

Environmental and Safety Control in Japanese Chemical Industry

“Responsible Care (RC)”,
a world standard of HES Activity
in Chemical industry

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- ▣ What is Responsible Care?
 - ▣ “Six codes” of Responsible Care
- ▣ MGC’s Responsible Care activity
- ▣ HES Activity of Japan chemical industry association (JCIA)
 - ▣ With video “Lessons from chemical plant accidents”

Mitsubishi Gas Chemical Co., Ltd.

Corporate Information (as of March 31, 2014)

Company name

MITSUBISHI GAS CHEMICAL COMPANY, INC.

Head office address

Mitsubishi Building, 5-2 Marunouchi 2-chome,
Chiyoda-ku, Tokyo 100-8324, Japan

Established January 15, 1918

Incorporated April 21, 1951

Capital ¥41.97 billion (as of the end of March, 2014)

Number of employees

5,445 (consolidated), 2,434 (non-consolidated)

Number of consolidated subsidiaries 40

Main business sites in Japan

Branches Osaka branch

Overseas offices Shanghai Office, Taiwan Office

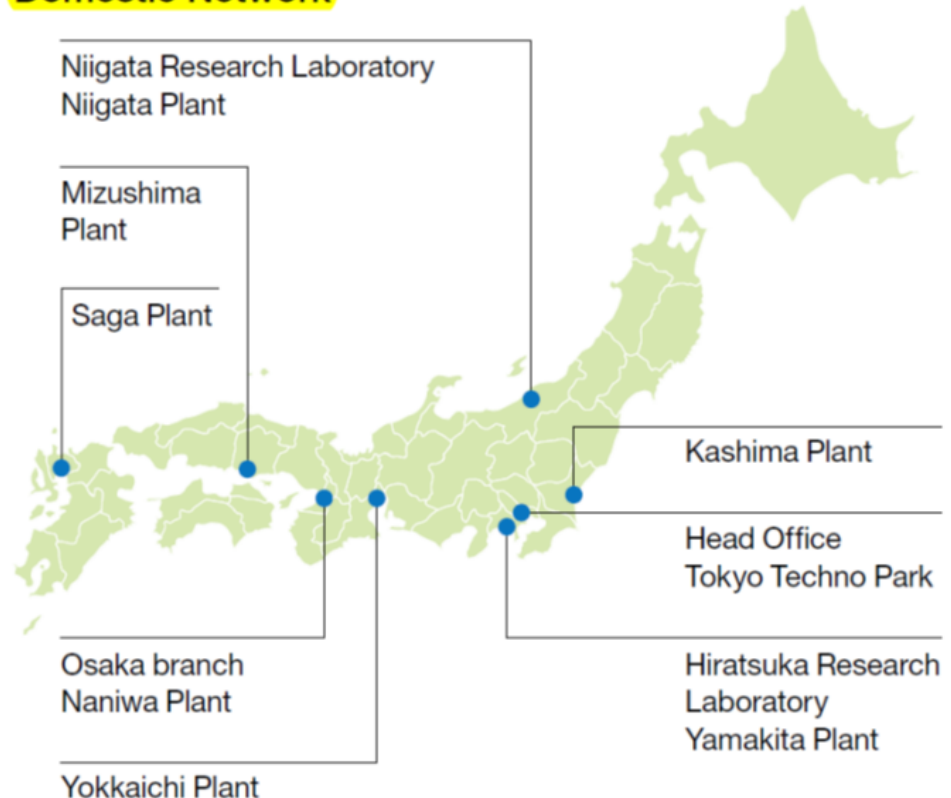
Research institutes

Tokyo Techno Park (Tokyo Research Laboratory, Research and Development Center, MGC Chemical Analysis Center), Niigata Research Laboratory, and Hiratsuka Research Laboratory

Plants

Niigata Plant, Mizushima Plant, Kashima Plant, Yokkaichi Plant, Yamakita Plant, Naniwa Plant, and Saga Plant

