Ohio Water Resources Council

November 2012

Salt Storage Guidance

Protecting Ohio's Water Resources

Application of salt (sodium chloride) to roads and walkways during the winter is necessary to ensure safety and mobility. But storing salt outdoors can cause serious water pollution.

Storm water that passes through exposed salt piles may create brine, or highly concentrated saltwater. In recent years, uncontrolled brine runoff has contaminated both public and private drinking water supplies around Ohio. One village's supply was so degraded that its wells had to be abandoned.

Why the concern?

Millions of pounds of salt are used in Ohio every winter. Environmental damage is generally minimized because salt is widely dispersed when spread and is diluted by melting ice and snow. Brine runoff from a salt pile, however, is not diluted, and can have salt concentrations up to 10 times that of sea water.

Brine entering fresh water streams or lakes can harm fish and other aquatic life. Brine-contaminated ground water may be even more problematic, as treatment to remove dissolved salt is extremely expensive. Impacted aquifers may not be able to supply drinking water for decades.

Who approves salt storage locations?

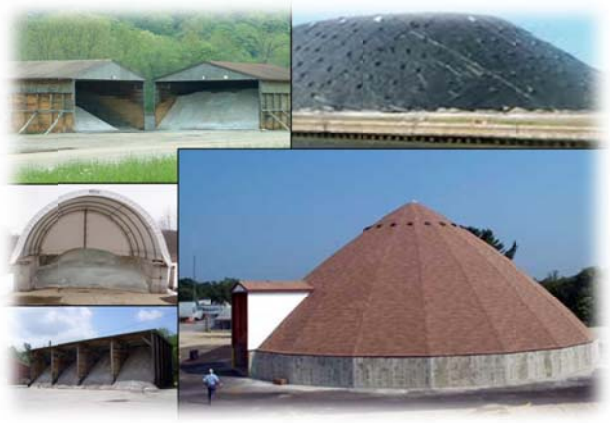
The State of Ohio does not regulate the use of salt, nor does it have authority to dictate siting criteria for storage facilities. Large-scale salt handling is considered an industrial activity subject to local zoning rules.

Brine created from rainfall passing through salt is classified as industrial wastewater and may be subject to permitting requirements. Salt piles of any size that are managed outdoors for more than seven days will be required to obtain a permit-to-install (PTI) from Ohio EPA's Division of Surface Water. See "Additional Resources" for more information.

Permits can be required for any site that discharges (or drains) wastewater to a receiving water body, such as a lake or stream. In certain municipalities, discharging brine to storm sewer systems is considered illegal under current storm water management regulations administered by Ohio EPA. Further, Ohio EPA considers discharges to ground water from salt storage operations to be unpermitted discharges.

Where should facilities be located?

Salt should not be stored in floodplains, or close to wetlands, ditches or wells. An outdoor facility should be outside of source water protection areas (designated zones near ground water wells that provide public drinking water supplies). A very large outdoor pile should not be in an area that is highly susceptible to ground water contamination.



POINTS TO REMEMBER

- Be aware of nearby wells, ditches, or water bodies.
- Store salt indoors whenever possible.
- Keep outdoor piles securely covered with a tarp.
- Care should be taken to minimize spillage outdoors.
- Clean up spills immediately and return salt to storage.
- A storm water collection system is needed for salt stored outdoors.
- A discharge permit or permit-to-install may be required.

ADDITIONAL RESOURCES

- *Draft Recommendations for Salt Storage: Guidance for Protecting Ohio's Water Resources*, Ohio Water Resources Council, 2012. ***www.ohiodnr.com/tabid/23948/Default.aspx***
- The Salt Institute's *Salt Storage Handbook*
- *To determine whether you need a discharge permit or permit-to-install, see* ***www.epa.ohio.gov/dir/permit_assistance.aspx***

How should facilities be designed?

Salt should be stored, loaded and unloaded under roof and on impervious surfaces. If this is not possible, salt should be covered with a tarp at all times except when piles are under construction or salt is being removed. Brine collection systems are needed for outdoor storage.

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