

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

PLAINTIFF, Individually and on Behalf:
of All Others Similarly Situated,

Plaintiff,

v.

JINKOSOLAR HOLDING CO., LTD., .
XIANDE LI, KANGPING CHEN, XIANHUA :
LI, WING KEONG SIEW, HAIT AO JIN, .
ZIBIN LI, STEVEN MARKSCHEID,
LONGGEN ZHANG, CREDIT SUISSE
SECURITIES (USA) LLC, OPPENHEIMER
& CO. INC., ROTH CAPITAL PARTNERS,
LLC, and COLLINS STEWART LLC,

Defendants.

No.

**CLASS ACTION COMPLAINT FOR
VIOLATION OF FEDERAL
SECURITIES LAWS**

JURY TRIAL DEMANDED

INTRODUCTION

1. Plaintiff, by and through Plaintiff's undersigned counsel, brings this action individually and on behalf of all persons and entities other than Defendant JinkoSolar Holding Co., Ltd. ("JinkoSolar" or the "Company"), its affiliates and subsidiaries and all other Defendants named in this action, who purchased or otherwise acquired JinkoSolar New York Stock Exchange-traded ADSs, CUSIP 47759T100 [NYSE: JKS] (the "ADSs") between May 13, 2010 and September 21, 2011 (the "Class Period"), either in or traceable to a May 13, 2010 Initial Public Offering or otherwise on the open market, and were damaged thereby.

2. During the Class Period, Defendants made materially false and misleading statements, and failed to make subsequent disclosures required by federal law to make the earlier statements not misleading, related to its compliance with all relevant environmental regulations at its solar cell manufacturing plant in Hongxiao, Haining City in Zhejiang Province, People's Republic of China (the "Manufacturing Plant"). In addition, as set forth separately below, some of the Defendants made these false statements knowingly and/or recklessly.

3. During the Class Period, JinkoSolar repeatedly told investors that it was in full compliance with all PRC environmental regulations at its facilities, including the Manufacturing Plant. These statements were false when made. On Thursday, September 15, 2011, news started to break that local residents living near the Manufacturing Plant angrily demonstrated outside the facility following a massive die-off of fish over the previous month in the river flowing immediately adjacent to the plant. Over the next three days, as JinkoSolar stonewalled its neighbors, the protests became increasingly violent, and some protestors broke into the facility, overturning cars (including four police cars) and damaging buildings. Authorities "detained" 31

of the protesters. JinkoSolar security guards beat up several reporters and damaged their video equipment. Throughout it all, however, the Manufacturing Plant continued to operate.

4. Over the weekend of September 17-18, 2011, tests confirmed that JinkoSolar was polluting the river with toxic sludge, and the PRC government ordered the facility to stop production and take remedial action. The plant closure was reported in the Western press on Monday, September 19, 2011 and Tuesday, September 20, 2011. From the closing price of \$10.02 on Wednesday, the ADSs lost 42.5% of their value in a single week as a direct result of the disaster in Haining, closing at \$5.76 on Wednesday, September 21, 2011.

5. Only after the protests and plant closure did JinkoSolar admit that it had been fined for failing to comply with environmental regulations in May, 2011. JinkoSolar also admitted, belatedly, that on September 7, 2011, the Company agreed to pay compensation for crop damage as well as the death of any livestock and wildlife arising from the pollution incident, but never bothered to tell investors of the mounting problems until it issued a press release on September 22, 2011, following the news that had already been reported over the previous week.

6. Peters is asserting securities fraud claims under Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 on behalf of purchasers of the ADSs during the Class Period, and is asserting non-fraud prospectus liability claims under Sections 11, 12(a)(2) and 15 of the Securities Act of 1933 on behalf of purchasers of ADSs in or traceable to the May 13, 2010 IPO.

JURISDICTION AND VENUE

7. The claims asserted herein arise under and pursuant to Sections 11, 12(a)(2) and 15 of the Securities Act of 1933 (the “Securities Act”), 15 U.S.C. §§ 77k, 77l and 77o, and under and pursuant to Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 (the “Exchange

Act”), 15 U.S.C. §§ 78j(b) and 78t(a) and Rule 10b(5) promulgated thereunder by the SEC, 17 C.F.R. § 240.10b-5.

8. This Court has subject matter jurisdiction over this action pursuant to Section 27 of the Exchange Act, 15 U.S.C. § 78aa, and 28 U.S.C. § 1331.

9. This court has personal jurisdiction over the JinkoSolar Defendants pursuant to Section 27 of the Exchange Act, 15 U.S.C. § 78aa because they transact business in this District, and because they consented to jurisdiction in any state or federal court in New York, NY, by the terms of the Form of Deposit Agreement incorporated by reference into the Prospectus governing the May 13, 2011 IPO (the “ADS Prospectus”).

10. This court has personal jurisdiction over the Underwriter Defendants pursuant to Section 27 of the Exchange Act, 15 U.S.C. § 78aa, because all have offices in this District.

11. Venue is proper in this District pursuant to Section 27 of the Exchange Act, 15 U.S.C. § 78aa and pursuant to 28 U.S.C. § 1391(a), (b), and (c) because all Defendants transact business in this District, and because the JinkoSolar Defendants consented to jurisdiction in any state or federal court in New York, NY, by the terms of the Form of Deposit Agreement incorporated by reference into the ADS Prospectus.

PARTIES

12. Plaintiff Peters is an adult residing in the State of California. He purchased ADSs during the Class Period, as described in the attached certification, and suffered damages as a result of Defendants’ violations of the federal securities laws described herein.

13. Defendant JinkoSolar is incorporated under the laws of the Cayman Islands, with its corporate headquarters at 1 Jingke Road, Shangrao Economic Development Zone, Jiangxi Province, People’s Republic of China. JinkoSolar has additional offices in Zug, Switzerland;

Munich, Germany; Bologna, Italy; and Montpellier, France. Its North American headquarters are located at 100 Pine Street, San Francisco, California. Defendant JinkoSolar has two primary manufacturing facilities in China, one in Jiangxi Province, and one in Zhejiang. JinkoSolar has appointed CT Corporation System, 111 Eighth Avenue, 13th Floor, New York, NY 10011, as its authorized agent upon which process may be served, pursuant to the terms of the Form of Deposit Agreement governing the ADSs.

14. Defendant Xiande Li is co-founder of JinkoSolar and was Chairman of the Board of Directors during the entire Class Period. Xiande Li signed the JinkoSolar May 13, 2011 registration statement filed with the SEC on Form F-1/A (the “Registration Statement”).

15. Defendant Kangping Chen is co-founder of JinkoSolar and was CEO and a Director during the entire Class Period. Chen is a member of the compensation committee and signed the Registration Statement.

16. Defendant Xianhua Li is co-founder of JinkoSolar and was a Director and Vice-President during the entire Class Period and signed the Registration Statement.

17. Defendant Wing Koen Siew was a Director of JinkoSolar during the entire Class Period. Siew is a member of the audit committee and signed the Registration Statement.

18. Defendant Haitao Jin was a Director of JinkoSolar during the entire Class Period. Jin is the chairman of the compensation committee and signed the Registration Statement.

19. Defendant Zibin Li was a Director of JinkoSolar during the entire Class Period. Zibin Li is a member of the audit committee and is chairman of the nominating committee and signed the Registration Statement.

20. Defendant Steven Markscheid was a Director of JinkoSolar during the entire Class Period. Markscheid is the chair of the audit committee, and is a member of the

compensation committee and nominating committee. Markscheid also signed the Registration Statement.

21. Defendant Longgen Zhang is a U.S.-certified public accountant, and was the CFO of JinkoSolar during the entire Class Period. Zhang is listed as the contact person for the Company in all filings made with the United States Securities and Exchange Commission, and signed the Registration Statement.

22. Defendant Credit Suisse Securities (USA) LLC (“Credit Suisse”) is an investment bank headquartered at 11 Madison Avenue, New York, NY. It is the U.S. arm of Credit Suisse Group AG in Switzerland. Credit Suisse was the lead underwriter and sole global coordinator and bookrunner for the May 13, 2010 offering of JinkoSolar ADSs, and agreed to distribute 3,501,000 of the 5,835,000 shares offered.

23. Defendant Oppenheimer & Co., Inc. (“Oppenheimer”) is an investment bank headquartered at 125 Broad Street, New York, NY. Oppenheimer was an underwriter in the May 13, 2010 offering of JinkoSolar ADSs, and agreed to distribute 1,021,125 of the 5,835,000 shares offered.

24. Defendant Roth Capital Partners, LLC (“Roth Capital Partners”) is an investment bank headquartered in Newport Beach, CA, with a regional office at 730 Fifth Avenue, New York, NY. Roth Capital Partners was an underwriter in the May 13, 2010 offering of JinkoSolar ADSs, and agreed to distribute 1,021,125 of the 5,835,000 shares offered.

25. Defendant Collins Stewart LLC (“Collins Stewart”) is an investment bank headquartered at 350 Madison Avenue, New York, NY. It is the U.S. arm of UK brokerage Collins Stewart plc. Collins Stewart was an underwriter in the May 13, 2010 offering of JinkoSolar ADSs, and agreed to distribute 291,750 of the 5,835,000 shares offered.

26. Defendants JinkoSolar, Xiande Li, Kangping Chen, Xianhua Li, Wing Keong Siew, Haitao Jin, Zibin Li, Steven Markscheid, and Longgen Zhang are collectively known as the “JinkoSolar Defendants.”

27. Defendants Xiande Li, Kangping Chen, Xianhua Li, Wing Keong Siew, Haitao Jin, Zibin Li, Steven Markscheid, and Longgen Zhang are collectively known as the “Control Person Defendants” or the “Individual Defendants.”

28. Defendants Credit Suisse, Oppenheimer, Roth Capital Partners, and Collins Stewart are collectively known as the “Underwriter Defendants.”

29. Defendants Xiandi Li, Kangping Chen, and Xianhua Li are collectively known as the “Founders.”

NON-FRAUD ALLEGATIONS

“We cannot shirk responsibility for the legal consequences which have come from management slips.”

– Jing Zhaohui, spokesman for JinkoSolar, at a news conference following the disaster in Haining

A. THE ENVIRONMENTAL HAZARDS OF PV MANUFACTURING

30. JinkoSolar is one of the world’s larger manufacturers of photovoltaic (“PV”) products, including crystalline ingots, wafers, cells and mono- and multi-crystalline PV panels.

31. Despite solar power’s reputation for being “green,” PV cell manufacturing is a toxic business. Silicon-based solar PV production involves many of the same materials as the microelectronics industry and therefore presents many of the same hazards. This background section provides an overview of the hazards posed by current and emerging solar PV production technologies (source: “Toward a Just and Sustainable Solar Energy Industry,” *Silicon Valley*

Toxics Coalition (Jan. 14, 2009). Some of the chemical terms used below are defined in Appendix A at the end of this complaint.

(1) Crystalline Silicon (c-Si)

32. As with the production of silicon chips, production of c-Si wafers begins with the mining of silica (SiO_2), found in the environment as sand or quartz. Silica is refined at high temperatures to remove the O_2 and produce metallurgical-grade silicon, which is approximately 99.6 percent pure. However, silicon for semiconductor use must be much purer.

