

ANNEX F.

EPIC DATABASE

“LETHAL DOSES OF ACUTE RADIATION EXPOSURE”

Table F1.LETHAL DOSES OF ACUTE RADIATION EXPOSURE: TERRESTRIAL ORGANISMS

Identification number of record	Type of organism	Name of organism	Type of exposure	LD, Gray	Reference
LD_T1	Terrestrial animals	<i>Anuran</i>	Gamma-exposure, external	LD _{50/30} : 24 Gy	Krivolutsky, 1983.
LD_T2	Terrestrial animals	<i>Frog</i>	Gamma-exposure, external	LD _{50/30} : 7-14 Gy	Ilyenko, Ryabtsev,1980.
LD_T3	Terrestrial animals	<i>Frog</i>	Gamma-exposure, external	LD ₅₀ : 5-10 Gy	Kudrayshov, Berenfeld, 1982.
LD_T4	Terrestrial animals	<i>Snake</i>	Gamma-exposure, external	LD _{50/30} : 80-200 Gy	Kuzin,1980; Kudrayshov, Berenfeld, 1982.
LD_T5	Terrestrial animals	<i>Snake</i>	Gamma-exposure, external	LD ₅₀ : 80-200 Gy	Kudrayshov, Berenfeld,1982.
LD_T6	Mammals	<i>Rodents</i>	Gamma-exposure, external	LD _{50/30} : 5-11 Gy	Graevskaya, 1977; Il'enko, 1974; Kuzin, 1980.
LD_T7	Mammals	<i>Field-vole</i>	Gamma-exposure, external	LD _{50/30} : 5.5-8.0 Gy	Kudrayshov, Berenfeld,1982.
LD_T8	Mammals	<i>Bat</i>	Gamma-exposure, external	LD _{50/30} : 5-7.5 Gy	Kudrayshov, Berenfeld,1982.
LD_T9	Mammals	<i>Rat</i>	Gamma-exposure, external	LD _{50/30} : 4.5-7.0 Gy	Kudrayshov, Berenfeld,1982.
LD_T10	Mammals	<i>Mouse</i>	Gamma-exposure, external	LD _{50/30} : 4.0-6.5 Gy	Kudrayshov, Berenfeld,1982.
LD_T11	Mammals	<i>She-goat</i>	Gamma-exposure, external	LD _{50/30} : 3.0-5.5 Gy	Kudrayshov, Berenfeld,1982.
LD_T12	Mammals	<i>Monkey</i>	Gamma-exposure, external	LD _{50/30} : 3.0-5.5 Gy	Kudrayshov, Berenfeld,1982.
LD_T13	Mammals	<i>Man</i>	Gamma-exposure, external	LD _{50/30} : 2.5-4.0 Gy	Kudrayshov, Berenfeld,1982.
LD_T14	Mammals	<i>Dog</i>	Gamma-exposure, external	LD _{50/30} : 2.5-4.0 Gy	Kudrayshov, Berenfeld,1982.
LD_T15	Mammals	<i>Pig</i>	Gamma-exposure, external	LD _{50/30} : 2.5-3.5 Gy	Kudrayshov, Berenfeld,1982.
LD_T16	Mammals	<i>Guinea-pig</i>	Gamma-exposure, external	LD _{50/30} : 1.5-3.5 Gy	Kudrayshov, Berenfeld,1982.
LD_T17	Mammals	<i>Mouse</i>	X-rays	LD _{50/30} : 6.4 Gy	Bond et.al., 1971.
LD_T18	Mammals	<i>Rat</i>	X-rays	LD _{50/30} : 7.1 Gy	Bond et.al., 1971.
LD_T19	Mammals	<i>Guinea-pig</i>	X-rays	LD _{50/30} : 4.5 Gy	Bond et.al., 1971.
LD_T20	Mammals	<i>Rabbit</i>	X-rays	LD _{50/30} : 7.5 Gy	Bond et.al., 1971.
LD_T21	Mammals	<i>He-goat</i>	X-rays	LD _{50/30} : 2.4 Gy	Bond et.al., 1971.
LD_T22	Mammals	<i>Pig</i>	X-rays	LD _{50/30} : 2.5 Gy	Bond et.al., 1971.
LD_T23	Mammals	<i>Donkey</i>	Gamma-exposure, external	LD _{50/30} : 2.5-3.7 Gy	Bond et.al., 1971.
LD_T24	Mammals	<i>Dog</i>	X-rays	LD _{50/30} : 2.5 Gy	Bond et.al., 1971.
LD_T25	Mammals	<i>Small rodents</i>	Gamma-exposure, external	LD _{50/30} : 3-6 Gy	Bacq, Alexander,1963.
LD_T26	Mammals	<i>She-goat</i>	Gamma-exposure, external	LD _{50/30} : 3.5 Gy	Bacq, Alexander,1963.
LD_T27	Mammals	<i>Raccoon</i>	Gamma-exposure, external	LD _{50/30} : 5.8 Gy	Colley, 1965.
LD_T28	Mammals	<i>Lynx</i>	Gamma-exposure, external	LD _{50/30} : 5.8 Gy	Colley, 1965.
LD_T29	Mammals	<i>Grey fox</i>	Gamma-exposure, external	LD _{50/30} : 7.1 Gy	Colley, 1965.
LD_T30	Mammals	<i>Rabbit</i>	Gamma-exposure,	LD _{50/30} : 7.5-8.2	Bacq,