Domestic Network



Six businesses operated by four companies

Natural Gas Chemicals Company

Natural Gas
Chemicals



Aromatic Chemicals Company

Aromatic
Chemicals



Specialty Chemicals Company

Inorganic
Chemicals

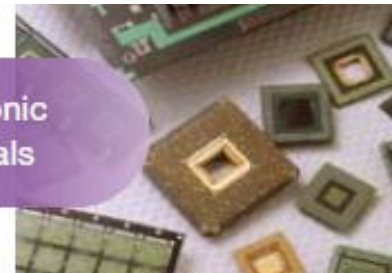


Engineering
Plastics



Information & Advanced Materials Company

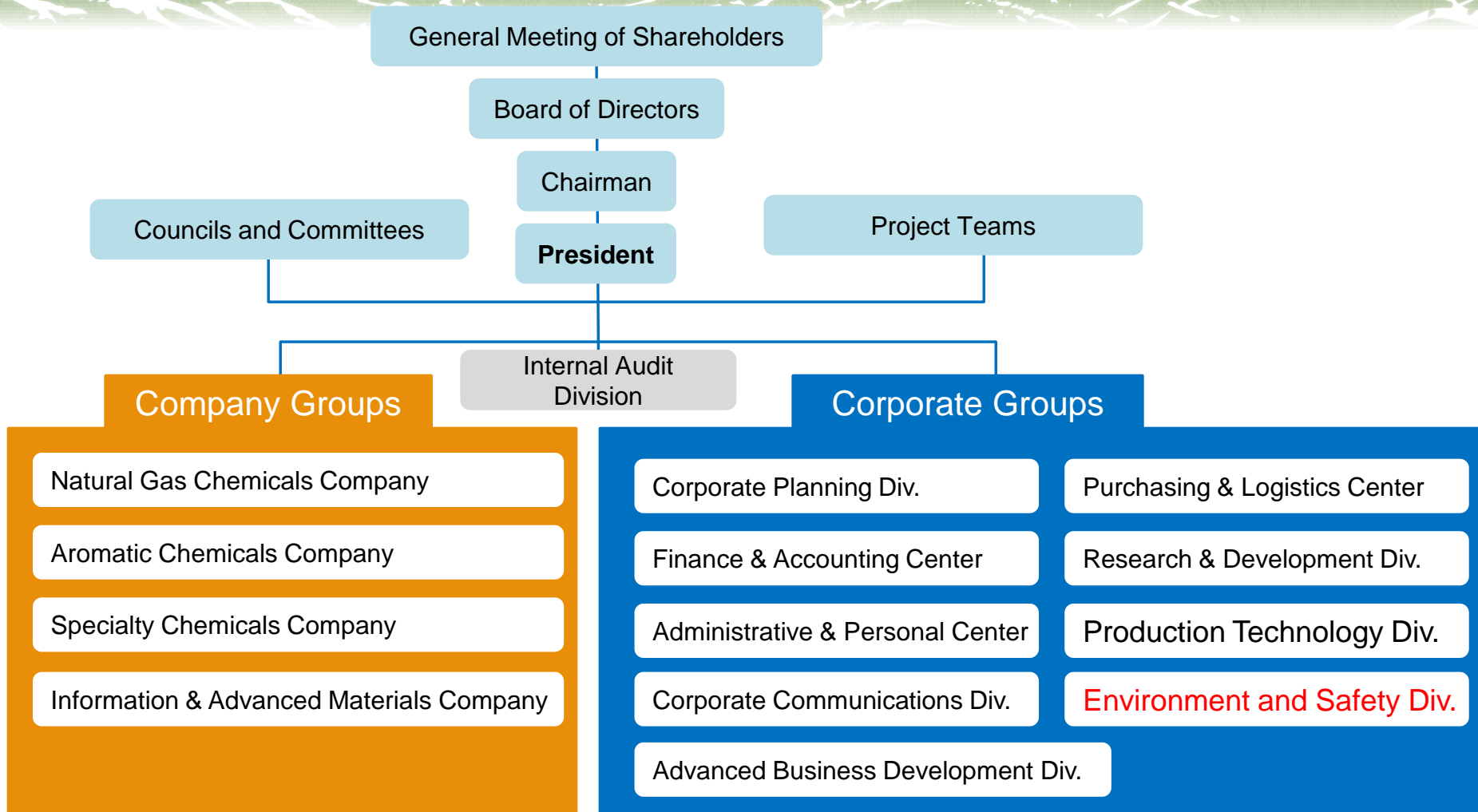
Electronic
Materials



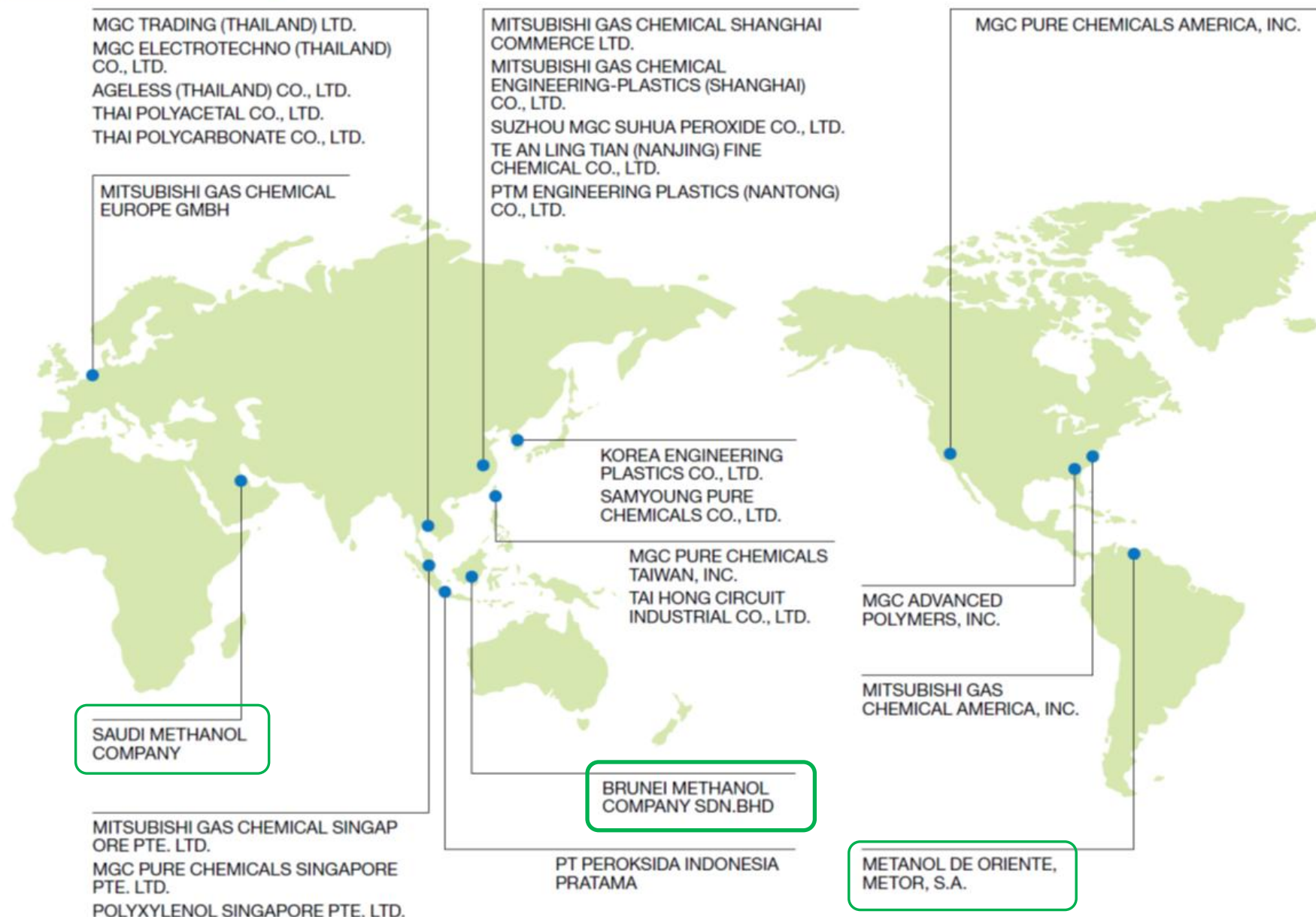
Oxygen
Absorbers



