Cadmium

EnviroBlend® has extensive knowledge of the fate and transport of heavy metal contamination, as well as remedial action experience. Our scientists have spent years developing cost-effective chemistries for rendering lead, cadmium, arsenic, hexavalent chromium, zinc and other heavy metal contaminants non-hazardous. This research has resulted in a number of patented products that have been widely applied for heavy metal remediation sites across the country.

Copper Smelting Facility – Australia

EnviroBlend® conducted treatability tests to determine field dosages for the treatment of arsenic, cadmium, copper, lead, selenium, and zinc. We designed a mapping plan that resulted in a 10% savings in treatment costs by identifying regions of the waste that required lower treatment dosages than would be required for a composite sample. Most parcels of material required only single dosing of chemicals. The overall percentage of batches passing the TCLP after a single treatment exceeded 95%. Total treatment cost was less than half of the cost of hazardous waste disposal.

Ductile Iron Foundry – Texas

A ductile iron foundry in Texas has been using EnviroBlend® CS to treat baghouse dust for the past 11 years. The metals treated annually are Lead, Arsenic, Barium, Beryllium, Boron, Cadmium, Hexavalent Chromium, Mercury, Selenium, and Silver. The baghouse dust pH levels are also of concern for the foundry and are treated with EnviroBlend. The foundry uses the baghouse injection method for application at a dosage rate of 2-3lbs per hour of baghouse run time.

While the initial Toxicity Characteristic Leaching Procedure (TCLP) levels were unknown, the waste did test as hazardous per an EPA inspection. After treatment, the TCLP levels for each metal were all below detection limits.

Since the facility has had great success with EnviroBlend treating the baghouse dust, they recently started treating the baghouse filters prior to removal with a specialized EnviroBlend chemistry. Each filter has tested as non-hazardous since the use of EnviroBlend.

The site is regulated by the Texas Commission on Environmental Quality and the U.S. Environmental Protection Agency.

Former Manufacturing Facility – Alabama

Provided treatment for 30,000 tons of slag and cadmium-affected soil. Treated over 60 x 500-ton batches in 5 weeks using EnviroBlend®. Performed treatment at less than 90% of the budget estimate.

Former Mill – Montana

EnviroBlend® was used to treat 3,000 tons of mill tailings *ex-situ* at a former mill. Waste was contaminated with lead, arsenic, and cadmium. The remediated soil was leave-in-place at the site.

GNB Technologies, Inc.

EnviroBlend® stabilized 10,000 cubic yards of contaminated soil *ex-situ* at a former battery manufacturing facility. The property has been redeveloped and is now an operating chemical plant.

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Industrial Waste Disposal NPL Site – South Carolina

A site surrounded by extensive residential development required stabilization of more than 57,000 cubic yards of soil impacted by arsenic, cadmium, chromium, lead, mercury, and nickel. Advanced geostatistics and XRF analysis were used to focus the site excavation and treat and handle only affected soil. Our client constructively reused treated soil, sludge, and waste. The treated soil was used as internal berms within the on-site landfill. Results included a significant reduction in the treatment of additional material by attributing the existing chromium to background sources. The project was performed for a final cost of $7 million versus the preliminary cost estimate of $12 to $25 million, based on data from the US Environmental Protection Agency (USEPA).

NYSDEC Erie Canal Frankfort Section – New York

The New York State Department of Environmental Conservation (NYSDEC) used EnviroBlend to remediate soil contaminated with cadmium and remove it offsite. TCLP levels prior to treatment were leaching above the TCLP standards. The use of EnviroBlend helped NYSDEC save $30,000 while working to restore the Erie Canal Frankfort Section in New York.

The Erie Canal – Town of Frankfort Section site is part of New York's Inactive Hazardous Waste Disposal Site (NYHWDS) Program, also known as the State Superfund Program. Contaminants of concern in the sediment and wetland soils were polychlorinated biphenyls (PCBs), cadmium, chromium, copper, lead, and mercury. Key components of the cleanup included: dredging and off-site disposal of approximately 24,000 cubic yards of canal sediments; restoration of the excavated canal bed to promote the re-establishment of the ecological environment; imported soil fill and native plantings; and monitoring the restored areas for erosion, settlement, and growth of plantings.

