

Table 1. Municipal solid waste composition in selected locations worldwide.

Country	Location	Waste Composition (weight %)								Ref
		Organic	Paper	Plastic	Metal	Glass	Textiles	Wood	Others	
Greece	Attica	43.5	29.3	3.4	13.0	3.3	4.2	---	3.3	(Mavrotas, Gakis, Skoulaxinou, Katsouros, & Georgopoulou, 2015)
	---	48	20	8	4	5	---	---	15	
Germany	---	30	24	13	1	10	4	---	18	(Bolukbas & Akinci, 2018)
	Berlin	27.2	21.2	11.5	1	24.5	14.6	---	---	
Italy	---	31	24	11	4	8	5.5	---	16.5	(Bolukbas & Akinci, 2018)
Singapore	---	44.4	28.3	11.8	4.8	4.1	---	---	12	
	---	41.9	11.4	6.6	6.8	3.6	2.1	0.3	27.3	(Du et al., 2021)
Iraq	---	55	7	25.2	3	2.9	4.5	---	2.4	(Bolukbas & Akinci, 2018)
	Kerbala	57	12	15	4	4	---	---	9	(Abdulredha, Kot, Al Khaddar, Jordan, & Abdulridha, 2020)
	Najaf	66	3.72	6.35	8.58	4.30	---	2.65	8.41	(AL-KHATEEB, 2021)
	Al-Diwaniyah	60	6	10	---	---	3	3	18	(Janna, Abbas, Al-Khuzai, & Al-Ansari, 2021)
Tunisia	---	68	9	11	4	2	---	---	6	(Bolukbas & Akinci, 2018)
Turkey	Ankara	55	0.57	4	0.51	0.55	---	---	39.37	
	Bursa	43	7	19	1	4	---	---	26	
	Eskisehir	56.4	8.9	12	1.5	9.97	---	3.33	7.9	
	Erzurum	44.45	14.81	11.48	2.6	3.7	---	---	22.96	
	Gaziantep	69	5.44	15.74	0.79	2.02	---	7.01	---	
	Sanliurfa	65	6	8	1	2	2	2	14	
	Tekirdag	34	16	2	1	6	---	---	41	
	Izmir	46	12	12	3	4	---	---	23	
	---	52	3.8	10	3.1	2.9	---	---	28.2	
	---	35	3	2	---	1	---	---	59	
India	---	51	7	10	32	---	---	---	---	(Ghumra et al., 2022)
	Mavallipura	---	22	35	17	---	---	6	10	(Naveen, 2018)
	Kolkata	51	6	5	0.2	0.34	2	1.2	3.7	(Paul, Chattopadhyay, Dutta, Krishna, & Ray 2019)
	Kanpur	40.00	5.00	6.50	---	---	1.00	---	52.60	(Dixit, Singh, & Shukla, 2022)
	Hyderabad	2	21.20	15.10	5.10	---	3.65	6	43	(Singh & Uchimura, 2022)
	Kharagpur	80.0	7.70	8.60	0.00	0.50	3.0	---	0.02	(Kumar & Goel, 2009)
	Bangalore	84	12	---	1	1	---	---	2	(Ramachandra, Bharath, Kulkarni, & Han, 2018)
Rep. Haitian	Cape Haitian	65.6	9.0	9.2	2.6	5.8	---	---	7.9	
Bangladesh	Chittagong	62	3	2	---	5	1	3	---	
China	Beijing	69.3	10.3	9.8	0.8	0.6	1.3	2.7	---	(Ding et al., 2021; Xiao et al., 2009)
		51.83	5.43	10.37	---	---	2.97	5.75	23.65	