33. Higher purities are achieved through a chemical process that exposes metallurgical grade silicon to hydrochloric acid and copper to produce a gas called trichlorosilane (HSiCl_3). The trichlorosilane is then distilled to remove remaining impurities, which typically include chlorinated metals of aluminum, iron, and carbon. It is finally heated or “reduced” with hydrogen to produce silane (SiH_4) gas. The silane gas is either heated again to make molten silicon, used to grow monocrystalline silicon crystals, or used as an input for amorphous silicon, see (2) below.

34. The next step is to produce crystals of either monocrystalline or multicrystalline silicon. Monocrystalline silicon rods are pulled from molten silicon, cooled, and suspended in a reactor at high temperature and high pressure. Silane gas is then introduced into the reactor to deposit additional silicon onto the rods until they “grow” to a specified diameter.

35. To produce multicrystalline silicon, molten silicon is poured into crucibles and cooled into blocks or ingots. Both processes produce silicon crystals that are extremely pure (from 99.99999 to 99.9999999 percent), which is ideal for microchips, but far more than required by the PV industry. The high temperatures required for c-Si production make it an extremely

energy intensive and expensive process, and also produces large amounts of waste. As much as 80 percent of the initial metallurgical-grade silicon is lost in the process.

36. Sawing c-Si wafers creates a significant amount of waste silicon dust called kerf, and up to 50 percent of the material is lost in air and water used to rinse wafers. This process may generate silicon particulate matter that will pose inhalation problems for production workers and those who clean and maintain equipment. The U.S. Occupational Safety and Health Administration (OSHA) has set exposure limits to keep ambient dust levels low and recommends the use of respiratory masks, but it has been suggested that, despite the use of respiratory masks, workers remain overexposed to silicon dust.

37. The use of silane gas is the most significant hazard in the production of c-Si because it is extremely explosive and presents a potential danger to workers and communities. Accidental releases of silane have been known to spontaneously explode, and the semiconductor industry reports several silane incidents every year.

38. Further back in the silicon supply chain, the production of silane and trichlorosilane results in waste silicon tetrachloride (SiCl_4), an extremely toxic substance that reacts violently with water, causes skin burns, and is a respiratory, skin, and eye irritant. Although it is easily recovered and reused as an input for silane production, in places with little or no environmental regulation, silicon tetrachloride can constitute an extreme environmental hazard.

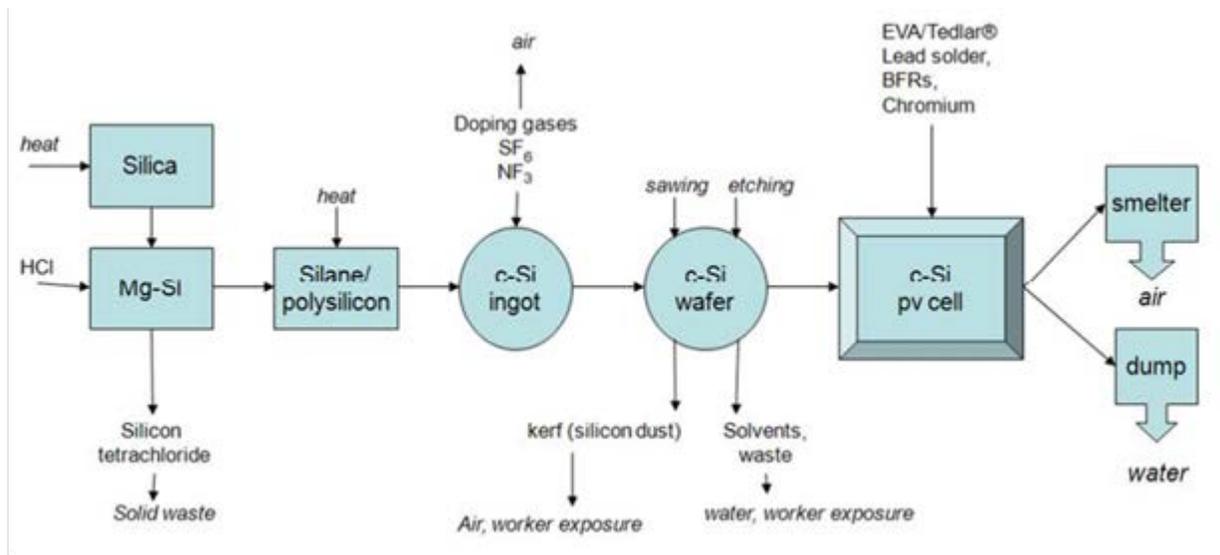
39. Other chemicals used in the production of crystalline silicon that require special handling and disposal procedures include the following:

- Large quantities of sodium hydroxide (NaOH) are used to remove the sawing damage on the silicon wafer surfaces. In some cases, potassium hydroxide (KOH) is used instead. These caustic chemicals are dangerous to the eyes, lungs, and skin.

- Corrosive chemicals like hydrochloric acid, sulfuric acid, nitric acid, and hydrogen fluoride are used to remove impurities from and clean semiconductor materials.
- Toxic phosphine (PH₃) or arsine (AsH₃) gas is used in the doping of the semiconductor material. Though these are used in small quantities, inadequate containment or accidental release poses occupational risks. Other chemicals used or produced in the doping process include phosphorous oxychloride, phosphorous trichloride, boron bromide, and boron trichloride.
- Isopropyl alcohol is used to clean c-Si wafers. The surface of the wafer is oxidized to silicon dioxide to protect the solar cell.
- Lead is often used in solar PV electronic circuits for wiring, solder-coated copper strips, and some lead-based printing pastes.
- Small quantities of silver and aluminum are used to make the electrical contacts on the cell. Chemicals released in fugitive air emissions by known manufacturing facilities include trichloroethane, acetone, ammonia, and isopropyl alcohol.

40. The Crystalline Silicon manufacturing process, and its associated environmental

hazards, is illustrated below:



41. In the above diagram, Silica is mined and refined into metallurgical grade silicon (Mg-Si). This is reacted with hydrochloric acid (HCl) where silane/polysilicon feedstock and

silicon tetrachloride waste is produced. The resulting silane/polysilicon is heated to produce a crystalline silicon (c-Si) ingot that is doped to make c-Si into a semiconductor. The potent greenhouse gases sulfur hexafluoride (SF₆) and nitrogen fluoride (NF₃) are used in this step to clean the reactors. The c-Si ingot is cut into wafers, which are etched with reactive solvents to remove surface imperfections. Finally, the wafers are encapsulated with ethyl vinyl acetate (EVA) or Tedlar® to protect the surface, mounted onto a frame and wired into the PV cell. Without extended producer responsibility, these cells will end up in smelters and dumps where any hazardous materials will cause air and water pollution.

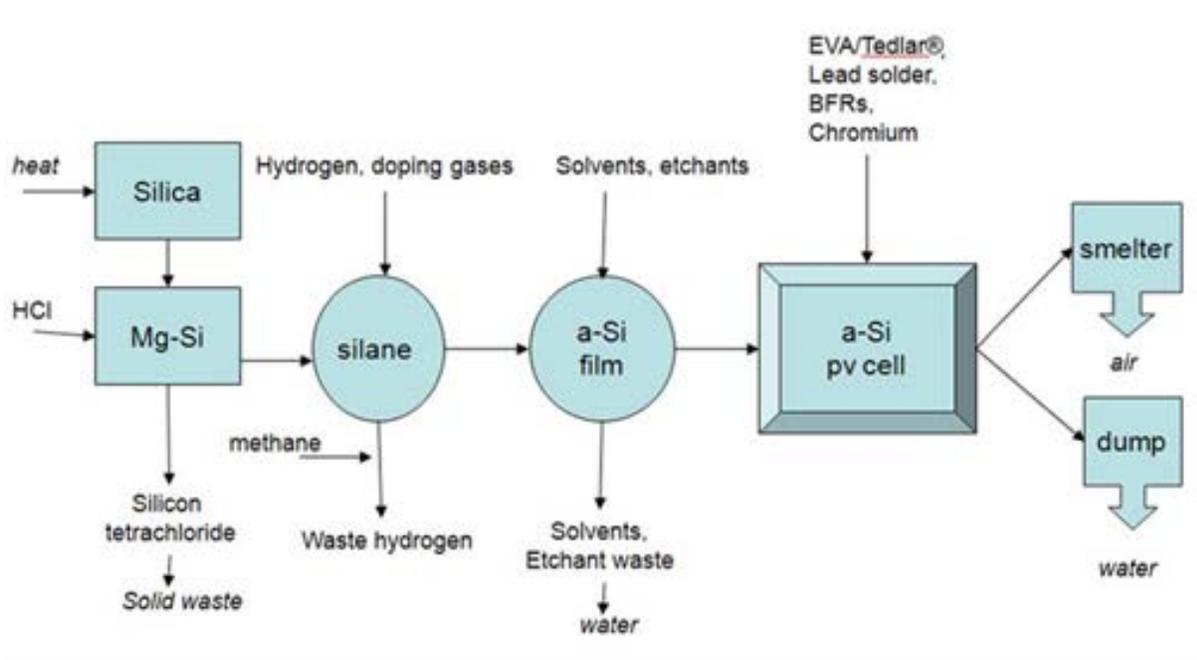
(2) Amorphous Silicon (a-Si) Thin Film

42. The chemical composition of amorphous silicon (a-Si) allows it to be deposited in a thin layer on materials such as plastics, glass, and metal. To make a-Si cells, silane or chlorosilane gas is heated and mixed with hydrogen, then deposited as a thin film of a-Si (an alloy of silicon and hydrogen) on these materials. As mentioned above, silane (SiH₄) gas is extremely explosive and poses a potential hazard to production workers and nearby communities. The semiconductor industry has a history of silane gas explosions and occupational injuries. Chlorosilane gases are also very toxic and highly flammable. However, because the amount of silicon used is much smaller than in crystalline silicon production, less silane is needed to produce a-Si.

43. Hydrogen is also an explosive gas, and therefore poses an occupational hazard for workers. In addition, methane gas is often mixed with the waste streams from the deposition process to literally burn off additional hydrogen. Methane is another highly flammable gas that poses a greenhouse gas threat if released into the atmosphere. Germane gas, often used to dope a-Si, is also explosive and considered toxic to the blood and kidneys.

44. Chemicals used to etch and clean wafers—such as hydrochloric acid, hydrofluoric acid, phosphoric acid, and sodium hydroxide—require special handling to avoid occupational injury. Other dangerous chemicals used in the manufacture of a-Si include acetone, aluminum, chlorosilanes, diborane, phosphine, isopropanol, nitrogen, silicon tetrafluoride, tin, and, where germane is used, germanium and germanium tetrafluoride. The tetrafluoride compounds above can emit toxic fumes if heated.

45. The Amorphous Silicon manufacturing process, and its associated environmental hazards, are illustrated below:



46. In the above diagram, the first step in amorphous silicon (a-Si) PV cell production is similar to c-Si. Silane feedstock is mixed with hydrogen and doped with impurities before it is deposited onto a surface, etched, and then cleaned. The a-Si cell is mounted in a frame, encapsulated with EVA or Tedlar®, and wired to electrical components. Since many a-Si cells are put into consumer devices, their lifespan is shorter, and they often end up in smelters and dumps where hazardous materials will cause air and water pollution.

