



OREGON OFFICE OF STATE FIRE MARSHAL 2021 CR2K Annual Summary

December 2022



MISSION

Protect people, property, and the environment from fire and hazardous materials.

VISION

Provide 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 the 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, and 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 the fire agencies in Oregon and are maintained in the OSFM fire data repositories. Data entered into ImageTrend software by local fire agencies can be updated at any time as additional information becomes available. Data that was not reported in previous years may also be entered at any time. These variables may cause fire data 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 OSFM and meets or exceeds certain requirements of the federal Emergency Planning and Community Right to Know Act. The law requires 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 through the Hazardous Substance Information Survey.

Hazardous Substance Incidents – Incidents involving hazardous substances are required to be reported to OSFM under ORS 453.342. ImageTrend Elite is the online database that OSFM makes available to fire agencies to enter hazardous substance incidents. A snapshot of the hazardous substance incidents that occurred in 2021 was taken on March 31, 2022, for the purpose of summarizing the information reported by first responders.

Data Quality & Source - The data in this report is retrieved and compiled from OSFM’s NFIRS database of 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 does 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 employers in Oregon that possess certain quantities of hazardous substances to submit an annual report to the Oregon State Fire Marshal's Office, 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 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 quality 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>, or e-mail sfm.cr2k@osp.oregon.gov.

HAZARDOUS SUBSTANCE STORAGE – FACILITIES REPORTING

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

This table lists the top ten specific industry classifications with the most facilities that were required to report in 2021.

Industry Description	NAICS Code	Count
Wireless Telecommunications Carriers (except satellite)	517112	2,793
Other General Government Support	921190	815
Electric Power Distribution	221122	472
Petroleum Bulk Stations and Terminals	424710	373
General Automotive Repair	811111	302
Wired Telecommunications Carriers	517111	293
Elementary and Secondary Schools	611110	274
Automotive Parts and Accessories Stores	441330	266
Gasoline Stations with Convenience Stores	457110	231
Water Supply and Irrigation Systems	221310	217



The North American Industry Classification System (NAICS) is the standard used by federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy.

HAZARDOUS SUBSTANCE STORAGE – HAZARD CLASS REPORTING FREQUENCY

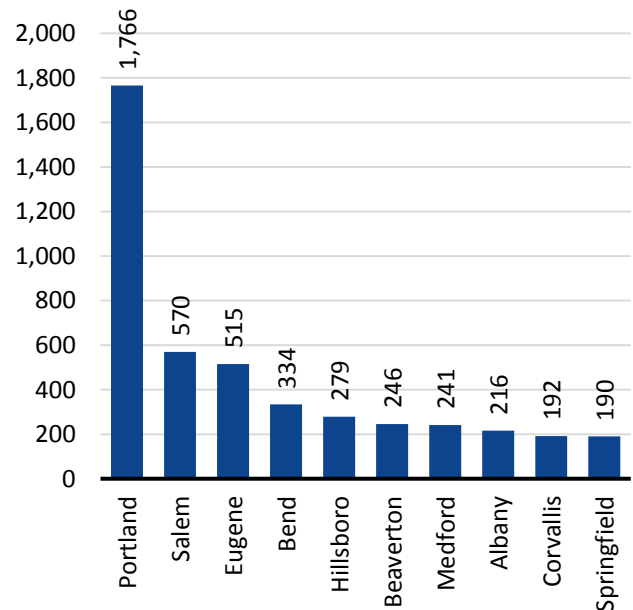
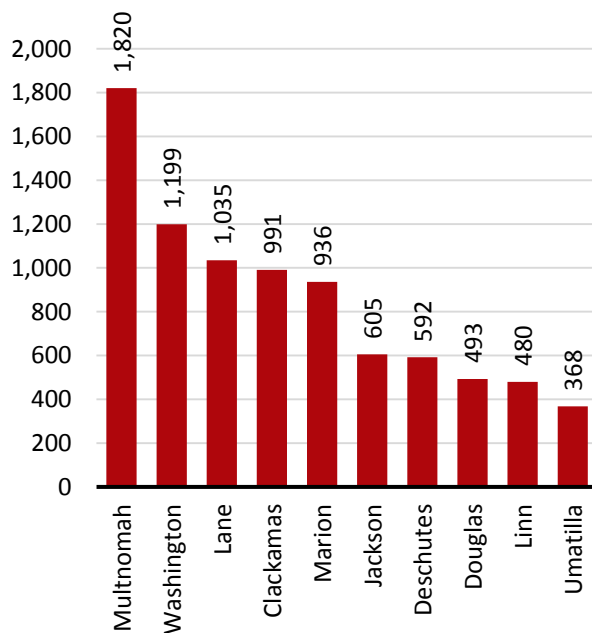
Facilities reporting substances to CR2K must also report the physical and health hazards associated with the substance. The hazards used for reporting are those adopted by the U.S. Environmental Protection Agency (EPA) from the Occupational Safety and Health Administration's (OSHA) Hazard Communication Standard (HCS) (29 CFR 1910.1200). 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 2021 reporting period.

