联 合 国 A/HRC/39/48

大 会

Distr.: General
3 August 2018
Chinese
Original: English

人权理事会
第三十九届会议
2018 年 9 月 10 日至 28 日
议程项目 3
促进和保护所有人权——公民权利、政治权利、
经济、社会及文化权利，包括发展权

危险物质及废料的无害环境管理和处置对人权的影响问题特别报告员的报告*

秘书处的说明

秘书处谨向人权理事会转交危险物质及废料的无害环境管理和处置对人权的影响问题特别报告员根据理事会第 36/15 号决议编写的报告。

特别报告员根据任务规定，在本报告中探讨了全世界因职业接触有毒物质和其他危险物质而受牵连和影响的工人的情况。他提出了旨在协助各国、工商企业和其他主要行为者尊重和保护工人免受有毒职业接触的原则，并为侵犯他们权利的行为提供补救措施。

* 本报告附件不译，原文照发。

G8.18-12801 (C) 130818 220818
1812801

危险物质及废料的无害环境管理和处置对人权的影响问题特别报告员的报告

目录

页次

一. 导言 3

二. 工人的人权与接触有毒物质 5

A. 享有安全和健康工作条件的权利 5

B. 信息权、参与权和结社权 7

C. 风险高的工人的权利 8

D. 获得有效补救的权利 9

三. 因接触有毒物质而受影响工人的权利所面临的挑战 9

A. 保护标准不足 9

B. 预防接触的进展有限 9

C. 监测和执法方面的差距 10

D. 剥削风险最大的人 10

E. 非正规经济 12

F. 故意拖延或阻挠提供保护防止接触有毒物质 12

G. 不透明的供应链和危险工作的转移 13

H. 在职业和环境卫生方面的工作脱节 13

I. 无法实现信息权 13

J. 国际劳工组织文书的执行有限 14

K. 限制结社自由 14

L. 无法获得补救措施、正义和问责制 15

四. 结论和建议 15

A. 关于防止接触的义务和责任的原则 16

B. 关于信息、参与和集会的原则 18

C. 关于有效补救措施的原则 20

附件 22

一. 导言

1. 人人都有权享受公正和合适的工作条件。[1] 每个工人都享有尊严的权利，受到合乎道德的尊重，不接受不人道或有辱人格的工作条件。各国承诺根据可持续发展目标实现一项雄心勃勃的目标：确保到 2030 年人人享有体面的工作。[2]

2. 尽管保护工人健康的义务十分明确，但世界各地的工人由于在工作中接触有害物质而发现自己陷入公共卫生危机之中。虽然世界卫生组织(卫生组织)、国际劳工组织(劳工组织)和其他组织几十年来一直呼吁就这一公共卫生危机采取行动，但工人接触有害物质的全球问题仍未得到很好的解决。

3. 据估计，每 15 秒就有一名工人因在工作中接触有毒物质而死亡，[3] 而全球每年有超过 2,780,000 名工人死于不安全或不健康的工作条件。[4] 职业病在过早死亡总人数中占 240 万(超过 86%)。[5] “职业病”是指主要由于工作活动引起的风险因素，包括长期接触有毒工业化学品、农药或其他农用化学品、放射性物质和灰尘以及其他危害物而感染的任何疾病。[6] 每年报告的职业病约有 1.6 亿例。[7] 国家和工商企业对这场全球公共卫生危机的不作为所造成的损失估计占全球国内生产总值的近 4%，或几乎达 3 万亿美元。[8]

4. 癌症占全球职业病的 70%以上，估计每年至少造成 315,000 人死亡；[9] 因职业接触有毒物质而死于各种癌症的人占 5.3-8.4%，男性死于肺癌的人数占 17-29%。[10] 几乎所有这些癌症都可以预防。[11] 迄今已发现 200 多种不同的已知因素(包括有毒化学品和放射性物质)已知或可能是人类致癌物，工人在工作过程中接触到其中的许多因素。[12]

---

[1] 《世界人权宣言》，第二十三条。

[2] 见劳工组织，“体面工作与 2030 年可持续发展议程”，2017 年 11 月 2 日。联合国人权机制就“体面工作”所下的定义是，“这种工作尊重人的基本人权以及工人在工作安全和报酬条件方面的权利”。经济、社会及文化权利委员会，关于工作权利的第 18 号一般性意见(2005 年)。

[3] Päivi Hämäläinen, Jukka Takala and Tan Boon Kiat, *Global Estimates of Occupational Injuries and Work-related Illnesses 2017* (Singapore, Workplace Safety and Health Institute).