(3) Cadmium Telluride (CdTe) Thin Film

47. Cadmium telluride (CdTe) thin-film solar PV panels use layers of CdTe and cadmium sulfide (CdS). Cadmium (Cd) is a by-product of zinc mining, and batteries and solar cells are major end uses. Cadmium telluride PV cells are produced by a process called electrodeposition, which efficiently applies a thin film of semiconductor material to glass or plastic, with less raw material waste than amorphous silicon thin-film production. CdTe thin films are deposited via electrical charge onto a surface using a solution of cadmium sulfate (CdSO₄) or cadmium chloride (CdCl₂), mixed with tellurium dioxide (TeO₂). Cadmium in wastewater used to rinse CdTe films presents potential water pollution issues, but it can be reclaimed and reused in the deposition of the cadmium sulfide (CdS) layer.

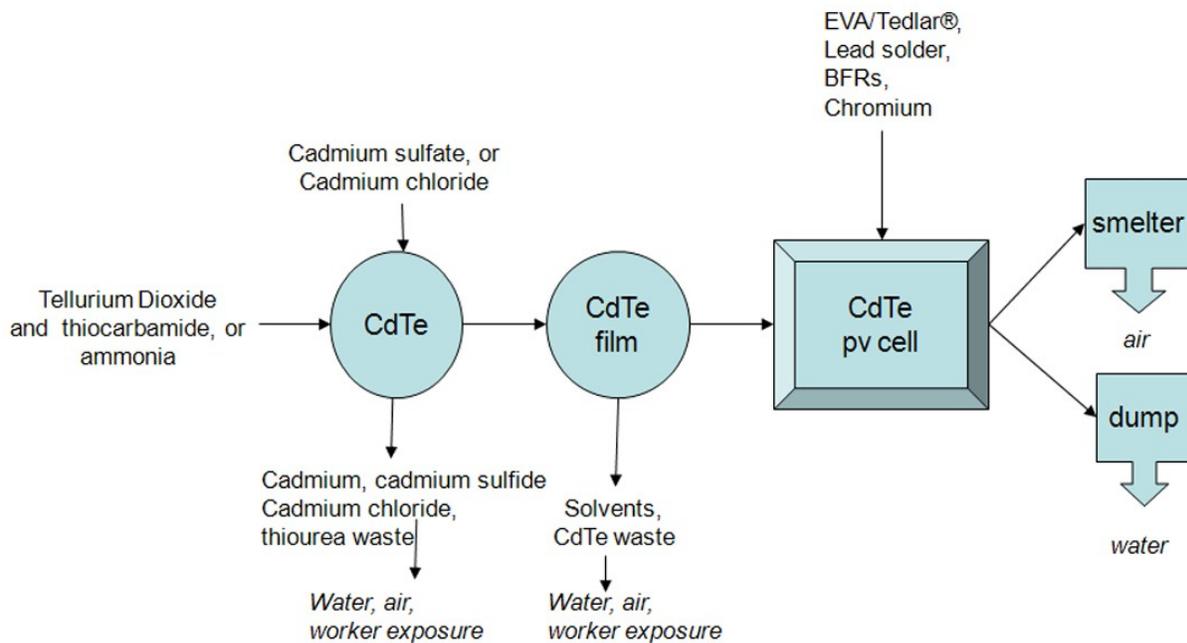
48. There are several ways of producing the CdS layer. One method deposits the layer by heating the surface and directly applying a mixture of cadmium sulfate (CdSO₄), thiourea (also called thiocarbamide, CS(NH₂)₂), and ammonia (NH₃); only 1 percent of the cadmium used as an input is disposed of as solid waste.

49. Another method uses the same chemicals and dips the surface into a chemical bath, but this method is less efficient in terms of raw material use. A third method deposits a solid CdS powder directly onto the surface after vaporizing the chemicals. In each of these methods the cadmium compounds are recycled, albeit not at 100 percent, as some material is released in air exhaust and water effluent. For the latter two methods mentioned above, 10 to 30 percent of cadmium input is disposed of as solid waste.

50. The major health and safety hazards associated with the manufacture of CdTe cells relate to the use of cadmium, cadmium sulfide, cadmium chloride, and thiourea. Cadmium is a known carcinogen and is considered “extremely toxic” by the U.S. Environmental Protection

Agency (EPA) and OSHA. It has the potential to cause kidney, liver, bone, and blood damage from ingestion and lung cancer from inhalation, and workers may be exposed to cadmium compounds during the manufacturing process. The European Economic Community (EEC) has prohibited the sale of most products containing cadmium for health and safety reasons. While the toxicity of cadmium is well known, there is limited information on cadmium telluride (CdTe) toxicology. The Pesticide Action Network recognizes thiourea as a “Bad Actor Chemical” because it is a known carcinogen and can be toxic.

51. The Cadmium Telluride manufacturing process, and its associated environmental hazards, is shown below:



52. In the diagram above, Cadmium Telluride (CdTe) PV cells are produced by mixing cadmium compounds, with thiocarbamide or ammonia, and tellurium dioxide, a step where cadmium and thiourea wastes are generated. The CdTe is then deposited onto a surface and the cell is mounted onto a frame, encapsulated, and wired to electrical components. Since Cd

is a known carcinogen, and Te is a rare element, extended producer responsibility is important to prevent Cd from entering the water and air, and to recover Te.

(4) **Copper Indium Selenide (CIS) and Copper Indium Gallium Selenide (CIGS)**

53. This rapidly emerging solar PV semiconductor technology has the ability to print thin layers of semiconductor material on a wide range of materials. CIS and CIGS are also some of the best absorbing semiconductor materials.

54. Depositing the CIS/CIGS layers onto a surface requires the mixing of copper and indium (and gallium in CIGS) with hydrogen selenide and the use of various industrial techniques. One new process using nano-sized particles in an ink suspension is able to utilize 100 percent of gallium and indium inputs, which is important because these are globally rare metals.

55. There is little information available about the toxicity of CIS or CIGS crystals, but numerous chemicals are used in the production of CIS and CIGS panels, many of them very toxic. These include hydrogen selenide (or selenium hydride, H_2Se), which is considered highly toxic and dangerous at concentrations as low as 1 part per million in the air. It is used as the primary source of selenium and is consumed in the step called selenization, in which hydrogen selenide is introduced into the atmosphere of a reactor to provide excess selenium to react with the other metals. Hydrogen selenide will present potential occupational health and safety issues. New processes that avoid using hydrogen selenide have been developed, but these are more expensive and are not currently used to manufacture CIS/CIGS.

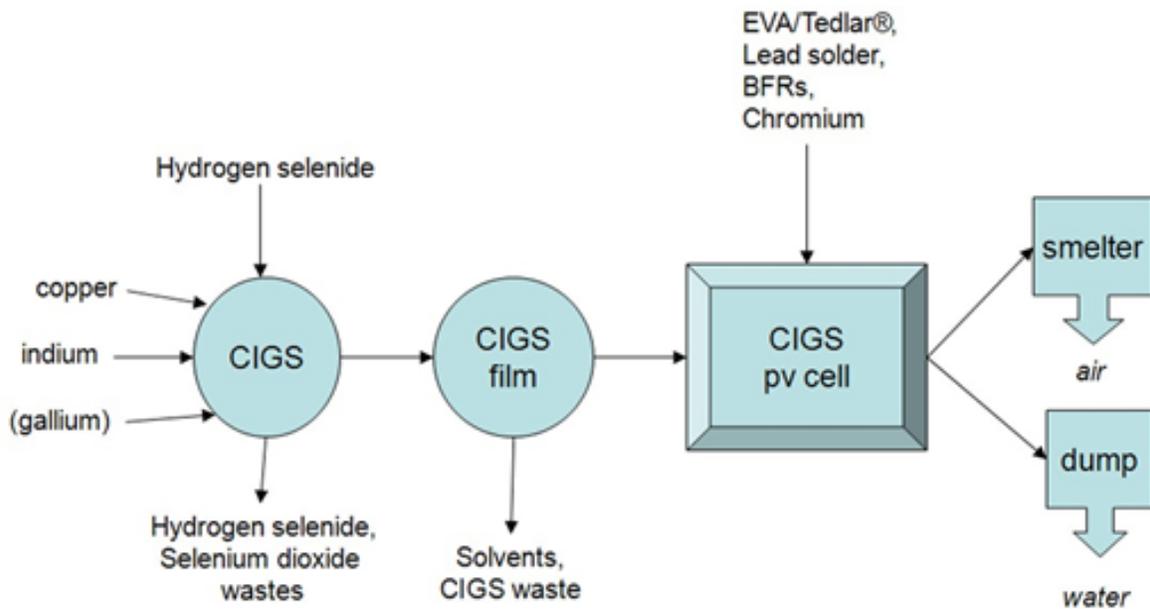
56. Another concern with the use of selenium is the potential formation of selenium dioxide (SeO_2) at high temperatures. Selenium dioxide is a tissue poison like arsenic, and great care must be taken to ensure that workers are not exposed to this occupational air pollutant. Reactions at high temperatures facilitate the uniformity of CIGS and CIS crystals, which is

important for scaling up solar cell production. Selenium dioxide is vented into a water solution, where it forms elemental selenium. The recovery of selenium in this step is very high, but not 100 percent, and fugitive emissions do occur.

57. CIS/CIGS panels often use a layer of cadmium sulfide (CdS). Salts of cadmium are released into the water as CIS cells are rinsed, which means that the concerns above about cadmium apply. The CdS layer can be replaced with an alternative material, such as zinc sulfide (ZnS) or indium sulfate (In₂SO₄), but CdS is more efficient.

58. Copper, indium, and selenium are considered to have a mild toxicity, while gallium (only used in CIGS) has a low toxicity. Dust from copper, indium, gallium, and selenium accumulate in the equipment used for production, presenting potential inhalation risks to workers. Other materials used in CIS and CIGS production include hydrogen sulfide (a gas used in CIS cell production), molybdenum, and zinc oxide. Molybdenum and zinc oxide are used as the back and front contacts that carry the electricity and are considered non-toxic.

59. The CIS and CIGS manufacturing processes, and their associated environmental hazards, are illustrated below:



CIS/CIGS also use a layer of CdS, so similar issues from CdTe are found with this technology

60. In the diagram above, Copper indium (gallium) selenide (CIS/CIGS) cells are produced by mixing copper, indium, (and gallium in CIGS), and hydrogen selenide. In this step, hydrogen selenide and selenium dioxide wastes are generated. The semiconductor is then deposited on a surface, where it is etched and cleaned before being mounted in a frame, encapsulated, and wired. Since selenium is a known carcinogen, and indium is a rare element, extended producer responsibility is important to CIS/CIGS production to prevent selenium from entering the water and air, and to recover indium.