Organization Chart of MGC



International Network



What is RC? #1



Responsible Care®
OUR COMMITMENT TO SUSTAINABILITY

- Responsible Care is
 - the chemical industry's unique global initiative
 - that drives continuous improvement in health, safety and environmental (HSE) performance,
 - together with open and transparent communication with stakeholders.

<http://www.icca-chem.org/en/Home/Responsible-care/>

History

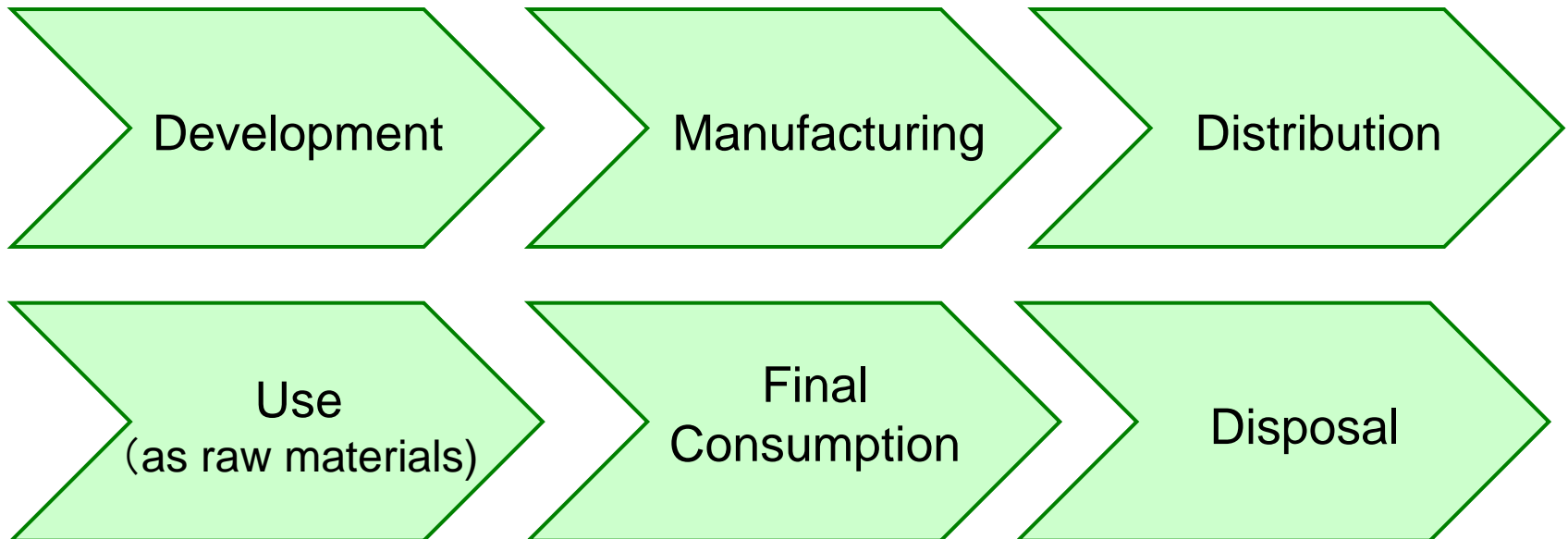


Responsible Care®
OUR COMMITMENT TO SUSTAINABILITY

- First launched by The Canadian Chemical Producers Association in 1985
- Initiative of ICCA(International Council of Chemical Association) in the world
- Activated by JCIA(Japan Chemical Industry Association) in Japan

What is RC ? #2

RC activity is a voluntary working aimed at preserving the environment and ensuring safety and health in all stage of chemical substance life cycle.



