

Environment

# Additional Documents and Data

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As of March, 2015

■ Overview

		Certified	In progress	Total	Progress rate
In Japan	Ajinomoto Co., Inc.	23	0	23	100%
	Subsidiaries in Japan	49	2	51	96%
	Sub total	(72)	(2)	(74)	97%
Outside Japan		48	5	53	91%
Group total		120	7	127	94%

		Certified	In progress	Total	Progress rate
Ajinomoto Co., Inc.		23	0	23	100%
Subsidiaries of Ajinomoto Co., Inc.	under Planning/Supporting Division	5	0	5	100%
	under Food Products Division	40	7	47	85%
	under Bioscience Products & Fine Chemicals Division	21	0	21	100%
	under Production	1	0	1	100%
Ajinomoto Frozen Foods Co., Inc. and its subsidiaries		18	0	18	100%
AJINOMOTO LOGISTICS CORPORATION and its subsidiaries		9	0	9	100%
Ajinomoto Pharmaceuticals Co., Inc.		3	0	3	100%
Group total		120	7	127	94%

■ Detail

FY	Business sites and Group Company	Certified in
1998	Ajinomoto Co., Inc. Kyushu Plant	1998.07
1999	Ajinomoto Co., Inc. Tokai Plant	1999.11
	Ajinomoto Frozen Foods Co., Inc. Chubu Plant	2000.02
2000	Ajinomoto Vietnam Co., Ltd. Bien Hoa Plant	【Vietnam】 2001.03
	Ajinomoto Co., Inc. Kawasaki Plant	2001.03
2001	Ajinomoto Co., (Thailand) Ltd. Pathum Thani Factory	【Thailand】 2001.09
	o do Brazil Industria e Comercio de Alimentos Ltda. Limeira Plant	【Brazil】 2001.12
	Lianyungang Ajinomoto Ruyi Foods Co., Ltd.	【China】 2002.02
	Lianyungang Ajinomoto Frozen Foods Co., Ltd.	【China】 2002.02
2002	Ajinomoto Co., (Thailand) Ltd. Kamphaeng Phet I Factory	【Thailand】 2002.06
	Knorr Foods Co., Ltd. Tokai Plant	2002.08
	Knorr Foods Co., Ltd. Chubu Plant	2002.11
	Ajinomoto Engineering Corporation	2003.02
	Ajinomoto Frozen Foods Co., Inc. Kyushu Plant	2003.03
	Ajinomoto Co., Inc. Research Laboratories and Center	2003.03
	Ajinomoto Fine-Techno Co., Inc. Head Office	2003.03
	Ajinomoto Co., Inc. Head Office and Branch Offices (18 offices)	2003.04
2003	Ajinomoto do Brazil Industria e Comercio de Alimentos Ltda. Laranjal Paulista Plant	【Brazil】 2003.06
	Knorr Foods Co., Ltd. Kawasaki Plant	2003.07
	Ajinomoto Co., (Thailand) Ltd. Phra Pradaeng Factory	【Thailand】 2003.07
	Hokkaido Ajinomoto Co., Inc.	2003.09
	AJINOMOTO NORTH AMERICA, INC. Iowa Plant	【U.S.A.】 2003.11 *1
	Ajinomoto Fine-Techno Co., Inc. Activated Carbon Division	2003.12
	PT Ajinex International	【Indonesia】 2004.02
	PT Ajinomoto Indonesia Mojokerto Factory	【Indonesia】 2004.02

