

Exhibit 1

**Reported releases of HF, modified HF, and HF acid at
still-operating, HF-using refineries, since 1987**

1. 2025, Pasadena refinery, Pasadena, Texas: Hydrofluoric acid release.
2. 2023, May, **Torrance refinery**, Torrance, California: Modified HF released.
3. 2023, February, **Torrance refinery**, Torrance, California: Modified HF released due to a seal failure.
4. 2023, Wynnewood refinery, Wynnewood, Oklahoma: Equipment failure caused the release of an unknown amount of HF acid.
5. 2023, Ferndale refinery, Ferndale, Washington: Refinery reported a release of 100 pounds of HF acid; later claimed less was released.
6. 2022, Mandan refinery, Mandan, North Dakota: Equipment malfunction caused an HF acid release.
7. 2021, Catlettsburg refinery, Catlettsburg, Kentucky: HF acid released.
8. 2021, Chalmette Refining, Chalmette, Louisiana: Equipment failure caused the release of 10 pounds of HF acid.
9. 2021, September, Galveston Bay refinery, Texas City, Texas: HF release.
10. 2021, March, Galveston Bay refinery, Texas City, Texas: Pipe failure caused and HF release and prompted a shelter-in-place order. Two workers were injured.
11. 2019, January 25, **Torrance refinery**, Torrance, California: Modified HF released.
12. 2019, January 19, **Torrance refinery**, Torrance, California: Modified HF was released, projecting outward and striking a worker's face and causing exposure injuries to his face, eyes, and airway/respiratory tract.

1 13. 2019, **Trainer refinery**, Trainer, Pennsylvania: Employees exposed to
2 HF while conducting maintenance on an alkylation unit; five hospitalized.

3 14. 2019, Big Spring refinery, Big Spring, TX: HF acid release.

4 15. 2018, **Torrance refinery**, Torrance, California: Modified HF released
5 during transfer from truck to container.

6 16. 2018, Valero Texas City Refinery, Texas City, Texas: An explosion and
7 fire occurred, resulting in injuries to four contractors, a shelter-in-place order for
8 nearby residents, and the release of 972 pounds of HF and other contaminants,
9 including particulate matter, carbon monoxide, hydrogen sulfide, oxides of nitrogen,
10 and sulfur dioxide.

11 17. 2018, June 18, 2018, **Wilmington refinery**, Wilmington, California:
12 Modified HF released.

13 18. 2018, June 2, 2018, **Wilmington refinery**, Wilmington, California:
14 Modified HF released.

15 19. 2018, June, Joliet refinery, Channahon, Illinois: 100 pounds of HF
16 released.

17 20. 2018, May, Joliet refinery, Channahon, Illinois: More than 100 pounds
18 of HF released.

19 21. 2017, Navajo refinery, Artesia, New Mexico: HF acid release injured
20 five workers.

21 22. 2017, Ferndale refinery, Ferndale, Washington: HF acid was released
22 from the alkylation unit. Seven workers (including five contractors) were
23 hospitalized; other refinery workers were forced to shelter indoors.

24 23. 2017, Nov 27, **Wilmington refinery**, Wilmington, California: Modified
25 HF released.

26 24. 2017, Nov 13, **Wilmington refinery**, Wilmington, California: Modified
27 HF released.

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1 25. 2017, Woods Cross Refinery, Woods Cross, Utah: 100 pounds of HF
2 acid released from a pipe.

3 26. 2017, December **Torrance refinery**, Torrance, California: Modified HF
4 released.

5 27. 2017, April, **Torrance refinery**, Torrance, California: Modified HF
6 released.

7 28. 2017, Big Spring refinery, Big Spring, Texas: Employee draining HF
8 acid from a tank was splashed when the hose disconnected, hospitalized, and treated
9 for chemical burns.

10 29. 2016, **Wilmington refinery**, Wilmington, California: Reported release
11 of 125 pounds of HF.

12 30. 2016, Borger refinery, Borger, Texas: Release of 100 pounds of HF acid
13 that vaporized following a pipe failure.

14 31. 2015, **Torrance refinery**, Torrance, California: Reported release of 5
15 pounds of HF.

16 32. 2015, **Wilmington refinery**, Wilmington, California: Reported release
17 of 88 pounds of HF.

18 33. 2015, Woods Cross refinery, Woods Cross, Utah: HF acid released from
19 piping connected to a storage tank.

20 34. 2015, March, Chalmette Refining, Chalmette, Louisiana: More than ten
21 pounds of HF acid released.

