



# **Risk-assessments for products within five categories: Office supplies**

A report for Direktoratet for forvaltning og IKT (DIFI) by  
Swedwatch

## Table of contents

Introduction	3
Method and data	3
Office supplies	4
Batteries	6
Whiteboards	10
Ballpoint pens	15
Metal staplers and paper clips	20
Toner cartridges	24
Paper calendars	29

## Introduction

Swedwatch has carried out risk-assessments on thirty-four products within five product categories on behalf of Direktoratet for forvaltning og IKT (DIFI). The risk-assessment reports aim to provide information on potential adverse impacts on labour rights and human rights in the supply chains of the selected products. The reports will guide contracting authorities on the importance of social considerations in their purchasing practices and when such criteria should be applied. The risk-assessments will also improve the readers' understanding of what to look for when monitoring supplier compliance.

It is important to note that the risk-assessments do not aim to scrutinise or describe the supply chain of any particular brand or supplier. The purpose is to give a general understanding of the potential risks linked to the product in general.

Each product is described based on components and materials used in the product. The general supply chain is presented in a table, along with a narrative explanatory paragraph. The supply chain table is divided into three sections; assembly, component and raw material, and provides an overview of most relevant countries.

General risks are outlined and those which are categorised as most adverse risks for each step of the supply chain are summarised in an introductory table in order to provide an overview. The grading at the bottom of the risk-matrix indicates a combination of the *severity* and *likelihood* of the risk and aims to provide guidance on where main risks are located in the supply chain. For example, when a product is assembled in both a high-risk and a low-risk context to more or less the same extent, the risk will be graded lower than if the product had been predominantly assembled in a high-risk environment. This also means that even if a number of potential severe risks are listed in the column, the risk may still be considered low if it is likely that the production mostly takes place under safe and sound processes in a low-risk environment.

The grading includes the following steps:

Very low	Low	Medium-high	High	Very high
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## Method and data

The data used for the risk-assessments comes mainly from reports, articles, films and academic research. Suppliers, and to a smaller, degree industry organisations/initiatives, have also been interviewed to provide input to the understanding of the supply chains. Trading data has been used for the mapping of the supply chains, as transparency and traceability is often limited. Therefore, the supply chain data, especially on a component and raw material level, partly presents the likelihood of a certain producing country being included in the supply chain. The supply chain data can therefore not be viewed as exact for every single product procured by Norwegian contracting authorities, but as a general estimate.

The report was written October to December 2017.

## Office supplies

Product	Assembly	Component	Raw material
<b>Office supplies</b>	<b>Medium-high risk</b>	<b>High risk</b>	<b>High risk</b>
Batteries	<b>High risk</b>	<b>High risk</b>	<b>Very high risk</b>
Whiteboards	<b>Low risk</b>	<b>Medium-high risk</b>	<b>High risk</b>
Ballpoint pens	<b>Medium-high risk</b>	<b>High risk</b>	<b>High risk</b>
Staples and paper clips	<b>Medium-high risk</b>	<b>Medium-high risk</b>	<b>High risk</b>
Toner Cartridges	<b>Medium-high risk</b>	<b>Medium-high risk</b>	<b>High risk</b>
Calendars	<b>Medium-high risk</b>	<b>High risk</b>	<b>High risk</b>

Office supplies include a broad variety of products such as different kinds of pens and markers, metal supplies like staplers and punchers, paper products and other disposable objects. Some of the larger manufacturing countries in the industry are in Asia and include China, India and Indonesia. Many items are also produced and assembled in Europe and USA.<sup>1</sup> Much of the production is labour-intensive. The length and complexity of the supply chain in the industry depends on a number of factors and can commonly reach up to five tiers. Production in Asia is mainly in larger factories, but it is possible that smaller workshops are used further down the supply chain.<sup>2</sup>

As the supply chains are complex and fragmented across the world, traceability is limited. On a general level, risks connect to manufacturing including both assembly and component production, as well as to the extraction of raw materials. This is mainly a consequence of production being heavily located in China and other Asian countries where low wages, excessive overtime, health and safety issues and the exploitation of migrant workers are common. There are reports of the office supplies industry in China confirming these general risks, even including examples of child labour.<sup>3</sup>

As metal and plastic constitutes a large portion of the raw materials used in office supplies, there are also environmental and social risks and implications impacting local communities connected to mining and the extraction and processing of oil.

For this particular risk-assessment, the following products are included:

- Ballpoint pens
- Staplers and paper clips
- Whiteboards
- Toner cartridges
- Batteries
- Paper calendars

<sup>1</sup> Economy Watch, [Stationery Industry](#), 2009 and Swedwatch, Riskanalys för Kammarkollegiet, 2016

<sup>2</sup> Swedwatch, Riskanalys för Kammarkollegiet, 2016

<sup>3</sup> China Watch, [Worker suicides prompt probe](#) 2012-02-24, BBC News, [Olympic Ban for China Firm](#) 2007-07-31

## Industry and sector Initiatives

### **International Labor Rights Forum**

The International Labor Rights Forum is an organisation focuses on the humane treatment of workers around the world. They provide support for workers in many different areas, among others: rights of working women, child labour, sweatshop conditions and what they call 'freedom at work'.<sup>4</sup>

### **BSCI**

BSCI was launched in 2003 at the initiative of the Foreign Trade Association (FTA). The initiative works toward the integration by purchasing companies of the BSCI Code of Conduct into their business practices. BSCI provides support, auditing tools and a database for its members.<sup>5</sup>

### **Sofea**

Sofea is a European industry organisation for suppliers of office supplies. Sofea was founded in 2014. The organisation has developed a common environmental assessment system and has made it available to consumers online.<sup>6</sup>

### **The Pulp and Paper Safety Association (PPSA)**

The Pulp and Paper Safety Association is an independent international organisation which focuses on securing safety throughout the industry. PPSA provides information and education for their members and also acts as a platform for discussion.<sup>7</sup>

### **Check Your Paper**

Check Your Paper is a database developed by WWF. It helps consumers to assess how environmentally friendly purchased pulp and paper is. It provides a list of products with high environmental standards.<sup>8</sup>

## Certifications

### **Forest Stewardship Council (FSC)**

Forest Stewardship Council is an international member organisation, working for sustainable forestry and providing a certification for timber, paper and paper products.<sup>9</sup>

### **Nordic Ecolabeling**

Nordic Ecolabeling is an environmental certification that aims to lower the environmental impact of a number of different products. The certification is used on, for example, batteries, ball point pens and toner cartridges and the standard criteria limits the use of toxic chemicals and enhance recycled materials. It also requires the certified companies to have a code of conduct that is communicated to subcontractors and suppliers.<sup>10</sup>

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<sup>4</sup> [International Labor Rights Forum](#)

<sup>5</sup> Business Social Compliance Initiative, [BSCI-intl.org](http://BSCI-intl.org)

<sup>6</sup> [Sofea](#)

<sup>7</sup> [PPSA](#)

<sup>8</sup> WWF, [Check your paper](#)

<sup>9</sup> [Forest Stewardship Council](#)

<sup>10</sup> [Svanen](#)

## Batteries

Summary of the most severe/most prevalent risks

Assembly	Components	Raw materials
Forced Labour Child labour Low wages Excessive overtime Poor health and safety Lack of union rights Exploitation of migrant workers	<b>Cathode, anode and electrolyte, steel:</b> Forced Labour Low wages Excessive overtime Poor health and safety Exposure to toxic & corrosive materials Lack of union rights Exploitation of migrant workers Pollution of air and water	<b>Minerals:</b> Forced Labour Child labour Low wages Excessive overtime Poor health and safety Lack of union rights Impact on local community rights and indigenous rights Forced displacement/landgrabbing Environmental pollution Sexual abuse
<b>High risk</b>	<b>High risk</b>	<b>Very high risk</b>

### The Product

A battery is comprised of three parts; an anode and a cathode - commonly made of different metals - and an electrolyte which carries the charges between the anode and the cathode.<sup>11</sup> These components are then sealed and stored in a casing made of steel.

Some of the most common types of non-rechargeable consumer batteries are alkaline batteries that can be made of a variety of chemical compositions including zinc, lithium, manganese and potassium.<sup>12</sup> Alkaline batteries also feature a brass pin that acts as a charge collector to efficiently distribute electrons to the cathode.<sup>13</sup> Rechargeable alkaline batteries are sold but are not as commonly available.

Rechargeable consumer batteries are usually dominated by the nickel metal hydride composition (NiMH) battery. Lithium ion batteries are becoming increasingly popular. However, it is yet to be available in the AA, AAA or 9V form.<sup>14</sup>

<sup>11</sup> Mary Bates, [How does a battery work?](#), MIT School of Engineering, Retrieved 2017-11-07

<sup>12</sup> Batteries, [Ethical shopping guide to batteries: from Ethical Consumer](#), Ethical Consumer, Retrieved 2017-10-31

<sup>13</sup> Electrical4u, [Alkaline batteries](#), Retrieved 2017-11-24

<sup>14</sup> ZBattery, [Different Battery Chemistries: A Household Battery Guide](#), Retrieved 2017-10-31

## The supply chain

Batteries are produced in different countries, but Asian countries dominate the market. As the battery contains a large number of different minerals and chemical components, the supply chain is complex and there is an inherent lack of transparency within the industry.<sup>15</sup> Nonetheless, the majority of batteries imported by Norway are from China, South Korea, USA, Sweden and Germany.<sup>16</sup>

Assembly	Component <sup>17</sup>	Raw Material
China, South Korea, Japan, USA, Germany <sup>18</sup>	<p><b>Cathode Manufacturer:</b> China, South Korea, Japan</p> <p><b>Anode manufacturer:</b> China, Japan<sup>19</sup>, South Korea</p> <p><b>Electrolyte solution:</b> China, Japan, South Korea<sup>20</sup></p> <p><b>Steel Casing:</b> Usually manufactured on the assembly site<sup>21</sup></p>	<p><b>Nickel:</b> Main producing countries are Australia, Canada, Indonesia, Russia, the Philippines, Zimbabwe<sup>22</sup></p> <p><b>Lithium:</b> Main producing countries are Chile, Argentina, Australia, China<sup>23</sup></p> <p><b>Cobalt:</b> Main producing countries are DR Congo, China, Canada, Russia, Australia, Zambia<sup>24</sup></p> <p><b>Potassium (Potash):</b> Main producing countries are Canada, Belarus, China, Russia<sup>25</sup></p> <p><b>Graphite:</b> Main producing countries are China, India<sup>26</sup></p>

<sup>15</sup> Swedwatch contacted several producing companies for this study but none of them returned with information. Benchmark Minerals, [The Lithium Ion Supply Chain](#), Retrieved 2017-11-07

<sup>16</sup> Observatory of Economic Complexity, [Where does Norway import Electric Batteries from](#), Retrieved 2017-11-30