FY	Business sites and Group Company	Certified in	
2004	Ajinomoto Heartland LLC	[U.S.A.] 2004.04	
	Flavor Food Products International Inc.	[Philippines] 2004.04	
	AJINOMOTO NORTH AMERICA, INC. North Carolina Plant	[U.S.A.] 2004.05 *1	
	Ajinomoto Packaging Co., Inc. Head Office	2004.07	
	Ajinomoto Packaging Co., Inc. Kansai Plant	2004.07	
	Ajinomoto Packaging Co., Inc. Kanto Plant	2004.07	
	Hokkaido Knorr Foods Co., Ltd. Kunneppu Plant	2004.09	
	Hokkaido Knorr Foods Co., Ltd. Mikasa Plant	2004.09	
	Hokkaido Knorr Foods Co., Ltd. Tokachi Plant	2004.09	
	Okinawa Ajinomoto Co., Inc.	2004.11	
	Ajinomoto do Brazil Industria e Comercio de Alimentos Ltda. Valparaiso Plant	[Brazil] 2004.11	
	Fuji Ace Co., Ltd. Bangpoo Factory	[Thailand] 2005.03	
	Ajinomoto Frozen Foods Co., Inc. Head Office	2005.03	
	Ajinomoto Frozen Foods Co., Inc. Kanto Plant	2005.03	
	Ajinomoto Frozen Foods Co., Inc. Shikoku Plant	2005.03	
	AJINOMOTO BAKERY CO., LTD. Head Office and Shimada Plant	2005.03	
	2005	Ajinomoto Packaging Co., Inc. Sano Plant	2005.06
		HENAN AJINOMOTO AMINO ACID CO., LTD.	[China] 2005.07
		Ajinomoto Poland Sp. z o.o.	[Poland] 2005.08
		Shanghai Ajinomoto Amino Acid Co., Ltd.	[China] 2005.09
Ajinomoto Communications, Inc.		2005.09	
FFA International Co., Ltd.		2005.11	
Ace Kounai Service Corporation		2005.11	
Komec Co., Ltd. Osaka Plant		2005.12	
Komec Co., Ltd. Tokyo Plant		2005.12	
Ajinomoto Frozen Foods (Thailand) Co., Ltd.		[Thailand] 2005.12	
AJINOMOTO HEALTHY SUPPLY, INC. Takasaki Plant		2005.12	
Vege Pro Foods Co., Ltd.		2006.01 *2	
Ajinomoto Sweeteners Europe S.A.S.		[France] 2006.01	
Ajinomoto Co., (Thailand) Ltd. Nong Khae Factory		[Thailand] 2006.01	
Ajinomoto Co., (Thailand) Ltd. Kamphaeng Phet II Factory		[Thailand] 2006.02	
Ajinomoto (Malaysia) Berhad		[Malaysia] 2006.03	
AJINOMOTO EUROLYSINE S.A.S.		[France] 2006.03	
2006		Ajinomoto Pharmaceuticals Co., Inc. Fukushima Plant	2006.04 *3
		Ajinomoto Pharmaceuticals Co., Inc. Head Office	2006.04
		AJINOMOTO LOGISTICS CORPORATION	2006.05 *4
	Chuo Ace Logistics Corporation	2006.05 *4	
	Kansai Ace Logistics Corporation	2006.05 *4	
	Kanto Ace Logistics Corporation	2006.05 *4	
	Hokkaido Ace Logistics Corporation	2006.05 *4	
	Tokai Ace Logistics Corporation	2006.05 *4	
	Tohoku Ace Logistics Corporation	2006.05 *4	
	Kyushu Ace Logistics Corporation	2006.05 *4	
	Nippon Protein Co., Ltd. Ashikaga Plant	2006.06	
	Wan Thai Foods Industry Co., Ltd.	[Thailand] 2006.07	
	Xiamen Ajinomoto Life Ideal Foods Co., Ltd	[China] 2006.09	
	ABBT	[Thailand] 2006.10 *5	
	AJINOMOTO FOODS EUROPE S.A.S.	[France] 2006.12	
	S.A. Ajinomoto OmniChem N.V. Louvain-la-Neuve Plant	[Belgium] 2006.12	
	S.A. Ajinomoto OmniChem N.V. Wetteren Plant	[Belgium] 2006.12	
	S.A. Ajinomoto OmniChem N.V. Balen Plant	[Belgium] 2006.12	
	FREC KANTO CO., LTD.	2007.02	
	ACE BAKERY CO., LTD.	2007.03	