[4] 同上。

[5] 同上。

[6] 卫生组织, “职业病和与工作有关的疾病” 未注明日期)。

[7] 国际工会联合会，Toxic Work: Stop Deadly Exposures Today!, 13 April 2015。

[8] Gerry Eijkemans, “The importance of workers’ health to advance the United Nations Sustainable Development Agenda”, *Occupational & Environmental Medicine*, vol. 75, Supp. 2 (April 2018)；劳工组织，“Global action needed to tackle rising work-related injuries and diseases, ILO says”, 7 September 2017。

[9] 劳工组织，*Promoting Decent Work in the Chemical Industry: Innovative Initiatives* (Geneva, 2013), p. 20。

[10] Jukka Takala and others, “Eliminating occupational cancer in Europe and globally”, OSHWiki, 30 May 2017。

[11] 同上。

[12] 卫生组织，国际癌症研究机构，“IARC monographs on the evaluation of carcinogenic risks to humans”, 29 June 2018. Available at https://monographs.iarc.fr/agents-classified-by-the-iarc/。

5. 衰竭性疾病和致命的肺病、神经性残疾和生育障碍，如不孕和无法怀孕到足月，是困扰接触有毒物质工人的各种其他健康影响。职业接触导致 12%的工人死于慢性阻塞性肺病，据估计，另外还有 29,000 人死于职业病，如矽肺病、石棉沉滞症和尘肺病。[13]

6. 由于社会角色差异，包括职业角色和家庭角色，女性和男性在接触有毒化学品时，在所接触的物质和接触程度等方面都有所不同。男性与女性的生物学差异，如生理差异和荷尔蒙差异，使他们对接触有毒物质的影响具有不同的敏感性。[14] 例如，妇女的组织中储存的环境污染物水平可能高于男性。在怀孕期、哺乳期和更年期，妇女的身体变化可能使她们的健康更容易受接触有毒物质的影响。

7. 特别令人关注的是育龄妇女接触有毒化学品问题。仅保护孕妇免于接触是不够的，因为发育中的胎儿可能会在知道怀孕之前接触了有毒物质而受到伤害。不良健康影响，尤其是孕妇和胎儿，以及整个劳动力，都会在极低的接触水平下发生。随着不良反应的证据越积越多，“安全”接触水平不断向下修正，婴儿继续在出生时就带着一系列不良健康后果，特别是因为母亲在怀孕期间接触到有毒化学品。[15]

8. 官方统计数据可能低估了问题的严重程度。例如，在某些情况下和在某些国家，报告的接触发生率严重低于实际水平。[16] 由于官方统计的发生率是以报告的数据为依据的，芬兰等先进国家的职业病发病率可能高于印度等国家，原因只是因为芬兰比印度更有能力诊断和确定职业接触是不是病因。此外，一些国家没有职业病的法律定义或参考清单，以利报告因特定原因而引起的疾病和死亡的发生率。对慢性阻塞性肺病等主要职业病的认识可能尚不够，诊断往往也不不足。[17] 此外，重要的是，非正规经济中的自营职业者、自给农民和工人很少被列入国家统计数据。非正规劳动力占全球劳动力的很大一部分，在某些国家中占工人的大多数，其中最大和人数最多的是在欠发达地区。[18] 由于许多国家没有足够的能力收集有关死因的资料，因此有关疾病和死亡模式的信息仅能用估计的。

9. 事实上，每个部门都与这一公共卫生危机密切相关，包括公私营部门以及世界上经济最强大的行业。许多这些行业──按照他们自己的设计──拥有庞大而不透明的供应链，包括与非正规经济的联系。其中一些工商企业并未受到明显牵连，例如金融机构交易使用有毒汞开采的黄金，导致对非正规工人及其子女造成严重影响。本报告附件提供了近年来任务处理的一小部分案例。

---

[13] 卫生组织，*Global Health Risks: Mortality and Burden of Disease Attributable to Selected Major Risks* (Geneva, 2009), p. 25。

[14] 联合国开发计划署(开发署)，《化学品与性别》，2011 年。

[15] 另见卫生组织, *Summary of Principles for Evaluating Health Risks in Children Associated with Exposure to Chemicals* (Geneva, 2011)。

[16] 劳工组织, “World Statistic: The enormous burden of poor working conditions” (n.d.)。

