Does emissions aluminum recycling plants disbursement stack have heavier particulate that falls to the ground relatively close to the stack location

Yes, emissions from aluminum recycling plants' discharge stacks typically include particulate matter, which consists of dust, smoke, and metal particulates generated during melting and other processes. This particulate matter can be heavy enough that some of it tends to fall out of the air relatively close to the stack base before dispersing further.

Specifically, secondary aluminum production plants emit various particulate matter including alumina, metals, and other hazardous air pollutants from preprocessing and furnace operations. These particles vary in size, but larger or heavier particulates fall to the ground near the stack location, while finer ultrafine particles may disperse more broadly[1] [2] [3]. In general, emissions control devices aim to reduce particulate release, but some amount still settles relatively close to the stack due to gravity and particle weight[4].

In summary, aluminum recycling stack emissions include heavier particulates that do fall near the stack as well as finer particulates that disperse farther[1] [2] [3].

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Particulate near aluminum plants

Particulates near aluminum plants often include aluminum-containing dust and other industrial emissions. These particulates can settle on nearby surfaces such as cars, homes, and pools, raising health concerns among local residents due to possible exposure to metal particles and associated chemicals[5].

Aluminum particulates in the air come from industrial processes and often exist as oxides, silicates, and hydroxides. These particles may be heavier and settle near the plant or finer and dispersed over longer distances. Sources of aluminum particulates include dust from soil, emissions from smelting and recycling, and industrial activities processing crustal minerals[6].

Some health studies indicate exposure to certain particulates and gases from aluminum smelters can affect workers and communities, with dust concentrations sometimes reaching several mg/m^3 in workplaces[7].

In summary, particulate matter near aluminum plants includes heavier aluminum dust that can settle close to the facility, as well as finer particles that can disperse further, potentially affecting

nearby residential areas[5] [6] [7].

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1. https://www.epa.gov/sites/production/files/2015-12/documents/al2fs.pdf
2. https://airqoon.com/resources/aluminum-industry-and-environmental-impacts/
3. https://www.epa.gov/sites/production/files/2020-11/documents/b12s01.pdf
4. https://www.epa.gov/sites/default/files/2020-07/documents/cs2ch1.pdf
5. https://local12.com/news/local/pollution-aluminum-plant-sparks-health-concerns-neighborhood-lindenwald-pollute-chemicals-manufacturer-usalco-particles-kids-children-chemicals-sick-ill-air-quality-study-treatment-fallout-tests-cincinnati-ohio
6. https://www.atsdr.cdc.gov/toxprofiles/tp22-c6.pdf
7. https://pmc.ncbi.nlm.nih.gov/articles/PMC4131939/