

International Grooving & Grinding Association

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FREQUENTLY ASKED QUESTIONS REGARDING CONCRETE SAWING SLURRY

Q. What is concrete slurry?

A. Concrete saw slurry is an inert mixture of water and hardened concrete fines also known as concrete grinding residue (CGR), which is the resulting concrete residue generated during sawing and diamond grinding operations.

Q. Where does concrete slurry come from?

A. Concrete saw slurry is the byproduct generated when a diamond saw-blade's cooling water mixes with the concrete fines created by the sawing or diamond grinding of a concrete pavement.

Q. Is concrete slurry hazardous or harmful to the environment?

A. No, it is not. The California Department of Transportation (CALTRANS) found in their slurry research that:

- Slurry samples for organic and inorganic constituents displayed no hazardous characteristics when compared to California Title 22 hazardous waste standards.
- Their 96-hour Acute Toxicity testing showed no toxicity characteristics and that the slurry samples represent no toxic threat to public health and the environment.
- The pH characteristics of disposed slurry did not exceed Title 22 standards.

Q. Can slurry be harmful to vegetation or ground water?

A. A North Dakota State University (NDSU) research project determined that when deposited in the proper fashion slurry has no detrimental effect on vegetation or ground water. Slurry is not harmful to the mechanical or hydraulic properties of the soil, increased plant growth, and has a negligible effect on the trace metals in both the soil and the vegetation exposed to slurry. As a matter of fact, New York State encourages that concrete saw slurry be deposited on the adjacent slopes when conditions permit rather than collecting and depositing it in a single location.

Q. What is the best way to dispose of slurry?

A. Slurry disposal will vary by state or even counties. In many rural areas it is spread along the adjacent roadway slopes as the saw cutting or grinding operation moves down the roadway. This is the most economical and common disposal practice where conditions permit. In areas with closed drainage systems, slurry is collected and properly disposed of outside the highway right-of-way or placed in a temporary concrete washout facility.

- Proper spreading practices: The NDSU research indicates that

“slurry applied at less than 40 tons/acre, which is far more than is applied during normal grinding operations, is not harmful to the mechanical properties of the soil, increases the shoot biomass (plant growth) of smooth brome, and has a negligible effect on the trace metals in both the soil and smooth brome.”

- pH control plan: The addition of slurry to the soil does have a liming potential, which could be either good or bad based on soil type. It is recommended that good pH control measures are part of any slurry handling plan.
- Identify environmentally sensitive areas prior to starting project: Due to the liming potential, the soil type should be identified before beginning the project. Identify wetlands and other sensitive areas where slurry discharge operations are not permitted. The slurry shall not be spread within 100 feet of any natural stream or lake or within 3 feet of a water-filled ditch. Efforts shall be taken to restrict the spreading operation to above the high-water line of the ditch.

Q. Is there legislation that governs the disposal of slurry on the ground?

A. Yes. Minnesota recently enacted legislation redefining their solid waste definition throughout the state, exempting concrete saw-cut slurry from the solid waste classification and allowing slurry to be spread along adjacent slopes. This was done in part due to the fact that there was no evidence that saw slurry constituted a threat to the environment.

Q. What is an equivalent calcium carbonate concentration? And what does this mean?

A. The calcium carbonate equivalent (CCE) is the expression of the acid-neutralizing capacity of a carbonate rock relative to that of pure calcium carbonate (e.g. calcite). It is expressed as a percentage. Many DOTs will regulate the deposition of slurry on the adjacent shoulder in terms of the CCE.

Q. How can I learn more?

A. For more detail on slurry, go to IGGA.net and refer to the IGGA Concrete Grinding Residue Fact Sheet, Slurry BMP, NDSU research, Caltrans Slurry report, CSDA Hull report and NYSDOT/NYSDEC Guidance.

QUESTIONS? For more information go to <http://www.igga.net/technical-information/technical-information.cfm?mode=display&article=6> or call IGGA at (518) 731-7450.