Hazard	Times Reported
Serious Eye Damage or Eye Irritation	22,442
Skin corrosion or irritation	21,635
Acute Toxicity	14,484
Flammable	13,489
Respiratory or Skin Sensitization	13,219
Specific Target Organ Toxicity	10,726
Carcinogenicity	10,305
Gas under Pressure	9,246
Reproductive Toxicity	7,135
Aspiration Hazard	7,040
Corrosive to Metal	6,319
Explosive	6,150
Health - Hazard Not Otherwise Classified	4,724
Physical - Hazard Not Otherwise Classified	4,551
Simple Asphyxiant	4,022
Germ cell Mutagenicity	2,902
Oxidizer	2,296
Combustible Dust	1,308
Poisonous Material	1,094
Poisonous Gas	669
In contact with water emits flammable gas	249
Radioactive	245
Fire Hazard	224
Immediate Hazard	209
Delayed Hazard	180
Pyrophoric (Liquid or Solid)	98
Sudden Release of Pressure	91
Self-reactive	78
Organic Peroxide	72
Pyrophoric Gas	72
Infectious or Etiologic (biological hazard)	67
Self-heating	55
Reactive	52

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	596	Hood River	28
Washington	400	Columbia	27
Marion	243	Wasco	26
Clackamas	226	Crook	25
Lane	184	Jefferson	25
Linn	146	Malheur	25
Umatilla	117	Gilliam	23
Jackson	116	Josephine	22
Deschutes	107	Tillamook	19
Morrow	69	Union	19
Yamhill	57	Baker	14
Douglas	55	Curry	11
Clatsop	49	Lake	9
Benton	47	Sherman	9
Klamath	45	Wallowa	9
Polk	41	Grant	6
Lincoln	38	Harney	6
Coos	30	Wheeler	3

The charts below show the top ten counties and cities with the most facilities reporting.



SUBSTANCES REPORTED

The ten most frequently reported substances in 2021 based upon the number of times reported.



Lead acid
batteries
5,996



Diesel fuel
2,606



Propane
2,227



Oxygen
1,791



Gasoline
1,487



Acetylene
1,086

N

Nitrogen
1,031



Motor oil
1,002

Ar

Argon
892

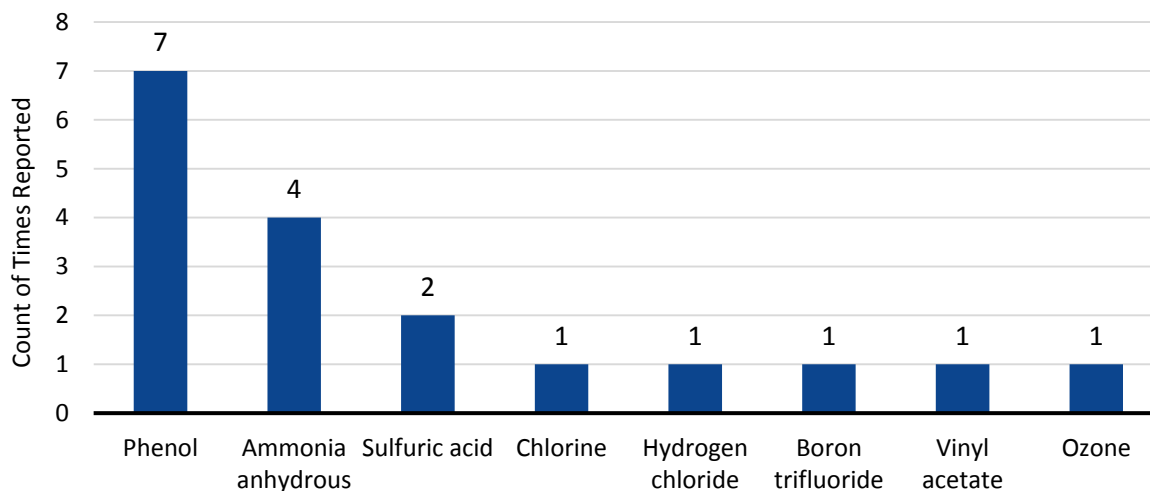
CO₂

Carbon dioxide
487

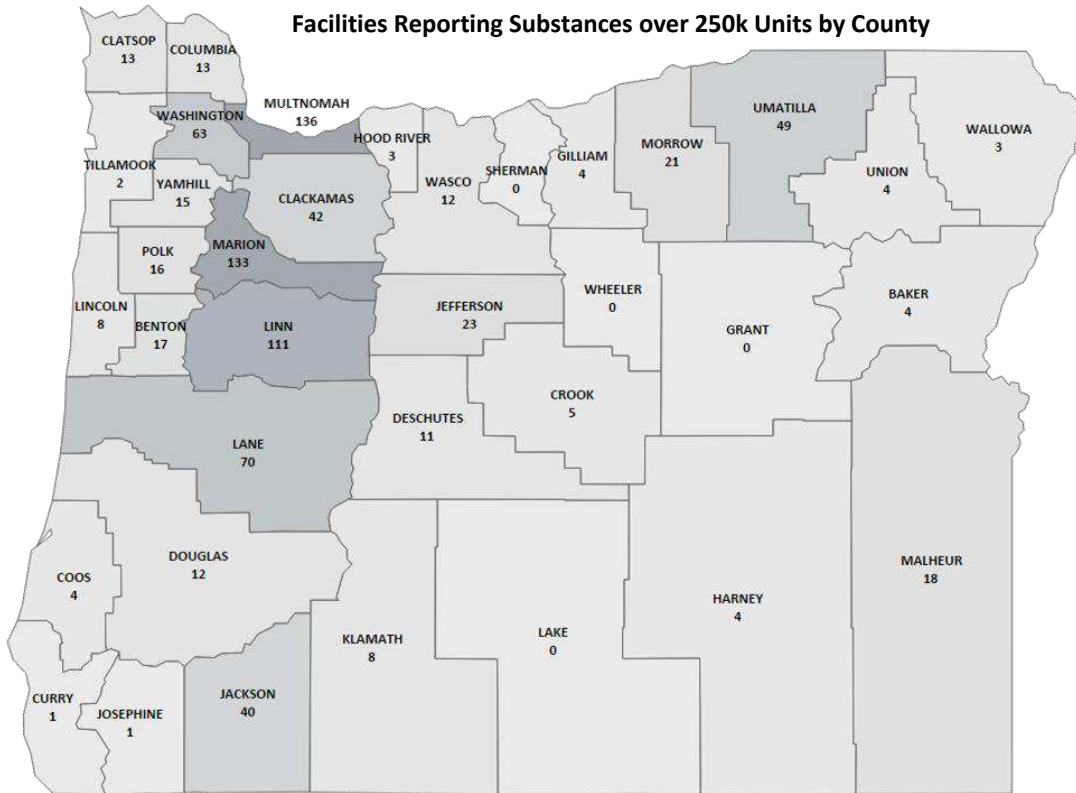
The five most frequently reported pure extremely hazardous substances (EHS) in 2021 based on the number of times reported