	Shanghai	56.09	4.58	8.59			2.29	11.60	10.55	
	Guangzhou	60.97	6.39	17.54			4.31	2.43	8.36	
	Hangzhou	58.19	3.68	7.63			2.23	1.20	27.07	
	Guiyang	41.97	7.96	7.46			1.21	0.45	40.95	
	Kunming	61.67	---	9.43			1.06	11.43	16.41	
	Wuhu	67.60	---	5.30			0.60	4.00	22.50	
	Xi'an	15.74	3.35	7.93			2.48	3.94	66.56	
	Wuhan	42.37	16.71	9.57	---	---	19.95	11.4	---	(J. B. Wang et al., 2012)
		57.58	13.97	18.00	0.77	3.13	2.21	3.59	0.75	(Zhou et al., 2022)
	---	58.8	8.5	12	4.6	5	3.2	---	7.9	(Li, 2011)
		47.7	9.2	10.3	1.2	2.9	---	---	28.1	(Ghumra et al., 2022)
	Chengdu	67	9	---	---	---	3	3	19	(Huang, Singh, & Qureshi, 2015)
	Taizhou	54.7	4.7	12.8	---	---	5.3	4.2	28.3	(He, Wu, Wang, Qiu, & Lan, 2021)
	Xiamen	66.19	9.89	13.17	1.06	3.61	4.38	0.60	1.10	(Agustiono et al., 2021)
		62.8	6	9.6	2.3	2	0.6	0.9	15.8	
	Jinan	58.71	11.18	9.92	1.26	3.04	0.31	0.95	14.63	(Du et al., 2021)
	Tianjin	56.9	8.7	12.1	1.3	2.5	0.4	1.9	16.2	
		---	7	6	---	---	6	---	---	(Dehghanifard & Dehghani, 2018)
	Tehran	57	7.8	7.5	0.6	3.2	16.2	7.7	---	(Rajaeifar, Tabatabaei, Ghanavati, Khoshnevisan, & Rafiee, 2015)
		72.59	9.46	5.01	2.57	1.86	1.7	---	6.81	(Bolukbas & Akinci, 2018)
	---	68.42	7.31	10.79	1.59	2.33	3.02	0.97	4.48	(Esmailizadeh, Shaghaghi, & Taghipour, 2020)
Romania	Bucharest	55.30	13.87	8.20	4.86	6.84	---	2.02	8.91	(Ciuta, Apostol, & Rusu, 2015)
Portugal	Porto	37.57	10.47	12.10	2.45	5.53	16.46	---	15.42	(Ramos, Afonso Teixeira, & Rouboa, 2018)
	Lisbon	36.69	9.23	12.61	2.92	5.50	17.81	---	15.24	(Marçal, Mateus, & Silva, 2015)
	London	35.3	22.7	10	4.3	6.6	2.8	3.7	14.6	(Evangelisti et al., 2015)
		34	23	10	4	6	---	---	23	(Parkes, Lettieri, & Bogle, 2015)
United Kingdom		38	18	7	8	7	3	---	19	(Bolukbas & Akinci, 2018)
	---	47.59	16.37	17.4	4	4.16	---	---	10.49	(Ghumra et al., 2022)
	Nottingham	21	32	11	8	9	2	---	10	(D. Wang, He, Tang, & Higgitt, 2018)
Malta	---	50.5	17.9	11.4	4.3	6.4	2.8	---	6.7	(Pirota, Ferreira, & Bernardo, 2013)
		28	27.4	12.7	8.9	4.6	---	6.3	12.1	(Sebastian, Kumar, & Alappat, 2019)
USA	---	28.3	25.9	13.1	9.1	4.4	---	---	19	(Ghumra et al., 2022)
		28.2	26.5	12.9	9	4.4	9.5	---	9.5	(Bolukbas & Akinci, 2018)
		29	38	9		14	---	---	10	
Norway	---	18	31	7		8	---	---	36	(Sorum, Gronli, & Hustad, 2001)
		38	14	2		9	---	---	37	
Poland	Mazowieckie	38	8	8	2	10	1	0.04	6	(Baran, 2018)
Israel	---	3.7	50.0	10.0	---	4.0	5.5	14.0	22.8	(Zhang, Dor, Fenigshtein, Yang, & Blasiak, 2012)
Spain	Asturias	38.1	20.6	10.8	3.6	5.6	10.9	---	10.5	(Fernández-Nava, del Río, Rodríguez-Iglesias, Castrillón, & Marañón, 2014)

	Gipuzkoa	45	24	15	5	11	---	---	---	(Bueno, Latasa, & Lozano, 2015)
Oman	Muscat	33.6	25.2	17.40	2.80	8.00	5.20	1.60	6.20	(Palanivel & Sulaiman, 2014)
	---	46.94	17.89	20.28	4.31	2.60	---	---	7.98	(Abd Kadir, Yin, Rosli Sulaiman, Chen, & El-Harbawi, 2013)
Malaysia	Terengganu	12	8	9	2	10	---	---	3	(Jaafar, Azmina Ibrahim, Awanis Ahmad, Abdul Kadir, & Razali Md Tomari, 2018)
	K. Lumpur	55	13	19	3	2	4	1	3	(Bashir, Tao, Abu Amr, & Tan, 2018)
S. Arabia	---	37	29	5	---	5	6	8	10	(Ouda et al., 2016)
	Mecca	48	20	25	4	2	1	1	---	(Osra, Ozcan, Alzahrani, & Alsoufi, 2021)
Afghanistan	Kabul*	62.10	7.13	9.35	0.30	2.35	5.12	1.50	12.15	(Ullah et al., 2022)
Mexico	Mexico City	28	12	17	3	5	---	---	33	(Tsydenova, Vázquez Morillas, & Cruz Salas 2018)
Thailand	Lampang	34	15	24	3	8	2	---	3	(Outapa & Roi-et, 2018)
Indonesia	Jakarta	35	11	14	4	14	3	18	11	(Indrawati & Purwaningrum, 2018)
	Lagos	10	12	6	9	---	3	---	4	(Olukanni, Aipoh, & Kalabo, 2018)
Nigeria	Ilorin	9.02	6.83	32.79	4.22	3.56	10.93	0.69	11.99	(Ibikunle, Titiladunayo, Lukman, Dahunsi, & Akeju, 2020)
Ghana	Kumasi	17	21	6	2	---	---	---	30	(Edjabou, Martín-Fernández, Scheutz, & Astrup, 2017)
Japan	Tokyo	31.5	44.5	7.8	1.2	13.8	1.2	---	---	(Du et al., 2021)
	Karadiyana	13.8	0.6	5.4	4.0	---	1.9	13.8	56.5	
Sri Lanka	Udawalpala	6.5	1.7	2.3	5.9	---	4.6	6.5	52.2	(Iqbal et al., 2022)
	Hambantota	4.5	---	---	3.4	---	0.4	4.5	74.7	
Bolivia	Santa Cruz de la Sierra	68	3	7	1	1	---	---	20	(Lozano Lazo, Bojanic Helbingen, & Gasparatos, 2023)
Pakistan	Lahore	56.32	2.18	6.8	0.06	0.69	20.13	6.05	7.77	(Azam et al., 2020)
Brazil	São Paulo	38.79	11.2	14.77	---	---	8.94	---	10.80	(Drudi, Drudi, Martins, Antonio, & Leite, 2019)
	Taipei	24	43.2	22.5	1.03	2.77			6.5	
	New Taipei	35.3	42.2	16.9	0.49	1.50			3.61	
	Taoyuan	36.8	41	16.5	0.62	2.03			3.05	
	Yilan	37.3	41.9	16.5	0.37	0.72			3.21	
	Keelung	40	40.8	15	0.29	0.88			3.03	
	Hsinchu	34.7	44.2	16.6	0.62	1.14			2.74	

*middle income areas