the incidents.

Types of Property Uses Where Hazardous Substance Incidents Occurred



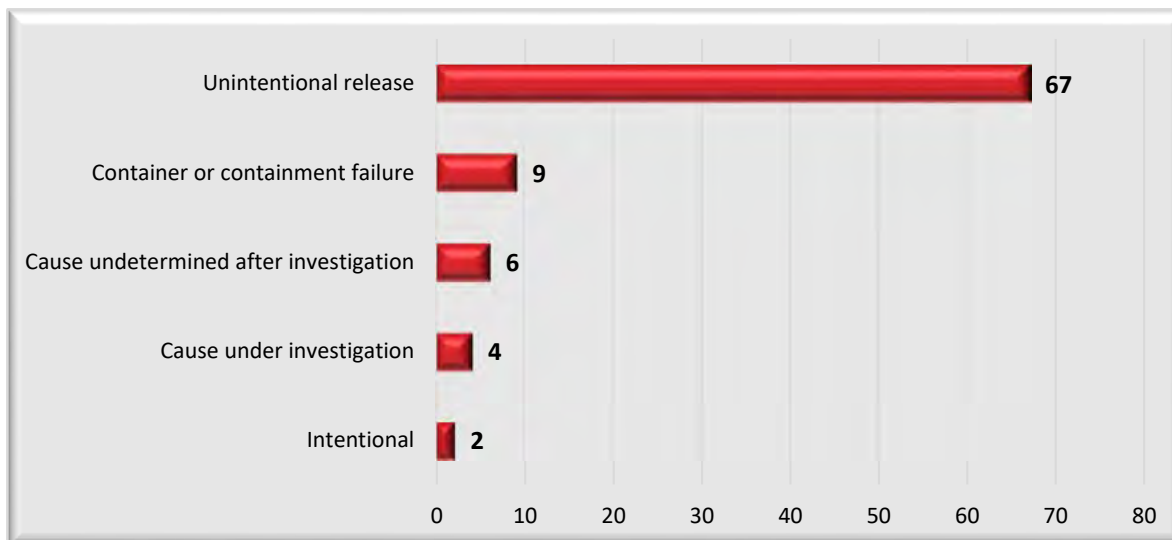
The hazard classes of substances involved were not always clearly stated in responder reports. Out of the 2,002 incidents, only 38 are identifiable by hazard class.

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

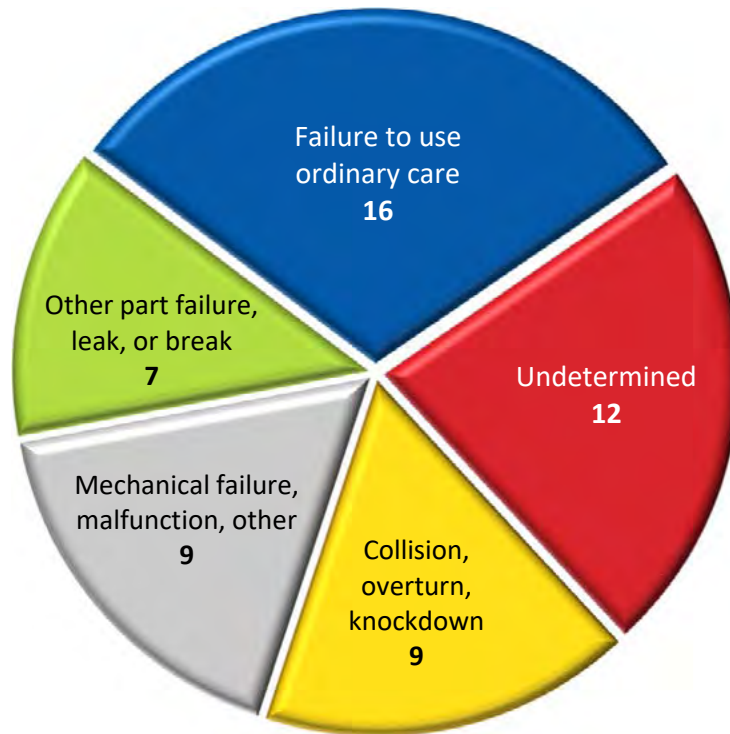


Several options are given for causes of a hazardous substance incident. Not all reports list the cause of an incident. This chart represents the 88 incidents for which a definitive cause was determined.

Causes of Hazardous Substance Incidents



Factors Contributing to Hazardous Substance Incidents



Hazardous Substance Incident Related Evacuation Summary

Number of
evacuation
incidents

10



Total number
of buildings
evacuated

19



Total number
of people
evacuated

81



REGIONAL HAZMAT TEAM

Oregon Regional Hazmat Team Responses

Oregon's 13 Regional Hazmat Emergency Response Teams responded to 43 incidents in 2020. The following table shows the number of responses for each team. A map of the Regional Hazmat Emergency Response Team boundaries appears on the following page.

Team		Number of Incidents	Team		Number of Incidents
Team 1	Roseburg	3	Team 9	Tualatin Valley	11
Team 2	Eugene	2	Team 10	Hermiston	4
Team 3	Gresham/Multnomah	4	Team 11	Astoria	0
Team 4	Klamath/Lake	2	Team 13	Salem	4
Team 5	Linn/Benton	4	Team 14	Ontario	1
Team 7	Portland	1	Team 15	Coos Bay	2
Team 8	Southern Oregon	5	Total		43

Of the 43 incidents responded to by a Regional Hazmat Emergency Response Team, a total of 30 different substances were involved.