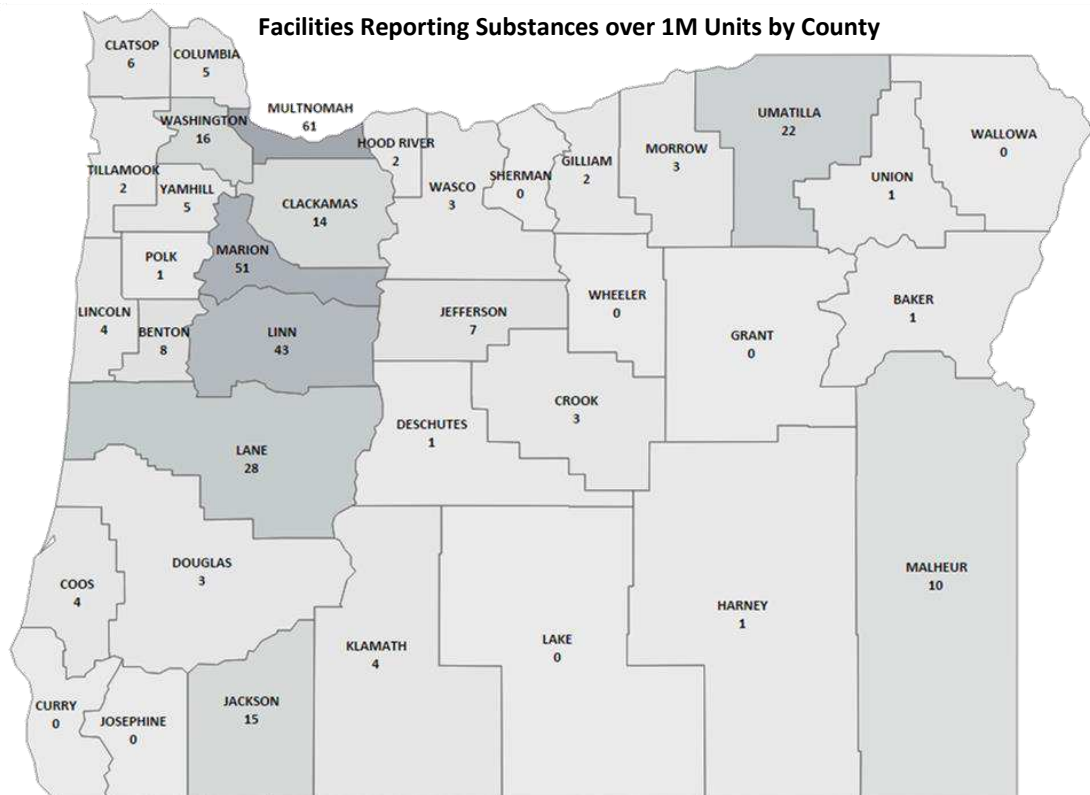
Pure extremely hazardous substances (EHS) reported over 100k units.



