

stream containing HCl enters the absorber. Accordingly, it does not matter if the gaseous stream containing HCl is a by-product or even a waste-product. If the gaseous stream is used to produce 30 weight percent or greater liquid HCl product, it is a facility that is subject to the final rule.

The final rule clearly defines the boundaries of an HCl production facility. As noted above, an HCl production facility begins at the point where a gaseous stream containing HCl enters the absorber. The HCl production facility includes all HCl storage tanks that contain a liquid HCl product that is produced in the HCl production unit. The HCl production facility also includes all HCl transfer operations that load the HCl product produced in the HCl production unit into a tank truck, rail car, ship, or barge, and for which loading liquid HCl is the predominant use. The predominant use of a transfer rack is the material that is loaded by the transfer rack in the greatest amount. The HCl production facility also includes the piping and other equipment in HCl service used to transfer the liquid HCl product from the HCl production unit to the HCl storage tanks and/or HCl transfer operations. The HCl production facility ends at the point where the liquid HCl product produced in the HCl production unit is loaded into a tank truck, rail car, ship, or barge, at the point the HCl product enters another process on the plant site, or at the point the HCl product leaves the plant site via pipeline.

Please note that what happens to the liquid HCl product after it is produced is not relevant in determining the applicability of the final rule. While there are emission limitations for storage tanks and transfer operations, these operations do not have to be present for an HCl production facility to be subject to the final rule. Whether the HCl produced is used onsite, piped offsite, or loaded into railcars, tank trucks, ships, or barges has no bearing on whether the HCl production facility is subject.

The final rule does exclude HCl production facilities under certain circumstances. First, an HCl production facility is not subject to the final rule if all of the gaseous streams containing HCl and chlorine (Cl₂) from HCl process vents, HCl storage tanks, and HCl transfer operations are recycled or routed to another process prior to being discharged to the atmosphere. Also, an HCl production facility is not subject to the final rule if it produces HCl through the direct synthesis of Cl₂ and hydrogen and is part of a chlor-alkali plant; or if it is a research and development facility.

In addition, the final rule excludes certain HCl production facilities that are part of other source categories where the emissions are subject to one of the following federal standards: Pulp and Paper Industry NESHAP (40 CFR part 63, subpart S), Steel Pickling—HCl Process Facilities and Hydrochloric Acid Regeneration Plants NESHAP (40 CFR part 63, subpart CCC), Pesticide Active Ingredient Production NESHAP (40 CFR part 63, subpart MMM), Hazardous Waste Combustors NESHAP (40 CFR part 63, subpart EEE), Hazardous Waste Treatment, Storage, and Disposal Facilities (40 CFR part 264, subpart O—Incinerators, section 264.343(b)), and Hazardous Waste Management Facilities (40 CFR part 266, subpart H—Boilers and Industrial Furnaces, section 266.107).

Regulatory overlap between the final rule and the Hazardous Organic NESHAP (HON) is slightly more complicated. In general, the HON only covers emissions of organic HAP, which obviously excludes HCl and Cl₂. The exception to this is if a halogenated stream (which is defined as a stream with a mass emission rate of halogen atoms contained in organic compounds of 0.45 kilograms per hour or greater) is routed to an incinerator or other combustion device to control the organic HAP, the halogens leaving the incinerator are required to be reduced by 99 percent. Therefore, if in a HON unit, a chlorinated organic compound is sent to an incinerator and the outlet stream (which would contain HCl) is then routed through an absorber to produce liquid HCl, the resulting HCl emissions from the absorber would be subject to 40 CFR 63.113(c) of the HON, which requires a 99 percent reduction in HCl emissions. These HCl production units are exempted from the HCl Production NESHAP, since the emissions are subject to the HON.

However, HCl gas is often produced as a by-product of an organic chemical in a unit that is subject to the HON. In this situation, the HCl emissions are not covered by the HON because they are not formed in an incinerator burning a halogenated stream. If this vent stream containing HCl is routed to an absorber and liquid HCl is produced, then it is an HCl production facility and is subject to the final rule if it meets the other applicability requirements. Therefore, in this situation the result could be that the same equipment, and even the same emission stream, is subject to two MACT standards (the organic HAP subject to the HON and the HCl and Cl₂ subject to the HCl NESHAP). In other words, where a liquid HCl product is produced as a by-product in a HON

unit, the HCl Production NESHAP reaches into the HON unit to require control of the HCl and Cl₂ emissions.

B. What Are the Primary Sources of Emissions, and What Are the Emissions?

The primary HAP known to be released from HCl production is HCl. Chlorine may also be emitted from HCl production. These potential emission sources include process vents, storage tanks, transfer operations, equipment leaks, and wastewater.

1. Types of Emission Sources

Most HCl production processes begin with a gaseous stream containing HCl. The stream can be a by-product stream from another process, an outlet stream from a combustion device that is treating chlorinated organic compounds, or a stream from a direct synthesis reaction furnace where hydrogen and Cl₂ are burned. No matter the origin of the stream containing HCl, the process from that point forward is basically the same. The gaseous stream containing HCl is routed to an HCl recovery absorption column, where the HCl is absorbed into either water or dilute HCl. The liquid leaving this column contains concentrated HCl.

The gaseous stream leaving the absorption column contains HCl that was not absorbed into the liquid in the tower and any Cl₂ present in the inlet stream. This outlet stream may be routed (or recycled) to another process, in which case it is no longer part of the HCl production affected source. However, if the outlet stream is directly discharged to the atmosphere or if it is routed through other recovery/control devices before being discharged to the atmosphere, it is considered an HCl process vent from an HCl production facility.

If the liquid HCl leaving the absorption tower is routed to an HCl storage tank, there is the potential for HCl emissions from the tank. The storage tanks are typically atmospheric storage tanks, and working loss emissions will occur as the tank is filled and emptied. While less significant, there are also breathing losses from atmospheric temperature and pressure changes. There is also the potential for emissions when HCl is loaded from a storage tank to a tank truck, rail car, ship, or barge. Plants often reduce HCl emissions from HCl storage tanks and HCl transfer operations by using a scrubber.

Another potential source of HCl emissions is fugitive losses from equipment leaks. Owners and operators of HCl production processes presumably have an incentive to identify and repair