(5) Gallium Arsenide (GaAs) and Multijunction Cells

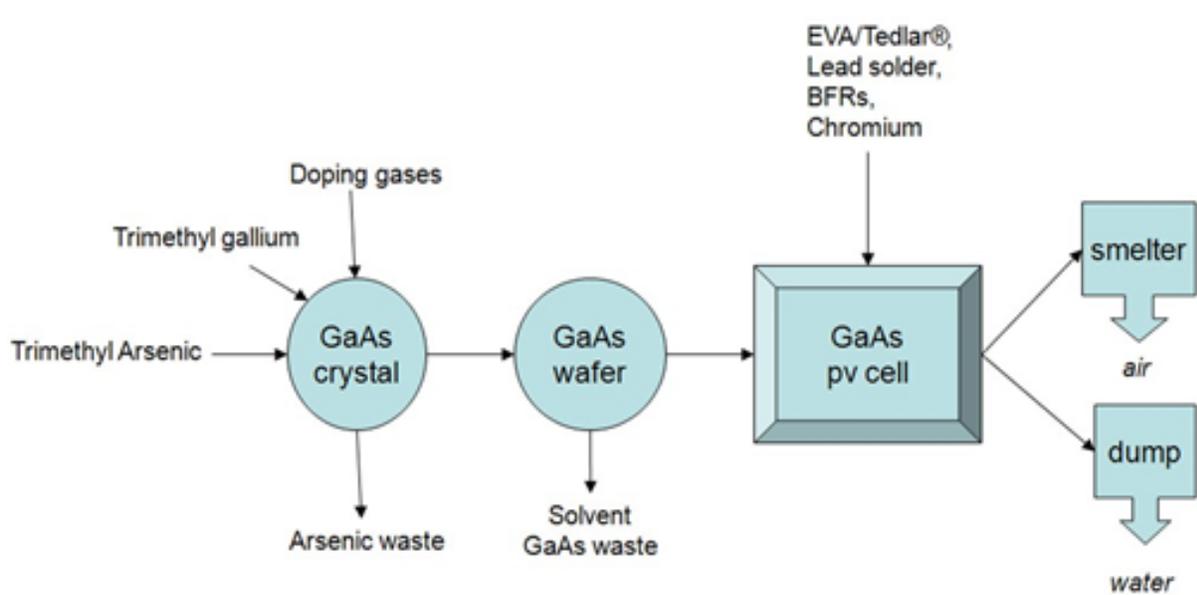
61. Gallium arsenide (GaAs) is currently used in multijunction solar PV cells, combined with thin-film materials such as cadmium telluride (CdTe), amorphous silicon (a-Si), aluminum indium phosphide (AlInP), aluminum gallium indium phosphide (AlGaInP), or gallium indium phosphide (GaInP). GaAs technology is also used in concentrator cells, which

focus incoming sunlight to increase its intensity. Because of the high cost of inputs and the manufacturing process, GaAs cell adoption has been limited to communication and military satellite applications.

62. The production of GaAs crystals starts with gallium and arsenic in pure form. The materials are combined and GaAs crystals grow on a surface made of germanium or silicon. Newer methods use trimethyl gallium ((CH₃)₃Ga) and trimethyl arsenic ((CH₃)₃As) gases. There is a debate in the scientific community about whether trimethyl arsenic detoxifies arsenic or transforms it into a carcinogen. These gases are exposed to a heated surface where the GaAs crystals are grown. Different layers of these crystals are doped with different gases to make each layer sensitive to different parts of the solar spectrum.

63. The limited toxicological data on gallium arsenide suggest that it could have profound effects on lung, liver, immune, and blood systems if workers are exposed for extensive periods during manufacturing or if chemicals are accidentally released. There is little toxicological data on gallium, but it is widely used as a marker/tag in MRI tests, and believed to be safe in small doses.

64. The Gallium Arsenide manufacturing process is illustrated below:



65. In the diagram above, Gallium arsenide (GaAs) crystals are produced by mixing trimethyl gallium and trimethyl arsenic in the presence of doping gases, often producing arsenic waste as a byproduct. The crystal is sliced into wafers, etched, and cleaned before being mounted to a frame, encapsulated, and wired. Since arsenic is a known carcinogen, it is important to ensure it does not end up in the water or air.

B. THE PROBLEM OF PV MANUFACTURING-RELATED POLLUTION IN THE PEOPLE’S REPUBLIC OF CHINA

66. The environmental hazards associated with the manufacture of PV cells is universal, but the extent to which manufacturers are able (or willing) to responsibly contain the problem differs from country to country. Nowhere is the problem more acute, however, than in the PRC.

67. Over the past 15 years, China has rapidly become the dominant force in PV manufacturing, bringing on line dozens of facilities, and now accounting for more than 50% of total shipments of PV modules and cells:

Year	US	Europe	Japan	ROW	China/Taiwan	TOTAL SHIPMENTS
1997	42%	18%	25%	13%	3%	114.1
1998	38%	21%	27%	12%	3%	134.8
1999	32%	17%	39%	10%	2%	175.5
2000	30%	23%	38%	7%	2%	252.0
2000	27%	24%	41%	6%	1%	352.9
2002	21%	24%	46%	5%	3%	504.9
2003	14%	26%	52%	7%	2%	675.3
2004	13%	26%	52%	5%	4%	1049.7
2005	9%	29%	51%	5%	6%	1407.7
2006	7%	31%	44%	5%	12%	1984.6
2007	8%	32%	29%	5%	25%	3073.0
2008	7%	31%	22%	8%	32%	5491.8
2009	5%	18%	16%	14%	46%	7913.3
2010	6%	15%	12%	14%	54%	17402.3

68. The price of this rapid expansion, however, has been massive environmental damage. While it typically takes companies outside of the PRC two years to get a PV factory up and running, some Chinese companies are hoping to do it in half the time.

69. According to an article in the *Washington Post*, many Chinese companies have failed to invest in technology needed to prevent pollutants from getting into the environment, despite government regulations requiring appropriate disposal and treatment of toxic waste.

70. Shi Jun, a former PV technology researcher at the Chinese Academy of Sciences, admitted that the necessary technologies are “still not mature” in China.

71. As an example of the extent of the problem, the *Washington Post* arranged to test a sample of dirt from a dump site near a PV manufacturing facility (not owned by Defendant JinkoSolar). The tests showed high concentrations of chlorine and hydrochloric acid which do not exist naturally in soil. Crops cannot grow, and it is dangerous for people to live near the site.

72. The *Post's* findings mirror what other researchers have found. One researcher has observed some companies stockpiling hazardous substances in the hopes that they can figure out a way to dispose of them later. Some were simply dumping the waste.

73. Shi Jun told the *Post* that under PRC regulations, “companies should collect it all, process it to get rid of the poisonous stuff, then release it or recycle.” Shi estimates that Chinese companies are saving millions of dollars by not installing required pollution-recovery technology.

74. Shi Jun also noted that some of China’s low-cost producers could not possibly produce the necessary PV components at such low cost if environmental regulations were being followed. For example, the cost to produce polysilicon, a key component in PV products, would be approximately \$84,500 per ton if appropriate environmental technology were used. However, some Chinese companies were producing it for \$21,000 to \$56,000 per ton.

75. As more and more facilities are being constructed in China, the stories keep repeating. In one village outside a new PV facility, villagers noticed that their crops were wilting under a dust of white powder. Sometimes, there was a hazy cloud up to three feet high near the facility’s dumping site. The factory’s chimneys would release a loud “whoosh” of acrid air that stung the villagers’ eyes and made it hard to breathe.

C. DEFENDANTS’ MISREPRESENTATIONS

76. JinkoSolar was founded in 2006. To help fund its rapid expansion plans, the Company decided to tap the U.S. financial markets, and issue American Depositary Shares (“ADSs”) each representing four ordinary shares of the company. The ADSs were to be (and are now in fact) listed and traded on the New York Stock Exchange under the ticker symbol JKS.

77. On May 13, 2010, the Company launched the IPO, offering 5,835,000 ADSs pursuant to the ADS Prospectus (filed with the SEC pursuant to Rule 424(b)(4)) and the ninth and final version of the Registration Statement, filed with the SEC the same day. The ADS Prospectus was incorporated into the Registration Statement. Each share was offered for \$11 per share, which raised \$64,185,000 for the Company.

78. In the offering documents governing the May 13, 2010 IPO, JinkoSolar disclosed that it was engaged in a toxic business, and would have to comply with PRC regulations in order to operate:

We use, store and generate volatile and otherwise dangerous chemicals and wastes during our manufacturing processes, and are subject to a variety of government regulations related to the use, storage and disposal of such hazardous chemicals and waste. We are required to comply with all PRC national and local environmental protection regulations.

79. The Prospectus also acknowledged the importance of complying with environmental regulations: “Compliance with environmental, safe production and construction regulations can be costly, while *non-compliance with such regulations may result in adverse publicity and potentially significant monetary damages, fines and suspension of our business operations.*” (Emphasis added.)

80. JinkoSolar then assured investors that it was in full compliance with the law. For example, the ADS Prospectus stated, “*our operations have been in compliance with the applicable labor and safety laws and regulations in all material respects.*” (Emphasis added.)

81. This statement was false when made. Unknown to investors at the time, but known now, JinkoSolar’s method of treating its effluent and storing its toxic waste were not compliant with relevant PRC environmental laws. In addition, given the acknowledgement in

the Prospectus as to the importance to complying with environmental regulations, the Prospectus was also misleading for omitting to describe failures to comply with the relevant laws.

82. On April 25, 2011, the Company issued its 2010 year-end report filed with the SEC on Form 20-F (the “Annual Report” or the “Form 20-F”). The Company repeated its disclosures about the importance of complying with all laws and regulations, and stated that it was in compliance. No mention was made of any environmental problems.

83. These statements were false when made. First, like the ADS Prospectus, the Form 20-F falsely stated that JinkoSolar was in compliance with all PRC environmental laws, when it was not, as would become apparent in September, 2011, discussed in more detail below. We now know that on April 19, 2011, 6 days before the date of the Annual Report, the Manufacturing Plant’s waste-disposal system failed pollution tests. The Company claims that it merely received a “pre-trial production” notice, but Chen Hongming, deputy head of Haining’s environmental protection bureau, told the China Daily that the Company did in fact fail pollution tests in April.

84. The April 25, 2011 Form 20-F also stated:

PRC national and local environmental laws and regulations impose fees for the discharge of waste materials above prescribed levels, require the payment of fines for serious violations and provide that the relevant authorities may at their own discretion close or suspend the operation of any facility that fails to comply with orders requiring it to cease or remedy operations causing environmental damage. ***As of the date of this annual report, no such penalties had been imposed on us.*** (Emphasis added.)

85. On May 11, 2011, the local environmental bureau detected higher than acceptable levels of fluoride in the waste water dumped into the local river from the Haining City facility. JinkoSolar was fined RMB470,000. JinkoSolar claims the fine was appealed and withdrawn, but admits that the fine was re-imposed on September 17, 2011.

86. JinkoSolar was under a duty to issue a Form 6-F to correct any statement in the prior 20-F that had become false or misleading. On May 11, 2011, once the local government detected the pollution, JinkoSolar was under a duty to issue a Form 6-F and tell investors that it was not in compliance with PRC environmental regulations, as represented in the ADS Prospectus and the 20-F. JinkoSolar never issued the required 6-F.