FY	Business sites and Group Company	Certified in
2007	Ajinomoto del Perú S.A. Callao Plant [Peru]	2007.05
	Ajinomoto do Brazil Industria e Comercio de Alimentos Ltda. Pederneiras Plant [Brazil]	2007.11
	FREC DESSERT CO., LTD. Main Plant	2008.01
	Delica Ace Co., Ltd. Ageo Plant	2008.02
	Shanghai Ajinomoto Seasoning Co., Ltd. [China]	2008.02
2008	Ajinomoto Fine-Techno Co., Inc. Gunma Plant	2008.06
	FD Green (Thailand) Co., Ltd. [Thailand]	2008.10
	Delica Ace Co., Ltd. Yamagata Plant	2008.12
	Ajinomoto Philippines Global Food Inc. [Philippines]	2009.01
2009	XIAMEN AJIRAKU IDEAL FOODS CO., LTD. [China]	2009.06
	Ajinomoto Vietnam Co., Ltd. Long Thanh Factory [Vietnam]	2009.12
	Ajinomoto Betagro Specialty Foods Co., Ltd. [Thailand]	2009.12
	Bonito Technical Laboratory Co., Inc.	2009.12 *2
	FREC DESSERT CO., LTD. Kita-kanto Factory	2010.01
	Ajinomoto Sales (Thailand) Co., Ltd. BIRDY Plant [Thailand]	2010.03
	Ajinomoto Betagro Frozen Foods (Thailand) Co., Ltd. [Thailand]	2010.03
2010	SHANGHAI AJINOMOTO FOOD RESEARCH AND DEVELOPMENT CENTER CO., LTD. [China]	2010.04
	Fuji Ace Co., Ltd. Sinsakhon Factory [Thailand]	2010.10
	Shanghai Amoy Food Co., Ltd. [China]	2010.10
2012	Ajinomoto Pharmaceuticals Co., Inc. Research Center	2012.04 *6
	Ajinomoto Animal Nutrition Group, Inc.	2012.05
2013	Amoy Food Limited [China]	2013.02
2014	Ajinomoto Frozen Foods U.S.A., Inc. [U.S.A.]	2014.11

\*1: Ajinomoto Food Ingredients LLC and Ajinomoto AminoScience LLC were merged into AJINOMOTO NORTH AMERICA, INC.

\*2: The certification acquired by Vege Pro Foods Co., Ltd. and Bonito Technical Laboratory Co., Inc. is "Eco Action 21".

\*3: Saitama and Fukushima Plant of AJINOMOTO PHARMACEUTICALS CO.,LTD. have renewed their certification in April, 2006 as scope extension of the previous scope certified in March 2005, due to the merger.

\*4: The previously obtained Green Management Certifications by the transportation subsidiaries of AJINOMOTO LOGISTICS CORPORATION (ALC) were integrated in ALC's ISO14001 certification.

\*5: Ajinomoto Calpis Beverage (Thailand) Co., Ltd. changed the company name to ABBT Co., Ltd., after the divestiture of Calpis Co., Ltd.

\*6: The Parenteral & Enteral Nutrition and Dialysis Research Laboratories of AJINOMOTO PHARMACEUTICALS CO.,LTD. expanded the certification in other laboratories, and as the Research Center, newly acquired the certification in May 2012.

Note:1. Malaysia Packaging Industry Berhad was excluded from the scope of the Ajinomoto Group's environmental management system from fiscal year 2005.

2. Headquarters, Okayama and Gumma Plant of Calpis Co., Ltd., and Calpis Foods Service Co.,Ltd. was excluded from the scope of the Ajinomoto Group's environmental management system since Calpis Co., Ltd. was divested in October 2012.