[17] Hämäläinen, p. 17。

[18] 同上，第 7 页。

10. 特别报告员在其报告中分析了因职业接触有毒和其他危险物质(有毒物质)而受牵连和影响的工人的人权，[19] 然后概述了全球经济中工人面临的当前挑战。特别报告员最后提出了尊重和保护在职业中接触有毒物质工人的权利的原则，以确保对违法或滥用行为采取有效的补救措施。

11. 为报告目的，“工人”一词不仅包括直接雇用的工人，还包括非正规工人，以及合同工、分包商、代理工以及从事工作或与工作相关活动的所有其他人员。

12. 20 多年来，联合国人权机构授权一名特别报告员监测和报告全世界各行业、包括与工人有关的危险物质和有毒废物对人权的影响。

13. 本报告是现任任务负责人努力将人权纳入国家和国际一级参与职业安全与卫生讨论的一部分。特别报告员认为，这一问题的重要性在相关国际论坛上基本上被遗忘和未被优先考虑，导致在应对日益严重的关切问题方面未能取得全球进展。

二. 工人的人权与接触有毒物质

14. 工人权利是人权，人权是工人的权利。这些权利是相互关联、不可分割和普遍的。它们包括公民、政治、经济、社会和文化权利。任何人都不能因他们所从事的工作而被剥夺这些人权。

15. 工人的人权特别容易受到侵犯和侵害，其中最重要的是，在工作过程中接触到有毒物质。慢性接触的危害通常是一时看不见的，可能需要数年甚至数十年之后才会发现对工人或其子女的健康产生了不利健康。防止接触有毒物质对于保护人权，包括工人的权利至关重要。

A. 享有安全和健康工作条件的权利

16. 《世界人权宣言》(第二十三条)和《经济、社会及文化权利国际公约》(第七条)所载的公正和适合的工作条件的权利包括享有安全和健康工作条件的权利。通过单独规定工人享有安全和健康工作条件的权利，《公约》承认并强调工人的权利易受侵犯和侵害。这种脆弱性更加强调各国和其他各方有义务，防止因工人从事危险工作而使得对工人的剥削形成制度化。

17. 安全和健康工作的权利本身就是一项权利；但是，它还包括许多其他相互关联和相互依存的工人人权，包括下述权利。

[19] 与现任任务负责人及其前任任务负责人的先前报告一致，危险物质和废物没有严格定义；除其他外，它们包括有毒的工业化学品和杀虫剂、污染物、染毒物、爆炸物和放射性物质、某些食品添加剂和各种形式的废物。为便于参考，特别报告员以“有毒物质”指危险物质及废料，但本报告中使用的这一术语也包括无毒但具有危险的物质及废料。

18. 每个人，包括正式和非正式场合的工人，都享有固有的生命权[20] 和享有可达到的最高身心健康标准的权利。[21] 各国有明确的义务采取防范措施，保护生命权[22] 和健康权，包括“健康工作条件”的规定。[23]

19. 经济、社会及文化权利委员会澄清指出，各国有责任改善工业卫生的各个方面。这包括“在职业事故和疾病采取预防措施……[和]防止和减少人群接触有害物质，如直接或间接影响人类健康的放射性物质和有害化学物质……”。[24]

20. 包括工人在内的每个人都有权获得身体的完整性。[25] 这项权利包括每个人对自己身体拥有自主权和自决权，包括不许无需有的进入体内，无论是来自职业还是其他来源的有毒物质。急性中毒和其他接触有毒物质的极端案件无可置疑地侵犯了工人的人身完整权，使他们遭受暴力、残忍、不人道和有辱人格的待遇。但是，这一权利也适用于长期接触有毒物质问题，长期接触有毒物质也可能导致暴力、残忍、不人道和有辱人格的后果(A/HRC/22/53 和 A/HRC/33/41)。

21. 此外，工人有权要求不得未经其同意而施以科学实验。[26] 工人接触物质时，没有提供足够的信息向他们说明是否会致癌或损害发育中的胎儿，而这些信息是可以获得和获取的，这就引起人们担忧工人已经并将继续受到某种形式的人体实验。这项权利说明了信息权对于实现工人人权的重要性。