Fields of RC Activities(6-Codes)



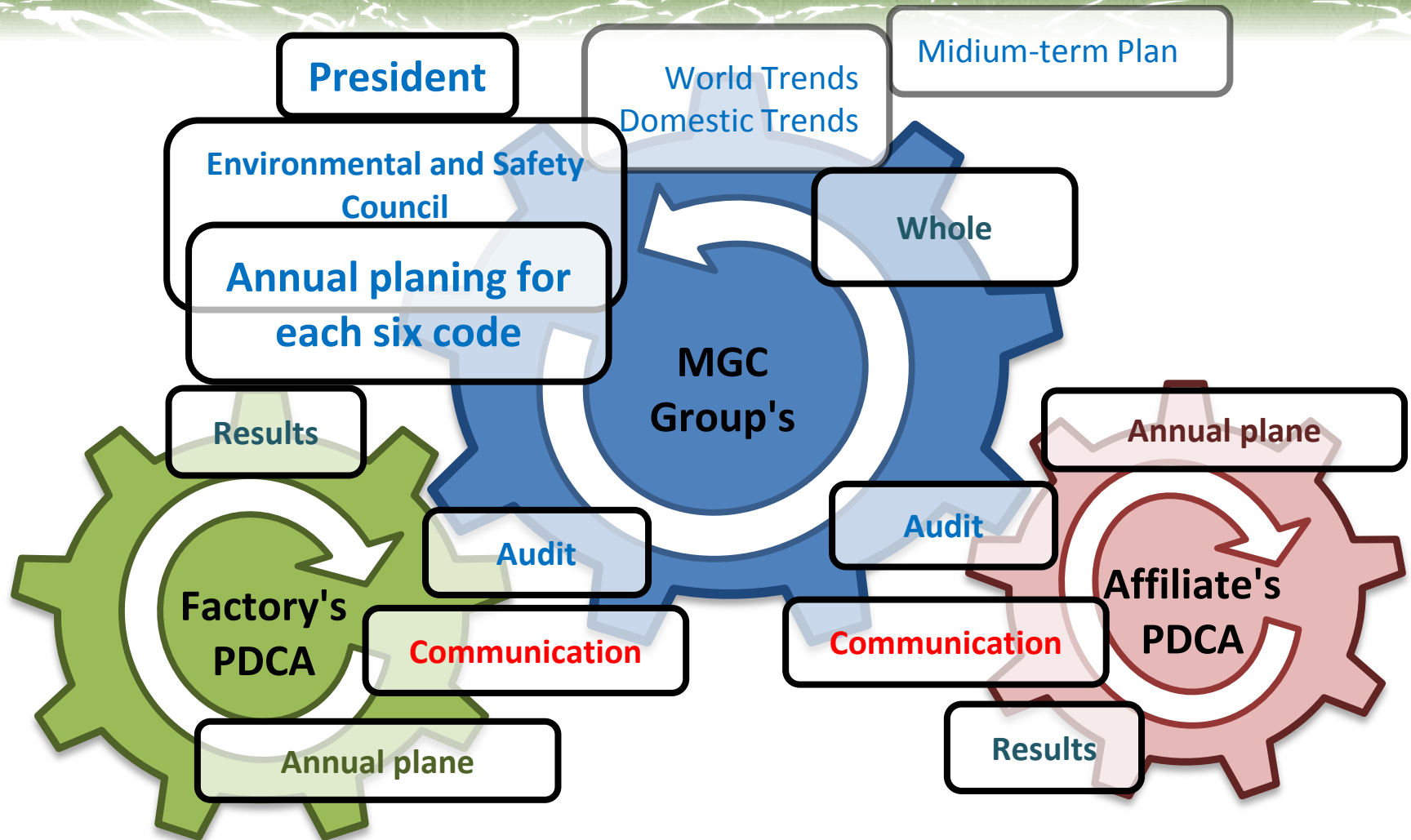
Responsible Care®
OUR COMMITMENT TO SUSTAINABILITY

