

Novartis Health, Safety and Environment (HSE) Data 2016

31.03.2017

	Novartis Group ^{1,2}			Pharmaceuticals			Novartis Institutes for BioMedical Research			Alcon			Sandoz		
	2016	2015	2014	2016	2015	2014	2016	2015	2014	2016	2015	2014	2016	2015	2014
HSE personnel	475	480	479	226	230	227	28	25	32	57	63	60	163	161	149
Lost time injury & illness rate (LTIR)	0.08	0.11	0.12	0.05	0.09	0.12	0.03	0.06	0.01	0.12	0.15	0.14	0.12	0.14	0.13
Total recordable case rate (TRCR)	0.30	0.40	0.43	0.20	0.31	0.41	0.44	0.39	0.53	0.51	0.62	0.55	0.28	0.35	0.31
Total production [1000 t]	185.1	184.9	185.7	36	28	29	0	0.0	0	76	77	76	73	80	80
Water discharge [million m3] treatment & lost	16.4	17.0	17.0	4.4	4.6	4.9	0.7	0.6	0.5	3.4	3.2	2.9	7.9	8.7	8.7
Contact water use, excl. cooling water [million m3]	14.4	15.4	15.3	3.3	3.3	3.5	0.5	0.4	0.4	2.9	3.2	3.0	7.8	8.5	8.4
Energy use [million GJ] on-site and purchased	16.6	17.2	17.0	5.0	5.1	5.3	1.4	1.2	1.1	3.2	3.2	3.1	7.0	7.7	7.5
Emissions															
Effluent discharge [million m3]	13.8	14.6	15.0	3.8	3.9	4.1	0.4	0.4	0.4	2.4	2.3	2.3	7.1	8.1	8.1
COD [1000 t]	3.3	3.8	3.5	0.7	0.6	0.6	0.0	0.0	0.0	0.4	0.4	0.0	2.2	2.8	2.9
Sulfur dioxide, SO ₂ [t]	16.8	21.2	28.2	2.3	3.0	4.7	0.2	0.3	0.7	1.7	1.7	2.1	12.5	16.2	20.8
Nitrogen oxide NO _x [t]	258.9	279.5	287.2	71	81	87	13	8	13	34	51	48	141	139	139
Halogenated VOCs [t] ³	43.6	66.4	86.0	0.3	0.1	0.4	0.2	0.0	0.0	0.0	0.0	0.0	43	66	86
Non-halogenated VOCs [t]	479.3	517.1	630.1	56	45	123	13	11	10.6	55	49	46	354	411	450
GHG emissions, total Scope 1 & Scope 2 [1000 t]	1332.9	1362.1	1360.6	402	399	397	104	84	72	381	379	378	440	494	507
GHG Scope 1, Combustion & process [1000 t]	400.1	396.8	393.8	120	121	132	18	16	11	75	74	70	187	186	181
GHG Scope 1, Vehicles [1000 t]	134.8	138.9	148.3	74	74	80	0.1	0.1	0.1	26	29	33	29	29	29
GHG Scope 2, Purchased energy [1000 t]	798.1	826.4	818.6	208	204	186	86	68	61	279	276	275	224	278	297
Operational Waste															
Non-hazardous waste not recycled [1000 t]	18.6	20.6	21.2	5.0	5.4	5.6	1.7	1.5	1.5	5.4	7.3	6.2	6.4	6.4	7.8
Hazardous waste not recycled [1000 t]	59.4	57.6	60.2	28	28	35	1.2	1.3	1.2	5.9	6.8	3.0	24	21	21
Non-hazardous waste recycled [1000 t]	66.9	63.5	64.7	10	10	12	1.3	1.2	1.3	12	11	12	44	41	40
Hazardous waste recycled [1000 t]	81.3	118.6	134.4	44	39	57	0.0	0.0	0.0	13	12.1	9.5	24	67	68

¹ Novartis Group includes Novartis Corporate. Novartis Group totals may vary slightly from the sums of individual values due to rounding.

² HSE data for Novartis Group reflects continuing operations (excluding Divisions which were divested during 2015).

³ less emissions that estimated were generated in our 2016 through better performance of exhaust incineration facilities.

The Reporting Process

The HSE Data Management System and data collection process are key elements of Corporate Responsibility Management at Novartis. The data describes our major material flows across company boundaries and environmental impacts originating from our own operations (Scope 1), as well as greenhouse gas emissions (GHG) from the generation of purchased energy (Scope 2). We do not monitor environmental impacts from the manufacture and delivery of purchased goods and services, nor the use of resources and other related emissions for activities outside company boundaries (Scope 3), such as GHG emissions from transportation by third parties.

HSE data is collected and reviewed on a quarterly basis. The 2016 environmental and resource data published in the Annual Report and in the Corporate Responsibility Performance Report are actual data for the period from January through September and best estimates for the period October through December. This data has now been updated with the actual data in the first quarter of 2017 and there were no significant deviations noted beside an overestimation of Halogenated VOCs. The Employees and Health/Safety data are actual from January through December 2016.