22. 在享有安全和健康工作条件权利的范围内，未经其事先知情同意，让工人接触有毒物质，并且没有提供拒绝从事危险活动的实际可能性，应被视为违反和侵害他们的权利的行为。这是保护每个工人免接受不安全和不健康工作条件的权利的重要组成部分。特别报告员认为，每个工人都享有未经事先知情同意，不接触有毒物质的固有的权利。在他看来，这一权利是人身完整权、信息权和未经同意不施以科学试验的权利的关键。

23. 国际劳工组织 2006 年《促进职业安全与卫生框架公约》(第 187 号)承认工人享有安全和健康工作条件的权利，尽管国际劳工组织未将这一权利列为“工作的基本权利”。国际劳工组织通过承认工人“应有权在有正当理由确信存在对其安全或健康的紧迫和严重危险的情况下，从使用化学品造成的危险中撤离，并应立即报告其上级主管”，默认工人享有未经事先知情同意不得接触的权利。[27] 劳工组织已向各国提出了相关建议，例如：制定国家政策、制度和方案，以防止“职业伤害、疾病和死亡……保护所有工人，特别是高风险部门的工人，以及非正规经济和移民中的弱势工人和年轻工人”。[28]

---

[20] 《公民权利和政治权利国际公约》，第六条。

[21] 《经济、社会及文化权利国际公约》，第十二条。

[22] 人权事务委员会，关于生命权的第 6 号一般性意见(1982 年)。

[23] 经济、社会及文化权利委员会，关于享有能达到的最高健康水准权的第 14 号一般性意见(2000 年)。

[24] 同上。

[25] 这些基本权利还包括尊重工人在工作中的身心健康。经济、社会及文化权利委员会，第 18 号一般性意见。

[26] 《公民权利和政治权利国际公约》，第七条。

[27] 1990 年《化学品公约》(第 170 号)，第十八条。

[28] 《促进职业安全与卫生框架公约》，2006 年(第 197 号)；另见《劳工组织章程》。

B. 信息权、参与权和结社权

24. 包括工人在内的每个人都享有言论、集会和结社自由的不可剥夺的权利，包括加入和组建工会的自由以及获得信息的权利。[29]

25. 获得信息的权利是实现所有工人有关接触有毒物质方面的权利的基础。如上文所述，信息权与工人未经事先知情同意可不接触有毒物质的权利是不可分割的。除其他外，工人有权知道接触的影响、为防止接触所采取的行动及他们与此类接触有关的权利。

26. 收集、测量、监测、报告和核实有关危害和接触程度的信息的公共框架对于评估和分析健康影响和问责制是必要的。保持分类、准确和完整的信息对于了解具体事件和准确了解特定行动对各类工人以及其他接触群体，包括儿童、育龄妇女、移民工人及其家庭、老年人和残疾人的影响是必要的。

27. 国际劳工组织在其各项《公约》中承认工人(及其代表)的知情权，以及国家的义务和企业雇主(包括化学品供应商)的责任的几个方面。[30] 例如，有关工人及其代表应有权获得“关于作业场所使用的化学品的特性、此种化学品的有害成份、预防措施、教育和培训的资料”。[31] 然而，《化学品公约》虽然要求按照其可能的危害对化学品进行分类(第六条)，但它只要求供货人“在对现有资料进行查询的基础上”对其成分进行评价(第九条第 3 款)，也就是说，《公约》未要求他们进行测试，以提出与此类分类有关的缺失信息。

28. 公共机构和工商企业掌握的所有健康和安全信息都应予以披露，除非它受一系列狭隘的公共利益限制，例如保护隐私或公共卫生(见 A/HRC/30/40，第 38 段和第 101 (b)段)。各国或企业以保密为理由、特别是以会对利润或竞争力产生不利影响为理由，拒绝披露健康和安全信息是绝对不合法的(同上，第 42 段)。为此，关于国际有毒化学品的各项协议一再规定，涉及有毒物质的健康和安全信息不应视为机密。[32]

29. 除其他权利外，工人维护其安全和健康工作权利的力量在于工人人数。对组织权的强有力保护，包括组建工会、结社自由权和集体谈判权，已被证明可以有效加强对工人提供了免接触有毒物质以及其他风险的保护。例如，工会的力量促成逐步禁止室内吸烟。国际劳工组织公约规定了这些权利，该组织认为这些权利是工作中的基本权利。