22 35. 2015, January, Chalmette Refining, Chalmette, Louisiana: HF acid
23 released due to an equipment failure in the alkylation unit.

24 36. 2015, Sweeny refinery, Old Ocean, Texas: Equipment failure caused an
25 HF release.

26 37. 2015, Wyoming refinery, Newcastle, Wyoming: Equipment failure
27 caused an HF acid release.
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1 38. 2014, **Wilmington refinery**, Wilmington, California: Equipment failure
2 caused an HF release; worker injured.

3 39. 2014, Chalmette Refining, Chalmette, Louisiana: Equipment failure in
4 the alkylation unit caused the release of 100 pounds of HF; worker injured.

5 40. 2013, Placid Refining Company, Port Allen, Louisiana: HF and
6 isobutane released.

7 41. 2013, **Wilmington refinery**, Wilmington, California: HF release injured
8 two workers.

9 42. 2013, CHS Laurel refinery, Laurel, Montana: HF acid and butane
10 released.

11 43. 2013, Canton refinery, Canton, Ohio: HF acid released.

12 44. 2013, Chalmette Refining, Chalmette, Louisiana: HF released.

13 45. 2012, Pasadena refinery, Pasadena, Texas: HF released.

14 46. 2012, Placid Refining Company, Port Allen, Louisiana: HF released.

15 47. 2012, Memphis refinery, Memphis, Tennessee: HF release killed one
16 worker, injured another worker, and injured first responders. The sight glass of a flow
17 indicator ruptured, releasing flying glass and a mixture of HF acid and propane into a
18 maintenance worker's face.

19 48. 2012, March, CITGO Corpus Christi refinery, Corpus Christi, Texas: HF
20 release.

21 49. 2012, May, CITGO Corpus Christi refinery, Corpus Christi, Texas: 300
22 to 500 pounds of HF were released from a flange that had been leaking as far back as
23 September 2011 and been temporarily repaired with clamps several times while the
24 refinery continued to operate. The Chemical Safety Board lacked the budget to
25 complete an investigation but noted that “[t]he continued releases experienced at this
26 facility over these three years suggest that there may be significant weaknesses in the
27 company’s dedication to the safety and health of its workers and the community.”
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1 50. 2012, July, Flint Hills Resources, Corpus Christi, Texas: Equipment
2 failure led to the release of HF and hydrocarbons.

3 51. 2012, January, Flint Hills Resources, Corpus Christi, Texas: HF and
4 hydrocarbons were released due to a mechanical integrity failure.

5 52. 2012, Galveston Bay refinery, Texas City, Texas: HF and HF acid
6 released.

7 53. 2011, May, Pasadena refinery, Pasadena, Texas: HF released.

8 54. 2011, September, Pasadena refinery, Pasadena, Texas: HF released.

9 55. 2011, Chalmette Refining, Chalmette, Louisiana: HF and isobutane were
10 released.

11 56. 2011, **Trainer refinery**, Trainer, Pennsylvania: HF released; worker
12 injured.

13 57. 2011, Catlettsburg refinery, Catlettsburg, Kentucky: HF release injured
14 three workers.

15 58. 2011, Canton refinery, Canton, Ohio: Equipment failure caused an HF
16 acid release. Workers were evacuated and one worker was hospitalized.

17 59. 2009, Chalmette Refining, Chalmette, Louisiana: 3,257 of pounds of HF
18 were released while an operator was flushing equipment in the alkylation unit. HF
19 was released into the cooling water system and, ultimately, to the Mississippi River.

20 60. 2009, CITGO Corpus Christi refinery, Corpus Christi, Texas: An
21 equipment failure caused an HF and butane release and led to a fire.

22 61. 2009, Chalmette Refining, Chalmette, Louisiana: Equipment failure led
23 to an HF release.

24 62. 2009, Joliet refinery, Channahon, Illinois: One worker was hospitalized
25 after an upset in the alkylation unit released HF.

26 63. 2009, CITGO Corpus Christi refinery, Corpus Christi, Texas:
27 Hydrocarbons and HF were suddenly released from the same unit. The hydrocarbons
28 ignited, leading to a fire that burned for several days. Fortunately, due to weather

1 conditions at the time, the HF cloud caused by the release centered over an
2 unpopulated shipping channel.

3 64. 2009, **Trainer refinery**, Trainer, Pennsylvania: A 22-pound HF release
4 sent 13 contract workers to the hospital. At least one later sued for permanent damage
5 to his health.

