



CLARK REFINING & MARKETING
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Company Information

The Clark Hartford Refinery employs more than 300 people that live in the Riverbend area. The refinery has been operating for approximately 60 years as a producer of gasoline, diesel fuel, propane, and other petroleum products. Our products are used right here in the Riverbend, as well as many other locations in Illinois, Missouri, and Indiana as fuel for automobiles, trucks, and heating oil for homes.

Risk Management Program (RMP)

The United States Environmental Protection Agency (EPA) created a regulation called Risk Management Program (RMP) as an amendment to the Clean Air Act. The RMP rule requires facilities with certain quantities of chemicals and other regulated substances on a specific EPA list to disclose certain information. Those facilities must make publicly available their emergency response programs, which include plans to prevent and minimize the effect of incidents; five-year accident histories for listed materials; and "worst case" and "alternative case" scenarios related to potential releases. This information will be written in a document or risk management plan. The scenarios take into account potential quantities released, weather, wind direction and wind speed. The worst case scenarios assume all safety systems fail and there is no emergency response. It is important to note that these scenarios are highly unlikely. The deadline for submitting risk management plans to the EPA is June 21, 1999.

The rule requires companies that use or store certain (threshold) quantities of toxic or flammable chemicals to develop scenarios that estimate the potential community impact from an accidental release. The Clark Hartford Refinery has one toxic chemical in the threshold quantity affected by the rule - *hydrofluoric acid*. We also have seven flammables that are affected by the rule - those are *propane, propylene, isobutane, normal butane, butylenes, isopentane, and normal pentane*.

Clark Refining and Marketing is also required to compile an accidental release history for the RMP listed chemicals for the past five years. According to the RMP rule, an accidental release is defined as one that resulted in death, injuries, significant property damage, evacuation, shelter-in-place, or environmental damage. The five-year accident history for RMP-listed materials at this site, for Clark Refining and Marketing, Inc., in Hartford is as follows:

Year	1994	1995	1996	1997	1998
Number of RMP releases	0	1*	0	0	0

The RMP rule requires the development of scenarios for the accidental release of a toxic and a flammable chemical. For this example, hydrofluoric acid was selected as the toxic chemical and butane was selected as the flammable chemical because each has the greatest area of potential impact in the community. Information on the other listed chemicals is available upon request.

*The single injury occurred when a mechanic was sprayed with a dilute mixture of HF acid. He received treatment and returned to work in 11 days. The release amount was below the reportable quantity for the "Community Right to Know Act".

Example RMP accidental release scenarios

The RMP table defines a worst case incident as the hypothetical release of the entire contents of an RMP listed material within 10 minutes. It assumes weather conditions that would maximize its impact, complete failure of all safety controls and systems, and no emergency response. Because these worst case scenarios are extremely unlikely, the RMP table also provides for the development of an alternative release scenario. These alternative release scenarios depict a more credible release of an RMP listed chemical and consider safety systems that are in place.

Chemical	About the Chemical	Accident Prevention in Place	Example Event	Scenario	Distance of Concern	Emergency Response Measures
Hydrofluoric Acid (HFA)	Hydrofluoric Acid (HFA) is a clear, colorless, corrosive fuming liquid with a strong acid odor. It forms dense white vapor clouds if released. Both liquid and vapor can cause severe burns to all parts of the body. HFA is used in each glass, for pickling stainless steel, in the production of gasoline and aluminum, controlling pH during Oil Well operations, seal conductor industry and manufacture of refrigerants.	• Routine Equipment Inspection Program by shift operators and engineering department • Fugitive emission (VOC) checks • Hydrofluoric acid detection point on flanges • Operator training and routine surveillance of equipment • Continuous remote monitoring via three video cameras with monitors in central room • Operator Training • Mandatory Five (5) Year Process Hazard Analysis of unit • 24-hour security	Worst-Case Scenario (Toxic) Acid Mixer Vessel Rupture	• Worst-Case Scenario assumes no emergency response measures are taken. • Total release of the entire contents of vessel 208,080 lbs. (8.12 lb/gal) in 10 minutes. • Worst possible weather conditions (3.3 miles per hour wind speed, 50% relative humidity).	17 miles	First Responders, Refinery Fire Brigade, HAZMAT and Rescue teams. Two remote elevated operators water mitigation systems, (1500 GPM each), Manual Aid Group, Community Alert Network (CAN). St. Joseph's located high velocity manual and remotely operated monitors
Hydrofluoric Acid (HFA)	See above	• See above • Pump vibration monitoring program • 24-hour security	Alternative Release Scenario (Toxic) Circulating pump seal failure	• HF acid circulating pump seal leak. • Wind - Average Conditions (6.7 miles per hour wind speed, 50% relative humidity). • Total release of 1153 lbs. (8.12 lb/gal)	0.4 miles	SEE ABOVE Also, Emergency isolation valves on the Acid Circulation pump remotely operated.
Benzene	Highly flammable hydrocarbon vapor at atmospheric conditions	• Operating Procedures • Mandatory Five (5) Year Process Hazard Analysis of unit • Operator Training • Routine Inspections • 24-hour security	Worst-Case Scenario (Flammable) Storage sphere ruptures and ignites	• Worst-Case Scenario assumes no emergency response measures are taken. • Catastrophic failure of a storage sphere (that is full) in capacity. 1,062,100 lbs (4.87 lb/gal) • Total release of the entire contents. • Entire release vaporizes and ignites. • Worst possible weather conditions (3.3 miles per hour wind speed, 50% relative humidity).	1.2 miles	First Responders, Refinery Fire Brigade, HAZMAT and Rescue teams, Mobile fire protection equipment, Manual Aid Group, Community Alert Network (CAN), Fire water sprays over sphere.
Benzene	See above	• Operating Procedures • Mandatory Five (5) Year Process Hazard Analysis of unit • Operator Training • Routine Inspections • 24-hour security	Alternative Release Scenario (Flammable) Benzene tank car empties and ignites	• Full tank car of benzene hooked up by hoses to the loading rack. • Tank car is accidentally moved and transfer hoses are severed. • Entire release vaporizes and ignites. 121,724 lbs. (4.87 lb/gal) • Average Weather Conditions (6.7 miles per hour wind speed, 50% relative humidity).	0.2 miles	SEE ABOVE Also Water sprays at the Tank Car Loading Rack.

(1) RMP Distance of Concern: The distance a toxic vapor cloud, fire, or explosion from an accidental release will travel before dissipating to the point that serious injuries from short-term exposures will no longer occur. Data developed by EPA or contractor models were used to simulate conditions and arrive at the distance.

The sharing of this information is intended to improve community understanding of local industries and promote an informed dialogue on their chemical accident prevention practices. It is not a prediction of the probability that any of the scenarios discussed will ever occur. The information is based upon Risk Management Plans (RMPs) that are being prepared for the Clark Refinery, Hartford, IL. Descriptions in Risk Management Plan submitted in June 1999 may differ from those descriptions due to revisions. RMP information about other RMP listed chemicals is available upon request. Revised: 01/21/99