Philotechnics – Tennessee

EnviroBlend® treated approximately 300 tons of low-level radionuclide and heavy-metal-impacted electric arc furnace dust in containers at this nuclear weapons manufacturing plant.

Aluminum Smelter – Southern U.S.

An aluminum smelter in the southern US uses EnviroBlend 90/10 CS to treat cadmium and lead-contaminated aluminum dust. EnviroBlend treats the 1500 tons of dust annually via a duct injection method at a rate of 200 lb./hr. This facility produces Aluminum ingots and is regulated by the state.

Deep South Bronze and Aluminum Castings Factory

A bronze and aluminum casting factory uses EnviroBlend CS bags to treat a mix of different types of dust within the facility. The main metals treated are lead and cadmium. A duct injection method is used to treat the metals at a slow dosage rate to render dust non-hazardous according to the EPA Toxicity Characteristic Leaching Procedure (TCLP). This plant is regulated by the state.

Deep South Ferrous Foundry

A ferrous foundry located in the deep south has been using EnviroBlend 93 HR to treat lead and cadmium-contaminated baghouse filter bags since 2009. EnviroBlend is added in-line as part of their process by using a duct injection method at a low dosage rate which renders their baghouse dust non-hazardous according to the EPA Toxicity Characteristic Leaching Procedure (TCLP). The foundry produces DI pipe joints and couplings.

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Ferrous Foundry – Midwest

A ferrous foundry, located in the Midwest, has been using EnviroBlend CS Bulk since 2017 to treat approximately 2800 annual tons of gray iron dust contaminated with lead and cadmium. To treat the dust EnviroBlend is added in-line as part of their process by using a duct injection method at a low dosage rate to render their dust non-hazardous according to the EPA Toxicity Characteristic Leaching Procedure (TCLP). The foundry produces agriculture and automotive parts.

Ferrous Foundry – Midwest II

A ferrous foundry located in the Midwest has been using EnviroBlend CS Bulk to treat lead and cadmium-contaminated ferrous dust since 2007. EnviroBlend treats over one hundred tons annually by a duct injection method at a 6% dosage rate which renders ferrous dust non-hazardous according to the EPA Toxicity Characteristic Leaching Procedure (TCLP). The foundry produces heavy truck parts and axle housings.

Ferrous Foundry – Midwest III

A ferrous foundry, located in the Midwest has been using EnviroBlend to treat their ferrous dust since 2009. Initially, EnviroBlend 80/20 was used and then they switched to our EPhos milled bags. The foundry treats the lead and cadmium-contaminated ferrous dust through baghouse duct injection at roughly 10 tons annually. Water valve castings are produced at this facility.

Ferrous Foundry – Northeast

A ferrous foundry located in the Northeast has been using EnviroBlend EMag XL for over a decade to treat ferrous dust contaminated with lead and cadmium. It is used to treat roughly 700 tons annually. The EnviroBlend is added in-line as part of their process by using a duct injection method at a low dosage rate of 4% which renders dust non-hazardous according to the EPA Toxicity Characteristic Leaching Procedure (TCLP). This foundry manufactures pipe fittings.

Ferrous Foundry in the Mid Atlantic

A Spin Cast Ferrous Foundry located in the Mid Atlantic has been using EnviroBlend EMag XL for over 15 years to treat 1500 tons of cadmium and lead-contaminated dust annually. The EnviroBlend is added in-line as part of their process by using a duct injection method at a dosage rate of 15% which renders their baghouse dust non-hazardous according to the EPA Toxicity Characteristic Leaching Procedure (TCLP).

Ferrous Foundry in the South

A ferrous foundry in the South uses EnviroBlend CS Bulk to treat lead, cadmium, and zinc-contaminated dust from their cupola furnace. EnviroBlend is used by way of dust injection at a dosage rate of 10% and treats 2200 tons annually. This facility is regulated by the state.

Ferrous Foundry in the West

A ferrous foundry located in the western US has been using EnviroBlend Emag XL to treat lead and cadmium-contaminated dust at their facility for over a decade. The EnviroBlend is added in-line as part of their process by using a duct injection method at low dosage rate of 8% which renders their dust non-hazardous according to the EPA Toxicity Characteristic Leaching Procedure (TCLP).