			external	Gy	Alexander,1963.
LD_T31	Mammals	<i>Peromiscus leucopus</i>	Gamma-exposure, external	LD _{50/30} : 9.72 Gy	Blaylock et.al., 1966.
LD_T32	Mammals	<i>Peromiscus leucopus</i>	Gamma-exposure, external	LD _{50/30} : 10.7 Gy	Dunaway et.al., 1967.
LD_T33	Mammals	<i>Clethrionomys rutilus</i>	Gamma-exposure, external	LD _{50/30} : 9.6 Gy	Il'enko et.al., 1974, 1977.
LD_T34	Mammals	<i>C.glareolus</i>	Gamma-exposure, external	LD _{50/30} : 9.7 Gy	Il'enko et.al., 1974,1977.
LD_T35	Mammals	<i>Mus musculus</i>	Gamma-exposure, external	LD _{50/30} : 7 Gy	Golley et.al., 1965a.
LD_T36	Mammals	<i>Apodemus sylvaticus</i>	Gamma-exposure, external	LD _{50/30} : 6 Gy	Il'enko et.al., 1974.
LD_T37	Mammals	<i>Apodemus agrarius</i>	Gamma-exposure, external	LD _{50/30} : 6.6 Gy	Il'enko et.al., 1974.
LD_T38	Mammals	<i>Apodemus flavicollis</i>	Gamma-exposure, external	LD _{50/30} : 5.44 Gy	Il'enko, Krapivko, 1989.
LD_T39	Mammals	<i>Rattus norvegicus</i>	Gamma-exposure, external	LD _{50/30} : 8.2 Gy	Blaylock et.al., 1966.
LD_T40	Mammals	<i>Micromis minutus</i>	Gamma-exposure, external	LD _{50/30} : 6.5 Gy	Il'enko et.al., 1974.
LD_T41	Mammals	<i>Citellus major</i>	X-rays	LD _{50/30} : 6 Gy	Pomerantseva, 1957.
LD_T42	Mammals	<i>Procyon lotor</i>	Gamma-exposure, external	LD _{50/30} : 5.8 Gy	Golley et.al., 1965b.
LD_T43	Mammals	<i>Urocyon cinereoargenteus</i>	Gamma-exposure, external	LD _{50/30} : 7.1 Gy	Golley et.al., 1965b.
LD_T44	Mammals	<i>Linx rufus</i>	Gamma-exposure, external	LD _{50/30} : 5 Gy	Golley, 1965.
LD_T45	Bird	Anas platyrhynchos. Mallard	Gamma-exposure, external	LD _{50/30} : 6.3-7	Abraham, 1972; Gurnov et al., 1970; reviewed in Ryabtsev, Lebedeva, 1999
LD_T46	Bird	Chloris chloris. Greenfinch	Gamma-exposure, external	LD _{50/30} : 6Gy	Kushniruk, 1962
LD_T47	Bird	Carduelis carduelis . Goldfinch	Gamma-exposure, external	LD _{50/30} : 6Gy	Kushniruk, 1962
LD_T48	Bird	Carduelis cannabina. Linnet	Gamma-exposure, external	LD _{50/30} : 4 Gy	Kushniruk, 1962
LD_T49	Bird	Passer montanus. Tree sparrow	Gamma-exposure, external	LD _{50/30} : 6.3 Gy	Kushniruk, 1962
LD_T50	Bird	Columba livia. Rock-dove	Gamma-exposure, external	LD _{50/30} : 9.2 Gy	Sterner & Tyler, 1962

Table F2. LETHAL DOSES OF ACUTE RADIATION EXPOSURE: PLANTS

Identification number of record	Type of organism	Name of organism	Type of exposure	LD, Gray	Reference
LD_P1	Plants	<i>Coniferales</i>	Gamma-exposure, external	LD _{50/30} : 3.8-12 Gy	Alexakhin et.al., 1970; Alexakhin, Karaban',1979; Sperrow, Wudvell, 1968; Tikhomirov,1972.
LD_P2	Plants	<i>Deciduous</i>	Gamma-exposure, external	LD _{50/30} : 20-100 Gy	Alexakhin et.al., 1970; Alexakhin, Karaban',1979; Sperrow,Wudvell,196

