

Japan Credit Rating Agency, Ltd. (JCR) announces the following credit rating.

## Shin-Etsu Chemical Co., Ltd. (security code: 4063)

<Rating Change>

Long-term Issuer Rating: from AA+p to AAAP

Outlook: from Positive to Stable

### Rationale

- (1) Shin-Etsu Chemical Co., Ltd. (the "Company") is one of the world's leading chemicals manufacturers. It boasts the largest global shares for polyvinyl chloride ("PVC") resin and semiconductor silicon wafers ("wafers"). It operates its businesses centering on these and other highly competitive specialty products such as silicones, cellulose derivatives, rare earth magnets and photoresists. A new plant in Louisiana was completed at the end of 2021 for U.S.-based Shintech, Inc., which is the core company for PVC resin, and its production capacity is expected to increase further by the end of 2023. For wafers, the Company has good relationships with leading semiconductor manufacturers, backed by high technological capability, and is pressing ahead with the expansion of facilities based on long-term contracts.
- (2) The Company has multiple businesses with strong competitive advantages, thereby building a solid business portfolio. In the Infrastructure Materials segment, which primarily offers PVC resin, it not only wins high confidence of customers on the back of the stable supply system, but also has the sales network through which it can sell the entire volume produced, which along with other factors underpins high profitability. In the Electronics Materials segment, it offers a number of materials, including wafers, that are essential to advanced semiconductor manufacturing and thus has a strong presence in the industry. It has been achieving constant profit growth by taking advantage of these strengths and also steadily responding to an increase in product demand with timely production enhancement. JCR has concluded that, despite the increasingly unpredictable external environment, the Company can maintain the high earnings capacity into the future thanks to the well-balanced business portfolio. The Company stands out for the soundness of the financial base among Japanese corporations. Based on the above, JCR upgraded the Company's rating.
- (3) Operating income for the fiscal year ended March 2023 (FY2022) came to 998.2 billion yen, climbing 47.6% from the previous year to mark a new high for two years in a row. The core PVC resin and wafer businesses fared well, and all segments achieved year-on-year growth of over 20%. As the market conditions of PVC resin and the semiconductor market are now in the adjustment phase due to concerns about global economic slowdown, the Company's performance in FY2023 may weaken, especially for the above two core businesses. Yet, given Shintech's competitiveness in the U.S., a high ratio of long-term contracts for wafers, expectation that the earnings base will become stronger through facility enhancement in all businesses and so forth, JCR assumes that the Company can keep achieving the high profit level into the future.
- (4) Equity capital as of March 31, 2023 amounted to 3.8 trillion yen, and equity ratio stood at 81.8%, both of which are at extremely good levels. Liquidity on hand exceeds 1.6 trillion yen, and funds availability is also high. While the Company has been constantly making capital investments for PVC resin, semiconductor materials, silicones, etc., given the high cash flow generation capacity and the level of liquidity on hand, such spending will have only a limited impact on finances. Therefore, the virtuous cycle from investment to fund recovery and enhancement of the financial base will probably continue.

Takeshi Fujita, Naoki Muramatsu

### Rating

Issuer: Shin-Etsu Chemical Co., Ltd.

<Rating Change>

Long-term Issuer Rating: AAAP      Outlook: Stable

Rating Assignment Date: May 24, 2023

The assumptions for the credit ratings and the definitions of the rating symbols are published as "Types of Credit Ratings and Definitions of Rating Symbols" (January 6, 2014) in Information about JCR Ratings on JCR's website (<https://www.jcr.co.jp/en/>).

Outline of the rating methodology is shown as "JCR's Rating Methodology" (November 7, 2014) and "Chemicals" (June 15, 2022) in Information about JCR Ratings on JCR's website (<https://www.jcr.co.jp/en/>).

The aforementioned credit ratings are unsolicited. Except in cases of a credit rating for a sovereign, JCR indicates affix "p" after a rating symbol to distinguish it from a rating with solicitation. The undisclosed information, which has material influence on the credit rating, was obtained from the rating stakeholder.

The rating stakeholder participated in the rating process of the aforementioned credit ratings.

## Japan Credit Rating Agency, Ltd.

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JCR publishes its press releases regarding the rating actions both in Japanese and in English on the same day. In case that it takes time to translate rating rationale, JCR may publicize the summary version, which will be replaced by the full translated version within three business days. (Regarding Structured Finance products, JCR only publicize the summary version in English.)

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## INFORMATION DISCLOSURE FORM

Japan Credit Rating Agency, Ltd.