Environmental Accounting  
Environmental Conservation Cost

■ Scope of data collection: Ajinomoto Co., Inc.  
■ Period: 2014/04~2015/03

Investment

(Unit: ¥ million)

Category	Item	FY2005	FY2010	FY2011	FY2012	FY2013	FY2014	Remarks
Business area	Environmental conservation investment to control environmental impacts resulted from production and service activities within the business area	55	1,004	2,085	1,129	1,075	1,159	Investment for environment related facilities and equipments in Head office, Branch offices and 3 plants in Japan
	1) Pollution prevention investment	55	808	2,018	311	390	497	Investment for maintaining facilities of keeping quality of discharged air and waste water.
	2) Global environmental conservation investment	0	192	57	729	521	508	Investment for CO <sub>2</sub> emission reduction, energy saving.
	3) Resource circulation investment	0	5	11	88	164	154	Investment for byproducts, waste recycle and waste disposal.
Upstream/downstream	Environmental conservation investment to control environmental impacts resulted from business operations upstream or downstream	0	3	1	0	5	0	
Administration	Environmental conservation investment stemming from administrative activities	0	18	88	69	25	8	Investment for the environmental management and the risk management.
R&D	Environmental conservation investment stemming from related R&D activities	0	0	1	0	18	9	Investment for the packaging design support system including equipments..
Social activity	Environmental conservation investment stemming from social activities	0	5	0	6	52	29	Investment for the IFRS* adaptation.
Environmental remediation	investment incurred for dealing with environmental degradation	0	0	1	0	0	0	
<b>Total</b>		55	1,029	2,176	1,204	1,174	1,205	*IFRS=International Financial Reporting Standards

Expenditure

(Unit: ¥ million)

Category	Item	FY2005	FY2010	FY2011	FY2012	FY2013	FY2014	Remarks
Business area	Environmental conservation cost to control environmental impacts resulted from production and service activities within the business area	3,191	2,601	2,366	3,155	2,761	2,287	Operating cost in environment related facilities or equipments in headquarters, branch Offices and 3 plants in Japan
	1) Pollution prevention cost	1,536	1,592	1,389	2,307	1,812	1,403	Cost for maintaining air and water quality (mainly cost of wastewater treatment etc.)
	2) Global environmental conservation cost	48	65	38	38	31	31	Cost for CO <sub>2</sub> emission reduction, energy saving
	3) Resource circulation cost	1,607	944	939	809	918	852	Cost for by-products, waste recycle and waste disposal.
Upstream/downstream	Environmental conservation cost to control environmental impacts resulted from business operations upstream or downstream	495	275	259	257	252	247	Cost for the Containers and Packaging Recycling Act
Administration	Environmental conservation cost stemming from administrative activities	433	491	438	402	369	418	Cost for maintaining EMS and environment related administrative operations in headquarters. (Excluding social activities cost)
R&D	Environmental conservation cost stemming from related R&D activities	289	1,684	2,777	3,105	3,044	1,715	Cost for the environmentally contributing R&D themes.
Social activity	Environmental conservation cost stemming from social activities	378	147	143	125	128	123	Cost for Environmental Report, Eco Products, Environmental campaigns and so on.
Environmental remediation	Cost incurred for dealing with environmental degradation	0	0	0	0	0	108	Cost for countermeasures for soil pollution in Kawasaki area.
<b>Total</b>		4,786	5,199	5,983	7,044	6,555	4,898	

Investment/ R&D expenditures (Ajinomoto Group)

(Unit: ¥ million)

Item	Detail	FY2005	FY2010	FY2011	FY2012	FY2013	FY2014	Remarks
Investment	Capital investment	21,600	7,970	10,389	11,999	11,140	12,131	
	Investment for environment related equipment/facility included in capital investment	55	1,029	2,177	1,204	1,174	3,494	
R&D	R&D	25,700	32,283	29,872	27,505	27,569	28,419	(*) Total amount of the cost for the environmentally contributing themes.
	Investment for environment related development included in R&D (*)	289	1,684	2,778	3,105	3,044	1,715	

Major environmental performance

(Unit: ¥ 10)