					8; Tikhomirov,1972.
LD_P3	Plants	<i>Pinus sylvestris L.</i>	Gamma-exposure, external	LD ₅₀ : 10-90 Gy	Osborne, Lunden, 1961.
LD_P4	Plants	<i>Pinus sylvestris L.</i>	Gamma-exposure, external	LD ₁₀₀ : 100 Gy	Preobrazhenskaya, 1961.
LD_P5	Plants	<i>Pinus sylvestris L.</i>	Gamma-exposure, external	LD ₅₀ : 30 Gy	Miksche, Rudolph, 1968.
LD_P6	Plants	<i>Pinus negra Arn.</i>	Gamma-exposure, external	LD ₁₀₀ : 80 Gy	Dudic, 1961.
LD_P7	Plants	<i>Pinus resinosa Loisel.</i>	Gamma-exposure, external	LD ₅₀ : <90 Gy	Miksche, Rudolph, 1968.
LD_P8	Plants	<i>Pinus contorta Boland.</i>	Gamma-exposure, external	LD ₅₀ : <70 Gy	Miksche, Rudolph, 1968.
LD_P9	Plants	<i>Pinus banksiana Lindl.</i>	Gamma-exposure, external	LD ₅₀ : <120 Gy	Miksche, Rudolph, 1968.
LD_P10	Plants	<i>Picea excelsa L.</i>	Gamma-exposure, external	LD ₁₀₀ : 100 Gy	Preobrazhenskaya, 1961.
LD_P11	Plants	<i>Picea abies (L.)Karst.</i>	Gamma-exposure, external	LD ₁₀₀ :50 Gy	Kudinov, 1968.
LD_P12	Plants	<i>Picea abies (L.)Karst.</i>	Gamma-exposure, external	LD ₅₀ : >20 Gy	Miksche, Rudolph, 1968.
LD_P13	Plants	<i>Picea glauca (Moench.) Voss.</i>	Gamma-exposure, external	LD ₅₀ : 30 Gy	Radiobiological Symp., 1968.
LD_P14	Plants	<i>Picea mariana Britt.</i>	Gamma-exposure, external	LD ₅₀ : <60 Gy	Radiobiological Symp., 1968.
LD_P15	Plants	<i>Quercus L.</i>	Gamma-exposure, external	LD ₇₀ : <50 Gy	Privalov, 1968.
LD_P16	Plants	<i>Betula verrucosa Ehrh.</i>	Gamma-exposure, external	LD ₅₀ : 100 Gy	Kudinov, 1968.
LD_P17	Plants	<i>Betula verrucosa Ehrh.</i>	Gamma-exposure, external	LD ₁₀₀ : >150 Gy	Kudinov, 1968.
LD_P18	Plants	<i>Betula pubescens Ehrh.</i>	Gamma-exposure, external	LD ₅₀ : <100 Gy	Kudinov, 1968.
LD_P19	Plants	<i>Betula pubescens Ehrh.</i>	Gamma-exposure, external	LD ₁₀₀ : >100 Gy	Kudinov, 1968.
LD_P20	Plants	<i>Alnus incana (L.) Moench.</i>	Gamma-exposure, external	LD ₁₀₀ : 150 Gy	Kudinov, 1968.
LD_P21	Plants	<i>P.virginiana; P.gerotina</i>	X-rays	LD ₅₀ : 200-300 Gy	Ivanovich, Tuntsovich, 1959.
LD_P22	Plants	<i>P.virginiana; P.gerotina</i>	X-rays	LD ₁₀₀ : 500 Gy	Ivanovich, Tuntsovich, 1959.
LD_P23	Plants	<i>Tilia cordata Mill.</i>	Gamma-exposure, external	LD ₇₀ : >150 Gy	Privalov, 1963.
LD_P24	Plants	<i>Vicia cracca L.</i>	Gamma-exposure, external	LD ₅₀ : 170 Gy	Preobrazhenskaya, 1971.
LD_P25	Plants	<i>Vicia cracca L.</i>	Gamma-exposure, external	LD ₁₀₀ : 370 Gy	Preobrazhenskaya, 1971.
LD_P26	Plants	<i>Plantago major L.</i>	Gamma-exposure, external	LD ₅₀ : 100 Gy	Bowen, Smith, 1959.
LD_P27	Plants	<i>Leonurus cardiaca L.</i>	Gamma-exposure, external	LD ₅₀ : >250 Gy	Preobrazhenskaya, 1971.
LD_P28	Plants	<i>Leonurus cardiaca L.</i>	Gamma-exposure, external	LD ₁₀₀ : >750 Gy	Preobrazhenskaya, 1971.
LD_P29	Plants	<i>Salvia verticillata L.</i>	Gamma-exposure, external	LD ₅₀ : >500 Gy	Preobrazhenskaya, 1971.
LD_P30	Plants	<i>Salvia verticillata L.</i>	Gamma-exposure, external	LD ₁₀₀ : <1000 Gy	Preobrazhenskaya, 1971.
LD_P31	Plants	<i>Poa trivialis L.</i>	X-rays	LD ₅₀ : 150 Gy	Preobrazhenskaya, 1971.
LD_P32	Plants	<i>Festuca pratensis Huds.</i>	Gamma-exposure, external	LD ₅₀ : 100 Gy	Preobrazhenskaya, 1961.