### Disclosure Required by Paragraph (a)(1)(ii) of Rule 17g-7

Issuer:	Shin-Etsu Chemical Co., Ltd.
Rating Publication Date:	May 29, 2023

**1** The Symbol, Number, or Score in the Rating Scale used to Denote Credit Rating Categories and Notches and, the Identity of the Obligor or the Identity and a Description of the Security or Money Market Instrument as Required by Paragraph (a)(1)(ii)(A) of Rule 17g-7

- Please see the news release. If the credit rating is a private rating, please see the report for private rating.

**2** The version of the procedure or methodology used to determine the credit rating; as Required by Paragraph (a)(1)(ii)(B) of Rule 17g-7

- Please see the news release. If the credit rating is a private rating, please see the report for private rating.

**3** The Main Assumptions and Principles used in Constructing the Procedures and Methodologies used to Determine the Credit Rating as Required by Paragraph (a)(1)(ii)(C) of Rule 17g-7

- The credit rating methodology assumes, in principle, to be applied to assess the likelihood of a given debt payment in light of its issuer's condition and business environment, etc. in the relevant future. There is certain limitation, however, in the time horizon that the rating foresees.
- The credit rating methodology assumes, in principle, that the factors posted in the below are particularly important for such likelihood to be determined, and that the rating determination is made by evaluating each of them not only quantitatively but also employing qualitative analyses.

**A) Business Bases**

The likelihood of a given debt payment is highly conditional to its issuer's business bases - how they can be maintained/ expanded into the future and thereby secure earnings and cash flows in adequacy and in a sustainable way.

**B) Financial Grounds and Asset Quality**

The likelihood of debt payment is highly dependent on the degree of the issuer's indebtedness and loss absorption capacity in terms of equity capital. Also notable is that a financial institution might see a significant loss of financial grounds as a result of changes in value of the assets under its possession.

**C) Liquidity Positions**

The likelihood of debt payment is highly dependent on the adequacy of the issuer's cash and other sources of repayment (liquidity positions).

D) Related Parties' Status and Stance of Support/ Assistance for the Issuer

The likelihood of debt payment is affected one way or the other by the issuer's related parties such as parent company, subsidiary, guarantor, and the government of the issuer's business domicile, etc. - by their own conditions and/ or position of support/ assistance for the issuer.

E) Order of Seniority in Debt Payment

The likelihood of debt payment can be different between given debts of the same issuer. The likelihood of debt payment for an individual debt is dependent on the issuer's discretion, and/ or its rank relative to other debts of the same issuer in the order of seniority in principal/ interest payment which is determined by design as financial product or by laws, etc.

4 The Potential Limitations of the Credit Rating as Required by Paragraph (a)(1)(ii)(D) of Rule 17g-7

- The credit rating herewith presented by JCR is its summary opinion with regard to the likelihood of given debt payment and hence not necessarily a perfect representation of such likelihood. The credit rating is not intended to estimate the probability of default or the loss on given default, either.
- The objective of the credit rating herewith presented does not include any concerns other than the likelihood of debt payment, such as risks of price changes, market liquidity, etc.
- The credit rating herewith presented is necessary to be reviewed along with possible changes of the issuer of rated objects in its business performance and/ or circumstances which include regulatory environment, and hence subject to possible alteration.

5 Information on the Uncertainty of the Credit Rating as Required by Paragraph (a)(1)(ii)(E) of Rule 17g-7

- The information used for the determination of credit rating as herewith presented is obtained by JCR from the issuer of rated objects and other sources that JCR trusts in terms of accuracy and reliability but possibly contains errors due to human, non-human or other causes. Consequently, the credit rating determined on the grounds of such information does not constitute, explicitly or implicitly, any representation or warrant of JCR on the information itself or any consequences of its use in terms of accuracy, relevance, timeliness, wholeness, market value, or usefulness for any specific purposes.

6 Use of Due Diligence Services of a Third Party in Taking the Rating Action as Required by Paragraph (a)(1)(ii)(F) of Rule 17g-7

- There is no use of any third-party due diligence service in the determination of the credit rating herewith presented.

7 Use of Servicer or Remittance Reports to Conduct Surveillance of the Credit Rating Required by Paragraph (a)(1)(ii)(G) of Rule 17g-7

- There is no use of any servicer or remittance report to conduct surveillance of the credit rating herewith presented.