---

[29] 《世界人权宣言》，第二十四条；《公民权利和政治权利国际公约》，第十九、二十二和二十五条；《保护所有移徙工人及其家庭成员权利国际公约》，第 26 条。

[30] 《化学品公约》第十八条；《预防重大工业事故公约》，1993 年(第 174 号)，第 20 条；《矿山安全与卫生公约》，1995 年(第 176 号)，第 13 (1)(c)条；《农业中的安全与卫生公约》，2001 年(第 184 号)，第 8 (1)(a)条。

[31] 《化学品公约》，第十八条，第 3 款。

[32] 《关于持久性有机污染物的斯德哥尔摩公约》，第 9 条；《关于汞的水俣公约》，第十七条。另见《关于国际化学品管理的迪拜宣言》。

C. 风险高的工人的权利

30. 与所有人一样，工人生而自由，在权利上一律平等。[33] 一般情况下，在造成他们边缘化情况下过日子的人容易因接触有毒物质而受到伤害，其权利也因而受到侵犯。然而，每个人都有权在法律面前受到保护，免受歧视和享有平等待遇。所有工人或工人子女都不应因受到年龄、收入、种族、宗教、性别、原籍国、情报、政治观点或其他区别方面的歧视而感染职业病或沦为残疾。

1. 儿童权利和妇女权利

31. 每个儿童都有权免接受最恶劣形式的童工劳动。儿童从事使用或接触杀虫剂、有毒工业化学品、金属或其他有害物质的工作是最恶劣形式的童工之一(A/HRC/33/41)。《儿童权利公约》承认儿童有权受到保护，以免从事任何可能妨碍或有害儿童健康或身体发育的工作(第 32 条)。1999 年最恶劣形式的童工劳动公约(第 182 号)将最恶劣形式的童工劳动确定为“其性质或是在其中工作的环境可能损害儿童健康、安全或道德的工作”(第 3 条)。在工作中，使儿童接触有毒物质是无法辩解的。

32. 保护生殖健康免受危险工作条件的影响是各国消除就业歧视妇女的核心义务。[34] 在对她们及其后代造成生殖风险的所有时期，女工都有权获得特殊保护，[35] 以免从事使她们或其胎儿接触有毒化学品的工作。

33. 与此同时，不应剥夺妇女就业或收入的平等机会。特别令人关注的是，女性工作者在怀孕的早期阶段和怀孕期间，甚至在他们知道自己怀孕之前就已接触到有毒物质。这一现实要求各国和工商企业特别注意保护妇女的生殖健康，防止她们接触有毒物质，同时不以歧视的方式限制就业机会。这样做的最佳方法是消除工作中的有毒物质。

2. 移民工人的权利和残疾工人的权利

34. 禁止种族歧视的规定适用于所有形式的种族歧视。种族或族裔也不应成为工人实现安全和健康工作条件权利的绊脚石。[36] 移民工人无论有无证件都有权享有平等权利，并在安全和健康以及其他工作条件方面，享有与本国国民相同的平等待遇。[37] 残疾人有权在与其他人平等的基础上享有安全和健康的工作条件和相关的人权。[38]

[33] 《世界人权宣言》，第一条。

[34] 《消除对妇女一切形式歧视公约》，第十一条第 1 款(f)项。

[35] 同上，第十一条第 2 款(d)项。

[36] 《消除一切形式种族歧视国际公约》，第五条(卯)款(9)项。

[37] 《保护所有移徙工人及其家庭成员权利国际公约》，第 25 条第 1 款(a)项。

[38] 《残疾人权利公约》第二十七条。

D. 获得有效补救的权利

35. 问责制是人权的一项基本原则。国家和其他责任承担者必须对工人和其他权利持有人负责，才能遵守人权义务。获得有效补救的权利与信息权是不可分割的，因为接触有毒物质的有效补救办法取决于涉及此类物质和工作条件的某些信息是否可提供和可获得(A/HRC/30/40)。

36. 所有权利遭到侵犯或违反的工人受害者都有权获得有效的补救措施。[39] 工人因接触有毒物质，权利因而遭到犯，他们可以获得的有效补救措施包括受害者有权迅速恢复原状、获得赔偿、康复、满足和保证不重犯，并将侵权行为的肇事者绳之以法。[40] 在这方面，防范未来接触是许多有效补救措施的共同要点。

37. 每个权利持有人都有权根据法律规定的规则和程序向主管法院或其他审判员提起适当补救程序。各国必须确保因接触危险化学品而权利遭到侵犯的受害者能够及时获得有效补救办法(见 E/CN.4/2006/42，第 45 段)。在各种情况下，各国已将举证责任转由雇主或其他服务受益人承担。[41] 在其他情况下，司法和非司法机制减轻了工人的举证责任，以帮助他们确保获得补救措施。[42]

