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STUDY AND ELIMINATION OF INDUSTRIAL WASTE RECYCLING PROBLEMS

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Annotation: This article is devoted to the study and elimination of problems of industrial waste processing. The article considers industrial waste and methods of reducing their environmental impact. The physical, chemical and biological methods used in the processing of industrial waste are analyzed. The article discusses the impact of waste processing processes on environmental safety, the need to develop economic efficiency and technological achievements. Effective methods of waste processing and scientifically based innovations are of great importance in protecting the environment and ensuring the sustainable development of industry.

Keywords: Industrial waste, processing, chemical methods, solid waste, liquid waste, heavy metals, waste of useful minerals, ferrous and non-ferrous metal waste, ecological passport.

Аннотация:Статья посвящена изучению и устранению проблем при переработке промышленных отходов. В статье рассматриваются промышленные отходы и методы снижения их воздействия на окружающую среду. Проанализированы физические, химические и биологические методы, применяемые при переработке промышленных отходов. В статье рассматривается влияние процессов переработки отходов на экологическую безопасность, необходимость повышения экономической эффективности и технического прогресса. Эффективные методы переработки отходов и научно обоснованные инновации имеют решающее значение для защиты окружающей среды и обеспечения устойчивого промышленного развития.

Ключевые слова: Промышленные отходы, переработка, химические методы, твердые отходы, жидкие отходы, тяжелые металлы, минеральные отходы, отходы черных и цветных металлов, экологический паспорт.

Input

With the rational use of accumulated industrial waste, a large amount of mineral fertilizers, building materials, technological and household fuel is produced, since they occupy a huge amount of land.A large amount of waste is used to improve soil composition.Gypsum and lime are added to the soils, and if the acid content is excessive, neutralizing substances are used.

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Waste from central heating plants contains 53% SiO2, 24% Al2O3, 10% Fe2O and FeO, 2% CaO, 1% MgO, 4% alkali metal oxides, and only 6% absolutely non-combustible substances. Part of the ash can be used directly; it is necessary consider the technical, economic, and organizational aspects of preparing cement, aerated concrete, expanded clay concrete, and silicate bricks. Waste utilization in agriculture. A number of large-scale wastes, including potassium fertilizer wastes, are used in agriculture.The use of phosphate raw materials in the melioration of phosphorus and phosphogypsum saline lands yields good results, as it contains macroelements Ca, S, P, Fe, Al, and Mg. The continuous use of secondary agricultural waste is ineffective, as it also contains toxic substances, leading to the death of soil macroorganisms. Phosphogypsum contains fluorine, heavy metals like arsenic and selenium. The neutralization and disposal of industrial waste is one of the environmental necessities of today. Waste disposal is considered a very difficult, labor-intensive, and costly job. If the amount of toxic substances produced in developed countries is 70 kg per person, then 500 dollars (USA) is spent on neutralizing one ton of toxic substance. Waste disposal and neutralization must be carried out at the expense of the enterprise or organization that produced the waste, and the burial site must also belong to this organization. The waste disposal site is a well-thought-out geological layer of the earth. must be studied. Because the lower layer of the soil should not be close to water, should not be sandy, and this area should not be displaced by any mudflows and avalanches. It must be said openly that such areas can never again be well-structured land, because the toxic substances in these areas reach people or animals and birds through plant products. At waste disposal sites, it is necessary to observe sanitary and hygienic standards. Fields are constantly accumulating waste, from which toxic substances are used should be periodically buried and, if necessary, recycled. However, it's best if the landfills belong to several organizations, and it's better if harmful substances accumulate in one place. The waste area includes a group performing three types of work.

1. Availability of a plant for neutralizing industrial waste, possibilities for its physicochemical processing and burning, conversion to another type, and reducing the volume of waste.

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2. The possibility of digging special deep pits for waste disposal in this area and conditions for storing all toxic substances.

3. The constant availability of specialized transport vehicles for transporting toxic and harmful waste.

Flowing water should not pass near the landfill, and such water should not be used by people for drinking or irrigating plants. The site itself may have sewerage, but it is not connected anywhere, the waste site never carries radioactive substances, and oil product residues are also not brought in. It is necessary to continuously carry out a number of organizational work at the landfill. Because to prevent safety in the field, it is necessary to neutralize toxic substances it is necessary to search for measures to prevent environmental pollution by burying and sending for recycling. organization of work such as collecting or collecting persistent toxic waste from various organizations; quick dispatch of toxic substances to the waste site by vehicles. the waste site is located at least 10 km away from residential areas.

Every industrial enterprise must have an environmental passport. The passport records the quantity and chemical composition of the enterprise's toxic emissions into the environment, methods for their detection and reduction. The enterprise not only releases gases and smoke into the atmosphere, but also the waste can be solid, liquid, or water. When issuing an environmental passport to an organization, all polluting sources are registered, and when and at what time harmful substances are released into the environment, their volume and approximate composition are recorded. The environmental passport contained general information about the organization, the raw materials used, the technical composition of the products manufactured, the composition of gases, smoke, solids, or wastewater released into the environment, and their composition after treatment, as well as information about new technologies and waste-free technologies implemented at the enterprise The list of measures aimed at environmental cleanliness by the organization and which substances and types of work are carried out for environmental cleaning, their timing, cost amounts, total and volumetric amounts of discharged substances. Now the answer to the question of how long should be indicated with a precise date.

CONCLUSION:

Processing and disposal of industrial waste is one of the important environmental issues for modern society. Ignoring this problem poses a serious threat not only to the environment, but also to human health and the lives of future generations. Therefore, the processing of waste based on modern technologies, strengthening cooperation between the state and the private sector, strengthening environmental legislation, and raising the environmental culture of the population are among the urgent tasks of today. Only through such a comprehensive approach can we reduce the negative consequences of industrial waste and achieve sustainable development.

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