A Mitsubishi Chemical Holdings Corporation

# **Fiscal 2013 Data Sheet**

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# **Environmental Data**

#### Scope of calculation:

Activities conducted by Group companies in Japan, which account for 70% of the Mitsubishi Chemical Holdings Corporation (MCHC) Group's net sales.

The FY2013 performance indicators with this tick mark have been assured by KPMG AZSA Sustainability Co., Ltd. For the Independent Assurance Report, please see page 5 in this data sheet.

		FY2011	FY2012	FY2013
GHG Emissions	5			
GHG emissions	s (thousand tonnes of $CO_2e$ ) <sup>*1</sup>	8,516	49,321	51,714
Scope 1+2		8,516	8,991	9,114
🗹 Scope 1		7,665	7,936	8,042
Scope 2		851	1,055	1,072
Scope 3 <sup>*2</sup>		—	40,330	42,600
Category 1	Purchased goods and services	—	9,280	10,160
Category 2	Capital goods	—	—	250
Category 3	Fuel- and energy-related activities not included in Scope 1	or Scope 2 —	800	420
Category 4	Upstream transportation and distribution		—	570
Category 5	Waste generated in operations	—	—	130
Category 6	Business travel	_	—	30
Category 7	Employee commuting	_	—	30
Category 8	Upstream leased assets	_	—	*2
Category 9	Downstream transportation and distribution	—	—	190
Category 10	Processing of sold products		—	*2
Category 11	Use of sold products	_	19,070	20,530
Category 12	End-of-life treatment of sold products	_	11,180	9,280
Category 13	Downstream leased assets			*2
Category 14	Franchises			*2
Category 15	Investments			1,010

\*1 Calculation standards for greenhouse gas emissions: For greenhouse gases covered by the Act on the Rational Use of Energy and the Act on Promotion of Global Warming Countermeasures, the Company's calculations are in accordance with the methods stipulated by these laws. For gases not covered by either law, the Company has developed calculation methods for each individual gas based on considerations such as the balance of chemical reactions.

\*2 For the method of calculating Scope 3, please refer to page 2 of this data sheet.

Energy Consumption			
Energy consumption (TJ)	129,297	127,842	127,562
Direct consumption (TJ)	—	108,707	108,689
Coal (TJ)	—	18,548	19,761
(LT) lio	_	9,725	10,444
Gas (TJ)	—	13,317	11,807
By-product of gas and oil (TJ)	_	67,117	66,677
Indirect consumption (TJ)	_	19,135	18,873
Electricity (TJ) <sup>*3</sup>	_	17,257	18,660
Steam (TJ)	_	1,878	213

\*3 Electricity consumption volumes are converted to joules using the coefficients stipulated by the Act on the Rational Use of Energy (9.97GJ/MWh for daytime use, 9.28GJ/MWh for nighttime use, and 9.76GJ/MWh for other uses).

### **Environmental Data**

# **Calculation Method for Scope 3 GHG Emissions**

#### **Referenced Guidelines**

Our Scope 3 GHG emissions are calculated in accordance with the Corporate Value Chain (Scope 3) Accounting and Reporting Standard and its technical guidance issued by the GHG Protocol, the Guidance for Accounting & Reporting Corporate GHG Emissions in the Chemical Sector Value Chain issued by the World Business Council for Sustainable Development (WBCSD), and the Green Value Chain Platform initiated by the Japanese government. Especially, for the emission factors for greenhouse gas (GHG) emissions, we use data available in the Green Value Chain Platform and information provided by MiLCA, a life cycle assessment software developed by the Japan Environmental Management Association for Industry.

#### **Scope of Calculation**

Activities conducted by Group companies in Japan, which account for 70% of the Mitsubishi Chemical Holdings Corporation (MCHC) Group's net sales.

