

This is an unofficial translation. The binding version is the official Hebrew text.

Readers are consequently advised to consult qualified professional counsel before making any decision in connection with the enactment, which is here presented in translation for their general information only.

Water Regulations (Use and Disposal of Sludge), 5764-2004)

By the power vested in me under Section 20D (a) (2) of the Water Law, 5719-1959 (hereinafter - The Law), under Section 62B (a) of the Public Health Ordinance, 1940, and under Sections 5, 7 and 18 of the Abatement of Nuisances Law, 5721-1961, after consultation with the Minister of Health and the Water Council, and with the approval of the Internal Affairs and Environmental Protection Committee of the Knesset, I make the following Regulations:

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| Purpose | 1. The purpose of these Regulations is to prevent pollution of water resources and the causing of environmental nuisances as a result of uncontrolled disposal of sludge originating in municipal sewage. |
| Definitions | 2. In these regulations –

"Protected areas" – as per their meaning in Regulation 6 (b) of the Public Health Regulations (Sanitary Conditions for Drinking Water Drillings) 5755-1995;

"Packaging" – includes a sack, crate, box, bag or any other packaging;

"Waste disposal site" – a place used for the removal and disposal of waste;

"Sludge" – a by-product of a sewage treatment process in a sewage treatment plant, except a product as aforesaid that is obtained in the pretreatment process in which crude filtering and separation of sand and oils is carried out;

"Stabilized sludge" – sludge that has undergone treatment according to a plan which the Minister has approved as provided in Regulation 3, the purpose of which is to prevent odor nuisances and the development of flies and other harmful insects, and to reduce pathogen concentrations; |

"Class A sludge" – stabilized sludge which satisfies all the requirements as detailed below:

(1) The geometric mean of the density of fecal coliform type bacteria, determined from at least seven samples of the sludge, is less than 1000 MPN per one gram of dry material or the arithmetical mean of salmonella bacteria, determined from at least seven samples of the sludge, is less than 3 MPN per four grams of dry material;

(2) The arithmetical average of the enteric viruses determined from at least seven samples of the sludge, is less than one PFU per four grams of dry material;

(3) The arithmetical average of density of viable helminth ova determined from at least seven samples of the sludge, is less than 1 to four grams of dry material, provided that the samplings were carried out according to the method prescribed in Book 3 and explained in Book 4;

"Class B Sludge" – stabilized sludge in which the geometric average of the density of fecal coliform type bacteria determined according to at least seven samples is less than two million MPN or CFU per one gram of dry material;

"The Minister" – the Minister of Environmental Protection or whoever he has empowered for the purpose of some or all of these Regulations;

"Dry material" – material obtained after drying out of sludge at a temperature of 105 degrees centigrade by the method prescribed in Book 1 and explained in Book 4;

"Volatile material" – material found in sludge and which evaporates after heating of the dry material at a temperature of 550 degrees centigrade, in the presence of oxygen, according to the method prescribed in Book 1 and explained in Book 4;

"Total nitrogen" – the arithmetical amount of concentrations of Kjeldal nitrogen, nitrogen nitrite and nitrogen nitrate, according to the methods prescribed in Book 1;

"Sewage treatment" – action designated to reduce the concentration of pollutants in sewage;

"Pollutants" – materials that might be harmful to a person or to the environment, such as organic compounds, heavy metals, nitrogen, phosphorus and microbial pathogens;

"Accredited laboratory" – as per its meaning in the Israel Laboratory Accreditation Authority Law, 5757-1997, that was accredited to carry out the examinations specified in Regulation 3 (3);

"Operator" – an owner, holder or manager of a sewage treatment plant or of a sludge treatment plant;

"Sludge treatment plant" – a system of installations for the treatment of sludge originating in a sewage treatment plant, which is designated to reduce the concentration of pollutants in it;

"Sewage treatment plant" – a series of installations for the treatment of municipal sewage, or sewage originating in animals, which is designated to reduce the pollutant concentration in them, including a system of installations for the treatment of sludge;

"Water resource" – as defined in Section 20A of the Law;

"Surface water" – water that is open to the atmosphere;

"Heavy metals" – heavy total metals which are specified in the First Schedule whose concentration was determined by the methods prescribed in Book 1;

"Sludge disposal" – transfer of sludge from a sewage treatment plant or from a sludge treatment plant for use for the purpose of improving or fertilizing soil in accordance with these Regulations, and including, its delivery or sale;

"Book 1" – the latest edition of the Book - "Standard Methods for the Examination of Water and Wastewater": 19th Edition, 1995, American Public Health Association, 1015 15th Street N.W., Washington D.C. 20005, a copy of which is deposited for public scrutiny in the library of the Ministry of Environmental Protection (henceforth – the Ministry) in Jerusalem and in Tel Aviv;

"Book 2" – the latest edition of the book - "Standard Practice for Recovery of Viruses From Wastewater Sludge" ASTM Designation: D4994-89, 1992 Annual Book of ASTM Standards: Section 11-Water and Environment Technology, ASTM, 1916 Race Street, Philadelphia, PA 19103-1187, a copy of which is deposited for public scrutiny in the Ministry's library in Jerusalem and in Tel Aviv.