- ❑ Occupational health and safety
- ❑ Process safety and disaster prevention
- ❑ Environmental preservation
- ❑ Chemicals and Products safety
- ❑ Distribution safety
- ❑ Dialog with the community

"Six Code Activities" of MGC

"Codes"	MGC Activities
1 Occupational health and safety	Near-Miss Suggestion, Danger Foreseeing, 5S, Occupational safety risk assessment, and more
2 Process safety and disaster prevention	Process and facility Risk Assessment, Safety Management of Facilities, Education and training, and more
3 Environmental preservation	Reduce the energy consumption, greenhouse gas emissions, Achieve zero emissions of waste, etc.
4 Chemicals and Products safety	Safety Assessment of Chemicals and Product, Providing Safety Information
5 Distribution safety	Analyzing Distribution troubles
6 Dialog with the community	Strengthen cooperation with stakeholders

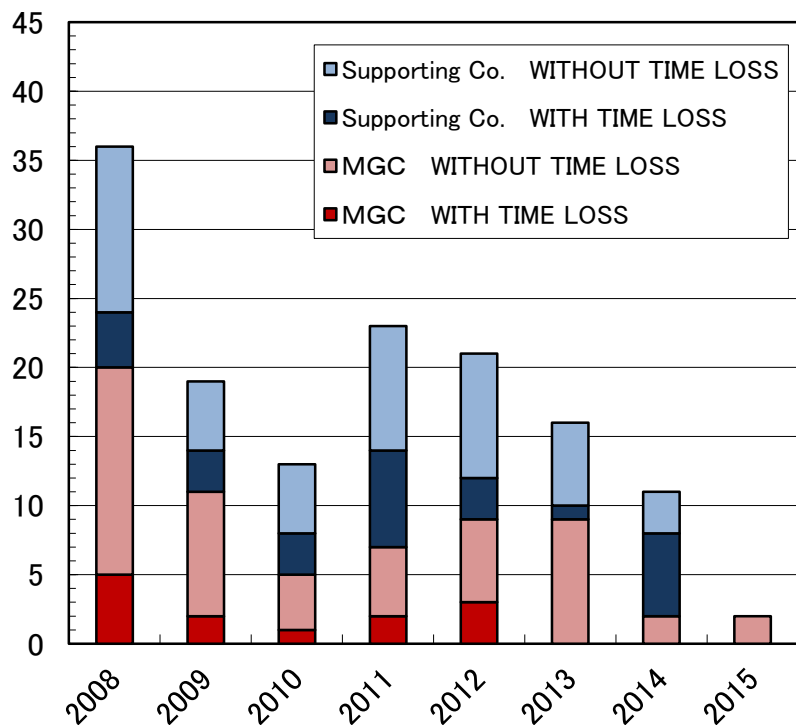
PDCA Cycle of RC Activities



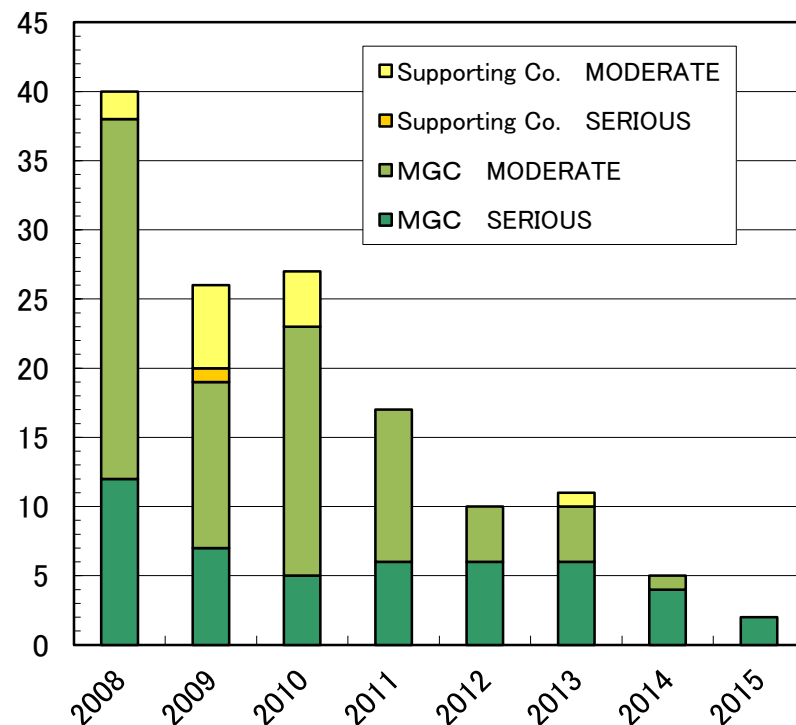
Occupational Injury and Industrial Accidents in MGC and supporting companies