<sup>17</sup> James Ayre, [China has 75% of Electrolyte Solution Market & 75% of anode materials market \(key Lithium-Ion Battery components\)](#), Clean Technica, Retrieved 2017-11-30

<sup>18</sup> Observatory of Economic Complexity, [Electric Batteries Trade](#), Retrieved 2017-11-30

<sup>19</sup> Nikkei Asian Review, [China's lithium-ion battery makers devour foreign rivals](#), Retrieved 2017-11-01

<sup>20</sup> PRNewswire, [Global and China Lithium Battery Electrolyte Industry](#), Retrieved 2017-11-23

<sup>21</sup> How It's Made, [Alkaline Batteries](#), Retrieved 2017-11-30

<sup>22</sup> United States Geological Survey, [Mineral Commodity Summaries 2017](#), Nickel, Retrieved 2017-11-24

<sup>23</sup> United States Geological Survey, [Mineral Commodity Summaries 2017](#), Lithium, Retrieved 2017-11-30

<sup>24</sup> Lynsey Chutel, [Everyone wants cobalt, but few want to get tangled up in the world's largest producing nation](#), Quartz Africa, Retrieved 2017-10-31

<sup>25</sup> United States Geological Survey, [Mineral Commodity Summaries 2017](#), Potash, Retrieved 2017-11-30

<sup>26</sup> United States Geological Survey, [Mineral Commodity Summaries 2017](#), Graphite (Natural), Retrieved 2017-11-24

		<p><b>Zinc:</b> Main producing countries are China, Peru, USA, Australia<sup>27</sup></p> <p><b>Electrolyte:</b> Main producing countries are Chemical composition varies depending on battery. Li-ion battery itself can have 4000 different types of additives.</p> <p><b>Iron Ore:</b> Main producing countries are Brazil, China, Australia<sup>28</sup></p> <p><b>Copper:</b> Main producing countries are Chile, Peru, China, USA, Australia, DRC<sup>29</sup></p>
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## Risks

Batteries and battery components are largely assembled and produced in China and risks exist at manufacturing level. China has between 275,000 and 325,000 workers in the battery industry.<sup>30</sup> A report from SOMO Institute, covering the battery industry, tells the story of excessive and mandatory overtime, no worker representation, discrimination and lack of health and safety measures.<sup>31</sup> This reflects common labour rights issues in the manufacturing industry in China in general. China has only ratified four out of eight ILO Core Conventions and union rights are very limited as free unions are prohibited.<sup>32</sup> Forced labour and child labour is reported from the electronics industry in China.<sup>33</sup> Migrant workers also constitute a large share of the workforce in the manufacturing sector in both China and South Korea, and are in general more at risk of being exploited and discriminated against. In China, migrant workers from rural areas often lack contracts and access to social security and are forced to leave their children behind with family as they often do not have the means to support them.<sup>34</sup>

Health and safety is also an issue when it comes to the manufacturing of batteries and battery components, as it requires handling a large number of different chemicals. If personal protective

<sup>27</sup> United States Geological Survey, [Mineral Commodity Summaries 2017](#), Zinc, Retrieved 2017-11-30

<sup>28</sup> United States Geological Survey, [Mineral Commodity Summaries 2017](#), Iron Ore, Retrieved 2017-11-30

<sup>29</sup> United States Geological Survey, [Mineral Commodity Summaries 2017](#), Copper Retrieved 2017-11-30

<sup>30</sup> Winfield Glascock et al., [The Chinese Battery Industry: The truth behind the charge](#), Globalization Monitor, Retrieved 2017-11-30

<sup>31</sup> SOMO, [A troubling reality behind the electric car](#) 2011-03-21

<sup>32</sup> International Labour Organisation, [Ratification of Fundamental Conventions by Country](#) 2017, China Labor Watch, [Did Dreams Come True? Workers still live in fear of occupational injury](#) 2010

<sup>33</sup> List of Goods Produced by Child Labor or Forced Labor, Retrieved 2017-12-18

<sup>34</sup> China Labour Bulletin, [Migrant workers and their children](#), Retrieved 2017-11-30



gear and other safety measures is not used, or is insufficient, workers could be exposed to hazardous fumes and toxic metals such as nickel, lithium and zinc or acids, solvents and electrolytes,<sup>35</sup> which could cause cancer, skin burns and eye damage as well as other reactions and diseases.<sup>36</sup>

The production of the steel casing also includes risks. The production of steel is in many countries intimately linked to serious health and security risks for employees.<sup>37</sup> Polluted waste water and solid waste from steel production can also lead to environmental impacts in the local area if not managed properly.<sup>38</sup> In addition, illegal steel plants also exist in China and is another risk as these plants often are unregulated due to corruption, with hazardous working conditions and environmental impacts as a consequence.<sup>39</sup>

The raw materials used in batteries are extracted in high-risk areas and countries. Graphite extraction has been linked to serious environmental degradation. In China, local miners have used intimidation methods against local community members, to keep a lid on the pollution that has negative impacts on the local population.<sup>40</sup>

The risks are also prominent in the cobalt mines of the Democratic Republic of Congo (DRC), the largest supplier of cobalt in the world. Child labour, forced relocation of local communities<sup>41</sup> and deplorable working conditions for miners are reported from cobalt mines.<sup>42</sup> Another common element in battery production is lithium that to a large extent is extracted in Chile and Argentina. Reports have noted displacement and land grabbing with negative impacts on indigenous communities in the area.<sup>43</sup> Extraction of iron and zinc ore is also a risk. As battery components are commonly produced in China and other Asian countries, it is likely that iron ore and zinc ore used also come from China, being the largest producer of those minerals. The mining industry in China is associated with both environmental impacts and poor working conditions, as well as limited labour rights for workers. Lack of safety is a major problem, which has resulted in many deaths in the Chinese mining industry.<sup>44</sup> At the same time, mines require a high level of water use and countries such as China have areas where there is a risk of water shortage.<sup>45</sup> Greenpeace has reported on contamination of water and land around Asia's largest zinc and lead mine and smelter in China. Emissions have impacted the health of the local communities. A study by Greenpeace shows that one third of all lead poisoning in China has been caused by melting of lead and zinc.<sup>46</sup>

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<sup>35</sup> United States Department of Labor, [Battery manufacturing](#), 2017-11-30

<sup>36</sup> Globalisation Monitoring, [The Chinese Battery Industry: The Truth behind the Charge](#), 2012

<sup>37</sup> Enact Sustainable Strategies, [Riskanalys: Instrument](#), 2017

<sup>38</sup> Greenspec, [Steel production & environmental impact](#), Retrieved 2017-11-17

<sup>39</sup> Wired, [Step inside Chinas hellish, illicit steel factories](#), 2016-12-20

<sup>40</sup> Peter Whoriskey, [In your phone in their air](#), The Washington Post

<sup>41</sup> SOMO, [Community rights widely abused by cobalt mining in Democratic Republic of Congo](#), Retrieved 2017-10-31

<sup>42</sup> Todd Frankel, [The Cobalt Pipeline](#), The Washington Post, Retrieved 2017-10-31

<sup>43</sup> Todd Frankel and Peter Whoriskey, [Tossed Aside In The 'White Gold' Rush](#), Retrieved 2017-11-1

<sup>44</sup> Mining Technology, [China's appalling mining death rate – dealing with 'disorderly' management](#) 2012-10-31

<sup>45</sup> World Resource Institute, [Mine the Gap: Connecting Water Risks and Disclosure in the Mining Sector](#) 2010

<sup>46</sup> Greenpeace, [Investigation finds pollution and illness ignored at Asia's largest lead mine, Yunnan Province](#) 2015-06-09

Mining of nickel in many countries, such as Philippines and Russia, is also linked to human rights and environmental impacts. Philippines is one of the most dangerous countries for anti-mining activists, especially indigenous peoples’ activists, and mining has caused conflict over land. Nickel mining in Russia has caused heavy pollution, including mercury contamination in the Arctic, as well as health risks for the public.<sup>47</sup>

Mining in South America, where iron and zinc is also extracted, is associated with social and environmental risks. In Peru, one of the largest exporters of zinc, there are reports on water pollution and water shortage, anti-union activities and land conflicts impacting local communities.<sup>48</sup> In Bolivia, previous and present zinc mines have caused contamination of air, soil and water, affecting wildlife and exposing locals to health risks.<sup>49</sup> Copper extraction produces high amounts of sometimes toxic waste which can damage surrounding land, water, animals and plants. The melting process is chemical and energy intense.<sup>50</sup> In Brazil, iron extraction is linked to the displacement of local communities and poor occupational health and safety records, most notably with the collapse of an iron tailing pond that killed 19 and destroyed villages in 2015.<sup>51</sup> Mining extraction in high-risk environments has also been linked to sexual exploitation and abuse of women in surrounding areas.<sup>52</sup>

## Whiteboards

### Summary of the most severe/most prevalent risks

Assembly	Components	Raw materials
Forced Labour Low wages Excessive overtime Lack of health and safety Lack of union rights Child labour Exploitation of migrant workers	<b>Steel, aluminum, Chipboards, plasterboards, plastics</b> Poor health and safety Lack of union rights Forced labour Environmental pollution Exploitation of migrant workers Toxic waste Fire and explosions Forced labour Child labour	<b>Bauxite and iron, sand, wood, oil</b> Toxic pollution Lack of union rights Low wages Poor health and safety Child labour Forced labour Land erosion Illegal logging Trafficking Sexual abuse

<sup>47</sup> Fairphone, [Smartphone material profile](#), 2017

<sup>48</sup> Swedwatch, [Rena guldgruvan AP-fondernas investeringar har en smutsig baksida 2011](#)

<sup>49</sup> Institut de *recherche pour le développement*, [357 – The impact of mining in Bolivia](#) Retrieved 2017-12-18

<sup>50</sup> Global Policy, [From the ore to the car - summary](#), University of Virginia, [Copper Mining from the ground up](#) Retrieved 2017-11-17

<sup>51</sup> Dom Phillips, [Samarco dam collapse: one year on from Brazil's worst environmental disaster](#), The Guardian, Retrieved 2017-11-07

<sup>52</sup> Wday, [The Bakken’s dirty secret: sex trafficking has growing precense in oil patch experts say](#) 2014-05-06, Al Jazeera, [The Dark side of the oil boom: Human trafficking in the Heartland, 2014-04-28](#), Columbia law school, [Righting wrongs? Barrick Gold's remedy mechanism for sexual violence in Papua New Guinea](#) November 2015

		Conflict with and impact on local communities and indigenous peoples' rights Sexual abuse
<b>Low risk</b>	<b>Medium-high risk</b>	<b>High Risk</b>

## The product

Whiteboards consist of a steel core plate, often covered in glass enamel with an aluminum or sometimes pinewood frame.<sup>53</sup> The plate is glued on to a chipboard, MDF-board or plaster-board. On the backside there is an aluminum foil vapour barrier.<sup>54</sup> Glass enamel is glass powder that is melted on top of the metal. Glass is made from soda, limestone and sand.<sup>55</sup> The steel core may originate from both recycled and virgin steel.<sup>56</sup> There are also whiteboards made from plastic (melamine), or painted steel plates available on the market.

