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# NIPPON SHOKUBAI CO., LTD.

FY Ended March 31, 2013 Large Meeting



May 13, 2013



NIPPON  
SHOKUBAI

# Apologies

We NIPPON SHOKUBAI CO., LTD are deeply saddened by the loss of life resulting from the explosion and fire at the Himeji Plant on September 29 and extends its sincere condolences to family members. In addition, we extend our sincere apologies to the individuals who were injured by this accident and to the enormous problems this incident caused for the neighborhood of the plant and to other people associated with this incident.

Financial results for the fiscal year  
ended March 2013(“FY 3/2013”) and  
forecast for the fiscal year  
ending March 2014(“FY 3/2014”)



President

Masanori Ikeda

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### Explanation of acronyms

SAP: Superabsorbent Polymers

AA: Acrylic Acid

AES: Acrylates

EO: Ethylene Oxide

EG: Ethylene Glycol

NAII: NA Industries, Inc.(USA)

AAL: American Acryl L.P.

NSE: NIPPON SHOKUBAI EUROPE N.V. (Belgium)

NSI: PT.NIPPON SHOKUBAI INDONESIA (Indonesia)

SAA: Singapore Acrylic Pte Ltd (Singapore)

SGA: NIPPON SHOKUBAI (ASIA) PTE.LTD.(Singapore)

NSC: NISSHOKU CHEMICAL (ZHANGJIAGANG) Co.,Ltd. (China)

# 1. Overview of the accident, cause, and measures to prevent recurrence



## ●Place and date

Place: Acrylic acid intermediate tank, NIPPON SHOKUBAI Himeji Plant

Date: September 29, 2012 (Saturday) at 14:35,

## ●Damages

Casualties: The dead: 1 person (firefighter) , The injured: 36 persons

Property damage: The tank involved was destroyed and its surrounding equipment, racks, piping, cables, etc., were damaged.

## ●Organizations for investigation

Accident Investigation Committee, established on October 5, 2012

Members: Academia and external specialists: 4, NIPPON SHOKUBAI: 3

Chairman: Masamitsu Tamura, Emeritus Professor, The University of Tokyo

January 18, 2013, Interim Report, reporting direct causes and recurrence preventive measures against them

March 27, 2013, Investigation Report, reporting direct & indirect causes, and overall recurrence preventive measures

Safe Production Technology Division, established on October 17, 2012

Missions of the division are to investigate causes of the accident at the Himeji Plant, to draw up measures to prevent recurrence, and to roll out the measures in the whole company.

# 1. Overview of the accident, causes, and measures to prevent recurrence



- **Causes of the accident** (source: Accident Investigation Committee “Investigation Report” March 27, 2013)

In the intermediate tank that was used to temporarily store the bottom liquid (\*1) of the glacial acrylic acid rectifying column in the acrylic acid production facilities

  - \* In spite of the increase in stored liquid,
  - \* The Recycle to Top (\*2) was not commissioned, so that the cooling was insufficient in the tank.
  - \* This accelerated the reaction to form acrylic acid dimer (\*3) and caused the temperature to rise,
  - \* which in turn triggered an abnormality by which the polymerization of acrylic acid occurred.
  - \* Deficiencies in the temperature detection and temperature monitoring of the liquid stored in the tank led to the explosion and fire.

\*1: Unrefined acrylic acid drained from the bottom of the rectifying column .  
\*2: A system for cycling cooled fluid from the bottom of the tank to the plate at the top of the tower through piping  
\*3: A substance where two acrylic acid single molecules combine
- **In response to the recommendations of the Accident Investigation Committee**

(Source: Regaining Public Trust as a Chemical Company, March 29, 2013)

  1. Lateral deployment of recurrence prevention countermeasures
    - (1) Ensure risk assessment implementation
    - (2) Collect, share and effectively use the safety technology information
    - (3) Enhance education and training programs
  2. Strengthen the culture of safety prioritization
  3. Verify the implementation of safety countermeasures

## 2. Operations at the Himeji Plant

Operating status of manufacturing facilities for the main products affected by the temporary suspension order on facilities handling hazardous materials (as of May 13, 1013)

(Unit: 1,000 t/year)

Business segment	Product name	Himeji overall production capacity	Capacity in operation	Ratio		Overall group production capacity	Capacity in operation	Ratio
Basic chemicals	AA	460	-	-		620	160	26%
	AES	130	-	-		230	100	43%
Functional chemicals	SAP	320	-	-		510	190	37%
	Water-soluble polymers	55	-	-		55	-	-
	Special esters	40	-	-		40	-	-

- Operation of the products except the above has resumed in accordance with the lifting of restrictions.
- Overall group production capacity of SAP includes the old facilities (40,000 t/year) of NAIL, U.S.