87. In late August, 2011, local residents noticed a large-scale die-off of fish in the river immediately adjacent to the Manufacturing Plant. Residents were also concerned with contamination of land downstream from the facility. On September 7, 2011, JinkoSolar apparently acknowledged locally that it had once again released toxic waste into the river, and agreed to pay compensation for crop damage as well as for the death of any livestock and wildlife arising from the pollution incident.

88. As with past infractions, JinkoSolar was under a legal duty to file a 6-F and share the news with investors in the United States, because the Company's earlier statements regarding its compliance with PRC environmental laws were demonstrably not true. Once again, JinkoSolar did not file a Form 6-F, and still had not bothered to tell U.S. investors about the release of toxic waste in August, or the failure of pollution control tests in April.

89. It is not clear the extent to which local residents around the facility knew of the supposed September 7, 2011 offer to mitigate damage, because in the subsequent week, passions continued to grow. JinkoSolar refused to shut down the facility while determining the cause of the contamination.

90. On the night of September 15, 2011, with the facility still running, approximately 500 people from nearby Hongxiao Village gathered outside the facility to demand an explanation for the fish deaths and other signs of contamination. The protests escalated on September 16 and

17, culminating in a riot on the third day in which the protestors stormed the facility, damaged buildings, and overturned cars. Thirty-one protesters were detained by police, as were three JinkoSolar employees, for beating up two reporters from the Hangzhou-based Qianjiang television station and damaging their video equipment. At this point, the plant “voluntarily” closed, at the urging of the government.

91. The protests were the vehicle for reporting on JinkoSolar’s pollution problems, and the share price drop in New York accelerated in tandem with the increasingly alarming news. On the first day of the protests, the ADSs fell by 20 cents, from \$10.02 to \$9.82, or a loss of 2.0%. On Friday September 16, 2011, shares fell more rapidly as investors started to get hints of the scope of the problem. The ADSs lost 78 cents, falling from \$9.82 to \$9.04, or a loss of 8%.

92. After the riot over the weekend and JinkoSolar’s decision to shut the facility down, shares got walloped on Monday morning, falling to \$6.50, a loss of \$2.54, or 28%. As the market digested more news on Tuesday, September 20, 2011, shares dropped another 9.4%, falling to \$5.89. Finally, on September 21, 2011, shares fell another 2.2%, to \$5.76, and have leveled off. All told, in less than a week, investors lost 42% of their investment when the market learned the truth about JinkoSolar’s environmental problems that should have been disclosed earlier.

93. Throughout August and September, even during the protests on Thursday, September 15, 2011, JinkoSolar never bothered to issue a press release or file a Form 6-F to let investors know what was happening. Instead, the Company was striking secret deals to compensate local farmers, and appealing regulatory fines, and even issuing a press release on September 16, 2011 that JinkoSolar had become the San Francisco 49ers’ sole “solar sponsor for

the 2011-2012 season,” and even managed to have *Gate F* at Candlestick Park rebranded as “JinkoSolar Gate” for the duration of the season.¹ Yet still no mention from the company about the pollution, the fines, the fish, or the protests. It was not until the facility was stormed, ransacked, damaged and shut down that the Company even acknowledged the issue in the United States, issuing a brief press release on September 19, 2011. By that point, most of the damage to the share price had already been done.

94. On September 22, 2011, the Company issued a lengthy follow-up press release in which it “suspected” that indeed JinkoSolar was the cause of the environmental contamination in August and September, and admitted that it had released “unacceptable” amounts of toxic waste into the river on May 11, 2011 (no mention if there were any days with “acceptable” amounts), and admitted to reaching an agreement with unnamed counterparties on September 7, 2011 to pay compensation for crop damage as well as for the death of any livestock and wildlife arising from the “pollution incident,” as the Company called it. Separately, the Company apologized for the pollution, and apologized to the reporters who had been beaten up by JinkoSolar employees, calling the treatment “improper” and stating that the employees had been fired. However, the Company offered no explanation for its delay in disclosing all this information to investors.

95. In addition to the media reporting on the recent pollution “incident,” the riot in September gave voice to the local villagers who reported that JinkoSolar clearly could not have been in compliance with PRC environmental regulations on the date of the ADS Prospectus.

¹ In a twist of irony apparently lost on the Company, the September 16, 2011 press release even quoted the team as saying that the agreement “is a reflection of the San Francisco 49ers’ dedication to promoting environmentally friendly practices.”

96. For example, New Tang Dynasty Television (NTDTV) interviewed local residents following the September 15-17, 2011 protest, who stated that JinkoSolar had been discharging polluted waste water into the river since moving to the Hongxiao Village in 2006.

97. One villager named Mr. Zhou told a reporter “we’ve been living in fear and been constantly lodging complaints regarding the pollution”

98. Another local resident, Mr. Guo, told a reporter that several years ago a number of young women working at the facility had become sterile and that young women planning to have families avoided working at the facility.

99. An unnamed official with Yuanua County, where Hongxiao Village is located, heard reports from villagers that they smelled a strong odor as the facility emits yellowish smoke between 1:00 a.m. and 3:00 a.m. each morning. He told this to the state-controlled China Daily media outlet.

100. There is also now an investigation into increased rates of cancer in the surrounding small village of 3,300 people. One blogger claimed that this village had unexplained and suspicious rates of cancer: six had leukemia, and 31 had other types of cancer, the blogger claimed. The blogger was promptly “detained” by the police for dissemination of “false information,” but the Deputy Director of the Haining Health Bureau, quoted in JinkoSolar’s own press release, confirms that even the official state-sanctioned number is not that different. Since 2007, 27 villagers had been diagnosed with cancer.

LOSS CAUSATION / ECONOMIC LOSS

101. Defendants falsely stated in the ADS Prospectus that the Company was in full compliance with all PRC environmental regulations. The JinkoSolar Defendants also falsely

made the same claim in the April 25, 2011 Form 20-F. The JinkoSolar Defendants also failed to file a timely Form 6-F with the SEC to correct these previous false statements.

102. The false statements and omissions described above caused and maintained the artificial inflation of JinkoSolar's stock price throughout the Class Period until September 21, 2011.

103. Defendants false and misleading statements were also intended to cause, and did in fact cause, JinkoSolar's stock to trade at artificially inflated levels during the Class Period. Over the week of September 15, 2011 through September 21, 2011, when the market slowly learned the truth of the Company's failure to comply with relevant environmental regulations, the value of JinkoSolar's ADSs fell by more than 42%.

CLASS ACTION ALLEGATIONS

104. This is a class action pursuant to Rules 23(a) and (b)(3) of the federal Rules of Civil Procedure on behalf of a Class of all persons and entities who purchased or otherwise acquired JinkoSolar New York Stock Exchange-traded ADSs, CUSIP 47759T100 [NYSE: JKS] (the "ADSs") between May 13, 2010 and September 21, 2011 (the "Class Period"), either in a May 13, 2010 Initial Public Offering or on the open market, and were damaged thereby. Excluded from the Class are (1) JinkoSolar, and its officers, directors, employees, affiliates, legal representatives, predecessors, successors and assigns, and any entity in which any of them have a controlling interest or are a parent; and (b) all Defendants, their immediate families, employees, affiliates, legal representatives, heirs, predecessors, successors and assigns, and any entity in which any of them has a controlling interest.

105. The members of the Class are so numerous that joinder of all members is impracticable. Throughout the Class Period JinkoSolar shares traded on the NYSE under the

ticker symbol “JKS.” While the exact number of Class members is unknown to Plaintiff at this time and can only be obtained through appropriate discovery, Plaintiff believes that there are thousands of Class members located throughout the United States. Record owners and other members of the Class may be identified from records maintained by JinkoSolar and/or its transfer agents and may be notified of the pendency of this action by mail, using a form of notice similar to that customarily used in securities class actions.

106. Common questions of law and fact exist as to all members of the Class and predominate over any questions affecting solely individual members of the Class. The questions of law and fact common to the Class include (1) whether Defendants violated federal securities laws, including the Exchange Act and Securities Act; (2) whether Defendants omitted and/or misrepresented material facts about environmental risk that was known and material; (3) whether the JinkoSolar Defendants knew or recklessly disregarded that their statements were false or misleading; (4) whether the market price of JinkoSolar ADSs was artificially inflated during the Class Period due to the material misrepresentations and failures to correct the material misrepresentations complained of herein; and (5) the extent to which members of the Class have sustained damages and the proper measure of any such damages.

107. Plaintiff’s claims are typical of the claims of other Class members, as all members of the Class were similarly affected by Defendants’ wrongful conduct in violation of federal law as complained of herein.

108. Plaintiff will fairly and adequately protect the interests of the members of the Class and has retained counsel that is competent and experienced in class and securities litigation. Plaintiff has no interest that is in conflict with, or otherwise antagonistic to the interests of the other Class members.

109. A class action is superior to all other available methods for the fair and efficient adjudication of this controversy since joinder of all members is impracticable. Furthermore, as the damages suffered by individual Class members may be relatively small, the expense and burden of individual litigation make it impossible for members of the Class to individually redress the wrongs done to them. There will be no difficulty in management of this action as a class action.

COUNT I

VIOLATIONS OF SECTION 11 OF THE SECURITIES ACT AGAINST ALL DEFENDANTS

110. Plaintiff repeats and realleges each and every allegation contained in each of the foregoing paragraphs as if set forth fully herein, to the extent such allegations do not allege fraud or the intent to defraud Plaintiff or members of the Class.

111. This Count does not sound in fraud. Any allegations of fraud or fraudulent conduct and/or motive are specifically excluded from this Count. For purposes of asserting this claim under the Securities Act, Plaintiff does not allege that Defendants acted with scienter or fraudulent intent, which are not elements of a § 11 claim.

112. This Count is asserted against all Defendants for violations of § 11 of the Securities Act, 15 U.S.C. § 77k, on behalf of all Class members who purchased or otherwise acquired JinkoSolar's ADSs pursuant or traceable to the May 13, 2010 IPO.

113. Defendants' liability under this Count is predicated on the participation of each Defendant in conducting the IPO pursuant to the Registration Statement, which contained misrepresentations of material fact.

114. The Registration Statement contained untrue statements of material fact and omitted other facts necessary to make the statements not misleading, and failed to disclose material facts as described above. The Individual Defendants were executive officers and representatives of the Company who were responsible for the contents and dissemination of the Registration Statement. Further, the Individual Defendants signed the Registration Statement in their official capacity with the Company.

115. The Underwriter Defendants were all underwriters of the IPO. As such, these Defendants issued, caused to be issued and participated in the issuance of the Registration Statement and are subject to liability for violations of § 11 of the Securities Act.

116. Plaintiff and the other Class members who acquired the ADSs pursuant or traceable to the Registration Statement did not know of the false statements and omissions alleged herein and could not have reasonably discovered such facts or conduct.

117. Less than one year elapsed from the time Plaintiff discovered or reasonably could have discovered the facts upon which this Complaint is based to the time that the first complaint was filed asserting claims arising out of the falsity of the Registration Statement. Less than three years elapsed from the time that the securities upon which this Count is brought were offered to the public to the time that the first complaint was filed asserting claims arising out of the falsity of the Registration Statement.