### **Calculation Method by Category**

Category 1 Purchased goods and services	Calculated by multiplying the amounts of raw materials and services in physical or monetary unit purchased by the MCHC Group in Japan from outside the Group by the respective emission factor for each type of raw material or service.
<b>Category 2</b> Capital goods	Calculated by multiplying the amounts invested in capital goods during the year by an emission factor per unit of investment amount. The capital investment in Japan is estimated by multiplying the consolidated capital investment of the MCHC Group by the ratio of net sales of the MCHC Group in Japan.
Category 3 Fuel- and energy-related activities not included in Scope 1 or Scope 2	This category includes emissions associated with the extraction, production, and transportation of purcahsed fuels and those consumed in the generation of electricity that is purchased by the MCHC Group in Japan. Fuel: calculated by multiplying the amount purchased during the year by an emission factor for each fuel type. Electricity and steam: calculated by multiplying the amount purchased from outside the Group by the emission factor of purchased energy.
<b>Category 4</b> Upstream transportation and distribution	This category includes GHG emissions generated during the international transportation of purchased coal, coal derived products, and methanol (raw materials whose GHG emissions from transportation are included in Category 1, such as naphtha, are not included in the scope of calculation for this category). The emissions are calculated by multiplying transportation volume (ton-kilometer) by the emission factor for each mode of transportation, where the transportation volume is calculated by multiplying the freight volume by the transportation distance.
Category 5 Waste generated in operations	This category includes GHG emissions generated during the incineration, landfill disposal, and recycling of waste products emitted from production sites in Japan. Waste that is incinerated or disposed in landfill includes items such as sludge and plastic, and the GHGs that are released during incineration are calculated by multiplying the amount of waste by a corresponding emission factor.
<b>Category 6</b> Business travel	The amount of business travel expenses for two Group companies for the year is calculated, and the ratio to net sales for these amounts is used as the representative figure for the MCHC Group in Japan (business travel expense ratio). The business travel expenses for the entire MCHC Group in Japan (Domestic MCHC group) are estimated by multiplying the net sales for the MCHC Group by the Domestic MCHC group net sales ratio and the business travel expense ratio. GHG emissions are calculated by multiplying this amount by an emission factor calculated based on each business trip's details in a certain Group company and the emission factors for each transportation mode.
Category 7 Employee commuting	The number of employees at each worksite in Japan is multiplied by the ratios of transportation modes used for commuting in each prefecture (according to a national survey in 2010) to estimate the number of employees using each mode of transportation for the entire MCHC Group in Japan. Commute distances are calculated using the national statistics for Japan, and these are multiplied by the emission factor for each mode of transportation.
Category 8 Upstream leased assets	Since the amount of applicable lease assets is negligible, this category is not estimated.
<b>Category 9</b> Downstream transportation and distribution	The emissions associated with the transportation of sold products are calculated by substracting the Scope 1 emissions of the Group's logistics subsidiaries in Japan from total emissions resulting from the shipping of cargoes which were reported under the Act on Promotion of Global Warming Countermeasures. The emissions related to international transportation of exported goods are calculated for petrochemical products and coal products, which have a large transportation volume. The emissions are calculated by multiplying transportation volume (ton-kilometer) by the emission factor for each mode of transportation, where the transportation volume is calculated by multiplying the freight volume by the transportation distance.
Category 10 Processing of sold products	The MCHC Group's main product group is raw materials products, and since these products can be processed into many types of products it is difficult to rationally calculate the GHG emissions associated with the products' processing. Therefore, in accordance with the WBCSD calculation guidance for the chemical industry, we exclude this category from the scope of calculation.
Category 11 Use of sold products	The amount of GHG emissions generated from combustion of fuel products sold outside of the MCHC Group (cokes, coke oven gas, etc.). The emissions are calculated by multiplying the amount of each type of fuel sold by an emission factor.
Category 12 End-of-life treatment of sold products	The final disposal location (Japan or overseas) is estimated for each type of the product sold that is used as raw materials, and the emissions are calculated by multiplying the disposal amount for each location by the emission factor for each final product and the disposal method for each location. The disposal method for final products overseas in fiscal 2013 is estimated to be 20% incineration and 80% landfill disposal.
Category 13 Downstream leased assets	Since the amount of applicable lease assets is negligible, this category is not estimated.
Category 14 Franchises	As the Group does not have any businesses in this format, there are no emissions in this category.
Category 15 Investments	The amount of GHG emissions related to investments are calculated for the 11 main investee companies in which MCHC held special investment shares (shareholding ratios of 20-50%) by multiplying the emissions of these companies by MCHC's shareholding ratio (number of shares held by MCHC/total number of issued shares). The investee companies' GHG emissions are based on figures published in accordance with the Act on Promotion of Global Warming Countermeasures, however, since the actual figures for fiscal 2013 have yet to be announced, the figures for fiscal 2011 were used as a substitute as they were the most recently published figures.