### 3. FY3/2013 results

(Unit: Billion yen)	FY3/2012 results	FY3/2013 results
Net sales	320.7	269.5
Operating income	31.1	10.0
Ordinary income	33.1	13.8
Net income	21.3	8.4
ROA(Ordinary income on assets)	9.7%	3.9%

#### Large fall in both revenues and profits

- (1) Downturn in AES market: Deteriorating spread
- (2) Deceleration of global economic growth: Reduced overall sales volume
- (3) Himeji accident: Reduced production and sales volume (second half)

#### Impact on business --- Impact on FY2012 results

Operating loss    13.1    billion yen    (Reduced production and sales volume)

Extraordinary loss    0.7                      (Fixed costs during suspension etc.) [-8.9], insurance [+8.2])

Total                      13.8



## 4. FY3/2014 plan

(Unit: billion yen)	FY3/2013 results	FY3/2014 plan
Net sales	269.5	300.0
Operating income	10.0	15.0
Ordinary income	13.8	18.0
Net income	8.4	12.0
ROA (Ordinary income on assets)	3.9%	4.9%

Exchange rate:

Domestically produced naphtha price:

US\$ = 83 yen, EUR = 107 yen  
57,500 yen/kL

US\$ = 90 yen, EUR = 115 yen  
65,000 yen/kL

### Increased revenues and profit

Modest recovery of the global economy

**Increased production and sales volume is expected with the recovery of Himeji**

### Conditions for achievement of the plan

- (1) Recovery of Himeji
- (2) Adjustment of product prices to match raw material prices
- (3) Sale of planned quantity
- (4) Completion and operation of the NSI Project according to plan

## 5. Trends in major businesses (1) SAP

### Supply and demand trend

**Demand** Global demand approx. 1.9 million tons (2012 estimate)

**Assuming mid-term annual growth rate from 5 to 6%**

**Supply** Plan to enter and reinforce presence at emerging manufacturers besides current majors  
2013 Expansion plan: global total 310,000 t/year (including NIPPON SHOKUBAI Group)

### Our situation and action

Assuming sales volume at a level equivalent to before the accident in the fourth quarter of FY2013

Himeji factory

Resumption of SAP operations in response to the resumption of operation the AA facilities **Complete recovery expected in October**

Overseas facilities

NAII (America) Full operation of the new plant in Texas (60,000 t/year)

Restart of the old plant in Tennessee for a limited time (40,000 t/year)

NSI (Indonesia): New facilities (90,000 t/year) scheduled for operation in August this year according to plan

NSE (Belgium), NSC (China): In full operation

Actions to achieve recovery of share

Start-up of new NSI facilities, stable operation, quality differentiation, provision of technical services etc.

## 5. Trends in major businesses (2) AA

### Supply and demand trend

**Demand** Global demand approx. 4.3 million tons (2012 estimate)

**Assuming mid-term annual growth rate around 4%**

**Supply** 2012 Expansion in China and Korea total 620,000 t/year  
2013 Global total expansion plan 400,000 t/year  
(Supply and demand would be softened,  
even when start-up time and operating rate are taken into consideration.)

### Our situation and action

**Assuming sales volume at a level equivalent to before the accident in the 4th quarter of FY3/2014**

Himeji Plant

460,000 t/year Complete recovery expected in the second half

New facilities (80,000 t/year): Construction work suspended after the accident, operation to start early 2014

Overseas facilities

Existing facilities: Maintain high operating rate

NSI (Indonesia) expansion (80,000 t/year) scheduled for operation in August this year according to plan

## 5. Trends in major businesses (3) AA/SAP Global Expansion

			<b>AA</b>	(Capacity KT/Y)		<b>SAP</b>	(Capacity KT/Y)	
Company	Land	Location	As of May 13, 2013	Expansion	Operation in	As of May 13, 2013	Expansion	Operation in
NSCL	Japan	Himeji	460	<b>80</b>	Aug. 2013	320		
NAII	USA	Tennessee				<b>40 *</b>		June 2012
		Texas					<b>60</b>	Ditto
AAL	USA	Texas	60					
NSE	Belgium	Antwerp				60		
NSI	Indonesia	Cilegon	60	<b>80</b>	Aug. 2013		<b>90</b>	Aug. 2013
SAA・SGA	Singapore	Jurong Isl.	40					
NSC	China	Zhangjagang				30	<b>30</b>	Suspending for Himeji recovery
Total			620	<b>160</b>		470(+40)	<b>120</b>	
Total after completion				<b>780</b>			<b>590(+40)</b>	

