

## Restated Health, Safety and Environment Data 2008

	Novartis Group <sup>1</sup>		Pharmaceuticals		Novartis Research <sup>2</sup>		Vaccines & Diagnostics		Sandoz		Consumer Health	
	2008	2007	2008	2007	2008	2007	2008	2007	2008	2007	2008	2007
<b>Employees</b>												
HSE Personnel [number of employees working at least 50% for HSE]	491	501	216	217	26	23	37	39	147	157	65	65
<b>Health/safety</b>												
Lost time injury & illness rate [per 200000 hours worked]	0.34	0.42	0.37	0.45	0.26	0.13	0.51	0.74	0.41	0.53	0.15	0.23
Total recordable case rate [per 200000 hours worked]	1.09	1.41	1.20	1.68	1.38	0.68	1.52	2.29	0.99	1.28	0.71	1.02
<b>Production</b>												
Total production [1000 t = metric tons]	164	168	28	27	0	0	0.3	0.3	84	92	51	49
<b>Resources</b>												
Water use [million m3]	78.5	83.6	19.8	21.8	1.3	1.1	1.1	1.1	53.7	57.0	2.5	2.6
Energy use [million GJ]	16.8	16.7	5.6	5.6	1.0	1.0	1.2	1.2	7.4	7.4	1.5	1.5
<b>Emission into water</b>												
Effluent discharge [million m3]	15.1	15.5	4.1	4.2	0.4	0.4	1.0	1.1	7.8	8.0	1.7	1.8
Chemical oxygen demand COD [1000 t]	3.6	4.0	0.6	1.0	0.0	0.0	0.0	0.0	2.7	2.8	0.2	0.2
<b>Emission into Air</b>												
Sulfur dioxide, SO2 [t]	64	56	6	6	0	0	0	0	57	48	1	1
Nitrogen oxide NO2 [t]	302	327	119	149	8	9	19	17	134	130	22	22
Volatile organic compounds (VOC) halogenated [t]	238	168	10	15	12	0	0	0	216	153	0	0
Volatile organic compounds (VOC) non-halogenated [t]	1630	1738	313	469	37	1	2	6	1209	1196	70	66
<b>Emission CO2 / GHG</b>												
Scope 1, Combustion and process [1000 t]	404	408	157	157	11	11	29	30	179	184	27	26
Scope 1, Vehicles [1000 t]	171	183	123	136	0	0	2	1	26	28	15	15
Scope 2, From purchased energy [1000 t]	926	891	239	214	68	70	77	76	391	372	151	159
<b>Waste</b>												
Non-hazardous operational waste not recycled [1000 t]	42	42	8	8	2	2	18	18	9	8	6	6
Hazardous operational waste not recycled [1000 t]	122	135	58	83	1	1	1	1	59	49	2	2
Non-hazardous operational waste recycled [1000 t]	31	29	10	10	1	1	2	2	12	11	6	5
Hazardous operational waste recycled [1000 t]	30	31	21	22	0	0	0	0	9	9	0	0
Hazardous operational waste landfilled [1000 t]	0.00	0.10	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.07	0.00	0.00

<sup>1</sup> HSE data for Novartis Group reflect continuing operations

<sup>2</sup> Research data includes NIBR and Corporate Research

### The Reporting Process

The HSE Data Management System and data collection process are key elements of Corporate Citizenship 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 2008 environmental and resource data published in the Annual Report and on our website are actual data for the period from January through September and best estimates for the period October through December. This data has been updated with the actual figures for all twelve months of 2008 and is presented in the data table above. Deviations are reported on our website and will be included in the next Annual Report.