## The supply chain

Due to high transportation costs, large glass enamel whiteboards of high quality are mainly assembled in Europe. Polyvision in Belgium dominates the European market for glass enamel plates commonly used.<sup>57</sup> However, transparency in the supply chain is in general low and this is a risk in itself. There is also a possibility that low weight whiteboards of painted steel or plastic may originate from China.<sup>58</sup> Components and raw materials can be sourced from all over the world.<sup>59</sup> Limestone is often sourced near the market to avoid high transportation costs.<sup>60</sup> Though there is steel production in Europe, more than 90 percent of iron ore is imported from outside Europe.<sup>61</sup> Wood may be sourced from a number of different countries, but Russia is the largest exporter to the EU.<sup>62</sup>

Assembly	Component	Raw Material
European countries like Sweden, Denmark, also USA,	<b>Glass enamel/painted steel plate:</b> Belgium, Japan, USA, China <sup>64</sup>	<b>Bauxite/aluminium:</b> Main producing countries are Australia, Brazil, China Guinea, Jamaica, India <sup>69</sup> , Malaysia <sup>70</sup>

<sup>53</sup> White-board.se, [Vad är whiteboard?](#) 2017-11-01

<sup>54</sup> Telephone call, Mikael Nueman, Lintex, and Kenneth Granheimer, White-Board.se 2017-11-01, Bizfluent, [How are whiteboards made?](#), Retrieved 2017-11-01

<sup>55</sup> Glass Alliance Europe, [What is glass?](#), Retrieved 2017-11-01

<sup>56</sup> PolyVision, Markerboard Writing Surfaces – U, 2009

<sup>57</sup> White-board.se, [Vad är whiteboard?](#) 2017-11-01

<sup>58</sup> White-board.se, [Vad är whiteboard?](#) 2017-11-01

<sup>59</sup> Telephone call, Mikael Nueman, Lintex 2017-11-01

<sup>60</sup> US Geological Survey, [Lime](#), Retrieved 2017-11-02

<sup>61</sup> Swedwatch, Underlag till Stockholms stads krav på samhällsansvar vid upphandling: Riskanalyser av fem produkt- och tjänstekategorier, 2013

<sup>62</sup> European Parliament, [Cheaper wood imports from Russia: MEPs endorse deal](#), 2012-11-21

<sup>64</sup> White-board.se, [Vad är whiteboard?](#), PolyVision, Markerboard Writing Surfaces – U, 2009

<sup>69</sup> U.S. Geological Survey, [Bauxite and alumina](#), 2017

<sup>70</sup> Malaysia is the biggest supplier of bauxite to China. Business and human rights centre, [Malaysia bans bauxite mining for 3 months to curb environmental & health impacts; tighter rules sought](#), 2016-01-12

<p>Japan, China (low weight)<sup>63</sup></p>	<p><b>Aluminium frame:</b> China, Turkey, European countries<sup>65</sup></p> <p><b>Chipboards, plaster-boards:</b> Main exporters in Europe are Germany, Romania, France, Spain, The Netherlands<sup>66</sup></p> <p><b>Steel:</b> Main producing countries are China, India, Russia, Japan, Germany, USA, Turkey, South Korea<sup>67</sup></p> <p><b>Plastic:</b> Main producing countries are China, Germany, Italy, United States, Japan<sup>68</sup></p>	<p><b>Iron ore:</b> Main producing countries are China, Brazil, Australia, India, Russia<sup>71</sup></p> <p><b>Wood:</b> Larges producers to the European market are Sweden, Poland could also come from Russia, Germany and Canada<sup>72</sup></p> <p><b>Soda, sand and limestone in glass:</b> Main exporters are USA, China, Australia, Italy, Germany, France, Turkey, Belgium</p> <p><b>Oil:</b> Main producing countries are Saudi Arabia, Russia, United Arab Emirates, Canada, Nigeria, USA<sup>73</sup></p>
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## Risks

As large high-end whiteboards are mainly produced close to the market, the main risks are mostly linked to whiteboard components and raw materials. However, it is important to note that small and light-weight whiteboards on the cheaper side could also be imported from China. If that is the case, risks are similar to those on the component level mentioned below.

On a component level, aluminum frames and steel plates are associated with risks. China's manufacturing industry in general is associated with low wages, excessive overtime, restrictions such as limited access to parental leave as well as health and safety concerns, forced labour and even child labour.<sup>74</sup> Migrant workers from rural areas often lack contracts and access to social security and are forced to leave their children behind with family as they often do not have the means to support them.<sup>75</sup> China has only ratified four out of eight ILO Core Conventions. Union rights are very limited as free unions are prohibited.<sup>76</sup>

<sup>63</sup> White-board.se, [Vad är whiteboard?](#) 2017-11-01, Telephone call, Mikael Nueman, Lintex 2017-11-01

<sup>65</sup> Telephone call, Mikael Nueman, Lintex 2017-11-01 and Kenneth Granheimer, White-Board.se 2017-11-01

<sup>66</sup> Observatory of Economic Complexity, [Plaster boards and wood fiber boards](#), Retrieved 2017-12-05

<sup>67</sup> World Steel Association, [World Steel in Figures 2017](#), 2017

<sup>68</sup> Plastics Europe, [World plastics production 1950-2015](#), Retrieved 2017-12-06, CBI, Ministry of Foreign affairs, [Exporting plastic parts and components to Europe](#), Retrieved 2017-12-06

<sup>71</sup> U.S. Geological Survey, [Iron ore](#), January 2017

<sup>72</sup> European Parliament, [Cheaper wood imports from Russia: MEPs endorse deal](#), 2012-11-21

<sup>73</sup> Råvarumarknaden.se, [USA passerade Saudiarabien som världens största oljeproducent](#), Retrieved 2017-10-27

<sup>74</sup> US Department of Labor, [List of Goods Produced by Child Labor or Forced Labor](#), Retrieved 2017-12-06

<sup>75</sup> China Labour Bulletin, [Migrant workers and their children](#), Retrieved 2017-11-30

<sup>76</sup> International Labour Organisation, [Ratification of Fundamental Conventions by Country](#) 2017, China Labor Watch, [Did Dreams Come True? Workers still live in fear of occupational injury](#) 2010

Turkey has been ranked as one of the worst countries to work in by International Trade Union Confederation. Turkish workers face restrictions when it comes to rights to collective bargaining, and unionised workers and leaders are sometimes harassed, dismissed and jailed for no specific reason.<sup>77</sup> Chipboards and plasterboards are likely to be produced in Europe. There are reports covering anti-union activities along with “yellow unions”<sup>78</sup>, low wages, unpaid over-time and insecure employment in East-European countries such as Romania.<sup>79</sup>

The production of steel is in many countries intimately linked to serious health and security risks for employees.<sup>80</sup> Polluted waste water and solid waste from steel production can also lead to environmental impacts in the local area, if not managed properly.<sup>81</sup> In addition, illegal steel plants also exist in China and this is another risk as these plants often are unregulated due to corruption, with hazardous working conditions and environmental impacts as a consequence.<sup>82</sup>

On a raw material level, there are social and environmental impacts linked to iron and bauxite mining (for aluminum) in countries such as Brazil, India, Malaysia, Guinea, China and Jamaica. Bauxite is extracted from open mine pits, which can cause leaking of toxic substances, dust and water pollution, soil erosion, water shortage and negative impacts on biodiversity.<sup>83</sup> Other risks associated with the countries involved are lack of union rights and harassments of unionised workers, in some cases conflicts connected to local communities and indigenous peoples’ land rights, low wages, poor working conditions and sometimes child labour and forced labour.<sup>84</sup> In Guinea, there are reports of army interference and people being killed when they have questioned company activities.<sup>85</sup> In Jamaica, bauxite extraction is believed to be the single greatest cause of deforestation.<sup>86</sup>

Sand mining (for glass) can have large scale environmental impacts on water, soil, birds, fish and other wildlife. Reports from all over the world show incidents of land erosion and beaches disappearing, water changing course, collapse of infrastructure and pollution. As a result, local

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<sup>77</sup> Utrikesdepartementet, Mänskliga rättigheter i Turkiet 2011

<sup>78</sup> Yellow unions are associations that are established by the employer themselves and are therefore not free. The purpose is to control workers and prevent strikes. They can also be controlled or influenced by the state.

<sup>79</sup> World Economy, Ecology and Development, Working Conditions and Economic Development in ICT Production in Central and Eastern Europe 2010

<sup>80</sup> Enact Sustainable Strategies, Riskanalys: Instrument, 2017

<sup>81</sup> Greenspec, [Steel production & environmental impact](#), Retrieved 2017-11-17

<sup>82</sup> Wired, [Step inside Chinas hellish, illicit steel factories](#), 2016-12-20

<sup>83</sup> The Wilderness Society, [Bauxite mining threatens Wild Rivers](#) 2015-07-31; Naturskyddsföreningen, [Bra Miljöval – Kriterier 2013:4](#) 2013

<sup>84</sup> Swedwatch, Riskanalys av material och leverantörsled i Kungsbrohuset 2011; SVT, [Brasilien: Indianer ockuperar gruva](#), 2006-10-19, Business & Human Rights Resource Center, [Business and Human Rights in Guinea](#) Retrieved 2017-10-27

<sup>85</sup> Business & Human Rights Resource Center, [Business and Human Rights in Guinea](#) Retrieved 2017-10-27, Business and human rights centre, [Malaysia bans bauxite mining for 3 months to curb environmental & health impacts; tighter rules sought](#), 2016-01-12; Asian correspondent, [China’s demand for aluminium is poisoning Southeast Asia](#), 2015-09-14; Reuters, [Malaysia’s bauxite exports rise despite mining ban](#), 2017-07-06; BBC, [Bauxite in Malaysia: The environmental cost of mining](#), 2016-01-19

<sup>86</sup> Inter Press Service, [As Jamaica’s Prime Forests Decline, Row Erupts Over Protection](#), 2015-06-04

communities surrounding the areas of sand mines are at risk losing access to clean water, land and food, with impacts on their right to livelihood.<sup>87</sup>

Risks are also connected to wood frames. If wood from Russia is used, there is a risk of illegal logging and poor working conditions.<sup>88</sup> Forestry work is known to be one of the most dangerous occupations globally.<sup>89</sup> Exploitation of migrant workers from former Soviet states is common in Russia. Risks include forced labour, trafficking, confiscated passports and working for no pay, as well as threats and sexual assaults. Anti-union activities are also common.<sup>90</sup> There is also a risk that logging violates the rights of indigenous people.<sup>91</sup>