三. 因接触有毒物质而受影响工人的权利所面临的挑战

A. 保护标准不足

38. 关于职业健康的法律和政策往往不具有保护健康的内容。它们继续允许工人接触有毒物质，接触程度比同一辖区内的非工人高出数百甚至数千倍。[43] 风险评估通常基于不完整的知识或错误的假设，安全保证因而有误导，以及对工人健康带来广泛的影响。提高免受接触的保护标准的程序依然被故意拖延，长达多年，甚至几十年，导致无数的人早死。

B. 预防接触的进展有限

39. 防止工人接触有毒物质的最有效方法是清除工作场所的有毒物质。这反映在国际劳工组织和与职业安全与卫生有关的国家机构鼓励采用的危险控制分等级办法或“内在安全性较高的设计”的良好做法中。[44] 按照防止接触的有效性排列，清除之后是风险缓解备选办法，例如使用危害较小的物质和材料替代、工程控制、行政控制和个人防护设备的使用。

---

[39] 《公民权利和政治权利国际公约》，第二条第 3 款(甲)项；经济、社会及文化权利委员会，关于缔约国义务的性质的第 3 号一般性意见(1990 年)；《工商企业与人权指导原则：实施联合国“保护、尊重和补救”框架》。

[40] 《严重违反国际人权法和严重违反国际人道主义法行为受害者享有补救和赔偿权的基本原则和准则》，第 11 段和 15-23 段；人权事务委员会，关于《公约》缔约国的一般法律义务性质的第 31 号一般性意见(2004 年)，第 16 段；《儿童权利公约》，第 39 条。

[41] “Presumptive legislation for firefighter cancer”, First Responder Center, 2017。

[42] Junius C. McElveen Jr., “Establishing proof of exposure”, Lexology, 2012。

[43] Ted Smith and Chad Raphael, “Health and safety policies for electronics workers”, in *The Routledge Companion to Labor and Media*, Richard Maxwell, ed. (Routledge, 2015), pp. 78–89 (citing Amanda Hawes)。

[44] 国家职业安全和健康研究所，“Hierarchy of controls”, Centers for Disease Control and Prevention, 11 May 2018。

40. 尽管存在其应用的实例，但实践的应用非常有限。要求采用控制分等级作为国际标准，可通过向上协调来平衡竞争环境。然而，商业行为者坚持认为，应用等级办法会降低竞争力，从而继续扼杀全球进步。即使存在明显较不危险的替代品，工人仍然继续接触有毒物质，包括有毒工业化学品和高度危险的农药。由于未能应用分等级办法，使得外国发展中国家的贫困工人和社区受到影响的行业的另一个令人震惊的例子是航运业及其拆船的做法。

41. 工商企业可以研制和采用替代品，以减少对人类健康的危害以及其业务和业务关系对环境的影响。有些这样做了。然而，许多企业已经将全球供应链中的毒性风险问题外包和/或掩盖，使它们能够继续照常营业，而不是采取措施尊重受有毒工作影响的工人权利，尽管大家日益期待工商企业应该防止工人接触有毒物质，作为其尽职遵守人权一部分。

C. 监测和执法方面的差距

42. 为确保各国不对工人的剥削视而不见，各国必须监测工作条件，包括对接触有毒物质进行常规监测，并执行保护工人权利的法律。但是，绝大多数国家没有充分履行其监测、监督、保护或补救受其管辖工人因接触有毒物质、权利遭受侵犯的行为。负责监测的机构的经费逐步减少[45] 给各国监测其管辖范围内的大量工作场所带来了巨大的困难，并且在收集统计资料方面仍然存在挑战，特别是就非正规部门而言。在大多数国家，职业事故、特别是疾病的记录和通报做得很差，没有统一及严重少报。

D. 剥削风险最大的人

43. 诸如社会地位、教育、年龄、性别、原籍国、种族或残疾等多种因素可能会增加接触有毒物质的风险。预防和应对接触措施必须考虑到这些特定的脆弱性才会有效。

44. 最容易遭受接触之害的人是那些最容易受到剥削的人：穷人、儿童和妇女、移民工人、残疾人和老年人。他们往往容易遭受各种侵犯人权行为之害，他们被迫在健康和收入之间作出可怕的选择，大多数消费者和政策制定者都无法看到他们的困境，而他们是有能力实现转型正义。