The foundry produces DI pipe.

EnviroBlend®
Metal Waste Treatment
BY PREMIER MAGNESIA LLC

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Southern US Ferrous Foundry

A ferrous foundry located in the southern US switched its heavy-metal waste treatment reagents from Bantox to EnviroBlend CS. EnviroBlend now helps them annually treat over 500 tons of lead and cadmium-contaminated ferrous dust via a dust-injection method. A low dosage rate of 7% renders their baghouse dust non-hazardous according to the EPA Toxicity Characteristic Leaching Procedure (TCLP).

Heartland Alloys Plant

An Aluminum Alloy Recycling plan in the US heartland uses EnviroBlend CS and AG20 to treat over 600 annual tons of dust contaminated with lead, cadmium. Hydrogen chloride gas is also treated EnviroBlend is added as part of their duct injection process for metals and acid gas. This plant produces aluminum-based alloys.

Mid-West Foundry

A ferrous foundry in the Midwest has been using EnviroBlend to treat their cadmium and lead-contaminated dust for over 11 years. Using EnviroBlend CS sacks, they are applied via a dust injection process at a 20% dosage rate to render the dust non-hazardous. The foundry manufactures brake rotors and other auto parts.

Southeast Ferrous Foundry

A ferrous foundry, located in the Southeast, has been using EnviroBlend CS Bulk and super sacks to treat lead and cadmium-contaminated dust from the cupola furnace for over 15 years. EnviroBlend is added in-line as part of their process by using a duct injection method to render their baghouse dust non-hazardous according to the EPA Toxicity Characteristic Leaching Procedure (TCLP). EnviroBlend treats over 3000 tons annually at this foundry. The foundry produces DI pipes. This site is regulated by the state.

North-East Ferrous Foundry

A ferrous foundry located in the Northeast uses EnviroBlend 80/20 CS to treat dust contaminated with lead, cadmium, and zinc. EnviroBlend treats roughly 200 tons of dust annually by way of a duct injection method at a dosage rate of 12% to render dust non-hazardous according to the EPA Toxicity Characteristic Leaching Procedure (TCLP). This foundry manufactures pipe fittings and couplings.

Mid-West Ferrous Foundry

A ferrous foundry located in the mid-west has been using EnviroBlend 90/10 to treat lead and cadmium-contaminated dust at their facility. The EnviroBlend is added in-line as part of their process by using a duct injection method at a low dosage rate which renders their baghouse dust non-hazardous according to the EPA Toxicity Characteristic Leaching Procedure (TCLP). The foundry produces custom core castings.

Mid-South Ferrous Foundry

A ferrous foundry, located in the Mid-South, that produces ball mill casting and crusher parts has been using EnviroBlend CS Sacks to treat cadmium and lead-contaminated dust for over 15 years. EnviroBlend helps treat the facility's ferrous dust through duct injection at a dosage rate of 20%. This foundry is regulated by the state.

Southeast Chrome Alloy Facility

A chrome alloy facility located in the Southeast has been using EnviroBlend CR50 to treat roughly 40 tons annually of lead, and cadmium-contaminated chrome dust. Prior to switching to EnviroBlend in 2014, the facility had been using Bantox to treat the dust. EnviroBlend is added in-line as part of their process by using a duct injection method to render their baghouse dust non-hazardous according to the EPA Toxicity Characteristic Leaching Procedure (TCLP). The facility manufactures ingots.

Privately Held Firing Range – Minnesota

Treated approximately 2,000 cubic yards of lead-based soil in stockpiles ex-situ with backhoes. The material was left on-site.

Mid-West Ferrous Foundry Facility

A ferrous foundry located in the mid-west has been using EnviroBlend XL supersacks to treat lead and cadmium-contaminated dust at their facility for over a decade. The EnviroBlend is added in-line as part of their process by using a duct injection method at low dosage rate which renders their baghouse dust non-hazardous according to the EPA Toxicity Characteristic Leaching Procedure (TCLP).

The foundry produces pump housing and seat sides. This site is regulated by the state.