118. Plaintiff and the other Class members have sustained damages. The value of JinkoSolar ADSs have declined substantially subsequent to and due to Defendants' violations of

§ 11 of the Securities Act. By reason of the foregoing, Defendants are liable for violations of § 11 of the Securities Act to Plaintiffs and the other Class members who purchased or otherwise acquired JinkoSolar's ADSs pursuant or traceable to the Registration Statement.

COUNT II

VIOLATIONS OF SECTION 12(a)(2) OF THE SECURITIES ACT AGAINST JINKOSOLAR AND THE UNDERWRITER DEFENDANTS

119. Plaintiff repeats and realleges each and every allegation contained in each of the foregoing paragraphs as if set forth fully herein, to the extent such allegations do not allege fraud or the intent to defraud Plaintiff or members of the Class.

120. This Count is asserted against JinkoSolar and the Underwriter Defendants for violations of § 12(a)(2) of the Securities Act, 15 U.S.C. § 771(a)(2), on behalf of all Class members who purchased or otherwise acquired the JinkoSolar ADSs pursuant or traceable to the IPO.

121. This Count does not sound in fraud. Any allegations of fraud or fraudulent conduct and/or motive are specifically excluded from this Count. For purposes of asserting this claim under the Securities Act, Plaintiff does not allege that Defendants acted with scienter or fraudulent intent, which are not elements of a § 12(a)(2) claim.

122. The Underwriter Defendants and JinkoSolar were sellers, offerors and/or solicitors of sales of the ADSs offered pursuant to the ADS Prospectus and Registration Statement. These offering documents contained untrue statements of material fact and omitted other facts necessary to make the statements not misleading, and failed to disclose material facts, as set forth above.

123. Plaintiff and the other Class members who purchased or otherwise acquired ADSs pursuant or traceable to the materially untrue and misleading offering documents did not know

or, in the exercise of reasonable diligence could not have known, of the untruths and omissions contained in the offering documents.

124. The Underwriter Defendants and JinkoSolar owed to Plaintiff and the other Class members who purchased or otherwise acquired ADSs pursuant or traceable to the materially false and misleading offering documents the duty to make a reasonable and diligent investigation of the statements contained in the offering documents, to ensure such statements were true and that there was no omission of material fact necessary to prevent the statements contained therein from being misleading. The Underwriter Defendants and JinkoSolar did not make a reasonable investigation or possess reasonable grounds to believe that the statements contained in the offering documents were true and without omissions of any material facts and were not misleading. By virtue of the conduct alleged herein, the Underwriter Defendants and JinkoSolar violated § 12(a)(2) of the Securities Act.

COUNT III

VIOLATIONS OF SECTION 15 OF THE SECURITIES ACT AGAINST THE INDIVIDUAL DEFENDANTS

125. Plaintiff repeats and realleges each and every allegation contained in each of the foregoing paragraphs as if set forth fully herein, to the extent such allegations do not allege fraud or the intent to defraud Plaintiff or members of the Class. This Count is asserted against the Individual Defendants for violations of § 15 of the Securities Act, 15 U.S.C. § 770, on behalf of Plaintiff and the other Class members who purchased or otherwise acquired JinkoSolar's ADSs pursuant or traceable to the offering documents.

126. This Count does not sound in fraud. Any allegations of fraud or fraudulent conduct and/or motive are specifically excluded from this Count. For purposes of asserting this

claim under the Securities Act, Plaintiff does not allege that Defendants acted with scienter or fraudulent intent, which are not elements of a § 15 claim.

127. At all relevant times, the Individual Defendants were controlling persons of the Company within the meaning of § 15 of the Securities Act. Each of the Individual Defendants served as an executive officer or director of JinkoSolar prior to and at the time of the May 13, 2010 IPO, as set forth above.

128. Each of the Individual Defendants at all relevant times participated in the operation and management of the Company, and conducted and participated, directly and indirectly, in the conduct of JinkoSolar's business affairs. As officers and directors of a publicly owned company listed on the NYSE and registered with the SEC, the Individual Defendants had a duty to disseminate accurate and truthful information with respect to JinkoSolar's financial condition and results of operations.

129. In addition, Defendants Xiandi Li, Kangping Chen and Xianhua Li beneficially own approximately 23.2%, 13.9% and 9.3% of the outstanding ordinary shares of the Company, respectively, and thus the most recent Form 20-F disclosed that:

If the founders act collectively, ***they will have substantial control over our business***, including decisions regarding mergers, consolidations and the sale of all or substantially all of our assets, election of directors, dividend policy and other significant corporate actions. They may take actions that are not in the best interest of our company or our securities holders. For example, this concentration of ownership may discourage, delay or prevent a change in control of our company, which could deprive our shareholders of an opportunity to receive a premium for their shares as part of a sale of our company and might reduce the price of our ADSs. (Emphasis added.)²

² The bizarre disclosure in the quote above that the Founders “may take actions that are not in the best interest of our company or our securities holders” is seemingly contradicted by a disclosure elsewhere in the Form 20-F that JinkoSolar directors “have a common law duty of loyalty to act in good faith in their dealings with or on behalf of the company.”

130. By reason of the aforementioned conduct, each of the Defendants named in this Count are liable under § 15 of the Securities Act, jointly and severally with, and to the same extent as the Company is liable under §§ 11 and 12(a)(2) of the Securities Act, to Plaintiffs and the other Class members who purchased securities pursuant or traceable to the IPO.

**ADDITIONAL ALLEGATIONS OF FRAUD AND SCIENTER
WITH RESPECT TO THE JINKO DEFENDANTS**

131. Plaintiff incorporates by reference the paragraphs above as if asserted herein, except for those that disclaim fraud. This section relates to the JinkoSolar Defendants only, and no claims of fraud or intentional wrongdoing are asserted against the Underwriter Defendants.

132. The ADS Prospectus, Registration Statement and Form 20-F were false and misleading because they failed to disclose the Company's failure to comply with relevant PRC environmental regulations.

133. The JinkoSolar Defendants also failed to file Form 6-Fs necessary to update the prior Form 20-F, ADS Prospectus and Registration Statement to make them not misleading as important developments occurred that investors would deem material.

134. The JinkoSolar Defendants knowingly misled investors as to the extent of environmental risk at the Manufacturing Plant, or at least acted with reckless indifference as to the truth, because there were so many reasons to know that the facility was polluting its environment.

135. Importantly, JinkoSolar knew it had an environmental problem long before the date of the ADS Prospectus. For example, New Tang Dynasty Television (NTDTV) interviewed local residents following the September 15-17, 2011 protest, who stated that JinkoSolar had been discharging polluted waste water into the river since moving to the Hongxiao Village in 2006.

136. One villager named Mr. Zhou told a reporter “we’ve been living in fear and been constantly lodging complaints regarding the pollution to local authorities *and the Jinko company.*”

137. Another local resident, Mr. Guo, told a reporter that several years ago a number of young women working at the facility had become sterile and it was known that young women planning to have families avoided working at the facility.

138. An unnamed official with Yuanua County, where Hongxiao Village is located, heard reports from villagers that they smelled a strong odor as the facility emits yellowish smoke suspiciously only between 1:00 a.m. and 3:00 a.m. each morning. He told this to the state-controlled China Daily media outlet.

139. There is also now an investigation into increased rates of cancer in the surrounding small village of 3,300 people. One blogger claimed that this village had unexplained and suspicious rates of cancer: six had leukemia, and 31 had other types of cancer, the blogger claimed. The blogger was promptly “detained” by the police for dissemination of “false information,” but the Deputy Director of the Haining Health Bureau, quoted in JinkoSolar’s own press release, confirms that even the official state-sanctioned number is not that different. Since 2007, 27 villagers had been diagnosed with cancer.

140. PRC government officials now openly state that JinkoSolar had knowingly been in violation of various environmental regulations since at least April, 2011, six days before the Form 20-F was issued. The Company now even admits to being aware of the contamination in late August, admits that they were the cause, and even agreed on September 7, 2011 to compensate area farmers, but failed to tell investors until September 19, 2011 that its earlier statements were materially false.

PRESUMPTION OF RELIANCE: FRAUD ON THE MARKET

141. At all relevant times, the market for JinkoSolar ADSs was an efficient market for the following reasons, among others: (1) the ADSs were listed and actively traded on the NYSE, a highly efficient market; (2) as a regular issuer of ADSs, ordinary shares and various publicly traded debt instruments, JinkoSolar filed periodic public reports on Form 20-F and Form 6-F with the SEC; (3) JinkoSolar regularly issued press releases that were carried by the national news wires, were publicly available and entered the public marketplace.

142. As a result, the market for the ADSs promptly digested current information regarding JinkoSolar from all publicly available sources and reflected such information in JinkoSolar's stock price.

143. Under these circumstances, all purchasers of the ADSs during the Class Period suffered similar injury through their purchases of stock at artificially inflated prices and a presumption of reliance applies.

COUNT IV

Violations of Section 10(b) of the Exchange Act and Rule 10b-5 Promulgated Thereunder Against the JinkoSolar Defendants

144. Plaintiff repeats and realleges each and every allegation contained above as if fully set forth herein.

145. During the Class Period, the JinkoSolar Defendants carried out a plan, scheme and course of conduct which was intended to and, throughout the Class Period, did: (i) deceive the investing public, including Plaintiff and other Class members, as alleged herein; and (ii) cause Plaintiff and other members of the Class to purchase JinkoSolar ADSs at artificially inflated prices. In furtherance of this unlawful scheme, plan and course of conduct, defendants, and each of them, took the actions set forth herein.

146. The JinkoSolar Defendants (i) employed devices, schemes, and artifices to defraud; (ii) made untrue statements of material fact and/or omitted to state material facts necessary to make the statements not misleading; and (iii) engaged in acts, practices, and a course of business which operated as a fraud and deceit upon the purchasers of the Company's securities in an effort to maintain artificially high market prices for JinkoSolar securities in violation of Section 10(b) of the Exchange Act and Rule 10b-5. All JinkoSolar Defendants are sued either as primary participants in the wrongful and illegal conduct charged herein or as controlling persons as alleged below.

147. Defendants, individually and in concert, directly and indirectly, by the use, means or instrumentalities of interstate commerce and/or of the mails, engaged and participated in a continuous course of conduct to conceal adverse material information about JinkoSolar's failure to comply with Chinese environmental regulations, as specified herein.

148. These Defendants employed devices, schemes and artifices to defraud, while in possession of material adverse non-public information and engaged in acts, practices, and a course of conduct as alleged herein in an effort to assure investors of JinkoSolar's ostensible commitment to "green" technologies and a commitment to compliance with all environmental regulations, which included the making of, or the participation in the making of, untrue statements of material facts and/or omitting to state material facts necessary in order to make the statements made about JinkoSolar and its business operations and future prospects in light of the circumstances under which they were made, not misleading, as set forth more particularly herein, and engaged in transactions, practices and a course of business which operated as a fraud and deceit upon the purchasers of the Company's securities during the Class Period.

