

Chemical Facility Offsite Release Plan
Washington County, Oregon
August 2023

Facility Name/Address: Lam Research 11155 SW Leveton Dr. Tualatin, OR 97062	Facility Point of Contact (POC): Chad Oyler POC E-Mail/Phone/Mobile: 24/7 Security 503-685-5555 John.Niggley@lamresearch.com 503-277-9479 Chad.Oyler@lamresearch.com 510-857-7982
Facility Description: Semiconductor capital equipment manufacturer supporting the high-tech industry. Several EHS chemicals on site in bulk liquid, gas, and solid forms including ammonia and sulfuric acid. Receives chemicals by truck.	
Pertinent Regulations: ☒ EHS ☐ Clean Air Act 112r ☐ SPCC ☐ FRP	
Release Planning Scenario: Catastrophic failure of a large Y-cylinder containing approximately 118 gallons of anhydrous ammonia. Temperature 68° F; wind speed 5 mph.	
Plume Model Description (see attached map): Isolation Zone = 1,000 feet Evacuation Zone = 837 yards Shelter In-place Zone = 837 yards – 1,677 yards The actual plume direction, distance, and width will be driven by the release characteristics and on scene weather conditions.	
Plume Area Facilities of Special Interest: Evacuation Zone: • Schools – Hazelbrook Middle School • Health/Medical – None • Assisted Living/Nursing – Farmington Square Tualatin Shelter In-place Zone: • Schools – None • Health/Medical – None	

Assisted Living/Nursing – Prestige Senior Living; Cedar Crest Alzheimer’s Care; Avamere Rehabilitation of King City
Adjacencies of Interest: Facilities – JAE Oregon; VWR International; Veris Industries; SAM Medical; Helser Industries; Olympus Controls; Ascentric Engineering; City of Tualatin Public Works; Calmax Technologies; Fujimi Corporation; Northwest Metal Fab and Pipe Highways – Highway 99W; Hazelbrook Road; Leveton Road; Tualatin Road; 108th Avenue; 115th Avenue; 118th Avenue; Herman Road; Jurgens Avenue Rail – Portland & Western Railroad Utility – None Environmental – Tualatin River; Hedges Creek
Primary Evacuation Routes: East-West – SW Tualatin Road; SW Herman Road West Only – SW Leveton Drive; SW Hazelbrook Road North – SW 108th Avenue to SW Tualatin Road; SW 115th Avenue to SW Hazelbrook Road; Highway 99W South – SW 108th Avenue to SW Herman Road; SW 118th Avenue; SW Teton Avenue; SW 124th Avenue; Highway 99W
Traffic Control Locations: Closures: - North – SW 126th Avenue and SW King Richard Drive at the intersection; SW 124th Avenue and SW King Charles Avenue at the intersection; SW Royalty Parkway and SW Queen Mary Avenue at the intersection; SW 113th at SW Gabriel Street; SW 108th at SW Bretton Court; SW Kent Street at SW 104th Avenue; SW Riverwood Lane at SW 103rd Avenue - East – SW Tualatin Road at SW 90th Avenue - South – SW 97th and SW Tualatin-Sherwood Road at the intersection; SW Teton at the P&W RR Tracks; SW Tualatin-Sherwood Road and SW 112th at the intersection; SW 124th Ave and SW Myslony Street at the intersection - West – SW Herman Road at SW 129th Avenue; Old State Hwy 99W at SW 133rd Terrace; SW 131st Avenue and SW Bedford Street at the intersection; SW Bradley Lane at S 131st Avenue; SW 128th Avenue at SW Timara Lane; SW Fischer Road at SW Monterey Lane Directional Closures: - Highway 99W southbound at SW Durham Road - Highway 99W northbound at SW Cipole Road

Onsite Response Capabilities:

- 24x7 HAZWOPER trained staff including contracted onsite gas, chemical, electrical, and mechanical specialist teams
- Portable and fixed gas/liquid detection and identification systems
- PPE with respiratory protection for trained response staff
- Chemical transfer pumps with hoses, fittings, and piping
- Gas containment with scrubbed exhaust
- Soda ash (sodium bicarbonate) and acid neutralizers for acid neutralization
- Spill kits in several locations with gloves, neutralizer, Quick-Sorb, and repack bags with reserve stock in multiple buildings
- Decon equipment and station for hot zone equipment and personnel
- Contract on-call Hazmat support for additional containment and clean-up
- Staffed onsite clinic (M-F) with technician operating under local physician supervision

Primary Response Agencies:

Fire/HazMat – Tualatin Valley Fire & Rescue
Law Enforcement – Tualatin Police Department
Public Works – Tualatin Public Works Department
EMS/Transport – American Medical Response

CAS 7664-41-7

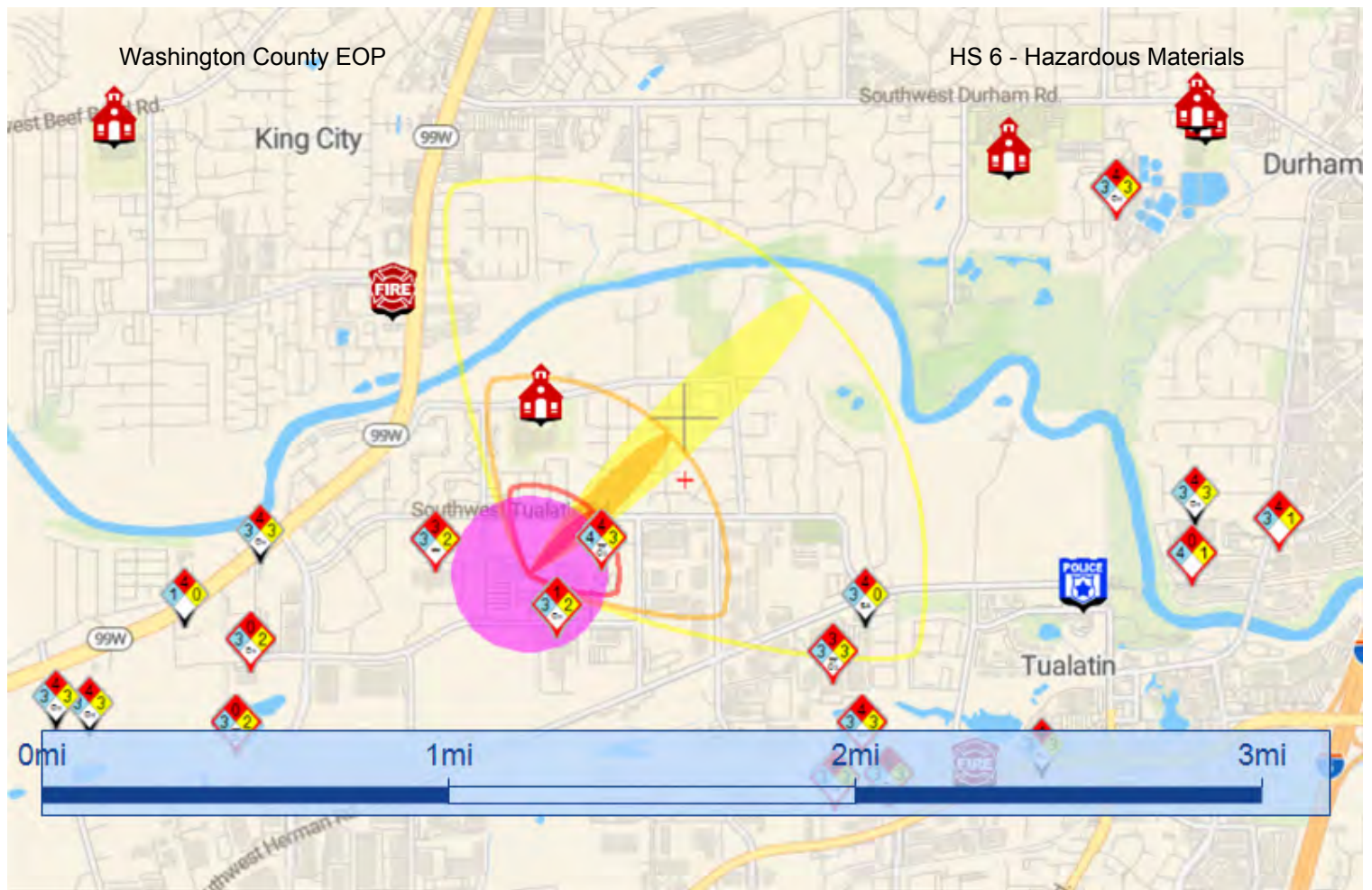
UN 1005 [Guide 125 - GASES - CORROSIVE](#)