8 The Types of Data Relied Upon for the Purpose of Determining the Credit Rating as Required by Paragraph (a)(1)(ii)(H) of Rule 17g-7

- The information posted in the below, which includes data, is used for the determination of the credit rating herewith presented.

A) Audited financial statements presented by the rating stakeholders

B) Explanations of business performance, management plans, etc. presented by the rating stakeholders

## 9 Overall assessment of the Quality of Information Available and Considered in Determining the Credit Rating as Required by Paragraph (a)(1)(ii)(I) of Rule 17g-7

- JCR holds its basic policies for securing the quality of information as a base of due diligence for the determination of credit ratings. The information used as a base for the determination of credit rating herewith presented satisfies such policies, which include the audit by an independent auditor, the warranty made by the issuer, the publication by the issuer, some independent media or, otherwise, JCR analyst's scrutiny, etc.
- JCR sees no particular weakness in the quality of information used for the determination of the credit rating herewith presented as compared to the information used in other cases of the credit rating for comparable issuers or ratable objects.
- If the credit rating is an Indication, please see the report for Indication.

## 10 Information Relating to Conflicts of Interest as Required by Paragraph (a)(1)(ii)(J) of Rule 17g-7

- JCR does not receive payment of compensation for the determination of the credit rating herewith presented from either one of those parties who are issuer, underwriter, depositor or sponsor.
- JCR did not receive in the last fiscal year in the past payment of compensation from the same party for any kind of JCR's service other than the determination of public or private credit rating, such as one in the ancillary business.

## 11 Explanation or Measure of the Potential Volatility of the Credit Rating as Required by Paragraph (a)(1)(ii)(K) of Rule 17g-7

### A) Business Bases

The credit rating is subject to alteration if there is improvement or deterioration of the issuer's business bases, since its revenue, etc. may improve or deteriorate by the change in its business management policies, clients' preferences, competitive situation, or a technological innovation. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change in the business bases is large.

### B) Financial Grounds and Asset Quality

The credit rating is subject to alteration if the issuer increases/ decreases its debt/ capital or vice versa and thereby makes its individual debt payment liability less or more bearable and its loss absorption capacity into the future decreased or increased. Also, the changes in the quality of asset under the issuer's holding may affect the credit rating, since such changes could raise or lower the likelihood of future loss of the issuer's financial grounds. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change in the financial grounds and/ or asset quality is large.

### C) Liquidity Positions

The credit rating is subject to alteration if there is a change in the issuer's financial management policy or in the relations with fund procurement sources and the change thereby makes its liquidity positions improve or deteriorate. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change is large.

D) Related Parties' Status and Stance of Support/ Assistance for the Issuer

The credit rating is subject to alteration if there is a change in the issuer's parent company or subsidiary, guarantor or other provider of credit enhancement, or the government of the issuer's business domicile, or other related parties' own conditions and/ or position of support/ assistance for the issuer, and the change thereby makes its business bases, financial grounds and/ or liquidity positions improve or deteriorate, and/ or making the effectiveness of guarantee and other credit enhancement improve or deteriorate. The resultant alteration of the credit rating is usually a notch, with possibility of a few notches if and when the change is large.

E) Order of Seniority in Debt Payment and Non-Payment Forgiven by Contract

The credit rating is subject to alteration if there is a change in the rated debt's status in the order of seniority relative to other debts caused by the improvement/ deterioration of the issuer's financial condition. The resultant alteration of the credit rating is usually a notch, with possibility of a few notches if and when the change is large. Also, in case of the financial products for which non-payment of interest/ principal is contractually permissible, the credit rating is subject to alteration if and when the likelihood of such non-payment is projected to increase or decrease. The resultant alteration of the credit rating could be by a notch but often as much as a few notches.

F) Rise and Fall in General Economy and Markets

The credit rating is subject to alteration if there is a rise/ fall in the general economy and/ or the markets inducing the issuer's revenues/ expenses to increase/ decrease and vice versa, etc. The resultant alteration of the credit rating is usually by a notch, with possibility of a few notches if and when the change is exceptionally large.

G) Various Events

The credit rating is subject to alteration on occurrence of various events, such as change in the issuer's major shareholders, M&A and other organizational change, accident, violation of the law, litigation, legal/ regulatory change, natural disaster, etc., which are unforeseeable at the time when the credit rating is determined, causing a significant change on the issuer's business bases, financial grounds, etc. The resultant alteration of the credit rating could be by a notch but more often than not as much as a few notches.