For plastic whiteboards from high-risk countries such as China, risks are linked to the production of plastic. In plastic making, heavy machines are used which increase risks for work related injuries, accidents and workers being exposed to high noise and heat with risks regarding burns, explosions and fire.<sup>92</sup> There is also the risk of exposure to toxic and cancerous chemicals. Chemicals sometimes leak into surrounding water which can result in negative impacts on local communities' access to clean water as well as health impacts.<sup>93</sup>

Oil is extracted in a number of places with very limited traceability. Oil extraction is linked to environmental and social risks in for example Saudi Arabia, Russia, United Arab Emirates and Nigeria, including lack of union rights, poor working conditions and forced labour as well as oil spill leading to health impacts and contamination of soil and water for surrounding communities.<sup>94</sup> Oil extraction, and mining, in high-risk environments has also been linked to sexual exploitation and abuse of women in surrounding areas.<sup>95</sup>

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<sup>87</sup> The Guardian, [Sand mining: the global environmental crisis you've probably never heard of](#) 2017-02-27

<sup>88</sup> Environmental Protection Agency, [Liquidating the Forests: Hardwood Flooring, Organized Crime, and the World's Last Siberian Tigers](#), 2013

<sup>89</sup> ILO, [Decent work in forestry](#), 2015

<sup>90</sup> Nederland MVO, CSR Risk [Russian Federation](#), Freedom House, Freedom in the World 2013 - Russia, Retrieved 2017-11-01 Eurasia Foundation, [Protection the rights of migrant workers in Russia](#), 2013;

<sup>91</sup> NEPCon, Sourcing Hub, [Timber legality risk assessment for Russia](#), 2017-11-01

<sup>92</sup> Enact Sustainable Strategies, Riskanalys: Medicinska undersökningshandskar, 2016

<sup>93</sup> Enact Sustainable Strategies, Riskanalys: Medicinska undersökningshandskar, 2016

<sup>94</sup> Utrikesdepartementet, [Mänskliga rättigheter i Saudiarabien 2011](#), Retrieved 2017-10-27; ILO, Working Paper No. 267, [Working conditions of contract workers in the oil and gas industries](#), 2010; The Degradation of Work, Oil and Casualization of Labor in the Niger Delta, 2010; Oil price.com, [Nigerian Oil Workers Go On Strike, Stop Production At Several Flow Stations](#), 2017; The Guardian, [Shell Nigeria oil spill '60 times bigger than claimed'](#), 2012-04-23

<sup>95</sup> Wday, [The Bakken's dirty secret: sex trafficking has growing precense in oil patch experts say](#) 2014-05-06, Al Jazeera, [The Dark side of the oil boom: Human trafficking in the Heartland](#), 2014-04-28, Columbia law school, Righting wrongs? [Barrick Gold's remedy mechanism for sexual violence in Papua New Guinea](#) November 2015

## Ballpoint pens

### Summary of the most severe/most prevalent risks

Assembly	Components	Raw material
Forced Labour Low wages Excessive overtime Poor health and safety Lack of union rights Child labour Exploitation of migrant workers	<b>Plastics, ink, metals</b> Poor health and safety Fire and explosions Forced labour Child labour Lack of union rights Low wages Environmental pollution Exploitation of migrant workers	<b>Ore extraction, pigments and dyes, oil</b> Poor health and safety Exposure to toxic substances Lack of union rights Low wages Conflict with local communities Impacts indigenous peoples' rights Child labour Forced labour Environmental pollution Poor working conditions Support of armed conflict Sexual abuse
<b>Medium-high risk</b>	<b>High risk</b>	<b>High risk</b>

### The product

Pens usually contain components of oil-based thermoplastic like polystyrene and polypropylene (sometimes recycled), steel, aluminum, or brass (copper and zinc), or a combination. The ball in the tip of the pen can be made from tungsten carbide.<sup>96</sup> Pens are made through an automatised process where machines are used to mold plastics and stamp out the parts from metal sheets.<sup>97</sup>

Ink for pens in general can include chemically-produced pigment or dyes, but dye is more common for ballpoint pens as pigments can clog the ball in the tip of the pen. The ink for ballpoint pens consists to 50% of dyes, typically based on carbons from oil and coal. Dyes in general also contain sulfuric acid, chromium, copper and other metals.<sup>98</sup> Other substances include solvents, mostly ethylene glycol or polypropylene glycol, as well as other additives and synthetic polymers.<sup>99</sup> Pigments can be organic and non-organic, derived from minerals like iron oxide or from oil or natural gas, or made synthetically from scrap metal or salt.<sup>100</sup> Carbon black, the pigment commonly used for black

<sup>96</sup> BIC, [How it's manufactured – Stationary](#) Retrieved 2017-10-20

<sup>97</sup> Ohio State University, [BIC Cristal pens](#), Retrieved 2017-10-20

<sup>98</sup> Green cross and Pure Earth, Blacksmith institute, [2016 The world's worst pollution problems – The toxics beneath our feet](#), 2016

<sup>99</sup> Sciencing, [What is ballpoint pen ink made of?](#) Retrieved 2017-11-09

<sup>100</sup> Dyes and Pigments, [Organic versus inorganic Pigments](#), Retrieved 2017-10-30



ink pens, is extracted from creosote, which is derived from petroleum distillation.<sup>101</sup> Red ink is made from eosin (salt) and blue ink often includes iron sulfate, gallic and tannic acids.<sup>102</sup>

The supply chain

The production of ballpoint pens is scattered across the world, but China is the main producing country, exporting 80% of the ballpoint pens in the world. China is to some extent supplying the low-price segment of pens, whereas Europe supplies the market for high-end pens.<sup>103</sup> For example, the common BIC-pen is made in France and components are produced in Western Europe.<sup>104</sup> Norway imports ballpoint pens mainly from China, Japan, Germany, France and Switzerland.<sup>105</sup> Ink is often produced by the manufacturer of the pen.<sup>106</sup>

Components and raw materials may be sourced from a number of different countries, but since China is the main producer of pens, it is likely that components and raw materials also come from China. Dye and pigment is produced worldwide, however, India and China are the largest exporters.<sup>107</sup> China is the main producer of the commonly used pigment carbon black.<sup>108</sup>

Assembly <sup>109</sup>	Component	Raw Material
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<sup>101</sup> Sciencing, [What Is the Chemical Composition of Pen Ink?](#), Retrieved 2017-11-09  
<sup>102</sup> Sciencing, [What is ballpoint ink made of?](#) Retrieved 2017-11-09  
<sup>103</sup> Pilot Pen, [Key figures](#), Washington Post, [Finally, China manufactures a ballpoint pen all by itself](#), Retrieved 2017-10-20, Observatory of Economic Complexity, [Ball point pens \(2016\)](#), Retrieved 2017-10-20, Plastic Europe, [Plastic –the facts 2014/2015](#) Retrieved 2017-10-27, anonymous supplier, 2017-10-25  
<sup>104</sup> E-mail Marie Ekman, BIC Nordic AB, 2017-10-25  
<sup>105</sup> The Observatory of Economic Complexity, [Ball point pens](#), Retrieved 2017-11-09  
<sup>106</sup> Wired, [What’s inside blue ballpoint ink? Fatty acids](#), 2016-09-23  
<sup>107</sup> Green cross and Pure Earth, Blacksmith institute, [2016 The world’s worst pollution problems – The toxics beneath our feet](#), 2016, Fiber to Fashion, [The Future of dyes and dyes intermediates](#), retrieved 2017-11-06  
<sup>108</sup> Merchant Research & Consulting Ltd., Carbon Black (BC): 2017 World Market Outlook and Forecast up to 2027, Retrieved 2017-12-06  
<sup>109</sup> The Observatory of Economic Complexity, [Ball point pens](#), Retrieved 2017-11-09



<p>China Japan Germany France</p>	<p><b>Plastic:</b> Main producers China, Germany, France, Italy, United States, Japan<sup>110</sup></p> <p><b>Metal (steel, aluminium):</b> France, China, Russia, Norway, United Arab Emirates, Canada, India, Japan, Germany, USA, Turkey, South Korea<sup>111</sup></p> <p><b>Ink:</b> Large companies present in Japan, UK, USA, The Netherlands, Germany, China<sup>112</sup>, France<sup>113</sup></p>	<p><b>Oil:</b> Larges Saudi Arabia, Russia, United Arab Emirates, Canada, Nigeria, USA<sup>114</sup></p> <p><b>Natural gas:</b> Qatar, Norway, United States<sup>115</sup></p> <p><b>Iron ore:</b> Main producing countries are China, Brazil, Australia, India, Russia<sup>116</sup></p> <p><b>Zinc:</b> Main producing countries China, Peru, USA, Australia<sup>117</sup></p> <p><b>Pigment/Dye:</b> Large producers China, India, Germany, Spain<sup>118</sup></p> <p><b>Copper:</b> Main producing countries Chile, Peru, China, USA, Australia, DRC (can also be recycled)<sup>119</sup></p> <p><b>Bauxite/aluminium:</b> Main producing countries are Australia, Brazil, Guinea, Jamaica, India, China<sup>120</sup> Malaysia<sup>121</sup></p> <p><b>Tungsten:</b> China, Russia, Vietnam, Canada<sup>122</sup> Rwanda (can also be recycled)</p>
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<sup>110</sup> Plastics Europe, [World plastics production 1950-2015](#), Retrieved 2017-12-06, CBI, Ministry of Foreign affairs, [Exporting plastic parts and components to Europe](#), Retrieved 2017-12-06, E-mail Marie Ekman, BIC Nordic, 2017-10-25

<sup>111</sup> World Steel Association, [World Steel in Figures 2017](#), The Balance, [The biggest Aluminum producers 2014](#), Retrieved 2017-11-23

<sup>112</sup> Inkworld, The 2016 Top International Ink Companies Report, 2016-08-05

<sup>113</sup> E-mail Marie Ekman, BIC Nordic, 2017-10-25

<sup>114</sup> Råvarumarknaden.se, [USA passerade Saudiarabien som världens största oljeproducent](#), Retrieved 2017-10-27

<sup>115</sup> The Observatory of Economic Complexity, [Petroleum gas trade](#), Retrieved 2017-11-24

<sup>116</sup> U.S. Geological Survey, [Iron ore](#), January 2017

<sup>117</sup> United States Geological Survey, [Mineral Commodity Summaries 2017](#), Zinc, Retrieved 2017-11-30

<sup>118</sup> Green cross and Pure Earth, Blacksmith institute, [2016 The world's worst pollution problems – The toxics beneath our feet](#), 2016, Fiber to Fashion, [The Future of dyes and dyes intermediates](#), retrieved 2017-11-06