LD_P33	Plants	<i>Festuca pratensis</i> <i>Huds.</i>	Gamma-exposure, external	LD ₁₀₀ : <250 Gy	Preobrazhenskaya, 1961.
LD_P34	Plants	<i>Agropyron repens</i> <i>L.</i>	Gamma-exposure, external	LD ₁₀₀ : <250 Gy	Preobrazhenskaya, 1959.

Table F3. LETHAL DOSES OF ACUTE RADIATION EXPOSURE: AQUATIC ORGANISMS

ID-number	Type of organism	Name of organism	Type of exposure	LD, Gray	Reference
LD_A1	Aquatic organisms	<i>Coelenterata</i> <i>Pelmatohydra</i> <i>oligactis</i>	Gamma-exposure, external	LD ₁₀₀ : 120 Gy	Polikarpov, 1957.
LD_A2	Aquatic organisms	<i>Coelenterata Hydra</i> <i>fusca</i>	Gamma-exposure, external	LD ₁₀₀ : 20-90 Gy	Nikitin, 1958.
LD_A3	Aquatic organisms	<i>Worms Planaria</i> <i>polychroa</i>	Gamma-exposure, external	LD ₁₀₀ : 55 Gy	Nikitin, 1938.
LD_A4	Aquatic organisms	<i>Worms Dendrocoelum</i> <i>lacteum</i>	Gamma-exposure, external	LD ₁₀₀ : 100 Gy	Shmidt, 1946.
LD_A5	Aquatic organisms	<i>Crustacea Artemia</i> <i>salina Wet ovums</i>	Gamma-exposure, external	LD ₅₀ : 200 Gy	Bonham, Palumbo, 1951.
LD_A6	Aquatic organisms	<i>Crustacea Artemia</i> <i>salina Dry ovums</i>	Gamma-exposure, external	LD ₅₀ : 500 Gy	Bonham, Palumbo, 1951.
LD_A7	Aquatic organisms	<i>Crustacea Calliopus</i> <i>laeviusculus</i>	Gamma-exposure, external	LD ₅₀ : 10 Gy	Bonham, Palumbo, 1951.
LD_A8	Aquatic organisms	<i>Crustacea Calliopus</i> <i>laeviusculus</i>	Gamma-exposure, external	LD ₁₀₀ : 64 Gy	Bonham, Palumbo, 1951.
LD_A9	Aquatic organisms	<i>Crustacea Allorchester</i> <i>angustis</i>	Gamma-exposure, external	LD ₅₀ : 10 Gy	Bonham, Palumbo, 1951.
LD_A10	Aquatic organisms	<i>Crustacea Allorchester</i> <i>angustis</i>	Gamma-exposure, external	LD ₁₀₀ : 64 Gy	Bonham, Palumbo, 1951.
LD_A11	Aquatic organisms	<i>Antropoda Daphia</i> <i>magna Whitebait</i>	Gamma-exposure, external	LD ₁₀₀ : 80 Gy	Nikitin, 1958.
LD_A12	Aquatic organisms	<i>Mollusca Radix</i> <i>japonica</i>	Gamma-exposure, external	LD ₅₀ : 50 Gy	Bonham, Palumbo, 1951.
LD_A13	Aquatic organisms	<i>Mollusca Tkais</i> <i>lamelosa</i>	Gamma-exposure, external	LD ₅₀ : 13 Gy	Bonham, Palumbo, 1951.
LD_A14	Aquatic organisms	<i>Mollusca Physa acuta</i>	Gamma-exposure, external	LD ₁₀₀ : 100 Gy	Nikitin, 1958.
LD_A15	Aquatic organisms	<i>Mollusca Physa acuta</i> <i>Ovums</i>	Gamma-exposure, external	LD ₁₀₀ : 40 Gy	Nikitin, 1958.
LD_A16	Aquatic organisms	<i>Mollusca Planorbis</i> <i>marginatus</i>	Gamma-exposure, external	LD ₁₀₀ : 100 Gy	Nikitin, 1958.
LD_A17	Aquatic organisms	<i>Mollusca Helisoma</i> <i>subcrenatum State of</i> <i>mitosis</i>	Gamma-exposure, external	LD ₅₀ : 1 Gy	Bonham, 1955.
LD_A18	Aquatic organisms	<i>Mollusca Helisoma</i> <i>subcrenatum</i> <i>Trachophora</i>	Gamma-exposure, external	LD ₅₀ : 5-10 Gy	Bonham, 1955.
LD_A19	Aquatic organisms	<i>Fish Carassius</i> <i>auratus</i>	Gamma-exposure, external	LD ₅₀ : 6.7 Gy	Ellinger, 1945.
LD_A20	Aquatic organisms	<i>Fish Oncorhynchus</i> <i>tschawytscha Larvae</i>	Gamma-exposure, external	LD ₅₀ : 10 Gy	Bonham et.al., 1948.
LD_A21	Aquatic organisms	<i>Fish Oncorhynchus</i> <i>tschawytscha</i> <i>Whitebait</i>	Gamma-exposure, external	LD ₅₀ : 12.5-25 Gy	Bonham et.al., 1948.
LD_A22	Aquatic organisms	<i>Fish Salmo gairdnerii</i>	Gamma-exposure, external	LD ₅₀ : 15 Gy	Welander, 1949.
LD_A23	Aquatic organisms	<i>Amphibia Rana sp.</i>	Gamma-exposure, external	LD ₅₀ : 7 Gy	Bacq, Alexander, 1955.
LD_A24	Aquatic organisms	<i>Coelenterata</i> <i>Anemonia sulcata</i>	Gamma-exposure, external	LD ₅₀ : 2500 Gy	Kudrayshov, Berenfeld, 1982.
LD_A25	Aquatic organisms	<i>Coelenterata Hydra</i> <i>fusca</i>	Gamma-exposure, external	LD ₅₀ : 50 Gy	Kudrayshov, Berenfeld, 1982.

