

CAT 100

REMEDIATION PRODUCTS INC.

Primary Use

Soils and groundwater highly impacted with halogenated compounds and complex mixes of recalcitrant contaminants typically addressed through combined remedies.

Treatment Mechanism

Catalytic degradation of a broad spectrum of halogenated and recalcitrant organic compounds through surface reactions on a conductive platform fed with a continuous source of electrons.

Delivery Methods

RPI-Approved Direct Push or Packer Injection. Direct Application via Soil Mixing or Trenching



CAT 100 Product Description

CAT 100 is a fusion of RPI's BOS 100® and biotechnology to produce a technology capable of achieving results beyond the capabilities of either one alone. Electron transfer, the heart of all contamination degradation processes, is promoted as the contaminant binds to the metal, creating an electrical connection extending throughout the carbon. An electron pump created by slow fermentation of complex carbohydrates and peptides feeds electrons to the conductor, which shuttles them to the site of depletion. In this process, the metallic iron facilitates catalytic degradation of the contaminant without significant depletion of the iron. This overall cycle enables the degradation of far more contaminant mass than would be estimated by simple iron demand.

CAT 100 Product Applications

CAT 100 was designed to address high concentrations of CVOCs in soil, groundwater, and DNAPL. Since its introduction in 2016, it has also been successfully applied to co-mingled CVOC and VOC plumes, semi-volatile halogenated organic compounds, including pesticides and herbicides, PCBs, and recalcitrant compounds like 1,2-DCA, chlorobenzenes, and beta-HCH. The product is mixed with water to create a slurry that can be applied using various techniques, including direct push injection, soil mixing, and trenching. It is commonly employed in the plume-wide treatment of the source, mid-plume, and downgradient plume regions. Plume area treatment is typically accomplished by injecting slurry throughout the impacted thickness at points located using a triangular grid pattern. Effective barriers can be constructed by injection using a tight point grid layout, trenching, or soil-mixing. Specialized injection techniques have been developed to address a variety of lithologic settings such as sands, fractured bedrock, and consolidated bedrock.

RPI Group

RPI Group, a collaboration between Remediation Products, Inc. (RPI) and a group of select remediation contractors, is committed to ensuring the success of CAT 100. Their three-pronged approach includes high-density soil and groundwater sampling (Remedial Design Characterization) to define the distribution of contaminant mass and support high-resolution conceptual site models, expert design targeting COC mass as a function of location, and proven installation techniques to ensure distribution of CAT 100 in the targeted intervals. The RPI Quality Assurance Laboratory, located in Golden, CO, provides comprehensive analytical support throughout the project at no charge to the client. AST Environmental (AST) serves as RPI's Distributor & Training Affiliate for the installation contractors, further enhancing the product's reliability. A list of the contractors can be found on the RPI's website.