### **Environmental Data**

#### Scope of calculation:

Activities conducted by Group companies in Japan, which account for 70% of the Mitsubishi Chemical Holdings Corporation (MCHC) Group's net sales.

The FY2013 performance indicators with this tick mark have been assured by KPMG AZSA Sustainability Co., Ltd. For the Independent Assurance Report, please see page 5 in this data sheet.

	FY2011	FY2012	FY2013
Environmental Impact			
NOx emissions (thousand tonnes)	10.79	10.96	9.94
SOx emissions (thousand tonnes)	3.01	3.14	3.22
Particulate emissions (thousand tonnes)	0.32	0.24	0.21
VOC emissions (thousand tonnes) <sup>*1</sup>	5.14	4.53	4.57
$\checkmark$ COD (thousand tonnes) <sup>*2</sup>	—	2.10	1.93
Total nitrogen (thousand tonnes)*2	6.17	6.07	5.76
✓ Total phosphorus (thousand tonnes) <sup>*2</sup>	_	0.08	0.07

\*1 VOC: Chemicals subject to data collection are specified as VOC by the Japanese pollutant release and transfer register (PRTR) system and in the PRTR chemical survey of the Japan Chemical Industry Association, as well as ethylene and propylene.

\*2 COD, total phosphorus, and total nitrogen: The sum of discharge into rivers, lakes, and oceans. Does not include discharge into sewers.

Water Usage/Discharge			
☑ Water usage (million m³) (excluding seawater)	189	183	181
☑ Water discharge (million m³) (excluding seawater)	—	104	102
Water discharge into oceans (million m <sup>3</sup> ) (excluding seawater)	—	67	62
Water discharge into lakes and rivers (million m <sup>3</sup> )	_	33	36
Water discharge into sewers (million m³)	_	4	4

Waste			
☑ Waste generated (thousand tonnes) <sup>*3</sup>	446	409	368
☑ Landfill disposal (thousand tonnes) <sup>*3</sup>	11	7	6
PRTR chemical substance emissions (thousand tonnes)	1.18	1.12	1.20

\*3 Waste generated and landfill disposal: The figures for fiscal 2013 do not include the waste and landfill waste generated from the waste treatment business.

Environmental Accounting			
Enrivonmental protection cost			
Investment amount (million yen)	_	3,672	5,908
Expense amount (million yen)		35,434	33,899
Economic benefit of environmental protection measures (million yen) $^{*4}$	—	2,782	3,441

\*4 Scope of calculation: Mitsubishi Tanabe Pharma Corporation, Mitsubishi Plastics, Inc., Mitsubishi Rayon Co., Ltd., and each company's Group companies in Japan.

There were no significant environmental accidents or leaks and no hazardous wastes as defined by the Basel Convention were transported.

# Social Data

Data is for the period from April 1 to March 31 of each fiscal year or as of March 31

**Scope of calculation:** The four core operating companies on a non-consolidated basis. These companies are Mitsubishi Chemical Corporation, Mitsubishi Tanabe Pharma Corporation, Mitsubishi Plastics, Inc. and Mitsubishi Rayon Co., Ltd..

		FY2011	FY2012	FY2013
Basic Information				
Number of employees		16,683	16,801	16,580
Number of employees by gender	Male	14,359	14,411	14,186
	Female	2,324	2,390	2,394
Number of employees by age group	20s or younger	2,303	2,202	2,004
	30s	4,559	4,463	4,316
	40s	5,991	6,158	6,098
	50s or older	3,830	3,978	4,162
Average age		41.6	41.9	42.0
Number of new employees		166	265	266
Number of employee turnover		152	129	189
Number of unionized employees		12,251	12,152	11,941
Percentage of unionized employees		73.4	72.3	72.0
Number of layoffs		0	0	0

Diversity			
Percentage of female employees	13.9	14.2	14.4
Percentage of female managers <sup>*1</sup>	5.2	5.6	6.1
Percentage of employees with disabilities	2.0	1.9	2.1
Number of employees rehired post-retirement	992	982	1,121

\*1 Percentage of female employees to employees at assistant manager level and above.