"Book 3" – the latest edition of the book "Occurrence of Pathogens in Distribution and Marketing Municipal Sludge", Yanko, W.A, EPA 600/1-87-014, 1987, National Technical Information Service, 5285 Port Royal Road, Springfield Virginia 22161 (PB 88-154273/AS) a copy of which is deposited for public scrutiny in the Ministry's library in Jerusalem and in Tel Aviv;

"Book 4" – the latest edition of the book – "Environmental Regulation and Technology, Control of Pathogens and Vector Attraction in Sewage Sludge, EPA/625/R-92/013, December 1992, a copy of which is deposited in the Ministry's library in Jerusalem and in Tel Aviv;

"CFU" (Colony Forming Units) – number of colonies of bacteria ascertained on examination by the method prescribed in Book 1 and explained in Book 3;

"MPN" (Most Probable Number) – number of bacteria ascertained on examination by the method prescribed in Book 1 and explained in Book 3;

"PFU" (Plaque Forming Units) – number of intestinal viruses ascertained on examination by the method prescribed in Book 2 and explained in Book 4;

"Municipal sewage" – waste that is removed by discharge, which originates in residential dwellings in a municipality, a local council or association of towns amongst whose functions is the installation or maintenance of a sewer, and including sewage and effluents which originate in industrial processes or breeding of animals which are connected to the municipal sewage system;

"Leachates" – liquids that were in contact with waste or originated from waste.

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| Stabilization of sludge | 3 | An operator shall submit a plan to the Minister for stabilization of sludge and shall implement it upon receipt of the Minister's approval. |
| Disposal of sludge | 4 | <p>An operator shall take the actions detailed below:</p> <p>(1) Shall dispose of sludge when all the following are met:</p> <ul style="list-style-type: none"> (a) The sludge is Class A sludge or Class B sludge; (b) The concentration of heavy metals in the sludge does not exceed that which is prescribed in the First Schedule; (c) The sludge does not cause or is not liable to cause a considerable or unreasonable odor; (d) The sludge does not constitute a base for the development of insects; <p>(2) Shall keep a detailed record of the following matters:</p> <ul style="list-style-type: none"> (a) Weight of the stabilized sludge that is produced in his plant and that is disposed from it each day, percentage of the dry material in the sludge and percentage of the volatile material in the dry material; (b) Details regarding removal of the sludge including identity of the recipient of the sludge, location and size of the area designated for improvement or fertilization and type of agricultural crop in the aforementioned area; <p>(3) Shall conduct the following examinations in an accredited laboratory:</p> <ul style="list-style-type: none"> (a) In a plant which disposes sludge in a quantity of one ton or more dry material per 24 hours – <ul style="list-style-type: none"> (1) Examinations of concentration of heavy metals as detailed in the First Schedule and density of fecal coliforms or density of salmonella bacteria - at least once a month; (2) Examinations of density of enteric viruses and density of viable helminth ova - for Class A sludge only – at least once in three months; (b) In a plant which disposes sludge in a quantity of less than one ton of dry material per 24 hours – <ul style="list-style-type: none"> (1) Examinations of concentration of heavy metals as detailed in the First Schedule and density of fecal coliforms or density of salmonella bacteria – at least once in two months; (2) Examinations of density of enteric viruses and density of concentration of viable helminth ova – for Class A sludge only – at least once in six months; |

(4) Shall preserve the records detailed in Paragraph (2), the results of the examinations detailed in Paragraph (3), the records and the ancillary documents as detailed in these Regulations and the sales, delivery or transport documents that are required under any law, as the case may be, for a period of at least two years;

(5) Shall permit whoever the Minister has empowered for such purpose, to scrutinize the records, the certificates and documents as said in this Regulation, and shall deliver copies thereof to him, upon his request.