(2008-2015 April)

Occupational Injury in MGC



Industrial Accidents in MGC



Japan Chemical Industry Association (JCIA)



Japan Chemical Industry Association

[Japanese](#) | [English](#)



[News](#) | [About JCIA](#) | [Position](#) | [Environment](#) | [Chemistry](#) | [Data](#) | [Publications](#) | [Responsible Care](#) | [Whats New](#)



MEMBERS' WEBSITE

ID
PASS



Message
from the Chairman



What's New

[Backnumber](#)

2014/08/20	2014 CHEMICAL INDUSTRY OF JAPAN IN GRAPHS
2014/05/29	ICCA Board of Directors Gathers in Tokyo
2014/05/16	JCIA Announces 8th Annual Responsible Care Award Winners
2014/05/16	JCIA Presents 38th Annual Safety Award
2014/05/16	46th Annual JCIA Technology Award Winners Have Been Selected

Japan Chemical Industry Association (JCIA)

❑ Established:

- ❑ April 1948 _ JCIA formed as a voluntary association
- ❑ June 1991 _ Incorporated as a legal entity
- ❑ April 2011 _ Shifted to a general incorporated association

❑ Mission:

As the leading trade association of the Japanese chemical industry, JCIA seeks to promote the healthy development of the chemical industry.....

❑ Activities:

1. Research and study on the production, distribution and consumption of chemical products.
2. Research and study on issues concerning technology, labor, environment, chemical safety, etc., as well as planning and promoting measures and actions.
3. Commendations for outstanding achievement in new technologies and safety records.
4. Collection and dissemination of information, communications and cooperation with related organizations in Japan and overseas.
5. Public outreach and advocacy activities, workshops and seminars.

JCIA Committees

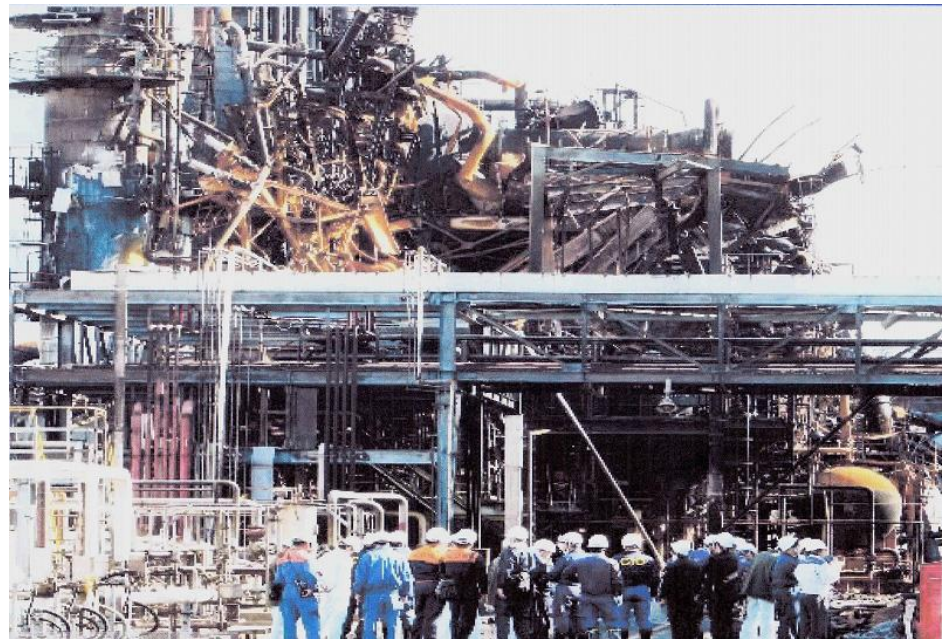
- ❑ Policy Coordinating Committee
- ❑ Councilors' Committee
- ❑ Public Relations Committee
- ❑ International Activities Committee
- ❑ Economy and Tax System Committee
- ❑ Labor Committee Technical Affairs Committee
- ❑ Environment and Safety Committee
 - ❑ **Process safety and disaster prevention Subcommittee**
- ❑ Chemicals Management Committee
- ❑ Responsible Care Committee