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 one million pounds, gallons, or cubic feet along with the number of times each was reported. Facility counts are 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
LEAD ACID BATTERIES	11	LPE PF WASH WATER HEXION INC	2
GASOLINE	10	NATURAL GAS	2
FERTILIZER 46-0-0	9	PAPER PRODUCTS	2
FERTILIZER UREA	9	PVC SUSPENSION RESIN	2
WOOD DUST	7	SOY SAUCE	2
DIESEL	6	STEEL ALLOYS	2
FERTILIZER 11-52-0	6	SUGAR	2
FERTILIZER 21-0-0 AMMONIUM SULFATE	6	TITANIUM BASE ALLOYS (SOLIDS)	2
FERTILIZER MURIATE OF POTASH	6	TITANIUM INGOTS	2
PORTLAND CEMENT	5	UREA SOLID	2
FERTILIZER 0-0-60 POTASH	4	WHITE LIQUOR	2
ALCOHOL DENATURED FUEL GRADE (NCP)	3	3M BRAND ROOFING GRANULES	1
ASPHALT LIQUID	3	6-4 TI WELDING WIRE AND ROD	1
DENATURED ETHANOL	3	AGED BARK MULCH	1
DIESEL FUEL	3	ALUMINUM ALLOY	1
FERTILIZER 20-0-0-24 AMMONIUM SULFATE	3	AMMONIUM SULFATE FERTILIZER	1
GRANULAR TRIO	3	ASPHALT CEMENT	1
PEAT MOSS	3	ASPHALT CRACK FILLER	1
PF WASH WATER HEXION INC	3	AVIATION GASOLINE	1
SAND	3	BAKKEN CRUDE OIL	1
AMMONIA 5%/NITROGEN 95%	2	BARIMITE	1
ASPHALT	2	BARLEY PRODUCTS	1
BIODIESEL B5	2	BIODIESEL	1
BLACK LIQUOR GEORGIA-PACIFIC	2	BIODIESEL B100	1
DIESEL FUEL 2 LOW SULFUR	2	BLACK LIQUOR	1
DISTILLATE (304205/304206)	2	BNZ AGGREGATES	1
DOLOMITE	2	BROWN SUGAR (LIGHT AND DARK)	1
FERTILIZER 0-0-60 MURIATE OF POTASH	2	CEMENT	1
FERTILIZER 0-0-62 MURIATE OF POTASH	2	CHERRY BRINE	1
FERTILIZER 11-52-0 WILCO	2	COMPRESSED NATURAL GAS	1
FERTILIZER 16-20-0	2	CRUDE OIL	1
FERTILIZER 21-0-0 +(S) AMMONIUM SULFATE	2	DIATOMACEOUS EARTH	1
FERTILIZER AMMONIUM SULFATE	2	DIESEL 2	1
FERTILIZER MURIATE OF POTASH MOSAIC	2	DIESEL BIO BLEND NO 2	1
FERTILIZER UREA 46-0-0	2	DIESEL FUEL #2 LOW SULFUR ON-ROAD	1
GREEN LIQUOR (KRAFT PROCESS)	2	DIESEL FUEL 2	1
GROUND LIMESTONE	2	DIESEL FUEL 2 ULTRA LOW SULFUR	1
JET A FUEL	2	DIESEL FUEL WITH 5% BIODIESEL	1
LEAD ACID BATTERIES-DRY	2	DIESEL OIL	1

Continued from previous page.

Chemical Name	Count	Chemical Name	Count
ETHANOL	1	LIMESTONE AGGREGATE, AG LIME; CAL. CARB.	1
FERTILIZER 0-0-21 K-MAG	1	LIMESTONE PELLETIZED	1
FERTILIZER 0-45-0 TRIPLE SUPERPHOSPHATE	1	LIQUOR WHITE	1
FERTILIZER 11-52-0 SSP	1	LITHIUM ION BATTERIES	1
FERTILIZER 12-40-0 FORTY ROCK	1	MAGNESIUM CHLORIDE	1
FERTILIZER 16-16-16 WILCO	1	MEDIUM DENSITY FIBERBOARD	1
FERTILIZER 16-20-0	1	MICROTHENE MP635962X01, 1000BOX	1
FERTILIZER 16-20-0 AMMONIUM PHOSP. SULF.	1	MONOAMMONIUM PHOSPHATE FERTILIZER	1
FERTILIZER 20.5-0-0 SULFATE PLUS	1	MOTOR OIL	1
FERTILIZER 21-0-0-24	1	NICKEL BASE ALLOY ELECTRALLOY	1
FERTILIZER 32-0-0 SOLUTION	1	NITROUS OXIDE	1
FERTILIZER 43-0-0, 44-0-0, 39-0-0, 40-0-0	1	ORGANIC BASE BLEND	1
FERTILIZER AMIDAS	1	POTASH	1
FERTILIZER MICROESSENTIALS SZ	1	QUICKLIME	1
FERTILIZER POTASSIUM CHLORIDE	1	SCRAP METAL - RECYCLE	1
FERTILIZER SCU (ALL GRADES)	1	SCRAP METAL STEEL	1
FERTILIZER SEQUENTIAL POT. SULF.	1	SCRAP METAL-RECYCLE TITANIUM-PCC	1
FERTILIZER UN-32/NS-1	1	SILICA SAND	1
FERTILIZER URAN 32-0-0	1	SODIUM CHLORATE CRYSTAL	1
FERTILIZER UREA - AMMONIUM NIT. SOL.	1	SOYBEAN MEAL	1
FLY ASH	1	SPECTRAZURINE BLUE FGND	1
FLY ASH CLASS C	1	SULFATE OF POTASH	1
FOUL CONDENSATE	1	DIESEL LOW/ULTRA LOW SULFUR (LSD)	1
GARDEN BLEND	1	TITANIUM ALLOY ATI	1
GARDEN COMPOST	1	TITANIUM SPONGE	1
GRAIN DUST	1	TRANSMIX	1
GRAPHITE	1	UFALA	1
GREEN LIQUOR	1	USED OIL	1
GREEN WASTE	1	WASTEWATER TMT SLUDGE	1
HIGH DENSITY POLYETHYLENE	1	WEAKWASH	1
HIGH IRON (FE) IRON SAND	1		
HV 13	1		
HYDROGEN 5.71-99%/NITROGEN 1-94.29%	1		
ROAD SALT	1		
INSTANT CHARCOAL BRIQUETS	1		
CHARCOAL BRIQUETS	1		
KMG-B PENTA BLOCK	1		
LAWN GRANULES	1		
LIMESTONE	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.