<sup>119</sup> United States Geological Survey, [Mineral Commodity Summaries 2017](#), Copper Retrieved 2017-11-30

<sup>120</sup> U.S. Geological Survey, [Bauxite and alumina](#), 2017

<sup>121</sup> Malaysia is the biggest supplier of bauxite to China. Business and human rights centre, [Malaysia bans bauxite mining for 3 months to curb environmental & health impacts; tighter rules sought](#), 2016-01-12

<sup>122</sup> U.S. Geological Survey, [Tungsten](#), January 2017

## Risks

Social risks are linked to both the manufacturing of ballpoint pens and raw material extraction, especially since China is a large player. China's manufacturing industry in general is associated with low wages and excessive overtime as well as health and safety concerns, forced labour and even child labour.<sup>123</sup> China has only ratified four out of eight ILO Core Conventions and union rights are very limited as free unions are prohibited.<sup>124</sup>

In the making of thermoplastic parts, heavy machines are used which increases risks in high-risk countries for work-related injuries, accidents and workers being exposed to high noise. High temperatures are used in the process and there are risks regarding burns, explosions and fire.<sup>125</sup> There is also the risk of exposure to toxic and cancerous chemicals. If waste management is lacking, there is a risk that chemicals may leak into surrounding water which can result in negative impacts on local communities' access to clean water in the area and also health impacts.<sup>126</sup> Similar concerns are also relevant for the Chinese steel production plants.<sup>127</sup> Migrant workers in the manufacturing sector are common in China, United Arab Emirates and Russia, and they constitute a vulnerable group at risk of being exploited under harsh working conditions, lack of union rights and exposure to forced labour.<sup>128</sup>

As ink is processed and mixed, there are safety issues concerning combustible dust that can cause fire and explosions if not managed properly.<sup>129</sup> Some pigments and dyes are toxic and when produced, there is a risk of toxic air pollution, solid waste and wastewater.<sup>130</sup> The large dye-industry in India is highly associated with environmental concerns when uncleaned waste water is directly dumped into surface water with the risk of impacting local communities' health and access to clean water.<sup>131</sup>

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<sup>123</sup> US Department of Labour, List of goods produced with forced labor and child labor, Retrieved 2017-11-22

<sup>124</sup> International Labour Organisation, [Ratification of Fundamental Conventions by Country](#) 2017, China Labor Watch, [Did Dreams Come True? Workers still live in fear of occupational injury](#) 2010

<sup>125</sup> Enact Sustainable Strategies, Riskanalys: Medicinska undersökningshandskar, 2016

<sup>126</sup> Enact Sustainable Strategies, Riskanalys: Medicinska undersökningshandskar, 2016

<sup>127</sup> International Labour Organisation, [Code of practice on safety and health in the iron and steel industry](#), 2005, Washington Post, [This documentary went viral in China. Then it was censored. It won't be forgotten](#), 2015-03-16, Greenspec, [Steel production & environmental impact](#), Retrieved 2017-11-17

<sup>128</sup> Freedom House, Freedom in the World 2013 - Russia, Eurasia Foundation, [Protection the rights of migrant workers in Russia](#), 2013; Nederland MVO, CSR Risk [Russian Federation](#), Retrieved 2017-11-24, China Labour Bulletin, [Migrant workers and their children](#), Retrieved 2017-11-30

<sup>129</sup> U.S. Chemical Safety and Hazard Investigation Board, US Ink/Sun Chemical Corporation Ink Dust Explosion and Flash Fires in East Rutherford, New Jersey, 2012

<sup>130</sup> World Bank Group, [Dye Manufacturing](#), 2007-04-30

<sup>131</sup> Green cross and Pure Earth, Blacksmith institute, Top Ten pollution problems 2012 - Dye Industry, retrieved 2017-11-09

At the raw materials level, the World Health Organisation (WHO) has reported that workers exposed to creosote (used for black pigment) are at increased risk of developing lip and skin cancer as well as photosensitization (skin sensitivity to light).<sup>132</sup>

Social risks exist as related to the extraction of iron, copper, zinc, oil and tungsten and also as regards minerals used in pigments. The mining industry in China is linked to social and environmental impacts, such as lack of safety for mine workers with high death rates as a consequence, lack of labour rights and displacement of people.<sup>133</sup> Chinese mines are also linked to environmental degradation, pollution and contamination of soil and water which can cause health impacts and disease.<sup>134</sup> Social and environmental impacts are linked also to mining in Brazil, India, Chile, Zambia, Jamaica and Peru, including water pollution and water shortages, harassment of unionised workers, conflicts related to local communities and indigenous peoples' land rights, low wages, lack of union rights, poor working conditions and in some cases child labour.<sup>135</sup> In Jamaica, bauxite extraction (for aluminum) is considered to be the single greatest cause of deforestation.<sup>136</sup>

African export (mainly from Rwanda) of tungsten is very small overall. However, tungsten is one of so-called conflict-minerals, the mining and trade of which has contributed to humanitarian catastrophes and armed conflicts in the Democratic Republic of Congo and surrounding countries.<sup>137</sup>

Oil is extracted in a number of places globally with very limited traceability. Oil extraction is linked to environmental and social risks in Saudi Arabia, Russia, United Arab Emirates and Nigeria, including lack of union rights, poor working conditions and forced labour as well as oil spill leading to health impacts and contamination of soil and water for surrounding communities.<sup>138</sup> Oil extraction, as well as mining, in high-risk environments has also been linked to sexual exploitation and abuse of women in surrounding areas.<sup>139</sup>

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<sup>132</sup> Melber, C., Kielhorn, J., Mangelsdorf, I. and World Health Organization, [Coal tar creosote](#), Retrieved 2017-11-20

<sup>133</sup> Tibetan Centre for Human Rights and Democracy, [Yushu mine protest crackdown exposes China's 'nature reserve' sham](#) 2013, Swedwatch, [Allt är inte guld som glimmar](#) 2011, Mining Technology, [China's appalling mining death rate – dealing with 'disorderly' management](#) 2012, Greenpeace, [Investigation finds pollution and illness ignored at Asia's largest lead mine, Yunnan Province](#) 2015

<sup>134</sup> World Resource Institute, [Mine the Gap: Connecting Water Risks and Disclosure in the Mining Sector](#) 2010

<sup>135</sup> Swedwatch, Riskanalys av material och leverantörsled i Kungsbrohuset 2011; SVT, [Brasilien: Indianer ockuperar gruva](#), 2006-10-19, Swedwatch, [Rena guldgruvan AP-fondernas investeringar har en smutsig baksida](#) 2011 Business & Human Rights Resource Center, [Business and Human Rights in Guinea](#) Retrieved 2017-10-27

<sup>136</sup> Inter Press Service, [As Jamaica's Prime Forests Decline, Row Erupts Over Protection](#), 2015-06-04

<sup>137</sup> The Guardian, [Amid legal uncertainty on conflict minerals, alternatives emerge](#), 2014-04-23

<sup>138</sup> Utrikesdepartementet, [Mänskliga rättigheter i Saudiarabien 2011](#) Retrieved 2017-10-27; ILO, Working Paper No. 267, [Working conditions of contract workers in the oil and gas industries](#), 2010; The Degradation of Work, Oil and Casualization of Labor in the Niger Delta, 2010; Oil price.com, [Nigerian Oil Workers Go On Strike, Stop Production At Several Flow Stations](#), 2017, The Guardian, [Shell Nigeria oil spill '60 times bigger than it claimed'](#), 2012-04-23

<sup>139</sup> Wday, [The Bakken's dirty secret: sex trafficking has growing precense in oil patch experts say](#) 2014-05-06, Al Jazeera, [The Dark side of the oil boom: Human trafficking in the Heartland](#), 2014-04-28, Columbia law school, [Righting wrongs? Barrick Gold's remedy mechanism for sexual violence in Papua New Guinea](#) November 2015

# Metal staplers and paper clips

## Summary of the most severe/most prevalent risks

Assembly	Components	Raw materials
Poor health and safety Lack of union rights Forced Labour Child labour Low wages Excessive overtime Exploitation of migrant workers Trafficking	<b>Metals and plastics</b> Low wages Poor health and safety Lack of union rights Forced labour Child labour Excessive overtime Fire and explosions Pollution of air and water	<b>Metal ore extraction, oil</b> Poor health and safety Child labour Forced labour Lack of union rights Low wages Conflict with local communities Impact on indigenous peoples' rights Poor working conditions Environmental pollution Trafficking Sexual abuse
<b>Medium-high risk</b>	<b>Medium high-risk</b>	<b>High risk</b>

### The product

The metal paper clip is made from galvanized steel wire, sometimes covered in plastic or with a zinc finish. The production of paper clips is heavily automated where steel wire is fed into the machine and bent. There is also a large selection of plastic paper clips on the global market.<sup>140</sup>

Staplers are made of four main components; the anvil that is the base where the paper is placed, the staple magazine, the head and the hanger. The parts are held together by rivets, nails and a hinge, and inside are two types of springs. Staplers are mainly made out of steel, but components can also be made of copper<sup>141</sup> with plastic and sometimes rubber details. Aluminum parts can also be included. There is also a selection of all plastic staplers.<sup>142</sup>

### The supply chain

The main producing countries in the world of paper clips are China and USA. Norway imports metal paper clips mainly from China but also from European countries such as Sweden, Denmark and Italy, as well as Malaysia and Thailand.<sup>143</sup> Staplers are produced in a number of different countries, but China is a large player for both assembling of staplers and production of components. Staplers can

<sup>140</sup> Made How, [Paper clip](#), Retrieved 2017-11-06  
<sup>141</sup> Made How, [Stapler](#), Retrieved 2017-11-07, Staples, [Swingline Commercial Desktop Full Strip Stapler](#), Retrieved 2017-11-17  
<sup>142</sup> Made How, [Stapler](#), Retrieved 2017-11-06  
<sup>143</sup> The Observatory of Economic Complexity, [Where does Norway import Letter corners, paper clips, metal office articles ne from? \(2016\)](#), Retrieved 2017-11-17

also come from other Asian countries like Taiwan, or European countries.<sup>144</sup> Raw materials and minerals used can come from a large number of countries worldwide.