149. Each of the Individual Defendants' primary liability, and controlling person liability, arises from the following facts: (i) the Individual Defendants were high-level executives and/or directors at the Company during the Class Period and members of the Company's management team or had control thereof; (ii) each of these Defendants, by virtue of their responsibilities and activities as a senior officer and/or director of the Company, was privy to and participated in the creation, development and reporting of the Company's periodic disclosures to investors; (iii) each of these Defendants enjoyed significant personal contact and familiarity with the other Defendants and was advised of, and had access to, other members of the Company's management team, internal reports and other data and information about the Company's compliance with environmental regulations at all relevant times; and (iv) each of these Defendants was aware of the Company's dissemination of information to the investing public which they knew and/or recklessly disregarded was materially false and misleading.

150. The JinkoSolar Defendants had actual knowledge of the misrepresentations and/or omissions of material facts set forth herein, or acted with reckless disregard for the truth in that they failed to ascertain and to disclose such facts, even though such facts were available to them. Such Defendants' material misrepresentations and/or omissions were done knowingly or recklessly and for the purpose and effect of concealing JinkoSolar's failure to comply with Chinese environmental regulations from the investing public and supporting the artificially inflated price of its securities. As demonstrated by the allegations above, Defendants, if they did not have actual knowledge of the misrepresentations and/or omissions alleged, were reckless in failing to obtain such knowledge by deliberately refraining from taking those steps necessary to discover whether those statements were false or misleading.

151. As a result of the dissemination of the materially false and/or misleading information and/or failure to disclose material facts, as set forth above, the market price of the ADSs was artificially inflated during the Class Period. In ignorance of the fact that market prices of the Company's securities were artificially inflated, and relying directly or indirectly on the false and misleading statements made by Defendants, or upon the integrity of the market in which the securities trades, and/or in the absence of material adverse information that was known to or recklessly disregarded by Defendants, but not disclosed in public statements by Defendants during the Class Period, Plaintiff and the other members of the Class acquired the ADSs during the Class Period at artificially high prices and were damaged thereby.

152. At the time of said misrepresentations and/or omissions, Plaintiff and other members of the Class were ignorant of their falsity, and believed them to be true. Had Plaintiff and the other members of the Class and the marketplace known the truth regarding JinkoSolar, which was not disclosed by Defendants, Plaintiff and other members of the Class would not have purchased or otherwise acquired the ADSs, or, if they had acquired such securities during the Class Period, they would not have done so at the artificially inflated prices which they paid.

153. By virtue of the foregoing, Defendants have violated Section 10(b) of the Exchange Act and Rule 10b-5 promulgated thereunder.

154. As a direct and proximate result of Defendants' wrongful conduct, Plaintiff and the other members of the Class suffered damages in connection with their respective purchases and sales of the ADSs during the Class Period.

COUNT V
Violation of Section 20(a) of the Exchange Act
Against the Individual Defendants

155. Plaintiff repeats and realleges each and every allegation contained above as if fully set forth herein.

156. The Individual Defendants acted as controlling persons of JinkoSolar within the meaning of Section 20(a) of the Exchange Act as alleged herein. By virtue of their high-level positions, and their ownership and contractual rights, participation in and/or awareness of the Company's operations and/or intimate knowledge of the false statements filed by the Company with the SEC and disseminated to the investing public, the Individual Defendants had the power to influence and control and did influence and control, directly or indirectly, the decision-making of the Company, including the content and dissemination of the various statements that Plaintiff contends are false and misleading. These Defendants were provided with or had unlimited access to copies of the Company's reports, press releases, public filings and other statements alleged by Plaintiff to be misleading prior to and/or shortly after these statements were issued and had the ability to prevent the issuance of the statements or cause the statements to be corrected.

157. In addition, each of these Defendants had direct and supervisory involvement in the day-to-day operations of the Company and, therefore, is presumed to have had the power to control or influence the particular transactions giving rise to the securities violations as alleged herein, and exercised the same.

158. Furthermore, Defendants Xiandi Li, Kangping Chen and Xianhua Li beneficially own approximately 23.2%, 13.9% and 9.3% of the outstanding ordinary shares of the Company, respectively, and thus the most recent Form 20-F disclosed that:

If the founders act collectively, *they will have substantial control over our business*, including decisions regarding mergers, consolidations and the sale of all or substantially all of our assets, election of directors, dividend policy and other significant corporate actions. They may take actions that are not in the best interest of our company or our securities holders. For example, this concentration of ownership may discourage, delay or prevent a change in control of our company, which could deprive our shareholders of an opportunity to receive a premium for their shares as part of a sale of our company and might reduce the price of our ADSs. (Emphasis added.)

159. As set forth above, the Individual Defendants each violated Section 10(b) and Rule 10b-5 by their acts and/or omissions as alleged in this Complaint. By virtue of their positions as controlling persons, the Individual Defendants are liable pursuant to Section 20(a) of the Exchange Act. As a direct and proximate result of Defendants' wrongful conduct, Plaintiff and other members of the Class suffered damages in connection with their purchases of the ADSs during the Class Period.

PRAYER FOR RELIEF

WHEREFORE, plaintiff prays for relief and judgment as follows:

- A. Determining that this action is a proper class action and certifying Plaintiff as class representative under Rule 23 of the Federal Rules of Civil Procedure;
- B. Awarding compensatory damages in favor of Plaintiff and the other Class members against all Defendants, jointly and severally, for all damages sustained as a result of defendants' wrongdoing, in an amount to be proven at trial, including interest thereon;
- C. Awarding Plaintiff and the Class their reasonable costs and expenses incurred in this action, including counsel fees and expert fees; and
- D. Awarding such other and further relief as the Court may deem just and proper.

JURY TRIAL DEMANDED

Plaintiffs hereby demands a trial by jury.

DATED: ____, 2011

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Appendix A

Overview of Chemicals Associated with Solar Photovoltaic (PV) Manufacturing and Disposal

(Source: *Silicon Valley Toxics Coalition*)

- **Ammonia (NH₃)** is used to produce anti-reflective coatings for solar PV modules. High-level exposures may irritate the skin, eyes, throat, and lungs and cause burns. Lung damage and death may result from exposure to very high concentrations. Ingesting ammonia can burn the mouth, throat, and stomach, and ammonia in the eyes can cause burns and blindness.
- **Argon (Ar)** gas is used in thin-film solar cell manufacturing to apply a semiconductor onto a surface or as an inert cooling gas. Although considered non-toxic, it is known to result in death due to asphyxiation in confined spaces. In such cases, mental alertness is diminished, muscular coordination is impaired, judgment becomes faulty, and all sensations are depressed. Emotional instability often results and fatigue occurs rapidly. As the asphyxia progresses, there may be nausea and vomiting, prostration and loss of consciousness, and finally convulsions, deep coma, and death.
- **Arsenic (As)** can be released from the decomposition of discarded GaAs solar PV cells. Inhalation of high levels of arsenic causes throat soreness, lung irritation, increased lung cancer risk, nausea and vomiting, decreased production of red and white blood cells, abnormal heart rhythm, damage to blood vessels, and “pins and needles” sensations in hands and feet. Ingesting or breathing low levels of inorganic arsenic for an extended period causes skin darkening, and small “corns” or “warts” appear on the palms, soles, and torso. Skin contact may cause redness and swelling. Ingestion can increase skin, liver, bladder, and lung cancer risks. Ingesting very high levels can result in death.
- **Arsine (AsH₃)** is a doping gas used to add impurities to PV semiconductors. When inhaled, it attacks red blood cells, causing headaches, vertigo, and nausea. It can cause critically affect the kidneys and blood. Arsine is a recognized carcinogen and is similar in toxicity to the methyl isocyanate released in Bhopal. Arsine can be phased out and replaced with the less toxic tertiary butyl arsine (TBA).
- **Boron trifluoride (BF₃)** gas is used to dope silicon semiconductors. Exposure to large amounts over short periods of time can affect the stomach, intestines, liver, kidney, and brain and can eventually lead to death.
- **Brominated Flame Retardants (BFRs)** are chemicals that inhibit the ignition of combustible organic materials. BFRs are commonly used in computers, electronic products, televisions, insulating foams, and other building materials to reduce product flammability. BFRs bioaccumulate and are found at high concentrations in human breast milk. BFRs known as polybrominated diphenyl ethers (PBDEs) are used in polymers such as polystyrene foams, high-impact polystyrene, and epoxy resins (see PBDE item below).
- **Cadmium (Cd)** is a by-product of zinc, lead, or copper mining. Workers can be exposed through cadmium smelting and refining or through the air in workplaces that make Cd-based semiconductors. Acute symptoms vary depending on the specific cadmium compound, but can include pulmonary edema, cough, chest tightening, headache, chills, muscle aches, nausea, vomiting, and diarrhea. Cd is chronically toxic to the respiratory system, kidneys, prostate, and blood and can cause prostate and lung cancer. NIOSH

considers cadmium dust and vapors as carcinogens. California has also determined (under AB 1807 and Proposition 65) that cadmium and cadmium compounds are carcinogens.

- **Cadmium chloride (CdCl₂)** is a soluble form of Cd that vaporizes more readily than other cadmium compounds. It is extremely toxic to workers exposed during feedstock preparation or through maintenance and fugitive emissions. Information for this appendix was compiled from the International Labor Organization (ILO), NOAA's Office of Response and Restoration, the Intergovernmental Panel on Climate Change (IPCC), U.S. EPA, California EPA, U.S. OSHA, and California OSHA.
- **Cadmium sulfate (CdSO₄)** is used to apply CdS in CdTe and CIS/CIGS production. Cadmium compounds are toxic by inhalation and skin contact, and exposure may cause cumulative and irreversible effects. Cadmium sulfate causes nose, throat, and lung irritation, and lung edema may also occur. Symptoms are usually delayed for several hours and aggravated by physical effort. Repeated, prolonged exposure to dust may cause discoloration of teeth, loss of smell, shortness of breath, damage to liver and kidneys, and mild anemia.
- **Cadmium sulfide (CdS)** is used in CdTe and CIS/CIGS thin-film solar PV production. It is a suspected human carcinogen and is toxic to kidney, lungs, and liver. Some bacteria found in nature produce CdS, and research is underway to investigate possible use of these bacteria in solar PV manufacturing.
- **Cadmium telluride (CdTe)** is a thin-film semiconductor. Inhalation, ingestion, and dermal contact with CdTe are considered toxic, though very little CdTe toxicological data exists. The highly reactive surface of cadmium telluride quantum dots could trigger extensive reactive oxygen damage to the cell membrane, mitochondria, and cell nucleus.
- **Carbon nanotubes (CNTs)** are carbon allotropes (like diamonds and graphite) measured at the nanometer scale. Exposures are linked to mesothelioma in animals, and nanotubes are believed to present inhalation hazards similar to those of asbestos.
- **Carbon tetrachloride (CCl₄)** is used to manufacture c-Si PV cells. Exposure to very high amounts of carbon tetrachloride can damage the liver, kidneys, and nervous system (including the brain). CCl₄ can cause cancer in animals, and the Department of Health and Human Services (DHHS) has determined that it may be considered a human carcinogen.
- **Chromium VI (Cr VI)** is used in PV modules for chrome-plated hardware such as screws and frames. High levels of chromium have provoked asthma attacks, and long-term exposure is associated with lung cancer. Handling liquids or solids containing Cr VI can cause skin ulcers. Swallowing large amounts will cause upset stomach, ulcers, convulsions, kidney and liver damage, and even death. The EPA classifies Cr VI as a known human carcinogen.
- **Copper (Cu)** can be poisonous or fatal at high exposures. Inhalation exposures may occur through the vaporization of copper in CIS/CIGS production. Breathing high levels of copper can cause nasal and throat irritation. Ingestion of high levels of copper can cause nausea, vomiting, and diarrhea. Very high doses of copper can cause damage to the liver and kidneys and can ultimately cause death.