6 65. 2009, Billings refinery, Billings, Montana: Equipment failure led to an
7 HF release.

8 66. 2006, **Torrance refinery**, Torrance, California: Hydrogen fluoride
9 released following a seal failure.

10 67. 2006, Memphis refinery, Memphis, Tennessee: Eight workers were
11 exposed to HF gas released during a maintenance shutdown, requiring all of them to
12 be hospitalized.

13 68. 2006, Wynnewood refinery, Wynnewood, Oklahoma: A major fire in the
14 alkylation unit resulted in an HF/HF acid release, causing \$20 million in property
15 damage and two rounds of community evacuations. At least 350 people were forced
16 to evacuate.

17 69. 2006, Valero Texas City refinery, Texas City, Texas: HF release.

18 70. 2005, Chalmette Refining, Chalmette, Louisiana: HF release occurred
19 after a vessel was over-pressured.

20 71. 2005, Placid Refining Company, Port Allen, Louisiana: 40 pounds of HF
21 were released after an equipment failure; workers were injured.

22 72. 2004, Port Arthur refinery, Port Arthur, Texas: HF Acid released.

23 73. 2003, St. Paul Park refinery, Saint Paul Park, Minnesota: A few days
24 after a refinery fire, 13 electricians working to repair the damage were all hospitalized
25 after being exposed to HF from a pump releasing hydrocarbons and HF.

26 74. 2003, St. Paul Park refinery, Saint Paul Park, Minnesota: An HF release
27 injured 14 workers.

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1 75. 2001, **Torrance refinery**, Torrance, California: According to news
2 sources, nearby residents are ordered to shelter in place after a release of modified HF
3 acid from the alkylation unit. The release lasted at least 40 minutes.

4 76. 1999, **Torrance refinery**, Torrance, California: According to news
5 sources, three workers were hospitalized after a broken pipeline spilled isobutane and
6 modified HF acid from the alkylation unit. One of the main roads in Torrance was
7 shut down for more than two hours.

8 77. 1998, **Torrance refinery**, Torrance, California: About 10 pounds of
9 modified HF acid released during a truck transfer.

10 78. 1997, CITGO Corpus Christi refinery, Corpus Christi, Texas: A fire led
11 to an uncontrolled release of an unknown amount of HF. Nearby residents reported
12 exposure symptoms and vegetation damage.

13 79. 1996, **Torrance refinery**, Torrance, California: Two employees
14 received chemical burns from HF exposure.

15 80. 1996, Sept, CITGO Corpus Christi refinery, Corpus Christi, Texas: HF
16 release.

17 81. 1996, May, CITGO Corpus Christi refinery, Corpus Christi, Texas: HF
18 release.

19 82. 1995-97, **Trainer refinery**, Trainer, Pennsylvania: Four separate
20 releases of HF acid, each of which injured a worker.

21 83. 1992, **Torrance refinery**, Torrance, California: Equipment failure led to
22 the release of 32 pounds of HF.

23 84. 1990, **Torrance refinery**, Torrance, California: HF release injured three
24 contract workers.

25 85. 1990, Garyville refinery, Garyville, Louisiana: HF release.

26 86. 1990, **Trainer refinery**, Trainer, Pennsylvania: 150 pounds of HF
27 released to air and 183 pounds released to sewer following a gasket failure.
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1 87. 1989, **Torrance refinery**, Torrance, California: A drop of HF acid
2 splashed onto a construction worker, who was hospitalized with a deep burn.

3 88. 1989, Joliet refinery, Channahon, Illinois: 124 pounds of HF released to
4 the air after increased water levels sent too much HF to the process heater.

5 89. 1988, Woods Cross refinery, Woods Cross, Utah: 1,600 pounds of HA
6 released when an employee accidentally opened a valve on a pressurized line.

7 90. 1987, **Torrance refinery**, Torrance, California: An explosion at the
8 refinery, due to an undetected buildup of HF acid, caused \$17 million in damage. The
9 explosion knocked out the water mitigation system and blew out windows in 21
10 homes, injuring six people off-site and four workers, including one who had lung
11 damage from inhaling gas. OSHA investigated and issued a \$4,000 fine.

12 91. 1987, Galveston Bay refinery, Texas City, Texas: A crane dropped a 50-
13 foot section of a convection heater onto an HF tank within the alkylation unit,
14 shearing two HF lines that ultimately released 30,000 to 53,000 pounds of HF. 4,000
15 people were evacuated, and hospitals treated more than 1,000 people for skin burns,
16 lung irritation, and other ailments.