Assembly <sup>145</sup>	Component	Raw Material
China USA Sweden Denmark Italy Malaysia Thailand Taiwan	<p><b>Plastic:</b> China, Taiwan, European countries<sup>146</sup></p> <p><b>Metal components:</b> China, Taiwan, Germany, Sweden and others<sup>147</sup></p>	<p><b>Oil:</b> Large producers Saudi Arabia, Russia, United Arab Emirates, Canada, Nigeria, USA<sup>148</sup></p> <p><b>Iron ore:</b> Main producing countries are China, Brazil, Australia, India, Russia<sup>149</sup></p> <p><b>Copper:</b> Chile, Peru, China, USA, Australia, DRC<sup>150</sup></p> <p><b>Bauxite/aluminium:</b> Main producing countries are Australia, Brazil, Guinea, Jamaica, India, China<sup>151</sup> Malaysia<sup>152</sup></p>

Risks

On the assembly and component level, risks vary among producing countries. Malaysia, Thailand, China and Taiwan are all high-risk countries regarding wages, health and safety, working hours, forced labour and lack of union rights. Even child labour is reported from manufacturing industries in China and Thailand.<sup>153</sup> Contract workers are also common, especially in China.<sup>154</sup> Migrant workers are

<sup>144</sup> Maped, [Sustainable Development Report](#), E-mail, Michaela Karvola, Staples 2017-11-09, Telephone interview, anonymous producer, 2017-11-17

<sup>145</sup> Maped, [Sustainable Development Report](#), E-mail, Viktoria Høeg Hedberg, Lyreco, 2017-11-21, E-mail, Michaela Karvola, Staples 2017-11-09, Telephone interview, anonymous producer, 2017-11-17, The Observatory of Economic Complexity, [Where does Norway import Letter corners, paper clips, metal office articles ne from? \(2016\)](#), Retrieved 2017-11-17

<sup>146</sup> E-mail, Viktoria Høeg Hedberg, Lyreco, 2017-11-21, E-mail, Michaela Karvola, Staples 2017-11-09, Telephone interview, anonymous producer, 2017-11-17

<sup>147</sup> E-mail, Viktoria Høeg Hedberg, Lyreco, 2017-11-21, E-mail, Michaela Karvola, Staples 2017-11-09, Telephone interview, anonymous producer, 2017-11-17

<sup>148</sup> Råvarumarknaden.se, [USA passerade Saudiarabien som världens största oljeproducent](#), Retrieved 2017-10-27

<sup>149</sup> U.S. Geological Survey, [Iron ore](#), January 2017

<sup>150</sup> United States Geological Survey, [Mineral Commodity Summaries 2017](#), Copper Retrieved 2017-11-30

<sup>151</sup> U.S. Geological Survey, [Bauxite and alumina](#), 2017

<sup>152</sup> Malaysia is the biggest supplier of bauxite to China. Business and human rights centre, [Malaysia bans bauxite mining for 3 months to curb environmental & health impacts; tighter rules sought](#), 2016-01-12

<sup>153</sup> US Department of labor, List of good produced with forced labor och child labor, Retrieved 2017-12-14

<sup>154</sup> Electronics Watch, [The electronics industry](#); The Telegraph, [Dell's China suppliers 'break employment laws with illegal labour conditions](#) ; Business and human rights documentation project, [High Tech, Low Pay](#), Retrieved 2017-11-07

common within the manufacturing sector in these countries and are specially at risk of being exploited and discriminated against. As an example, migrant workers constitute up to 60 percent of the workforce within the manufacturing industry in Malaysia and many of them are considered illegal.<sup>155</sup> Long working hours, low wages, discrimination, lack of union rights, abuse, and trafficking are some of the main risks.<sup>156</sup> High recruitment fees and confiscated passports is also common which can result in migrant workers being trapped in forced labour and debt bondage.<sup>157</sup>

On the component level, steel and aluminium manufacturing in high-risk countries that lack enforcement of labour laws is also linked to risks.<sup>158</sup> Exposure to gases, fumes and dust, skin contact with chemicals and hot metal, fire and explosions, vibrations, burns and falls are some of the main risks in steel production that can lead to injury, illness and even death.<sup>159</sup> China's steel production is a major air polluter, due to insufficient pollution-protective devices and the use of coal as the main energy source.<sup>160</sup> Similarly, there is a risk of air pollution from aluminium smelters in China. Polluted waste water and solid waste can also lead to environmental impacts in the local area, if not maintained properly.<sup>161</sup> In addition, illegal steel plants also exist in China. These plants are unregulated due to corruption, with hazardous working conditions and environmental impacts a consequence.<sup>162</sup>

The production of plastic is linked to health risks and danger to workers as chemicals are used. These can cause allergies and damage the skin if correct protective gear is not distributed to workers and used properly. Plastic is highly flammable which increases the risk of fire and explosions in factories.<sup>163</sup> There are examples of plastic production plants in Taiwan being accused of increasing the number of cancer patients in the local area.<sup>164</sup> Oil industries are linked to environmental and social risks in Saudi Arabia, Russia, United Arab Emirates and Nigeria, including lack of union rights, poor working conditions and forced labour as well as oil spill leading to health impacts and contamination of soil and water for surrounding communities.<sup>165</sup>

The extraction of copper, iron, and bauxite (for aluminium) is linked to social and environmental risks in countries like China, Russia, Chile, Peru, India, DRC, Zambia and Brazil. This includes hazardous working conditions, excessive overtime, low wages and anti-union activities and in some areas forced

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<sup>155</sup> International Trade Union Confederation, [The 2015 ITUC Global Rights Index - The World's Worst Countries for workers](#) 2015; Malaysian Digest, [Migrant Workers: Malaysia's 'Invisible' Workforce](#) 2015-02-10

<sup>156</sup> Swedwatch, [Trapped in the Kitchen of the World](#), 2015,

<sup>157</sup> Swedwatch, [Trapped in the Kitchen of the World](#), 2015

<sup>158</sup> The Aluminium Association, [Safety](#), Retrieved 2017-11-24

<sup>159</sup> International Labour Organisation, [Code of practice on safety and health in the iron and steel industry](#), 2005

<sup>160</sup> Washington Post, [This documentary went viral in China. Then it was censored. It won't be forgotten](#), 2015-03-16

<sup>161</sup> Greenspec, [Steel production & environmental impact](#), Retrieved 2017-11-17

<sup>162</sup> Wired, [Step inside Chinas hellish, illicit steel factories](#), 2016-12-20

<sup>163</sup> Swedwatch, [Riskanalys för fyra varugrupper 2010](#)

<sup>164</sup> Taipei Times, [Police Block protesters from FPG](#) 2014-04-24

<sup>165</sup> Utrikesdepartementet, [Mänskliga rättigheter i Saudiarabien 2011](#) Retrieved 2017-10-27; ILO, Working Paper No. 267, [Working conditions of contract workers in the oil and gas industries](#), 2010; The Degradation of Work, Oil and Casualization of Labor in the Niger Delta, 2010; Oil price.com, [Nigerian Oil Workers Go On Strike, Stop Production At Several Flow Stations](#), 2017, The Guardian, [Shell Nigeria oil spill '60 times bigger than it claimed'](#), 2012-04-23

labour and trafficking (for example Peru). Land rights issues and forced displacement is also a risk and indigenous peoples' rights are often repressed when mines are established.<sup>166</sup> Child labour is also a risk in countries like DRC and India.<sup>167</sup> Mining has negative environmental impacts. For example, copper extraction produces high amounts of sometimes toxic waste which can damage surrounding land, water, animals and plants. The melting process is chemical- and energy intense.<sup>168</sup> Mining in general is also water intense and sometimes located in areas exposed to water shortage.<sup>169</sup> Mining, as well as oil extraction, in high-risk environments has also been linked to sexual exploitation and abuse of women in surrounding areas.<sup>170</sup>

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<sup>166</sup> Environmental Justice Atlas, [Bauxite mining in Juruti, Para, Brazil](#) Retrieved 2017-11-07

Swedwatch, Riskanalys av material och leverantörsled i Kungsbrohuset 2011, Sustainable Development Strategies Group, [Report - Current issues in the Chilean mining](#) Retrieved 2017-11-17, Human Rights Watch, [Zambia: Workers Detail Abuse in Chinese Owned Mines](#) 2011-11-03

<sup>167</sup> Amnesty International, Profits and loss: [Mining and human rights in Katanga, Democratic Republic of the Congo](#) 2016-03-18

<sup>168</sup> Global Policy, [From the ore to the car - summary](#), University of Virginia, [Copper Mining from the ground up](#) Retrieved 2017-11-17

<sup>169</sup> Swedwatch, Rena guldgruvan? AP-fondernas investeringar har en smutsig baksida 2011

<sup>170</sup> Wday, [The Bakken's dirty secret: sex trafficking has growing precense in oil patch experts say](#) 2014-05-06, Al Jazeera, [The Dark side of the oil boom: Human trafficking in the Heartland, 2014-04-28](#), Columbia law school, Righting wrongs? [Barrick Gold's remedy mechanism for sexual violence in Papua New Guinea](#) November 2015

# Toner Cartridges

## Summary of the most severe/most prevalent risks

Assembly	Components	Raw materials
Forced Labour Child labour Low wages Excessive overtime Poor health and safety Lack of union rights Exploitation of migrant workers	<b>Plastics, metals, toner powder</b> Poor health and safety Fire and explosions Exposure to hazardous particles and dust Forced labour Child labour Lack of union rights Low wages Excessive overtime	<b>Mineral extraction, creosote, silicon, oil</b> Lack of union rights Low wages Excessive overtime Forced displacements Child labour Forced labour Toxic pollution Exposure to hazardous particles Poor working conditions Support of armed conflict Sexual abuse
<b>Medium-high risk</b>	<b>Medium-high risk</b>	<b>High risk</b>

## The Product

Toner cartridges are essential in laser printers. They consist of a plastic container with toner powder, rollers, PVC wiper blades, various plastic gears and sometimes an organic photoconductive (OPC) drum made of primarily semiconductor material such as silicon and aluminium<sup>171</sup> that helps the toner powder adhere to specific parts of the page.<sup>172</sup> Some toner cartridges are also equipped with a chip for the printer to recognise the toner cartridge and detect toner levels. A typical black and white laser printer would usually have one toner cartridge containing black toner while colour laser printers would have three more toner cartridges in the colours of cyan, yellow and magenta that are printed in layers to create the desired colour spectra.<sup>173</sup>

Toner powders are made of finely milled plastic, usually 85 per cent to 95 per cent polyester.<sup>174</sup> Creosote (carbon black) is currently used as a pigment to colour toner black, which is derived from petroleum distillation. Other coloured pigments can be derived from many organic or non-organic sources, such as oil, natural gas and minerals.<sup>175</sup>

<sup>171</sup> Kyocera, [Environment Consciousness of Product](#), Retrieved 2017-11-21

<sup>172</sup> Ethical Consumer, [Ethical shopping guide to inkjet, laser & all-in-one printers](#), Retrieved 2017-11-02

<sup>173</sup> Bryan Menegus, [The Difference Between RGB and CMYK Explained](#), Gizmodo, Retrieved 2017-11-14

<sup>174</sup> Wired, [Inside laser printer toner: Wax, static, lots of plastic](#), Retrieved 2017-11-02

<sup>175</sup> Dyes and Pigments, [Organic versus inorganic Pigments](#), Retrieved 2017-10-30



Original toner cartridges are manufactured by the printer manufacturer using new or recycled parts and sold as brand new by the patent holder. However, remanufactured cartridges are cartridges that are disassembled, with parts tested and replaced as needed and the toner powder refilled. Remanufactured cartridges are usually produced by a third party unrelated to the original manufacturer and is usually a cheaper alternative.<sup>176</sup>

### The supply chain

In general, toner cartridges are manufactured by the company making the printer in many different parts of the world, in countries such as China, Japan, Thailand and USA as well as in Europe. The production is sometimes also outsourced to sub-contractors, mainly in China or Japan.<sup>177</sup> However, further up the complex supply chains, transparency is in general low, with the possibility of components and raw materials coming from a vast number of countries and regions.

