

# Chemical Releases from Orica Operations 2009 – 2013

Chemical Substance	Release (tonnes)					Sites Responsible for Releases in 2013
	2009	2010	2011	2012	2013	
Acetic acid	0.2	0.3	1.3	0.3	0.5	Botany, Deer Park, Kalgoorlie, Kurri Kurri, Liddell, Port Hedland, Yarwun
Acetone	23.2	28.5	24.6	10.5	5.3	Botany, Gomia
Ammonia	645	627.7	653.5	272.1	537.8	Bontang, Botany, Carseland, Kooragang Island, Yarwun
Arsenic & compounds			<0.1	<0.1	<0.1	Botany, Kooragang Island, Laverton, Port Kembla, Yarwun
Benzene		<0.1	0.02	<0.1	<0.1	Yarwun
1-3 Butadiene				<0.1	<0.1	Yarwun
Carbon monoxide	297.3	301.9	314.3	244.5	346.9	Brownsburg, Congata, Cuatrocieneegas, Deer Park, Mining Services Bulk Sites, EHM, Gomia, Kooragang Island, Laverton, Port Kembla, Tappen, Yarwun
Chlorine	0.5	0.4	0.5	0.2	0.2	Botany, Darwin, Laverton, Osborne, Welshpool, Yarwun
Chloroform (trichloromethane)		0.5	<0.1	<0.1	<0.1	Botany
Chromium III compounds	0.2	<0.1	<0.1	<0.1	<0.1	Botany, Kooragang Island, Laverton, Port Kembla, Yarwun
Chromium VI compounds				<0.1	<0.1	Kooragang Island
Cobalt & compounds	0.2	0.3	0.1	0.4	0.6	Botany, Kooragang Island
Copper & compounds	0.1	<0.1	<0.1	<0.1	<0.1	Botany, Kooragang Island, Laverton, Port Kembla, Yarwun
Cumene (1-methylethylbenzene)			0.4	0.1	<0.1	Bayswater, Kalgoorlie, Port Hedland, Yarwun
Cyanide Inorganic compounds	0.1	0.2	0.1	0.2	0.2	Yarwun
1-2 Dichloroethane	0.5	0.5	<0.1	<0.1	<0.1	Botany
Ethanol	10.3	9.5	0	0	0	
Ethyl acetate	11.9	11.9	0	0	0	
Ethylene glycol	0.5	0.5	0.4	<0.1	0	
Fluoride compounds					<0.1	Deer Park
Formaldehyde	0	0.1	<0.1	<0.1	<0.1	Yarwun
n-Hexane	7.4	<0.1	<0.1	<0.1	0.3	Deer Park, Yarwun
Hydrochloric acid	0.6	1	1.8	2.5	2.4	Botany, Laverton, Morrinsville, Osborne, Wyong, Yarraville
Lead & compounds	65.2	91.1	104.9	95.5	93.7	Botany, Brownsburg, Gomia, Kooragang Island, La Portada, Laverton, Lorena, Port Kembla, Weihai
Mercury & compounds	0	0	0.2	0.2	0.2	Botany, Kooragang Island, Laverton, Port Kembla, Yarwun
Nickel & compounds	0.2	<0.1	<0.1	<0.1	<0.1	Botany, Kooragang Island, Laverton, Port Kembla, Yarwun
Nitric acid	59	72	50.8	19.4	16	Heybridge, Kooragang Island

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Total Nitrogen	32	210.3	265	199.1	227	Kooragang Island, Morrinsville, Mount Maunganui, Yarwun
Oxides of Nitrogen	2,623.4	3,256.4	3,096.5	3,284.0	2,475.0	Bontang, Botany, Brownsburg, Congata, Carseland, Cuatrocienegas, Deer Park, Mining Services Bulk Sites, EHM, Gomia, Kooragang Island, Laverton, Port Kembla, Tappen, Wuergendorf, Yarwun
Particulate matter <2.5µm	138.6	140.4	183.7	43	79	Botany, Brownsburg, Congata, Deer Park, EHM, Kooragang Island, Laverton, Port Kembla, Tappen, Yarwun
Particulate matter <10µm	411.7	331.6	284.6	222.8	137.9	Botany, Brownsburg, Carseland, Congata, Cuatrocienegas, Deer Park, EHM, Gomia, Kooragang Island, Laverton, Port Kembla, Tappen, Yarwun
Total Phosphorus	3.2	3.3	1.6	2.5	6.3	Kooragang Island, Morrinsville, Mount Maunganui, Yarwun
Styrene	0.3	0.1	0.2	0.4	0.4	Nowra
Sulfur dioxide	106.5	215.3	251.5	142.3	108.9	Botany, Congata, Cuatrocienegas, Deer Park, EHM, Gomia, Heybridge, Kooragang Island, Laverton, Port Kembla, Yarwun
Sulfuric acid	2.5	1.2	2	2.2	1.8	Heybridge, Kwinana, Mackay, Morrinsville, Morwell, Osborne, Port Kembla, Yarraville
Tetrachloroethylene	13	11.7	18.2	19.5	15.6	Brownsburg
Toluene	25.5	<0.1	<0.1	<0.1	<0.1	Deer Park, Yarwun
Trichloroethylene	1.1	1.6	1.4	1.2	0.8	Gomia
Xylenes	9.7	8.5	0.2	<0.1	<0.1	Kalgoorlie
Zinc & compounds	1	0.9	1	0.7	1.3	Botany, Yarwun
Volatile Organic Compounds (VOC)	197.5	121.5	143.2	136.9	221.7	Bayswater, Botany, Brownsburg, Congata, Deer Park, EHM, Fimiston, Gomia, Kalgoorlie, Kooragang Island, Kurri Kurri, Laverton, Liddell, Nowra, Port Hedland, Port Kembla, Tappen, Yarwun

The following substances were not released from Orica facilities in 2013:

- Ethanol
- Ethyl Acetate
- Ethylene Glycol

The following substances have been added in 2013:

- 1-3 Butadiene
- Fluoride compounds