Category	Item	Unit	FY2005	FY2010		FY2011		FY2012		FY2013		FY2014	
				Actual	Economic Effect *	Actual	Economic Effect *	Actual	Economic Effect *	Actual	Economic Effect *	Actual	
Production	Volume	Thousands of tons	182	175	—	172	—	165	—	165	—	137	
Input	Water	River water	Thousands of tons	41,831	15,024	—	12,449	—	11,118	—	8,603	—	7,426
		Industrial water	Thousands of tons	33,575	28,762	—	28,682	—	30,632	—	21,733	—	19,569
		Other	Thousands of tons	1,177	863	—	808	—	747	—	740	—	699
		Total water input	Thousands of tons	76,583	44,649	—	41,940	—	42,498	—	31,076	—	27,694
	Energy	Electricity	MWH	104,571	71,037	4.0	56,688.5	5.7	51,667.0	6.3	55,710	5.9	48,084
		City gas	KM <sup>3</sup>	58,319	40,787	8.8	39,994.1	9.2	40,108.9	9.1	38,983	9.7	37,956
		LNG	KNM <sup>3</sup>	29,670	29,731	0.0	31,118.8	-0.7	22,783.0	3.4	26,894	1.4	23,247
	Heavy oil	KL	38,377	27,814	5.1	30,416.7	3.8	28,809.0	4.6	26,342	5.8	21,613	
	Total energy input	TJ	5,580	4,318	—	4,402	—	3,978	—	4,016	—	3,599	
	Per-unit energy usage	GJ/Production(t)	31	25	—	26	—	24	—	24	—	26	
Output	Water	Discharged water	Thousands of tons	76,106	37,346	—	34,573	—	30,433	—	29,518	—	24,757
		Per-unit discharged water	Thousands of tons /Production(t)	0.42	0.21	—	0	—	0	—	0.18	—	0.18
		BOD emissions	t	379	207	—	169	—	129	—	89	—	102
		TN emissions	t	3,046	662	—	477	—	406	—	321	—	328
	NO <sub>x</sub>	Emissions	t	229	142	—	153	—	134	—	121	—	118
		SO <sub>x</sub>	Emissions	t	685	640	—	710	—	712	—	671	—
	CO <sub>2</sub>	CO <sub>2</sub> emissions	Thousands of tons	339	259	1.6	262.1	1.5	238.3	2.0	239	2.0	218
		Per-unit CO <sub>2</sub> emissions	t/Production(t)	1.86	1.48	—	2	—	1	—	1.45	—	1.59
	Waste	Waste generation	Thousands of tons	101	67	—	70	—	71	—	79	—	63
		Resource recovery ratio	%	98.6	99.8	—	100	—	100	—	85.6	—	99.7
Waste product	Total amount	100 million (JPY)	13.3	8.0	5.3	17.9	-4.6	12.2	1.1	9.3	4.0	11.0	
	Total weight	t	2,018	2,348	—	3,070	—	1,263	—	1,499	—	995	
Economic effect		100 million (JPY)	—	—	24.8	—	14.9	—	26.6	—	28.7	—	

\*: ① Compared to FY2005 based on technical effect

② CO<sub>2</sub> reduction benefit is calculated by ①

## Chemical Substances and Emission Levels

Aggregation period: 2014/4~2015/3 (Japan), 2014/1~2014/12 (Outside Japan)  
 Aggregation scope: Ajinomoto Co., Inc. and its subsidiaries in and outside Japan

The Ajinomoto Group manages chemical substances and reports on the results in accordance with laws in each region. The Group reports on the results in accordance with PRTR Law or relevant laws/regulations in each country.

(\*PRTR: A law which estimates the amounts of specific chemical substances released into the environment, and promotes the improvement of management.)