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<sup>176</sup> The Guardian, [Inkjet or laser printing: Which is more cost-effective?](#), Retrieved 2017-11-06

<sup>177</sup> E-mail, Chiara Selvetti, Atea 2017-10-26

Assembly	Component	Raw Material
<p><b>OEM Cartridges:</b> China, Japan, USA, Thailand, European countries<sup>178</sup></p> <p><b>Remanufactured Cartridges:</b> Thailand, Romania, China, Morocco, USA, Vietnam, Serbia<sup>179</sup></p>	<p><b>Toner Powder:</b> South Korea, China, Japan, USA<sup>180</sup></p> <p><b>Plastic:</b> Main producing countries are China, Germany, Italy, United States, Japan<sup>181</sup></p> <p><b>Organic Photoconductive Drum (OPC):</b> China<sup>182</sup></p> <p><b>Integrated Circuits:</b> Hong Kong, Singapore, China, South Korea, USA, Malaysia<sup>183</sup></p>	<p><b>Pigments:</b> Varies depending on pigment formula. Can be organic or mineral based. Traditionally, India and China have been largest producers.<sup>184</sup></p> <p><b>Creosote:</b> Canada, China, Australia<sup>185</sup></p> <p><b>Oil:</b> Saudi Arabia, Russia, United Arab Emirates, Canada, Nigeria, USA<sup>186</sup></p> <p><b>Unsaturated Polyester Resin:</b> China, India, USA, Mexico, Japan, South Korea, Taiwan<sup>187</sup></p> <p><b>Silicon:</b> China, Norway and France<sup>13</sup></p> <p><b>Copper:</b> Chile, Peru, China, USA, Australia, DRC<sup>188</sup> (can also be recycled)</p> <p><b>Gold:</b> China, Australia, Russia, USA, Canada, Peru, African Countries<sup>189</sup></p> <p><b>Bauxite/aluminium:</b> Main producing countries are Australia, Brazil, Guinea,</p>

<sup>178</sup> E-mail, Chiara Selvetti, Atea 2017-10-26, E-mail, Nina Palm, Ricoh 2017-11-10

<sup>179</sup> E-mail, Anonymous Source, 2017-11-07

<sup>180</sup> E-mail, Anonymous Source, 2017-11-07

<sup>181</sup> Plastics Europe, [World plastics production 1950-2015](#), Retrieved 2017-12-06, CBI, Ministry of Foreign affairs, [Exporting plastic parts and components to Europe](#), Retrieved 2017-12-06

<sup>182</sup> Fuji Electric, [Organic Photo Conductor](#), Retrieved 2017-11-07

<sup>183</sup> Alexander Simoes, [Integrated Circuits](#), The observatory of Economic Complexity, Retrieved 2017-11-07

<sup>184</sup> Sean Milmo, [European Pigment Production on the Rise](#), Ink World, Retrieved 2017-11-21

<sup>185</sup> The Observatory of Economic Complexity, Creosote oil, Retrieved 2017-12-14

<sup>186</sup> Råvarumarknaden.se, [USA passerade Saudiarabien som världens största oljeproducent](#), Retrieved 2017-10-27

<sup>187</sup> HIS Market, Polyester Resins Unsaturated, Chemical Economic Handbook, November 2016

<sup>188</sup> United States Geological Survey, [Mineral Commodity Summaries 2017](#), Copper Retrieved 2017-11-30

<sup>189</sup> Investing news, 10 largest producing countries of gold, 2017-08-28

		Jamaica, India, China, <sup>190</sup> Malaysia <sup>191</sup>
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## Risks

In general, the Asian electronics and manufacturing sector in countries such as China, Vietnam and Thailand is associated with risks concerning low wages, excessive overtime, health and safety issues, exploitation of migrant workers, as well as lack of union rights.<sup>192</sup> Especially in China, workers often find themselves in various forms of insecure employment, for example jobs on short contracts.<sup>193</sup> Migrant workers are especially at risk of being exploited in China, Malaysia and Thailand. Risks such as poor working and living conditions, confiscation of passports, high recruitment fees and forced labour are common.<sup>194</sup> Even child labour is reported from the electronics industry in China.<sup>195</sup> These risks are also present in the manufacturing of integrated circuits which are part of the electronic industry.

Remanufactured cartridges are also sent to Eastern European countries such as Romania and Serbia for re-assembling, where there is a risk of low wages, unpaid over-time, insecure employment through short-term contracts and anti-union activities.<sup>196</sup>

From a health and safety perspective, toner powder is today considered an engineered nano-particle. There are risks linked to inhalation of these fine particles particularly during manufacturing, where particles may get into the lungs and pass through to the bloodstream.<sup>197</sup> This particularly affects those working without high efficiency particulate air (HEPA) filters in masks, cleaning equipment or ventilation that will prevent inhalation.<sup>198</sup> Chemicals used in the Charge Control Agents (a type of additive mixed together with the toner) also need to be properly understood and managed during the manufacturing process for health risks to be avoided.<sup>199</sup>

<sup>190</sup> U.S. Geological Survey, [Bauxite and alumina](#), 2017

<sup>191</sup> Malaysia is the biggest supplier of bauxite to China. Business and human rights centre, [Malaysia bans bauxite mining for 3 months to curb environmental & health impacts; tighter rules sought](#), 2016-01-12

<sup>192</sup> Charles Arthur, [Samsung accused of exploiting younger workers in China](#), The Guardian, Retrieved 2017-11-06

<sup>193</sup> Electronics Watch, [The electronics industry](#); The Telegraph, [Dell's China suppliers 'break employment laws with illegal labour conditions](#) ; Business and human rights documentation project, [High Tech, Low Pay](#), Retrieved 2017-11-07

<sup>194</sup> See for example Swedwatch's report [Trapped in the kitchen of the world](#), 2015

<sup>195</sup> United States department of labor, [List of Goods Produced by Child Labor or Forced Labor](#), Retrieved 2017-11-24

<sup>196</sup> World Economy, Ecology and Development, Working Conditions and Economic Development in ICT Production in Central and Eastern Europe 2010

<sup>197</sup> Chromatography Today, [What health risks does printing pose, Chromatography explores](#), Retrieved 2017-11-16

<sup>198</sup> Sprint-ink, [How to clean up spilled toner powder](#), Retrieved 2017-11-24, E-mail, Chiara Selvetti, Atea, 2017-10-26

<sup>199</sup> E-mail, Chiara Selvetti, Atea, 2017-10-26

In the production of plastic, heavy machines are used which increase risks for work-related injuries, accidents and workers being exposed to high noise. High temperatures are used in the process and there are risks regarding burns, explosions and fire. There is also the risk of exposure to toxic and cancerous chemicals. If waste management is lacking, there is a risk that chemicals leak into surrounding water which can result in negative impacts on local communities' access to clean water in the area and health impacts.<sup>200</sup>

Regarding raw materials, the World Health Organisation (WHO) has reported that workers exposed to creosote (used for black pigment) are at increased risk of developing lip and skin cancer as well as photosensitization (skin sensitivity to light).<sup>201</sup>

Mining of minerals present in pigment, as part of the integrated circuit and the organic photoconductive drum (OPC) also entails social and environmental risks such as environmental pollution, forced labour, child labour and hazardous working conditions. Forced displacement of local communities and indigenous people caused by mining activities are also identified as risks in developing countries. Gold is considered a conflict mineral, as the mining in, and surrounding, the Democratic Republic of Congo, has supported the ongoing armed conflict, causing a humanitarian crisis in the region. This includes systematic abuse, killings and sexual violence targeting women in the local communities.<sup>202</sup>

The mining of silicates, which is a primary material in integrated circuits and the organic photoconductive drum, has been the root cause of silicosis particularly for miners and those exposed to silica dust.<sup>203</sup> According to a Reuters news report, millions of workers are exposed to silica dust in China and India primarily.<sup>204</sup>

The extraction of oil, which is raw material for plastics, polyesters, PVC wiper blades and various gears in and of the cartridge itself, is linked to environmental and social risks in Saudi Arabia, Russia, United Arab Emirates and Nigeria, including lack of union rights, poor working conditions and forced labour as well as oil spill leading to health impacts and contamination of soil and water for surrounding communities.<sup>205</sup> Oil extraction, as well as mining, in high-risk environments has also been linked to sexual exploitation and abuse of women in surrounding areas.<sup>206</sup>

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<sup>200</sup> Enact Sustainable Strategies, Riskanalys: Medicinska undersökningshandskar, 2016

<sup>201</sup> Melber, C., Kielhorn, J., Mangelsdorf, I. and World Health Organization, [Coal tar creosote](#), Retrieved 2017-11-20

<sup>202</sup> Security and Exchange Commission, [Conflict minerals](#)

<sup>203</sup> Dustin Mulvaney, [Solar Energy Isn't Always as Green as You Think](#), IEEE Spectrum, Retrieved 2017-11-20

<sup>204</sup> Tan Ee Lyn, [China study finds mine workers at higher risk of cancer, heart disease](#), Reuters, Retrieved 2017-11-20

<sup>205</sup> Utrikesdepartementet, [Mänskliga rättigheter i Saudiarabien 2011](#) Retrieved 2017-10-27; ILO, Working Paper No. 267, [Working conditions of contract workers in the oil and gas industries](#), 2010; The Degradation of Work, Oil and Casualization of Labor in the Niger Delta, 2010; Oil price.com, [Nigerian Oil Workers Go On Strike, Stop Production At Several Flow Stations](#), 2017, The Guardian, [Shell Nigeria oil spill '60 times bigger than it claimed'](#), 2012-04-23

<sup>206</sup> Wday, [The Bakken's dirty secret: sex trafficking has growing precense in oil patch experts say](#) 2014-05-06, Al Jazeera, [The Dark side of the oil boom: Human trafficking in the Heartland](#), 2014-04-28, Columbia law school, Righting wrongs? [Barrick Gold's remedy mechanism for sexual violence in Papua New Guinea](#) November 2015

# Paper calendars

## Summary of the most severe/most prevalent risks

Assembly	Component	Raw material
Forced Labour Low wages Excessive overtime Poor health and safety Lack of union rights Exploitation of migrant workers	<b>Coated &amp; uncoated paper, Boxboard, nylon coated metal binder</b> Forced Labour Child labour Low wages Excessive overtime Poor health and safety Pollution of air and water Lack of union rights	<b>Paper and pulp, steel and iron ore:</b> Forced labour Child labour Violation of indigenous peoples' rights Forced displacement Illegal logging Exploitation of migrant workers Low wages Excessive overtime Poor health and safety Environmental pollution Deforestation
<b>Medium-high risk</b>	<b>High risk</b>	<b>High risk</b>

### The Product

Paper calendars have continued to be popular even in a paperless era.<sup>207</sup> Paper calendars come in a variety of sizes and forms, but most are either described as desk or wall-mounted calendars. Desk and wall calendars are typically made of coated or uncoated paper, a nylon coated metal binding<sup>208</sup> and boxboard<sup>209</sup> that acts as a base for the calendar.