Serious Disaster in Major Chemical Factory in Japan (1)



Vinyl-Chloride Monomer Plant in YAMAGUCHI (2011)

Caused by Wrong operation of Distillation
tower



Serious Disaster in Major Chemical Factory in Japan (2)



Resorcin Plant in YAMAGUCHI (2012)

Caused by Illegal decomposition reaction of Aromatic Peroxide

図 2 - 8 2 回目の爆発画像

Serious Disaster in Major Chemical Factory in Japan (3)

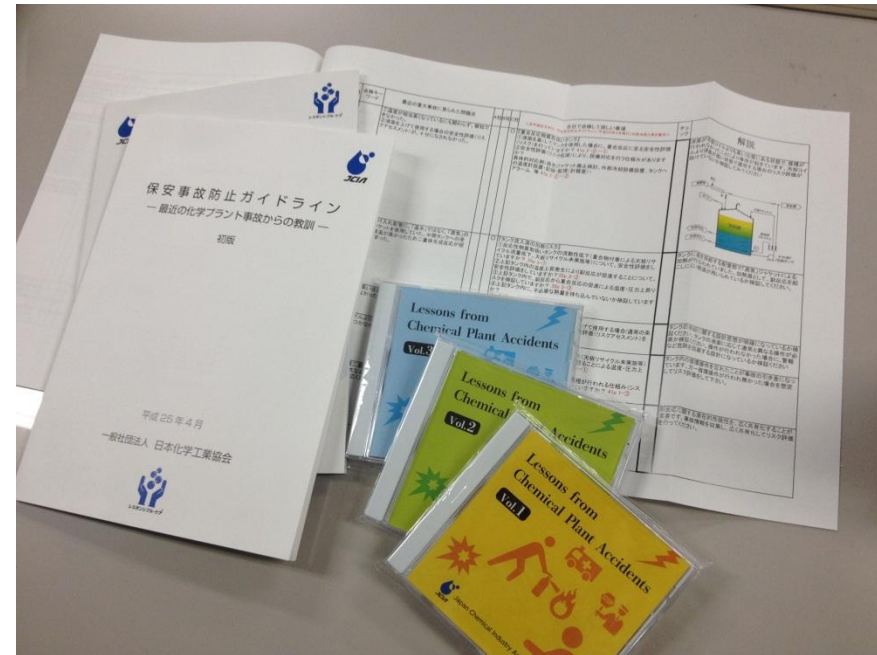


Acrylic acid Plant in HIMEJI (2012)

Caused by Inadequate
change(alternation)
management

Activity of the subcommittee;

- ❑ All members are safety expert from Japanese major chemical companies
- ❑ Obtains information from
 - ❑ Official Reports about each disasters
 - ❑ Questioning from the chemical company
- ❑ Makes advanced investigation and analysis of Disasters
- ❑ Edits texts and Instructional videos for prevention of the similar cases



The End

Thank you very much for your attention

Shogo Yoshida
General manager
Environment and Safety Division
Mitsubishi Gas Chemical Company, INC.