\* Temporally operated to make up for the lack of products, and to be finished by the end of December, 2013

## 5. Trends in major businesses

(4) EO business

(5) Electronics & information materials business



**EO** - Focus effort on improving the operating rate of Kawasaki

**(1) Non-EG ratio** Maintain stable at about 70%

**(2) EO centralization**

- New and expanded derivatives

Polymer for concrete admixture, detergent builder [Existing site, complete]

(Meta) acrylic acid special esters 20,000 t/year [New land, scheduled for operation December 2013]

**Electronics & information materials** - Overcame impact of the Himeji accident, increased sales in FY3/2013

**(1) Acrylic resin for optical materials (ACRYVIEWA)**

Demand for large LCDs for TV is flat, but increasing for small LCDs for smartphones and tablets

Start commercial production of film from FY3/2014

**(2) Resist polymer for color filters (ACRYCURE)**

Respond to requirements for functional polymers arising from advances in backlighting with LED

## 6. Trends in new businesses

### New energy materials

#### (1) Lithium bis (fluorosulfonyl) imide (LiFSI)

Much effective for longer battery life and improvement of safety

Sales target **FY3/2016 2 billion yen**

#### (2) Solid electrolyte polymer (ICP: ion conductive polymer)

February 2012 Semi-commercial plant operation started

Sales target **FY3/2016 Several hundred million yen**

#### (3) Zirconia sheets and cells for fuel cells

Modification of plant to handle larger products

Sales target **FY3/2016 5 billion yen**

Expand sales mainly to Bloom Energy (America)



## 7. Return Policy

Taking overall account of business expansion and corporate structural reinforcement and based on forecasts of the trend in consolidated earnings, we are aiming to improve levels in the medium term

Expansion of investment in core business and  
worth income caused by the accident

### Capital expenditure

FY3/2013 result: 29.1 billion yen

FY3/2014 plan: 31.0 billion yen

FY3/2013 dividend, Planned  
Net Income 8.4 billion yen

Yen/share	Interim	End of period	Total
<b>Total</b>	11	5	16

FY3/2014 dividend, **Forecast**  
Net Income 12.0 billion yen

Yen/share	Interim	End of period	Total
<b>Total</b>	8	8	16

	FY3/2013	Average FY3/2011-FY3/2013
<b>Dividend ratio</b>	38.7%	24.0%

## 8. Regaining public trust - A new Nippon Shokubai

### (1) Mid-term business plan

#### Changes in our business environment due to the Himeji accident

FY3/2014 all-out effort towards recovery of Himeji under a single-year plan  
Establish [a new mid-term business plan](#) with FY3/2015 as the first year

- Priority issues
- Reform of the corporate culture
  - Strengthen the safety first culture
  - Improve the profitability of existing businesses
  - Establish new businesses

### (2) Matters reaffirmed by the accident

#### Damage to trust developed over many years

#### Reaffirming the source of our corporate value

- (1) Our products are used widely, and they are **essential raw materials for various industries**
- (2) We have **high market share** products besides AA and SAP in Japan and worldwide
- (3) Our products are superior in quality and performance **and cannot be replaced by other companies' products**



## 8. Regaining public trust - A new Nippon Shokubai



### (3) Initiatives for regaining trust

- (1) Enforce **safety measures** in order to prevent accidents
- (2) Strengthen **BCP** (business continuity planning)
- (3) Enhanced **contribution to industry and society**
  - We manufacture and sell our products with pride and confidence
  - We develop new products to meet needs

To be a chemical company really trusted by society,  
all of our employees strive to carry out the above.  
We look forward to your continued support.

## Notes to Readers

This presentation material (“Material”) is aiming to provide readers referential information, not to persuade investment. Material contains forward-looking statements and statements of this nature based on reasonable judgments in accordance with information currently available. We do not commit nor guarantee the contents of Material. Readers should be aware that actual results and events might differ substantially from these projections.

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