## 12

Information on the Content of the Credit Rating, Including the Historical Performance of the Credit Rating and the Expected Probability of Default and the Expected Loss in the Event of Default as Required by Paragraph (a)(1)(ii)(L) of Rule 17g-7

- Historical records of the credit rating herewith presented are posted in the end of this paper.
- The credit rating herewith presented by JCR is its summary opinion with regard to the likelihood of given debt payment and hence not necessarily a perfect representation of such likelihood. The credit rating is not intended to estimate the probability of default or the loss on given default, either.
- Facts of the probability of default are posted as Form NRSRO Exhibit 1 on the JCR website under the URL:

<https://www.jcr.co.jp/en/service/company/regu/nrsro/>

## 13

Information on the Sensitivity of the Credit Rating to Assumptions Made as Required by Paragraph (a)(1)(ii)(M) of Rule 17g-7

A) Business Bases

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the issuer's business bases and powers of earning or cash flow generation, etc. The resultant change of the credit rating is most likely by a notch, as JCR speculates, but possibly as much as a few notches if the development is rapid in improvement or deterioration of the issuer's business bases on some drastic change in the operational environments, etc.

B) Financial Grounds and Asset Quality

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the issuer's financial grounds and asset

quality. The resultant change of the credit rating is most likely by a notch, as JCR speculates, but possibly as much as a few notches if the development is rapid in improvement or deterioration of the issuer's financial grounds and/ or asset quality on some drastic change in its business bases.

C) Liquidity Risks

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the issuer's liquidity positions. The resultant change of the credit rating is most likely by a notch, as JCR speculates, but possibly as much as a few notches if the development is rapid in improvement or deterioration of the issuer's liquidity positions on some drastic change in its financial management policy or relations with fund procurement sources, etc.

D) Order of Seniority in Debt Payment and Non-Payment Forgiven by Contract

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the order of seniority in repayment of interests and principal. JCR assumes the resultant change of the credit rating is most likely by a notch. The change could be as much as a few notches if the issuer's financial structure differs so much and thereby the balance between debts shifted so greatly. Rating change is also possible in case of the financial products for which non-payment of interest/ principal is contractually permissible, if and when the assumptions made at the time of its determination turns out to be inaccurate. The change of the credit rating is assumed to be by a notch but often as much as a few notches.

E) Rise and Fall in General Economy and Markets

The credit rating herewith presented could be changed if and when the assumptions made at the time of its determination turn out to be inaccurate with regard to the prospects of general economy and markets. JCR expects the change should be most likely by a notch but could be as much as a few notches, should the economy or the markets change so greatly.

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Information on the Representations, Warranties, and Enforcement Mechanisms of an Asset-backed Security as Required by Paragraph (a)(1)(ii)(N) of rule 17g-7

- The credit rating herewith presented is not for an ABS product, and hence no relevant issue.

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## The Historical Performance of the Credit Rating

Issuer Name	Issue Name	Publication Date	Rating	Outlook/Direction
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	March 3, 2000	AAp	
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	August 1, 2001	AAp	
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	October 3, 2002	AA+p	
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	December 18, 2002	AA+p	
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	January 5, 2004	AA+p	
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	January 5, 2005	AA+p	
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	April 4, 2006	AA+p	Stable
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	February 16, 2007	AA+p	Stable
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	March 10, 2008	AA+p	Stable
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	March 30, 2009	AA+p	Stable
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	April 2, 2010	AA+p	Stable
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	May 13, 2011	AA+p	Stable
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	April 9, 2012	AA+p	Stable
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	April 1, 2013	AA+p	Stable
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	May 21, 2014	AA+p	Stable
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	April 20, 2015	AA+p	Stable
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	May 31, 2016	AA+p	Stable
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	April 25, 2017	AA+p	Stable
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	April 24, 2018	AA+p	Stable
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	April 18, 2019	AA+p	Stable
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	May 27, 2020	AA+p	Stable
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	May 19, 2021	AA+p	Stable
Shin-Etsu Chemical Co., Ltd.	Issuer(Long-term)	May 23, 2022	AA+p	Positive



## Attestation Required by Paragraph (a)(1)(iii) of Rule 17g-7

I, Shigenobu Tonomura, have responsibility to this Rating Action and to the best of my knowledge:

- A) No part of the credit rating was influenced by any other business activities.
- B) The credit rating was based solely upon the merits of the obligor, security, or money market instrument being rated.
- C) The credit rating was an independent evaluation of the credit risk of the obligor, security, or money market instrument.

殿村 成信

Shigenobu Tonomura

General Manager of Corporate Rating Department II

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