Ancillary documents	5	A person shall not dispose of sludge that is not in packaging, unless a Form is attached to it according to the Form in the Second Schedule, and no person shall receive such sludge unless the said Form is attached to it.
Marking of packaging	6	A person shall not dispose of sludge in packaging and a person shall not receive such sludge unless the information detailed in the Form in the Second Schedule was marked on the sludge packaging or was attached to it.
Use of Sludge	7	<p>(a) A person shall not use sludge except –</p> <p>(1) If it is Class A sludge or Class B sludge;</p> <p>(2) If its use is for fertilization or improvement of soil;</p> <p>(3) In a manner in which the quantity of volatile material in the sludge in a one dunam area for a period of twelve consecutive months does not exceed 1,100 kilograms;</p> <p>(4) In a manner in which the total quantity of total nitrogen in the sludge in a one dunam area for a period of twelve consecutive months does not exceed 50 kilograms;</p> <p>(5) In a manner in which the quantities of heavy metals in a one dunam area for a period of twelve consecutive months does not exceed one or more of the following concentrations: 30 grams of Cadmium, 900 grams of Copper, 135 grams of Nickel, 300 grams of Lead, 3,750 grams of Zinc, 7.5 grams of Mercury, 600 grams of Chrome;</p> <p>(6) In soil that is not irrigated by effluent or in soil that is irrigated with effluent, the total nitrogen content of which does not exceed 15 milligrams per liter.</p> <p>(b) Without derogating from the generality of that stated in subregulation (a) –</p> <p>(1) A person shall not use Class A sludge for soil fertilization or</p>

improvement -

(a) If it is being used for ornamental cultivation in public parks and in private gardens;

(b) If it is being used for cultivation in flower pots, window-boxes and in nurseries, unless the sludge has been removed in packaging and is marked as required in Regulation 6;

(2) A person shall not use Class A Sludge for fertilization or improvement of soil which is used for agricultural crops designated for human consumption, or ornamental plants in public parks and in private gardens, and cultivation in flower pots, window-boxes and nurseries.

(c) Sludge that is designated for fertilization or improvement of soil shall be buried and covered in the ground within 48 hours of the time of its dispersion on the ground.

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| Limitation on the places of use of sludge | 8. | <p>A person shall not use sludge in the following places:</p> <p>(1) An area situated in protected areas;</p> <p>(2) A place situated at a distance of less than 50 meters from a surface water resource;</p> <p>(3) A place situated at a distance of less than 100 meters from a surface water resource that is used for drinking water;</p> <p>(4) A place in which the groundwater is situated at a depth of less than 20 meters from the ground level;</p> <p>(5) Ground whose gradient exceeds 12%.</p> |
| Restriction of use of land | 9. | <p>A person shall not use land for human food crops, for ornamental plants in public parks, for private gardens, for flowerpots and window boxes if fertilized or improved with Class A sludge, unless at least two years have elapsed since the date of such fertilization or improvement.</p> |
| Warning sign | 10. | <p>(a) Before fertilization or improvement with Class B sludge the user of the sludge shall place a warning sign in such form, and with such text and size as is provided in the Third Schedule (hereinafter - the sign).</p> <p>(b) The sign shall be placed during the use period of the sludge and for a period of at least 30 days from the date of conclusion of dispersal of the sludge.</p> <p>(c) The sign shall be displayed in a place that is visible and at a height of at least 1 meter above ground level.</p> |

(d) At the boundaries of the area in which sludge fertilization or improvement takes place, signs shall be placed at a distance of no less than one hundred meters from each other.

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| Transport of sludge | 11. Whoever transports sludge shall convey it in a transport container which is closed and sealed against leaks or spills. |
| Storage of sludge | <p>12. A holder of sludge for a period exceeding seven days shall store it in accordance with the following requirements:</p> <p>(1) The distance between the place of storage and a surface water resource shall not be less than one hundred meters;</p> <p>(2) The level of the groundwater at the place of storage shall be at least 30 meters from ground level, and the place of storage shall not be within protected areas;</p> <p>(3) The sludge shall not cause considerable or unreasonable odor and shall not constitute a base for the development of insects;</p> <p>(4) The surface used for storage of the sludge shall be sealed against permeation;</p> <p>(5) Leachates originating from sludge shall be connected to a sewage treatment system.</p> |
| Removal to a waste site | <p>13. Sludge to which some or all of the provisions of Regulation 4 (1) do not apply, or which has been used other than in accordance with Regulation 7, shall be removed to a waste disposal site, and if the sludge contains a hazardous substance as defined in the Hazardous Substances Law, 5753-1993 – it shall be removed to the hazardous waste site at Ramat Hovav, as per its meaning in Regulation 2 of the Licensing of Businesses Regulations (Disposal of Hazardous Substances Waste), 5751-1990.</p> |
| Penalties | <p>14. A person who contravenes any of the provisions of these Regulations shall be liable to six months imprisonment or to a fine as provided in Section 61 (a) (1) of the Penal Law 5737-1977.</p> |
| Commencement and validity | <p>15. (a) These Regulations shall come into force one year from the date of their publication (hereinafter - the commencement date).</p> <p>(b) Without derogating from the generality of that said in these Regulations, removal of Class B sludge and its use shall</p> |

not be permitted at the end of two years from the commencement date, and accordingly - Regulations 4 (1) (a), 5, 6, 7 (a)(1) and (b)(2) and 10 – in so far as they apply to Class B sludge – shall be valid for two years from the commencement date and Regulation 9 shall be valid for four years from the commencement date.