LD_A26	Aquatic organisms	<i>Mollusca Thais</i>	Gamma-exposure, external	LD ₅₀ : 200 Gy	Kudrayshov, Berenfeld, 1982.
LD_A27	Aquatic organisms	<i>Mollusca Radix japonica</i>	Gamma-exposure, external	LD ₅₀ : 120 Gy	Kudrayshov, Berenfeld, 1982.
LD_A28	Aquatic organisms	<i>Arthropoda Artemia salina</i>	Gamma-exposure, external	LD ₅₀ : 200-900 Gy	Kudrayshov, Berenfeld, 1982.
LD_A29	Aquatic organisms	<i>Arthropoda Daphnia magna</i>	Gamma-exposure, external	LD ₅₀ : 50 Gy	Kudrayshov, Berenfeld, 1982.
LD_A30	Aquatic organisms	<i>Fish Carassius auratus</i>	Gamma-exposure, external	LD ₅₀ : 5-20 Gy	Kudrayshov, Berenfeld, 1982.
LD_A31	Aquatic organisms	<i>Fish Carassius auratus</i>	X-rays	LD _{50/30} : 23,2 Gy	Schachmeister et.al., 1962.
LD_A32	Aquatic organisms	<i>Fish Carassius auratus</i>	Gamma-exposure, external	LD _{50/30} : 35 Gy	Bonet-Maury, 1963.
LD_A33	Aquatic organisms	<i>Amphibia Rana pipiens</i>	X-rays	LD _{50/30} : 7 Gy	Stearner, 1960.

Table F4. LETHAL DOSES OF ACUTE RADIATION EXPOSURE: SOIL FAUNA

ID-number	Type of organism	Name of organism	Type of exposure	LD, Gray	Reference
LD_S1	Soil fauna	<i>Enchitreidae</i>	Gamma-exposure, external	LD _{50/30} : 500 Gy	Niaussat, 1968
LD_S2	Soil fauna	<i>Earthworms</i>	Gamma-exposure, external	LD _{50/30} : 600-1600 Gy	Krivolutsky, 1983.
LD_S3	Soil fauna	<i>Acarina</i>	Gamma-exposure, external	LD _{50/30} : 80-300 Gy	Krivolutsky, 1983.
LD_S4	Soil fauna	<i>Oribatidae</i>	Gamma-exposure, external	LD _{50/30} : 250 Gy	Krivolutsky, 1983.
LD_S5	Soil fauna	<i>Gamasoidae</i>	Gamma-exposure, external	LD _{50/30} : 80 Gy	Krivolutsky, 1983.
LD_S6	Soil fauna	<i>Scorpions</i>	Gamma-exposure, external	LD _{50/30} : 500-600 Gy	Ramade, 1981
LD_S7	Soil fauna	<i>Myriapoda</i>	Gamma-exposure, external	LD _{50/30} : 160-1800 Gy	Krivolutsky, 1983.
LD_S8	Soil fauna	<i>Inlus terrestris</i>	Gamma-exposure, external	LD _{50/30} : 600 Gy	Krivolutsky, 1983.
LD_S9	Soil fauna	<i>Chilopoda</i>	Gamma-exposure, external	LD _{50/30} : 150 Gy	Auerbach et.al, 1956.
LD_S10	Soil fauna	<i>Collembola</i>	Gamma-exposure, external	LD _{50/30} : 250 Gy	Auerbach et.al, 1956.
LD_S11	Soil fauna	<i>Belbidae Acarina</i>	Gamma-exposure, external	LD _{50/30} : 750 Gy	Auerbach et.al, 1956.
LD_S12	Soil fauna	<i>Oribatidae</i>	Gamma-exposure, external	LD _{50/30} : 800-1250 Gy	Auerbach et.al, 1956.