## Work-Life Balance

WOIK-LITE Datatice				
Number of employees taking childcare leave	Total	184	202	235
	Male	13	12	14
	Female	171	190	221
Number of employees taking nursing care leave		0	6	19
Acquisition rate of annual paid leave		64.1	65.3	66.7

Occupational Health			
Lost-time injuries frequency rate <sup>*2,*3</sup>	0.27	0.25	0.32

\*2 Scope of calculation: the Domestic MCHC group.

\*3 Lost-time injuries frequency rate: Number of lost-time injuries and fatalities per million hours worked.

Other			
Number of employees taking volunteer leave	245	61	61
Charitable contributions (million yen) *4	2680	2394	2561
Political contributions (million yen) *4	0	0	18
*4 Scope of calculation: the Domestic MCHC group.			

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# Independent Assurance Report



#### Independent Assurance Report

To the President and CEO of Mitsubishi Chemical Holdings Corporation

We were engaged by Mitsubishi Chemical Holdings Corporation (the "Company") to undertake a limited assurance engagement of the environmental performance indicators marked with  $\mathbf{X}$  for the period from April 1, 2013 to March 31, 2014 (the "Indicators") included in its Fiscal 2013 Data Sheet (the "Data sheet") for the fiscal year ended March 31, 2014.

#### The Company's Responsibility

The Company is responsible for the preparation of the Indicators in accordance with its own reporting criteria (the "Company's reporting criteria"), as described in the Data sheet, which are derived, among others, from the Act on the Rational Use of Energy, Act on Promotion of Global Warming Countermeasures, GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard and WBCSD Guidance for Accounting & Reporting Corporate GHG Emissions in the Chemical Sector Value Chain and Environmental Reporting Guidelines of Japan's Ministry of the Environment.

#### **Our Responsibility**

Our responsibility is to express a limited assurance conclusion on the Indicators based on the procedures we have performed. We conducted our engagement in accordance with 'International Standard on Assurance Engagements (ISAE) 3000, Assurance Engagements other than Audits or Reviews of Historical Financial Information', 'ISAE 3410, Assurance Engagements on Greenhouse Gas Statements', issued by the International Auditing and Assurance Standards Board, and the 'Practical Guidelines for the Assurance of Sustainability Information' of the Japanese Association of Assurance Organizations for Sustainability Information presented in the Data sheet, and applying analytical and other procedures, and the procedures performed vary in nature from, and are less in extent than for, a reasonable assurance engagement. The level of assurance provided is thus not as high as that provided by a reasonable assurance engagement. Our assurance procedures included:

- Interviewing with the Company's responsible personnel to obtain an understanding of its policy for the preparation of the Data sheet and reviewing the Company's reporting criteria.
- Inquiring about the design of the systems and methods used to collect and process the Indicators.
- Performing analytical reviews of the Indicators.
- Examining, on a test basis, evidence supporting the generation, aggregation and reporting of the Indicators in conformity with the Company's reporting criteria, and also recalculating the Indicators.
- Visiting to Mitsubishi Chemical Corporation's Mizushima plant selected on the basis of a risk analysis.
- Evaluating the overall statement in which the Indicators are expressed.

#### Conclusion

Based on the procedures performed, as described above, nothing has come to our attention that causes us to believe that the Indicators in the Data sheet are not prepared, in all material respects, in accordance with the Company's reporting criteria as described in the Data sheet.

#### **Our Independence and Quality Control**

We have complied with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, which includes independence and other requirements founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behavior. In accordance with International Standard on Quality Control 1, we maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

KPMG AZSA Sustamphility Co., Led.

KPMG AZSA Sustainability Co., Ltd. Tokyo, Japan December 16, 2014