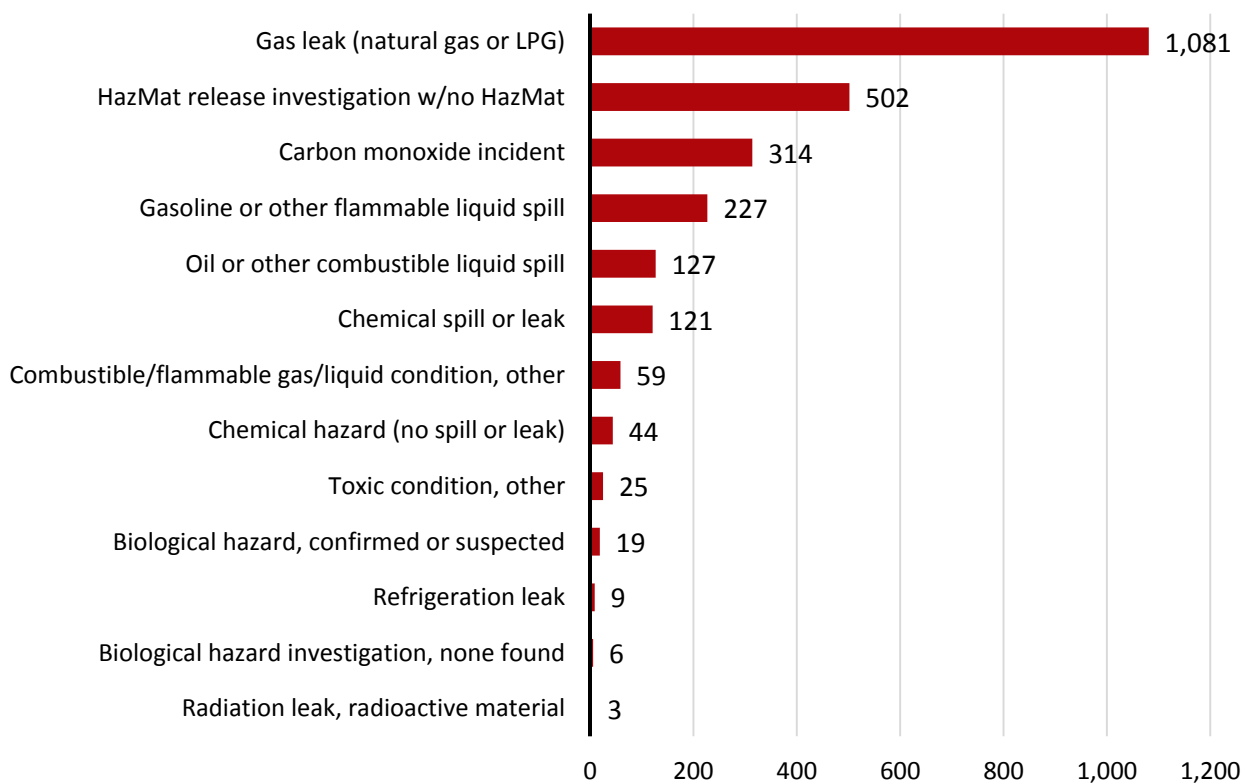
Fire agencies and OSFM Hazmat teams reported **2,002** hazardous substance incidents in 2021. **These incidents resulted in no deaths or injuries to civilians or fire service personnel.**

This section presents several snapshot views of hazardous substance incidents in Oregon. More information can be requested from our website at:

<https://www.oregon.gov/osp/programs/sfm/Pages/OSFM-Reports.aspx>.

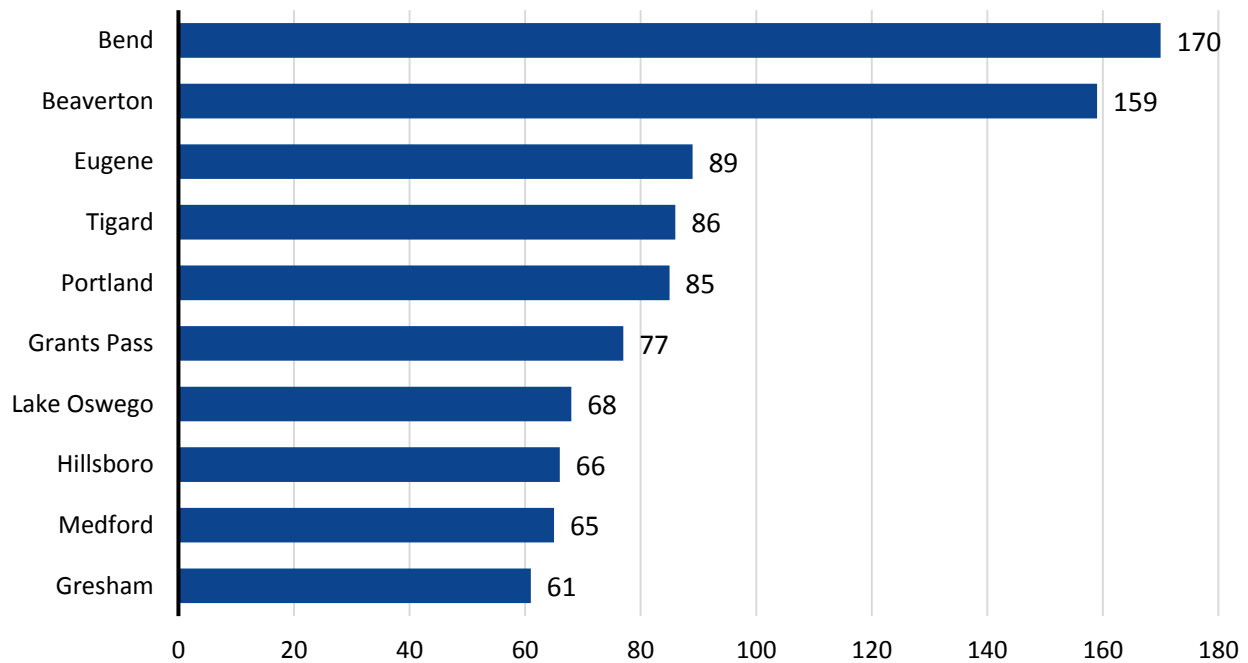
Incident reporters categorize Hazmat incidents into one of several categories. These categories describe the general types of responses to incidents.