LD_S13	Soil fauna	<i>Gamasoidae</i>	Gamma-exposure, external	LD _{50/30} : 80 Gy	Auerbach et.al, 1956.
LD_S14	Soil fauna	<i>Insects Imago</i>	Gamma-exposure, external	LD ₁₀₀ : 800-2000 Gy	Kalmykov, 1961; Peredelsky,1957; O'Brien,Wolfe, 1964.
LD_S15	Soil fauna	<i>Insects Embryo</i>	Gamma-exposure, external	LD ₁₀₀ : 1-250 Gy	Kalmykov,1961; Peredelsky,1957; O'Brien,Wolfe,1964.
LD_S16	Soil fauna	<i>Insects Larvae</i>	Gamma-exposure, external	LD ₁₀₀ : 20-150 Gy	Kalmykov, 1961; Peredelsky,1957; O'Brien,Wolfe,1964.
LD_S17	Soil fauna	<i>Insects Chrysalis</i>	Gamma-exposure, external	LD ₁₀₀ : 20-250 Gy	Kalmykov, 1961; Peredelsky,1957; O'Brien,Wolfe,1964.
LD_S18	Soil fauna	<i>Ant Ergates</i>	Gamma-exposure, external	LD: 1400-1900 Gy	Cole et.al., 1959.
LD_S19	Soil fauna	<i>Folsomia sp. Collembola</i>	Gamma-exposure, external	LD _{50/30} : 1256 Gy	Styron, 1973.
LD_S20	Soil fauna	<i>Deroceras agreste Slugs</i>	Gamma-exposure, external	LD _{50/30} : 115 Gy	Krivolutsky, 1983.
LD_S21	Soil fauna	<i>Icerya purchasi Scale insect</i>	Gamma-exposure, external	LD ₁₀₀ : 15 Gy	Ramade, 1981.
LD_S22	Soil fauna	<i>Musca domestica Diptera</i>	Gamma-exposure, external	LD ₁₀₀ : 40 Gy	Ramade, 1981.
LD_S23	Soil fauna	<i>Callitroga hominivorax Diptera</i>	Gamma-exposure, external	LD ₁₀₀ : 50 Gy	Ramade, 1981.
LD_S24	Soil fauna	<i>Drosophila melanogaster Diptera</i>	Gamma-exposure, external	LD ₁₀₀ : 160 Gy	Ramade, 1981.
LD_S25	Soil fauna	<i>Habrobracon sp. Hymenoptera</i>	Gamma-exposure, external	LD ₁₀₀ : 75 Gy	Ramade, 1981.
LD_S26	Soil fauna	<i>Anobium punctatum Lepidoptera</i>	Gamma-exposure, external	LD ₁₀₀ : 80 Gy	Ramade, 1981.
LD_S27	Soil fauna	<i>Lyctus sp.Lepidoptera</i>	Gamma-exposure, external	LD ₁₀₀ : 320 Gy	Ramade, 1981.
LD_S28	Soil fauna	<i>Tyroglyphus farinae Tick</i>	Gamma-exposure, external	LD ₁₀₀ : 500 Gy	Ramade, 1981.
LD_S29	Soil fauna	<i>Androctonus sp.Scorpions</i>	Gamma-exposure, external	LD ₁₀₀ : 800 Gy	Ramade, 1981.
LD_S30	Soil fauna	<i>Ditylenchus dipsaci Nematodes</i>	Gamma-exposure, external	LD ₁₀₀ : 960 Gy	Ramade, 1981.
LD_S31	Soil fauna	<i>Sarmatijulus Kessleri Inlus terrestris</i>	Gamma-exposure, external	LD _{50/30} : 600-1100 Gy	Krivolutsky, Filipova,1979.