- **Copper indium diselenide (CIS)** is used in thin-film PV cells. There is limited toxicity information on CIS. Measurements of airborne concentrations of copper, indium, and cadmium from mechanical scribing and deposition operations on CIS/CdS modules were well below threshold levels. The main health issue related to CIS is the highly toxic hydrogen selenide feedstock gas (also called selenium hydride, see below).
- **Copper indium gallium diselenide (CIGS)** is similar to CIS but also contains gallium (Ga) (see below).
- **Diborane (B₂H₆)** is a doping gas used to manufacture a-Si cells. It is highly flammable and is considered highly irritating to skin tissues. In rare cases, it may cause liver and kidney damage.
- **Ethyl vinyl acetate (EVA)** is used to encapsulate solar PV cells. It is a non-toxic alternative to soft plastics like polyvinyl chloride (PVC) and bisphenyl A, but may release volatile organic compounds during manufacture.
- **Gallium (Ga)** is a rare soft metal used in GaAs PV and recovered from zinc and aluminum mining. It is not considered toxic, but may cause skin irritation after prolonged exposure. Scaling up of GaAs production is limited by the global scarcity of gallium. For use in manufacturing, Ga is converted into trimethylgallium (Ga(CH₃)₃).
- **Germane (GeH₄)** is often deposited with silane to dope a-Si layers with germanium. It is extremely toxic and can kill red blood cells and cause anemia and kidney failure.
- **Helium (He)** is a colorless, odorless, non-toxic gas used in solar PV to propel thin films onto a surface. Helium is absorbed by inhalation or skin contact. Inhalation causes a high voice, dizziness, dullness, headache, and possible suffocation. Containment failure can cause suffocation by displacing oxygen in confined areas. Skin frostbite is possible through contact with liquid He.
- **Hexafluoroethane (C₂F₆)** is used to etch semiconductors. It is an asphyxiant and in high concentrations may cause dizziness, nausea, vomiting, disorientation, confusion, loss of coordination, and narcosis. Very high concentrations may cause suffocation. Liquid hexafluoroethane may cause frostbite. Harmful amounts may be absorbed if skin contact is prolonged or widespread. It is listed as a potent greenhouse gas by the IPCC.
- **Hydrochloric acid (HCl)** is used to clean and etch semiconductors and to produce electrical grade silicon. Concentrated HCl is corrosive to the skin, eyes, nose, mucous membranes, and respiratory and gastrointestinal tracts. Inhalation can lead to pulmonary edema. Ingestion can cause severe injury to the mouth, throat, esophagus, and stomach. Other possible effects include shock, circulatory collapse, metabolic acidosis, and respiratory depression.
- **Hydrofluoric acid (HF)** is used to etch and remove oxidation from semiconductors. Low levels of HF gas can irritate the eyes, nose, and respiratory tract. Inhalation at high levels or in combination with skin contact can cause death from irregular heartbeat or lung fluid buildup. Splashes of HF on the skin can be fatal, but may cause no immediate signs of exposure. Swallowing even a small amount of highly concentrated HF affects internal organs and may be fatal.

- **Hydrogen (H₂)** is used to manufacture a-Si solar cells. It is considered non-toxic but is extremely flammable and explosive.
- **Hydrogen sulfide (H₂S)** is used in the manufacture of CIS/CIGS. It is considered an irritant and is extremely flammable.
- **Indium (In)** is a rare metal used as the semiconductor for CIS/CIGS, indium gallium phosphide, or indium gallium nitride solar PV. It is also used in lead-free solders. It is made from the highly reactive trimethylindium, which can spontaneously combust.
- **Indium gallium nitride (InGaN)** is a PV semiconductor. The toxicology of InGaN is not well documented, but the dust is a known skin, eye, and lung irritant. It is produced from trimethylindium, trimethylgallium, and ammonia.
- **Indium phosphide (InP)** is used in multijunction solar PV. It is listed under California Proposition 65 as a chemical known to cause cancer.
- **Lead (Pb)** is used to solder photovoltaic electrical components. Lead exposures occur in smelting and refining industries, soldering, and battery manufacturing. Workers can inadvertently bring home lead via clothing and possibly expose those most vulnerable: pregnant women and children. People who reclaim heavy metals from "recycled" electronics are also exposed. Lead is most toxic to the nervous system. Lead exposure may cause weakness in fingers, wrists, or ankles, and can also cause anemia. At high exposure levels, lead severely damages the brain and kidneys and may ultimately cause death. In pregnant women, high levels of exposure to lead may cause miscarriage. Lead is also considered a probable human carcinogen.
- **Nitric acid (HNO₃)** is used in solar PV manufacture to clean wafers, remove dopants, and clean reactors. Major occupational concerns relate to the potential for chemical burns.
- **Nitrogen (N₂)** is used to dope semiconductors. Rapid release of nitrogen gas in an enclosed space can displace oxygen, and it therefore represents an asphyxiation hazard.
- **Nitrogen trifluoride (NF₃)** is used to clean reactors and etch polysilicon semiconductors. It emits toxic fumes when burned or reacted and can cause asphyxiation. The IPCC considers NF₃ a significant greenhouse gas, making fugitive emission control very important.
- **Phosphine (PH₃)** is a doping gas used to add impurities to photovoltaic semiconductors. It is extremely flammable and explosive and is considered a severe respiratory irritant. Phosphine can be replaced by less toxic tertiary butyl phosphine.
- **Polybrominated diphenyl ethers (PBDEs)** are flame-retardant chemicals added to plastics and foam products. Because they are mixed into plastics and foams rather than bound to them, PBDEs can leave the products and enter the environment. PBDEs undergo long-range transport and deposition, appearing in ringed seals found in the Canadian Arctic. Very little is known about the human health effects of PBDEs, but toxicity to the liver, thyroid, and neurodevelopment is reported in animals, and concerns are raised because of persistence and bioaccumulation in humans. The EPA requires special procedures for

the transport, storage, or disposal of PBDE. California outlawed the sale of PBDEs and products containing them effective January 1, 2008.

- **Polysilicon** is the feedstock material used to produce silicon PV cells. It is obtained by heating silane or trichlorosilane gas.
- **Polyvinyl fluoride (Tedlar®)** is used in solar PV module backing sheets to extend product life and increase efficiency. These are preferred backing sheets due to strength and weather, moisture, and UV light resistance. Tedlar® dust may cause eye irritation, and skin contact may also produce irritation. Some formulations contain small amounts of one or more of the following compounds: lead, chromium, cadmium, selenium, arsenic, and antimony.
- **Selenium (Se)** is found in CIS/CIGS as an alloy of diselenide. Short-term exposure to high concentrations of selenium may cause nausea, vomiting, and diarrhea. Chronic exposure to high concentrations of selenium compounds can produce a disease called selenosis. Major signs of selenosis are hair loss, nail brittleness, and neurological abnormalities (such as numbness and other odd sensations in the extremities). Brief exposures to high levels of Se can result in respiratory tract irritation, bronchitis, difficulty breathing, and stomach pains.
- **Selenium dioxide (SeO₂)** is a by-product of CIS/CIGS manufacturing and an intermediary in the recovery of selenium from waste CIS/CIGS modules. It is highly toxic when inhaled and may cause skin burns and eye irritation. Chronic exposure may cause selenium-related diseases. Brief exposure to high levels of SeO₂ can result in respiratory tract irritation, bronchitis, difficulty breathing, and stomach pains.
- **Selenium hydride (H₂Se)** is used to apply the diselenide layer in CIS/CIGS. It is highly toxic and can cause respiratory irritation and selenium-related diseases. Inhalation causes a burning sensation, nausea, and sore throat. Skin contact can cause frostbite. It is extremely flammable. Methods are being developed to produce CIS/CIGS without H₂Se. Also called hydrogen selenide.
- **Silane (SiH₄)** gas is used to apply silicon thin films and make silicon crystal semiconductors. Major health hazards include respiratory tract, skin, and eye irritation. Silane gas is extremely explosive. At room temperature, silane is pyrophoric—it spontaneously combusts in air without external ignition.
- **Silicon (Si)** is the most widely used solar PV semiconductor. Crystalline silica (silicon dioxide, SiO₂) is a potent respiratory hazard, irritating skin and eyes on contact. Inhalation causes lung and mucus membrane irritation. Eye irritation results in watering and redness. Lung cancer is associated with occupational exposures to crystalline silica among miners, diatomaceous earth workers, granite workers, pottery workers, brick workers, and others.
- **Silicon tetrachloride (SiCl₄)** is a corrosive and toxic by-product and intermediary in silicon-based PV cell production. It reacts with water to form hydrochloric acid and can cause tissue damage. It causes severe respiratory problems when inhaled. Skin contact causes severe pain, and eye contact can cause permanent damage. It is one of a group of chemicals known as chlorosilanes.
- **Silver (Ag)** is used in solar PV electrical contacts or as the semiconductor in silver cells. Exposure to high levels of silver over long time periods may cause a condition called argyria, a blue-gray discoloration of the skin and other body tissues. Argyria is permanent, but it appears to be only a cosmetic problem.

Exposure to high levels of silver can result in breathing problems, lung and throat irritation, and stomach pains. Skin contact with silver can cause mild allergic reactions such as rash, swelling, and inflammation.

- **Sodium hydroxide (NaOH)** is used to clean and etch semiconductors. Even very low levels can produce skin and eye irritation. High-level exposure can cause severe burns to the eyes, skin, and gastrointestinal tract, which may cause death.
- **Sulfur hexafluoride (SF6)** is used to etch semiconductors and clean reactors in PV manufacturing. It is relatively inert and is considered an asphyxiant. The IPCC considers SF6 the most potent greenhouse gas known.
- **Tetrobromo bisphenol A (TBBPA)** is a reactive brominated flame retardant used in the printed wiring boards of more than 90 percent of electrical and electronic products. The main use of TBBPA in solar PV is in inverters. Occupational exposure may occur from contact during production or through dust inhalation. Recent concerns focus on TBBPA as an endocrine disruptor; it is similar to bisphenol A, a known estrogen mimic. TBBPA also bioaccumulates in organisms.
- **Thiourea (CH4N2S)** is used to manufacture CdTe and CdS PV semiconductors. It is toxic to blood and causes thyroid and liver tumors. California recognizes thiourea as a carcinogen.
- **Trichlorosilane (HSiCl3)** is the main source of electrical grade silicon. It is formed in the presence of silicon and hydrochloric acid and is toxic and flammable. Inhalation causes acute effects such as burns, difficulty breathing, headache, dizziness, bluish skin color, and lung congestion. Blurred vision results from eye contact, and ingestion can cause burns, vomiting, and diarrhea.