Substance Name	Substance Name	Substance Name
Acetone	Formaldehyde(solution)	Petroleum
Ammonia	Fuming sulfuric acid	Petroleum distillate
Ammonia solution	Gasoline	Potassium hydroxide solution
Ammonium bromide	Hydrogen cyanide	Propane
Benzene	Lactic acid	Sodium hydroxide(solution)
Bleach	Lye	Sodium hypochlorite solution
Carbon dioxide	MEK	Toluene
Carbon monoxide	Muriatic acid	Trifluoroethane
Diesel fuel	Nitrogen liquid	White Powder
Difluoroethane	Paint, oil base	Xylene

Oregon's Regional Hazmat Emergency Response Teams conducted several outreach events and training sessions. Most training was conducted at local fire agencies within the response regions, and often included representatives from industries within the region. Outreach training ensures local responders are prepared to act quickly and safely and assist the responding RHMERT in the event of a hazardous substance incident.



EVENTS

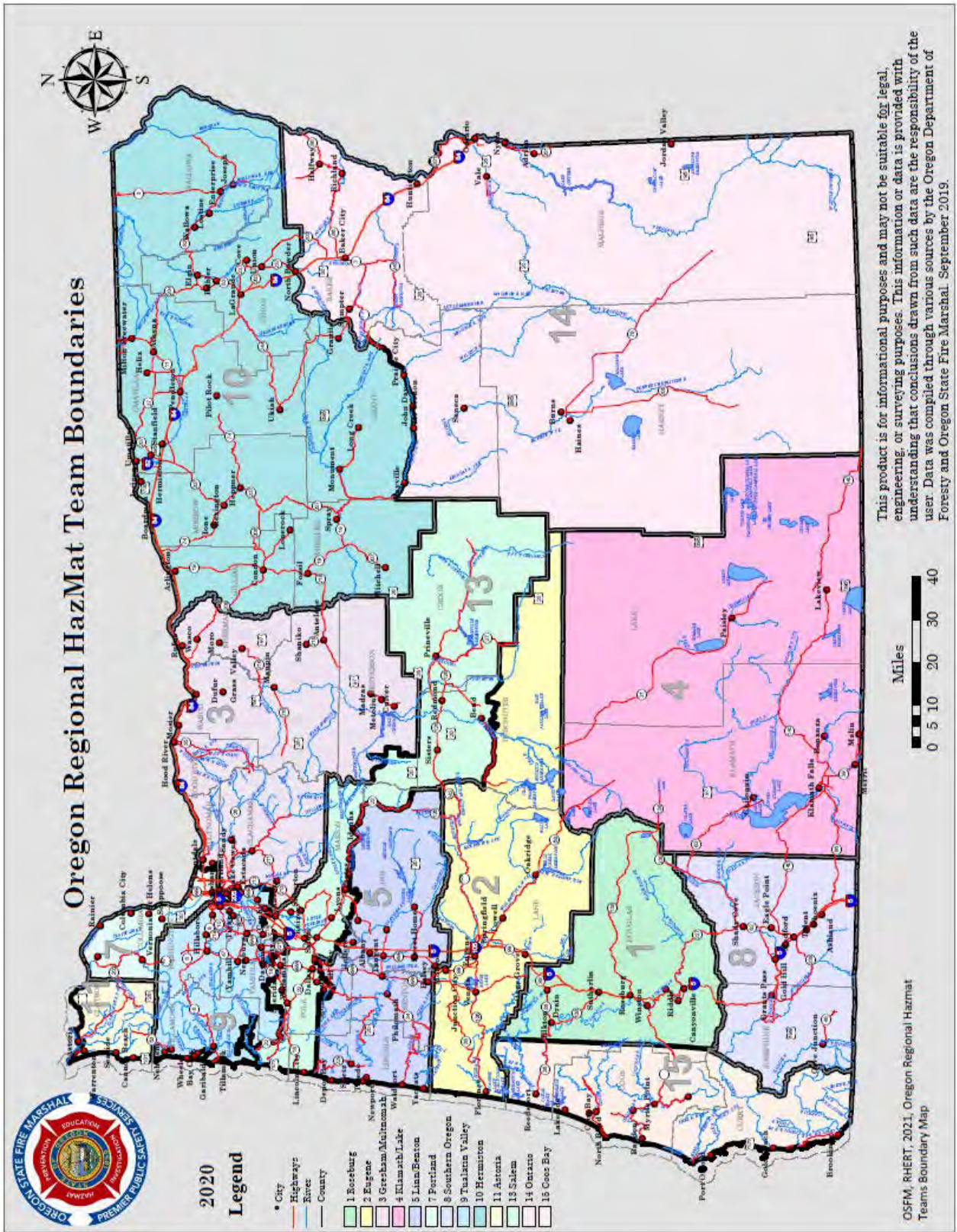
17



ATTENDEES

331

Oregon Regional Hazmat Team Boundary Map



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This publication contains information about the activities and resources of Oregon's structural fire protection agencies in 2020. While this information is published primarily as a service to fire protection agencies, the hope is that any agency or individual seeking information on Oregon's fire service, will find it useful.




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