LD_S32	Soil fauna	<i>Myriapoda Diplopoda</i>	Gamma-exposure, external	LD _{50/30} : 100 Gy	Edwards, 1969.
LD_S33	Soil fauna	<i>Myriapoda Diplopoda</i>	Gamma-exposure, external	LD ₁₀₀ : 2000 Gy	Edwards, 1969.
LD_S34	Soil fauna	<i>Carabidae</i>	Gamma-exposure, external	LD _{50/30} : 1000 Gy	Krivolutsky, 1983.
LD_S35	Soil fauna	<i>Staphylinidae</i>	Gamma-exposure, external	LD _{50/30} : 1000 Gy	Krivolutsky, 1983.
LD_S36	Soil fauna	<i>Scarabaeidae</i>	Gamma-exposure, external	LD _{50/30} : 1700 Gy	Krivolutsky, 1983.
LD_S37	Soil fauna	<i>Tenebrionidae</i>	Gamma-exposure, external	LD _{50/30} : 2100 Gy	Krivolutsky, 1983.
LD_S38	Soil fauna	<i>Nematoda</i>	Gamma-exposure, external	LD _{50/30} : 100-1000 Gy	Krivolutsky, 1983.
LD_S39	Soil fauna	<i>Nematoda Molgula</i>	Gamma-exposure, external	LD ₅₀ : 50 Gy	Kudrayshov, Berenfeld, 1982.
LD_S40	Soil fauna	<i>Insects Drosophila Imago</i>	Gamma-exposure, external	LD ₅₀ : 950 Gy	Kudrayshov, Berenfeld, 1982.
LD_S41	Soil fauna	<i>Insects Chaoborus Larvae</i>	Gamma-exposure, external	LD ₅₀ : 100-250 Gy	Kudrayshov, Berenfeld, 1982.
LD_S42	Soil fauna	<i>Insects Tribolium confusum Imago</i>	Gamma-exposure, external	LD ₅₀ : 200 Gy	Kudrayshov, Berenfeld, 1982.
LD_S43	Soil fauna	<i>Insects Calandria granria Imago</i>	Gamma-exposure, external	LD ₅₀ : 50 Gy	Kudrayshov, Berenfeld, 1982.
LD_S44	Soil fauna	<i>Insects Drosophila melanogaster Imago</i>	Gamma-exposure, external	LD ₁₀₀ : 640 Gy	Hasset, 1952.
LD_S45	Soil fauna	<i>Insects Musca domestica Larvae</i>	Gamma-exposure, external	LD ₅₀ : 11-13 Gy	Cole et.al., 1959.
LD_S46	Soil fauna	<i>Insects Habrobracon juglands Imago</i>	Gamma-exposure, external	LD: >1800 Gy	Erdman, 1960; Sullivan, Grosh, 1953.
LD_S47	Soil fauna	<i>Insects Anobium punctatum Ovums</i>	Gamma-exposure, external	LD ₁₀₀ : 40 Gy	Bjetchly, Fischer, 1957.
LD_S48	Soil fauna	<i>Insects Tribolium castaneum Ovums</i>	Gamma-exposure, external	LD ₁₀₀ : 17 Gy	Erdman, 1962.

LD_S49	Soil fauna	<i>Insects Tribolium castaneum Imago</i>	Gamma-exposure, external	LD ₁₀₀ : 300 Gy	Erdman, 1962.
LD_S50	Soil fauna	<i>Insects Xestobium rufovillosum Ovums</i>	Gamma-exposure, external	LD ₁₀₀ : 320 Gy	Bjetchly, Fischer,1957.
LD_S51	Soil fauna	<i>Insects Lyctus brunneus Ovums</i>	Gamma-exposure, external	LD _{90/7} : 640 Gy	Bjetchly, Fischer,1957.
LD_S52	Soil fauna	<i>Insects Dermestes Imago</i>	Gamma-exposure, external	LD ₁₀₀ : 640 Gy	Hasset, 1952.
LD_S53	Soil fauna	<i>Insects Brattella germanica Imago</i>	Gamma-exposure, external	LD ₁₀₀ : 1000 Gy	Cole et.al., 1959; Hasset, 1952.
LD_S54	Soil fauna	<i>Insects Dahlbominus fuscipennis Imago</i>	Gamma-exposure, external	LD ₁₀₀ : 2500 Gy	Boaldwin, 1956.