2021 Hazardous Condition Incident Types

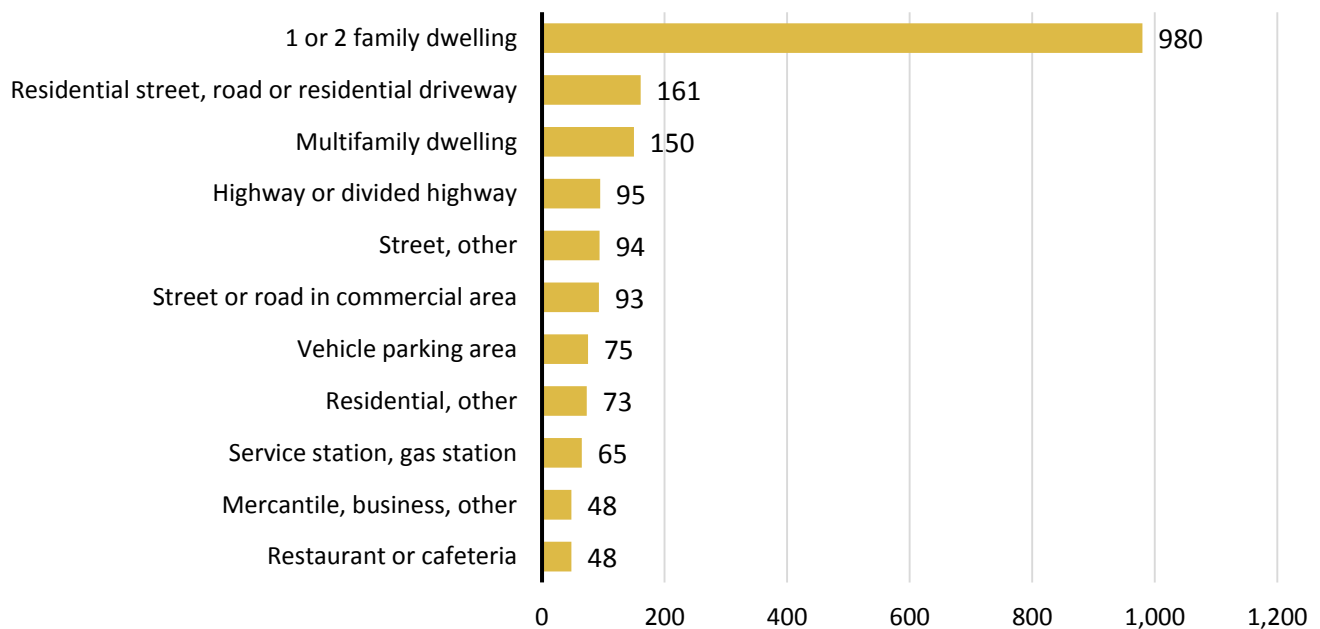


The cities listed in the graph below are based upon the zip code of the address at which the incident occurred and may not necessarily be within the corporate limits.

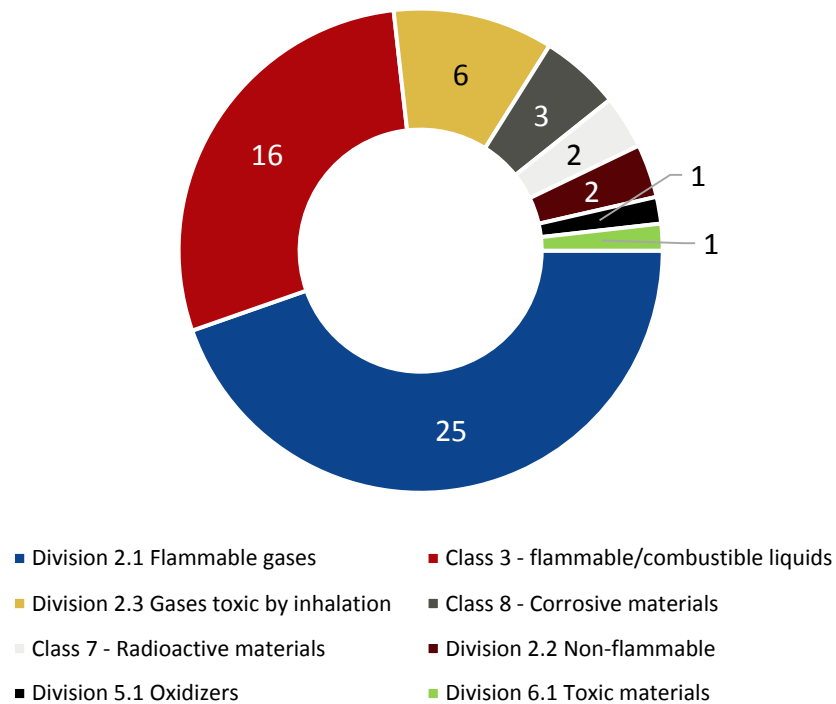
Top Ten Cities with the Most Reported Hazardous Condition Incidents