### The supply chain

Printed calendars imported into Norway generally come from Germany, the United Kingdom, China, Poland and Sweden,<sup>210</sup> whereas components and raw materials can come from a large variety of countries.

Assembly	Component	Raw Material
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<sup>207</sup> The New York Times, [Paper Calendars endure despite the digital age with sales up between 8 and 10% in some cases](#), Retrieved 2017-11-23

<sup>208</sup> Qingdao HY Corporation, [Nylon Coated Wire](#), Retrieved 2017-11-30

<sup>209</sup> Team calendars, [Desk Tent Landscape](#), Retrieved 2017-11-28

<sup>210</sup> Observatory of Economic Complexity, [Where does Norway import calendars from 2016](#), Retrieved 2017-11-24

<p>China, Germany, United States, South Korea, Hong Kong, Canada<sup>211</sup></p>	<p><b>Coated Paper:</b> Finland Germany, China, Sweden, Italy<sup>212</sup></p> <p><b>Uncoated Paper:</b> Germany, Indonesia, Canada, Sweden, Portugal, China<sup>213</sup></p> <p><b>Nylon Coated Metal Binder:</b> China, USA, Italy, India<sup>214</sup>, Hong Kong, Netherlands<sup>215</sup></p> <p><b>Boxboard:</b> Germany, China, Netherlands, USA, Canada, Poland, Italy<sup>216</sup></p>	<p><b>Paper &amp; Pulp:</b> Main producing countries are China, USA, Japan, Germany, Canada, South Korea, Finland, Sweden, Brazil, Indonesia.<sup>217</sup> Russia<sup>218</sup> is a large producer for Europe.</p> <p><b>Steel:</b> Main producing countries are China, Japan, India, USA, Russia, South Korea, Germany, Turkey, Brazil<sup>219</sup></p> <p><b>Iron ore:</b> Main producing countries China, Brazil, Australia, Russia<sup>220</sup></p> <p><b>Nylon Powder:</b> Main producing countries are Germany, USA, Belgium, Netherlands, Italy<sup>221</sup></p>
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## Risks

There are risks associated with calendars sourced from China, India and Indonesia as these countries are connected with poor working conditions, low wages, excessive overtime, hazardous work environments and restricted union rights.<sup>222</sup> Neither China nor India have ratified the ILO conventions on freedom of association (no 87 and 98. China hasn't ratified no 29 and 105 on forced labour either).<sup>223</sup> Child labour and forced labour is also reported from the manufacturing industry.<sup>224</sup> A great share of China, India and Indonesia's workforce consists of migrant workers who are

<sup>211</sup> Observatory of Economic Complexity, [Printed Calendars](#), Retrieved 2017-11-30

<sup>212</sup> Observatory of Economic Complexity, [Kaolin Coated Paper](#), Retrieved 2017-11-30

<sup>213</sup> Observatory of Economic Complexity, [Uncoated Paper](#), Retrieved 2017-11-30

<sup>214</sup> Kshitij polyline Private Limited, [Double Loop Metal Wire](#), Retrieved 2017-11-27

<sup>215</sup> Observatory of Economic Complexity, [Office binder/File fittings of base metal](#), Retrieved 2017-11-30

<sup>216</sup> Observatory of Economic Complexity, [Cartons, boxes & cases, folding, non-corrugated paper](#), Retrieved 2017-11-30

<sup>217</sup> Joyce Chepkemoi, [The Top Pulp and Paper Producing Countries in the World](#), Worldatlas, Retrieved 2017-11-28

<sup>218</sup> Ibid.

<sup>219</sup> World Steel Association, [World Steel in Figures 2017](#), Retrieved, 2017-11-28

<sup>220</sup> US Geological Survey, [Iron Ore](#), Retrieved 2017-10-26

<sup>221</sup> Observatory of Economic Complexity, Polyamide-6, -11, -12, -6,6, -6,9, -6,10 or -6,12, Retrieved 2017-11-30

<sup>222</sup> Pragya Tiwari, [Manufacturing discontent: India's worker crisis](#), Aljazeera, Retrieved 2017-11-28; Apog Herlina, [Workers' Conditions in Indonesia](#), European Parliament, Retrieved 2017-11-28; Robin Brant, [The human cost of China's economic reforms](#), BBC News, Retrieved 2017-11-28

<sup>223</sup> Transparency International, [Corruption perception index 2016](#), Retrieved 2017-11-07

<sup>224</sup> US Department of Labor, List of Goods Produced by Child Labor or Forced Labor, Retrieved 2017-12-18

particularly at risk of being exploited and who often lack contracts and access to social security and are at risk of becoming victims of discrimination and harassment.<sup>225</sup>

Paper and pulp production is associated with several challenges, especially in high-risk countries such as Brazil, China, Indonesia and Russia. Forestry can lead to a decrease in biodiversity, pollution and deforestation, if not managed sustainably. Unsustainable forestry and land grabbing also often lead to negative impacts on local communities and indigenous peoples' rights to livelihood and cultural rights, in for example Brazil and Indonesia.<sup>226</sup> Displacement of indigenous people is reported from many countries, including Canada, Finland and Russia.<sup>227</sup> Human Rights Watch have documented paper and pulp companies in Indonesia hiring militiamen who use violence towards local community members in order to secure its paper plantations.<sup>228</sup>

Illegal logging is prevalent in many high-risk countries, including Russia. There are reports of illegal logging in Indonesia to supply the paper industry in China.<sup>229</sup> According to the World Wildlife Fund (WWF), as much as 80 per cent of the timber logged in Asia, Africa and South America might be illegal.<sup>230</sup> Forestry is in general associated with hazardous working conditions, child labour and forced labour, as well as exploitation of migrant workers.<sup>231</sup> The pulp and paper industry are major water consumers which can stress local water supply and pollute water bodies especially during bleaching.<sup>232</sup>

The production of plastic used to coat the metal wire spirals is linked to health risks and danger. Workers risk exposure to chemicals that can cause allergies and damage to the skin if protective gear is not used properly. Plastic is highly flammable which increases risk of fire and explosion in factories producing plastic.<sup>233</sup> Pollution from waste is also a risk in the production of plastic.

The production of steel is often hazardous in high-risk countries such as China and India. The production sometimes occurs under harsh conditions, with extreme temperatures, heavy lifting, use of large machinery, and exposes employees to harmful fumes, dust and burns.<sup>234</sup> The

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<sup>225</sup> International Labour Organization, [ILO global estimates on migrant workers](#), United nations in India, [Decent Work For Migrant Workers In India](#), Retrieved 2017-12-04

<sup>226</sup> WWF, [Pulping Indonesia - A case study from Indonesia, Southeast Asia](#) Retrieved 2017-12-06, Environmental Paper Network, [Social Impact of the Paper Industry](#) Retrieved 2017-12-06

<sup>227</sup> Green Press Initiative, [Social Impacts of the Paper industry](#), Retrieved 2017-11-28

<sup>228</sup> Human Rights Watch, [Indonesia: Paper industry threatens human rights](#), Retrieved 2017-11-29

<sup>229</sup> Greenpeace East Asia, [Paper Pulp](#), Retrieved 2017-11-30

<sup>230</sup> WWF, Vårt arbete – [Illegal avverkning av skog](#) 2014-12-22

<sup>231</sup> International Labour Organization, Forestry, Retrieved 2017-12-06, Environmental Protection Agency, [Liquidating the Forests: Hardwood Flooring, Organized Crime, and the World's Last Siberian Tigers](#), 2013, WWF, Vårt arbete – [Illegal avverkning av skog](#), 2014, ILO, [Decent work in forestry](#), 2015, Nederland MVO, CSR Risk [Russian Federation](#), Retrieved 2017-11-22, MVO Nederland, [CSR Risks Brazil](#), Retrieved 2017-11-22

<sup>232</sup> World Wildlife Fund, [Pulp and Paper](#), Retrieved 2017-11-29

<sup>233</sup> Swedwatch, Riskanalys för fyra varugrupper 2010

<sup>234</sup> Enact Sustainable Strategies, Riskanalys: Instrument, 2017, International Labour Organisation, [Code of practice on safety and health in the iron and steel industry](#), Retrieved 2017-11-28

processing of steel (such as alloys) involves a range of chemicals that are harmful to humans and ecosystems.<sup>235</sup>

Mining is one of the most high-risk sectors in the world and in most countries, mining remains the most hazardous occupation when the number of people exposed to risk is taken into account.<sup>236</sup> Mine sites represent one of the deadliest work environments and are in many countries tainted by child labour, sexual exploitation, severe health impacts, forced labour, extensive pollution of land and water, land grabbing, violation of indigenous peoples rights, and violent confrontations involving security guards.<sup>237</sup> Chinese mine sites have been found to rely on large numbers of migrant workers, who receive less pay and work without personal protection equipment.<sup>238</sup> Mines require a high level of water use and countries such as China have areas where there is a risk of water shortage.<sup>239</sup> Mining in high-risk environments has also been linked to sexual exploitation and abuse of women in surrounding areas.<sup>240</sup>

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<sup>235</sup> Enact Sustainable Strategies, Riskanalys: instrument, 2017

<sup>236</sup> ILO, [Mining: A Hazardous work](#), Retrieved 2017-11-28

<sup>237</sup> Unicef, [Children's rights and the mining sector](#), 2015

<sup>238</sup> Enact Sustainable Strategies, Riskanalys: instrument, 2017

<sup>239</sup> World Resource Institute, [Mine the Gap: Connecting Water Risks and Disclosure in the Mining Sector](#) 2010

<sup>240</sup> Wday, [The Bakken's dirty secret: sex trafficking has growing precense in oil patch experts say](#) 2014-05-06, Al Jazeera, [The Dark side of the oil boom: Human trafficking in the Heartland](#), 2014-04-28, Columbia law school, Righting wrongs? [Barrick Gold's remedy mechanism for sexual violence in Papua New Guinea](#) November 2015