Initial Location and Time

Tualatin, OR, USA, 6/17/2021 15:00:00 GMT -7:00

Meteorology					
Temperature	68 °F	Wind Speed	5 mph	Wind Direction	225 °
Cloud Cover	25 %	Terrain	Flat/Water	Stability/Theta	B/55.6°
Container (Cylinder)					
Diameter	2 ft	Length	5.28538 ft	Orientation	Vertical
Percent Full	95 %	Volume	124 gal	Max Liquid Mass	672 lb
Source					
Source Type	BLEVE or Pressure Explosion				

Results					
Level of Concern		Downwind Distance	Max Crosswind Distance	Plume Arrival	Plume Duration
	Initial Isolation Zone (ERG 2020)	1000 ft (in all directions)		-----	-----
	AEGL-3 1100 ppm	376 yd	65 yd	02m:24s	13m:09s
	AEGL-2 160 ppm	837 yd	133 yd	05m:11s	14m:21s
	AEGL-1 30 ppm	1677 yd	249 yd	10m:15s	16m:25s



Important Information

When using the PEAC application, be particularly careful in selecting and inputting chemical and model parameters. Model predictions can be especially sensitive to low wind speeds, stable atmospheric conditions, and the time of day around sunrise and sunset. The results provided by the PEAC application do not take into consideration the effects of local topography, objects near the source, fire, chemical reactions, aerosol formation, particulates, chemical mixtures, or changes in wind direction. The plume results display also assumes constant meteorology and terrain. If the “Build tear-drop shaped plume” modeling option is selected, the approximate toxic cloud shape for the meteorology and terrain selected is displayed, but shifts in wind pattern, changing terrain, and obstructions will change the behavior. Normal variation in wind direction for the meteorology selected is indicated by the same color arcs or circles on the display, or the “theta” angle from centerline (180° indicates a full circle, e.g. the plume can travel in any direction). In the tear-drop shaped mode, the ERG PAD Large and Small Spill distances are not available for mapping. If an “instantaneous release” or “BLEVE/sudden pressure release” is selected, an additional 10-minute time is assumed for essentially clearing the airborne toxic chemical from the source for the purpose of estimating the plume cloud duration. There could still be residuals of the chemical near the source or otherwise entrained resulting in some chemical being measured after the estimated duration. Shifting conditions may shorten the duration at a particular location. In addition, sunlight, air moisture, air oxygen, and particulates may react with many airborne toxic chemicals as the plume travels far from the source rendering them less toxic, especially over 7 miles (11 km). If “Specify mass/volume released or release rate for PAD modeling” is selected under options be aware that for solutions, the Source Strength is to be entered in on an “as is” basis, meaning the user should enter in the mass/volume for the whole solution. The Source Strength will be reduced internally to the concentration of the solute for the purposes of the dispersion model. If a solution has a concentration range, the highest concentration will be used. Also, beware that the Protective Action Distance calculation assumes the entire mass is vaporized.