Top Ten Property Uses with the Most Reported Hazardous Condition Incidents

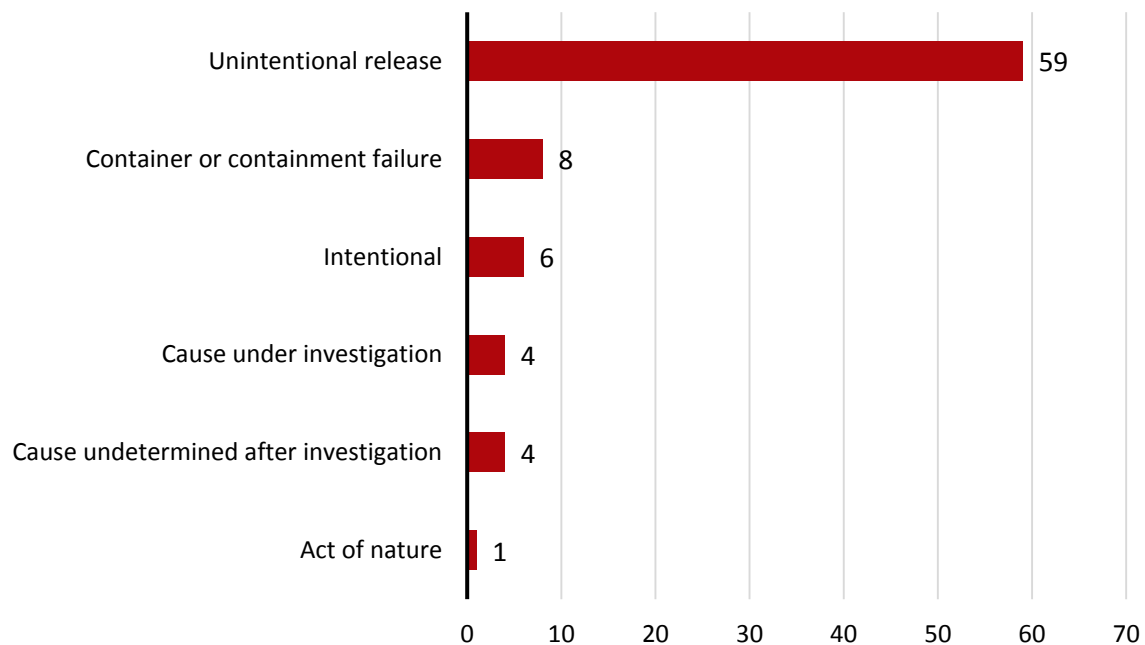


The hazard classes of substances involved were not always recorded in responder reports. Of the **2,537** incidents, only **56** were identifiable by hazard class.

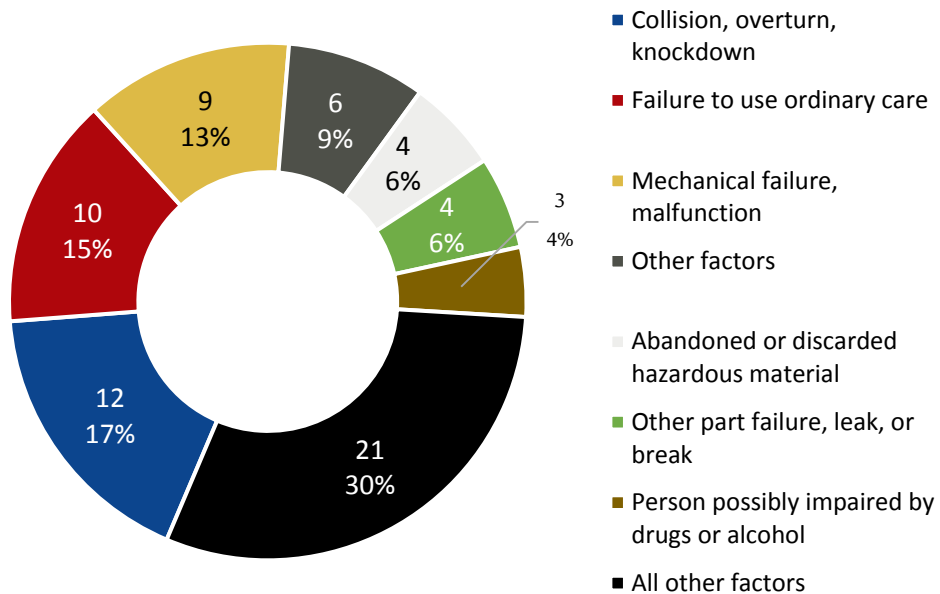


Several options are given for causes of a hazardous substance incident. Not all reports list the cause of an incident. This chart represents the **82** incidents for which a definitive cause was determined.