First Schedule

(Regulations 1 and 4 (1)(b), (3)(a)(1) and (b)(1))

Maximum Permitted Values of Concentrations of Heavy Metals in Sludge

The Metal	Concentration of the Metal in Milligrams Per One Kilogram of Dry Material
Cadmium	20
Copper	600
Nickel	90
Lead	200
Zinc	2500
Mercury	5
Chrome	400

Second Schedule

(Regulations 5 and 6)

Disposal of Sludge Form - Information Regarding the Disposed Sludge

- (1) Name of the disposing plant and its address.
- (2) Date of removal of the sludge from the plant.
- (3) Place to which the sludge is removed.
- (4) The vehicle (type and number) in which the sludge is removed.
- (5) The type of sludge (Class A or Class B).
- (6) Weight of the sludge.
- (7) Weight and percentage of dry material in the sludge.
- (8) Weight and percentage of volatile material in the dry material.
- (9) Weight (in Grams) and concentration (in milligrams per one kilogram of dry material) of the heavy metals in the sludge, detailed below:
Cadmium, Copper, Nickel, Lead, Zinc, Mercury, Chrome
- (10) Weight (in kilograms) and concentration (in grams per one kilogram of dry material), the total nitrogen, the total phosphorus and the potassium in the sludge.

Third Schedule
(Regulation 10 (a))
Warning Sign

A warning sign shall be -

(1) In the following form and text:

WARNING
SLUDGE WHICH MIGHT INCLUDE PATHOGENS
THAT ARE DANGEROUS TO HUMANS AND TO ANIMALS,
IS DISPERSED AT THIS LOCATION

(2) Of a size of at least 30 x 50 centimeters made of water resistant and weather resistant material, written in red against a white background; the size of the letters of the word "Warning" shall be at least 8 centimeters and the size of the other words shall be at least 4 centimeters.

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Streams and Springs Authorities Order

(Imposition of Stream Authority Duties on Drainage Authorities), 5763-2003

By the power vested in me under sections 2 and 11 of the Streams and Springs Authorities Law, 5725-1965, and after consulting with the relevant local authorities, I order as follows:

Definitions

1. In this order –

“The Minister” – The Minister of Environmental Protection;

“Landscape unit” – A geographical area with prominent and common contour lines with homogeneous characteristics from the point of view of natural resources, climate and habitats;

“Biodiversity” – The totality of organisms on earth, that developed in any of the living environments – terrestrial, aquatic and marine, including the diversity within organism species, between the species, and the diversity of ecosystems and landscape units;

“Ecosystem” – The structure and function of a given area including all of its biological and physical components;

“Water Commissioner” – As defined in section 11 to the Water Law, 5719-1959;

“Drainage Authority” – Any of the Drainage Authorities specified in the Schedule.

Imposition of duties

2. The duties of a Stream Authority as specified hereafter are hereby imposed on every Drainage Authority regarding every stream or every water source within its jurisdiction:

- 1) Determining the route of the stream, with the approval of the Minister and the Water Commissioner;

- 2) Protection of the landscape and natural treasures along both banks of the stream or around the spring, except for a stream and a spring within the bounds of a national park or a nature reserve as defined in the National Parks, Nature Reserves, National Sites and Memorial Sites Law, 5758-1998, and the preparation of these areas for the purpose of parks, recreation and sports; this duty shall be implemented in consultation with the Minister.

Authorization of
a plant plan

3.

- a) A plan prepared by a Drainage Authority for the purpose of fulfilling its duties under this order (hereafter – the plan) shall be approved by the Minister in addition to the approvals required under the Drainage and Protection Against Floods Law, 5718-1957, and provided these conditions are met:
 - 1) The plan was prepared based on a comprehensive environmental and ecological view of the drainage basins within the plan’s bounds;
 - 2) The Drainage Authority pre-informed the Water and Streams Division of the Ministry of Environmental Protection and the relevant district bureau about the plan;
 - 3) The plan includes instructions on the preservation of the landscape and the natural treasures under this order.
- b) The plan shall be implemented in a sustainable manner taking into consideration the functioning of the ecosystems within the plan’s bounds, the quality of water sources and the protection of biodiversity; In the matter of this subsection, “sustainable manner” – utilization of natural resources in a manner that allows natural processes to renew what was utilized;

Commencement

4. This order shall enter into force thirty days from its publication day.

Order
5766-2005

Schedule
(section 1)

1. Southern Jordan
2. Shikma – Besor
3. Arava
4. Sorek – Lachish
5. The Dead Sea
6. Hof – Hacarmel
7. Western Galilee
8. Kinneret