### Japan

Applicable laws and regulations : PRTR (Pollutant Release and Transfer Register) System

(kg)

Class I Designated Chemical Substances			Amount released into				Amount transferred to	
Substance name	No.	Specific Class I	Air	Water (public)	Land (inside)	Landfills (inside)	Sewer	Outside
Acetonitrile	013		1,601	42	-	-	0.3	29,100
N-alkylbenzenesulfonic acid and its salts(alkyl C=10-14)	030		-	-	-	-	-	8
Asbestos	033	○	-	-	-	-	-	520
Bisphenol A	037		-	-	-	-	-	700
Xylene	080		700	-	-	-	20	12
HCFC-22(chlorodifluoromethane)	104		600	-	-	-	-	-
Chloroform	127		-	-	-	-	-	1,400
Dichloromethane(methylene dichloride)	186		580	-	-	-	-	38,000
N,N-dimethylformaldehyde	232		165	-	-	-	-	4,260
Thiourea	245		-	-	-	-	-	390
Triethylamine	277		39	450	-	-	-	460
Toluene	300		1,011	-	-	-	-	11,400
Piperazine	341		-	-	-	-	-	76
Phenol	349		-	-	-	-	-	350
Formaldehyde	411	○	5	-	-	-	37	210
Methylnaphthalene	438		28	-	-	-	-	-
Tritolyl phosphate	460		-	-	-	-	-	190
Triphenyl phosphate	461		-	-	-	-	-	190

\*Business sites which reported performance are:

Ajinomoto Co., Inc (Kawasaki Plant, Tokai Plant, Kyushu Plant), Ajinomoto Pharmaceuticals Co., Inc (Fukushima Plant, Laboratory), Ajinomoto Fine-Techno Co., Inc (Head Office, BU Activated Carbon, Gunma Plant), AJINOMOTO BAKERY CO., LTD. (Shimada Plant)

\*Each site's data is available on the website of Ministry of Economy, Trade and Industry.

(Performance of FY2014 will be released in March, 2016)

[http://www.meti.go.jp/policy/chemical\\_management/law/prtr/6.html](http://www.meti.go.jp/policy/chemical_management/law/prtr/6.html) (Japanese only)

**North America**

Applicable laws and regulations :  
 EPCRA (Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986)  
 (kg)

Chemical substance name	Amount used	Amount transferred (released)
Ammonia	618,548	69,880
Methanol	474,930	2,025

\*Business sites which reported results are:  
 AJINOMOTO HEARTLAND, Inc., AJINOMOTO NORTH AMERICA, Inc.

**South America**

Applicable laws and regulations :  
 IBAMA Normative Instruction No. 31 of December 3, 2009.  
 (kg)

Chemical substance name	Amount used
Ammonia	30,628,090
Potassium hydroxide	106,571,809
Sodium hydroxide	8,360,523
Acid chloride	43,792,922
Phosphoric acid	1,056,947
Hydrochloric acid	8,489,750
Sulfuric acid	51,161,087
Ethyl alcohol	102,963,050
Phosphate Tricalcium	159,080,000
Sodium hypochlorite	1,338,179

\*Business sites which reported results are:  
 AJIMONOTO do BRASIL Ind. e Com. de Alimentos Ltda (4 business sites)


**Europe**

Applicable laws and regulations :  
 Flemish Decree on General Environmental Policy, Flemish Environmental Regulation (Vlarem II) (Belgium)  
 Ministerial order from February the 2nd 1998, modified by the decree from May the 29th 2000 (France)  
 (kg)

Chemical substance name	Amount transferred (released) to		
	Waste	Air	Water
Toluene	-	20	6
Methanol	-	-	2,975
Acetic acid	-	-	1,688
Dichloromethane	-	11	2
Formic acid	-	-	2,141
Trichloromethane	-	3	0.2
Solvents	398	168	-
Non-methane short chain organic compounds	-	125	-
Halogenated hydrocarbons	-	18	-
Aromatic hydrocarbons	-	25	-
Other chemical substances	16,737	9	-

\*Business sites which reported results are:  
 S.A. AJINOMOTO OMNICHEM N.V., Ajinomoto Sweeteners Europe S.A.S., AJINOMOTO EUROLYSINE S.A.S.,  
 AJINOMOTO FOODS EUROPE S.A.S.

**Other Areas**

Thailand : Introduction of similar sy  l.

Eat Well, Live Well.