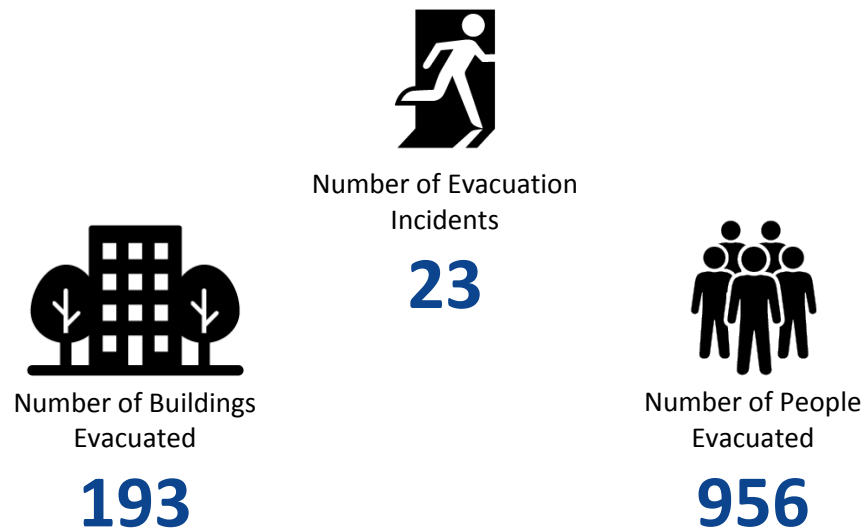
Causes of Hazardous Condition Incidents



Factors Contributing to Hazardous Substance Incidents

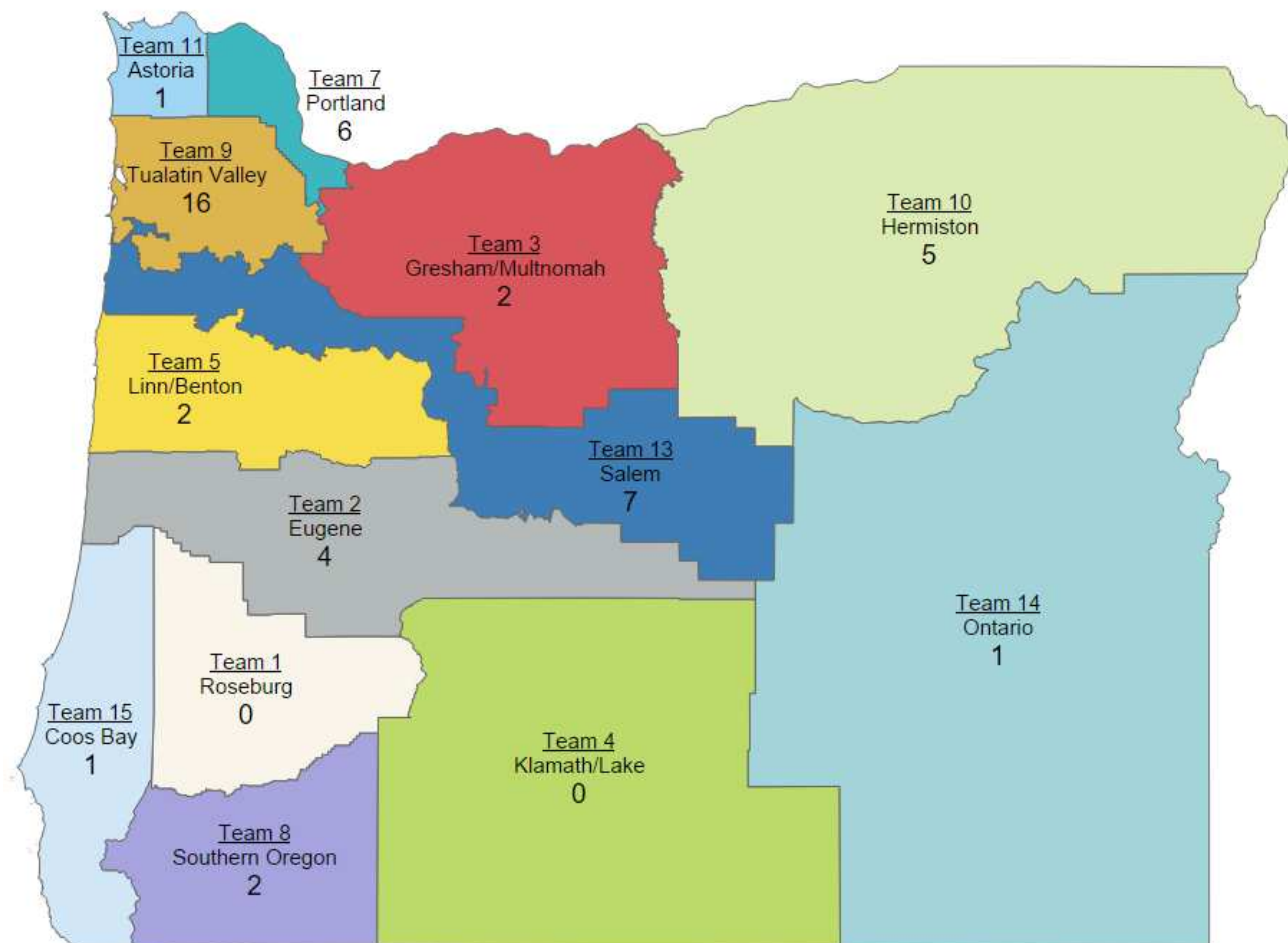


Hazardous Substance Incident Evacuation Summary



Regional Hazmat Emergency Response Teams - RHMERT

Team Boundaries and Response Count for 2021



Map boundary colors are for visual distinction only and do not represent a heat map. A named chemical is not always reported for an incident. Consequently, the count of chemicals involved below will not equal the count of incidents on the map above.

Reported Chemicals Involved in RHMERT Incidents

Chemical Name	Count
Diesel	7
Gasoline	3
Isopropyl alcohol	2
Refrigerant R717	2
Ammonium phosphate	1
Carbon monoxide	1
Hydrochloric acid	1
Hydrofluoric acid	1
Hydrogen peroxide (35% solution)	1
Hydrogen sulfide	1
LPG	1
Natural gas	1
Sodium hypochlorite	1
Urea, ammonium nitrate solution	1

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.

Training Events: **25**

Estimated Student Count: **435**