Table F5. LETHAL DOSES OF ACUTE RADIATION EXPOSURE: MICROORGANISMS

Identificati on number of record	Type of organism	Name of organism	Type of exposure	LD, Gray	Reference
LD_M1	Microorganisms	<i>Escherichia coli</i>	Gamma-exposure, external	LD _{50/30} : 52 Gy	Krivolutsky, 1983.
LD_M2	Microorganisms	<i>Bacillus mesentericus</i>	Gamma-exposure, external	LD _{50/30} : 1300 Gy	Krivolutsky, 1983.
LD_M3	Microorganisms	<i>Amoebida</i>	Gamma-exposure, external	LD _{50/30} : 6000 Gy	Krivolutsky, 1983.
LD_M4	Microorganisms	<i>Soil Protozoa</i>	Gamma-exposure, external	LD _{50/30} : 1000-5000 Gy	Krivolutsky, 1983.
LD_M5	Microorganisms	<i>Green algae Chlorella sp.</i>	Gamma-exposure, external	LD ₅₀ : 500 Gy	Bonham et.al., 1947; Bonham, Palumbo,1951; Godward,1960.
LD_M6	Microorganisms	<i>Green algae Chlamidomonas Reinhardi</i>	Gamma-exposure, external	LD ₅₀ : 45 Gy	Jacobson, 1957.
LD_M7	Microorganisms	<i>Green algae Ankistrodesmus sp.</i>	Gamma-exposure, external	LD ₅₀ : 110 Gy	Bonham, Palumbo, 1951.
LD_M8	Microorganisms	<i>Green algae Cladophora glomerata</i>	Gamma-exposure, external	LD ₁₀₀ : 45 Gy	Nikitin,1958.
LD_M9	Microorganisms	<i>Green algae Conyerva spirogira</i>	Gamma-exposure, external	LD ₁₀₀ : 80 Gy	Nikitin, 1958.
LD_M10	Microorganisms	<i>Diatom Nitzschia closterium</i>	Gamma-exposure, external	LD ₅₀ : 50 Gy	Bonham et.al., 1947.

LD_M11	Microorganisms	<i>Cyanobacteria Croococcus sp.</i>	Gamma-exposure, external	LD ₅₀ : 80 Gy	Bonham, Palumbo, 1951.
LD_M12	Microorganisms	<i>Protozoa Paramecium sp.</i>	Gamma-exposure, external	LD ₁₀₀ : 6000 Gy	Back, 1939.
LD_M13	Microorganisms	<i>Protozoa Colpidium colpoda</i>	Gamma-exposure, external	LD ₅₀ : 330 Gy	Glocker,1932.
LD_M14	Microorganisms	<i>Protozoa Amoeba sp.</i>	Gamma-exposure, external	LD ₅₀ : 1200 Gy	Harris et.al., 1952.
LD_M15	Microorganisms	<i>Polyoma</i>	Gamma-exposure, external	LD ₅₀ : 7000 Gy	Kudrayshov, Berenfeld, 1982.
LD_M16	Microorganisms	<i>Bacteria Micrococcus radiodurans</i>	Gamma-exposure, external	LD ₅₀ : 7500 Gy	Kudrayshov, Berenfeld, 1982.
LD_M17	Microorganisms	<i>Bacteria B.mesentericus</i>	Gamma-exposure, external	LD ₅₀ : 1500 Gy	Kudrayshov, Berenfeld, 1982.
LD_M18	Microorganisms	<i>Bacteria Micrococcus sodensis</i>	Gamma-exposure, external	LD ₅₀ : 300 Gy	Kudrayshov, Berenfeld, 1982.
LD_M19	Microorganisms	<i>Bacteria E.coli</i>	Gamma-exposure, external	LD ₅₀ : 50-100 Gy	Kudrayshov, Berenfeld, 1982.
LD_M20	Microorganisms	<i>Algae Chroococcus</i>	Gamma-exposure, external	LD ₅₀ : 1000 Gy	Kudrayshov, Berenfeld, 1982.
LD_M21	Microorganisms	<i>Algae Chlorella</i>	Gamma-exposure, external	LD ₅₀ : 180 Gy	Kudrayshov, Berenfeld, 1982.
LD_M22	Microorganisms	<i>Amoebida Diffugia</i>	Gamma-exposure, external	LD ₅₀ : 2000 Gy	Kudrayshov, Berenfeld, 1982.
LD_M23	Microorganisms	<i>Amoebida Amoeba proteus</i>	Gamma-exposure, external	LD ₅₀ : 1000 Gy	Kudrayshov, Berenfeld, 1982.
LD_M24	Microorganisms	<i>Infusoria Ophryoglena mucifera</i>	Gamma-exposure, external	LD ₅₀ : 7000 Gy	Kudrayshov, Berenfeld, 1982.
LD_M25	Microorganisms	<i>Infusoria Ophryoglena atra</i>	Gamma-exposure, external	LD ₅₀ : 5500 Gy	Kudrayshov, Berenfeld, 1982.
LD_M26	Microorganisms	<i>Infusoria Ophryoglena pectans</i>	Gamma-exposure, external	LD ₅₀ : 4000 Gy	Kudrayshov, Berenfeld, 1982.
LD_M27	Microorganisms	<i>Infusoria Paramecium caudatum</i>	Gamma-exposure, external	LD ₅₀ : 3000 Gy	Kudrayshov, Berenfeld, 1982.