1. 贫困

45. 大多数工人普遍贫困，他们的权利因接触有毒化学品而受到侵害。低收入和高收入工人之间的接触程度有差距，这种差距在本国内和国家之间都是显而易见的。

46. 低收入工人往往教育水平较低，这种情况迫使他们接受接触有毒化学品的职业，他们获取信息和知识的机会有限，阻挠他们捍卫自己的权利。低收入工人在职业中接触有毒物质的影响，其原因还更可能是因为住在较贫困社区，接触到的其他非工作方面的污染，如空气、水和食物污染，或生活方式选择，如不健康的饮食习惯、吸烟和使用其他有害物质。

[45] 劳工组织，《国际劳工组织实施公约与建议书专家委员会的报告》，第三号报告，(第 1B 部分)，载有关于某些职业安全及健康文书的普查，(日内瓦，2017 年)，第 436 段。

47. 接触有毒物质的工人经济不安全问题往往也被利用。担心失业经常被用来阻止工人、监管者和从政者加强对工人提供保护，免接触有毒物质。

2. 女工

48. 妇女在某些职业和部门中占很大比例，例如制造业和农业，以及服务业和非正规工作，这些工作具有较高的接触毒物风险(例如，见 A/HRC/36/41)。还报告存在针对性别的影响。越来越多的证据表明，乳腺癌与在职场中接触各种农药、工业化学品和金属之间存在关联。[46] 有许多例子表明，从事电子产品制造工作所冒的流产风险会增加。[47] 在手工金矿开采中，往往要求育龄妇女使用汞等有毒重金属，使自己和未来的儿童面临严重的健康影响风险。

3. 童工

49. 儿童继续从事最恶劣形式的童工劳动，他们在工作中使用或接触有毒物质。由于各种原因，儿童更有可能接触有毒物质，他们比成人更容易受到接触的影响，因此更有可能染上职业病。[48]

50. 在矿山、农田和工厂工作的儿童人数估计有 7,300 万，其中大多数儿童可能接触各种有毒物质。[49] 大约 60%的童工从事农业工作，包括在使用农药的农场工作。[50] 众所周知，儿童在全球多达 70 个国家的手工和小规模金矿中使用汞，其中一些儿童染上的病的症状与汞中毒症状一致。[51] 儿童在消费品生命周期的各个阶段，接触了危险物质。在电子产品中，成千上万的儿童在产品生命周期前端接触有毒成分的电池(钴)[52]，并在工作尾端，由于回收电子废物而接触各种有毒物质。

4. 移民工人和临时工人

51. 由于缺乏培训、语言障碍、遭受歧视和更换雇主的可能性有限，移民工人面临的职业安全和健康危害风险很大。[53] 许多移民工人从事的工作都是肮脏、危险和苛刻的，因此面临与工作有关的事故和疾病的风险相当高。非正规身份或无证移民工人极有可能遭到想从不公平竞争中获益的雇主的剥削。只要有移民偷渡、贩运人口和当代奴隶制，就可能发生移民工人接触有毒物质的事情。

---

[46] Concetta Fenga, “Occupational exposure and risk of breast cancer”, Biomedical Reports, 21 January 2016。

[47] R.H. Gray and others, *Final Report: The Johns Hopkins University Retrospective and Prospective Studies of Reproductive Health Among IBM Employees in Semiconductor Manufacturing* (Baltimore, Johns Hopkins University, 1993)。

[48] 劳工组织，*Towards the Urgent Elimination of Hazardous Child Labour* (Geneva, 2018), p. 36。

[49] 同上。p. vi。

[50] 劳工组织，“Hazardous work of children and regulation of hazardous chemicals”, 2011。

[51] 人权观察社，“Danger, keep out! Children’s exposure to toxic substances”, 28 April 2016。

[52] 大赦国际，*“This is what we die for”: Human Rights Abuses in the Democratic Republic of the Congo Power the Global Trade in Cobalt*, 2016。

[53] Kawon Lee, Connor McGuiness and Tsuyoshi Karaskami, *Research on Occupational Safety and Health for Migrant Workers in Five Asia and the Pacific Countries: Australia, Republic of Korea, Malaysia, Singapore and Thailand* (Bangkok，劳工组织，2011), p. 20。

52. 临时工、包括季节性工人，往往享受不到与长期或常驻工人相同的安全和健康保护。临时工人的职业伤害和疾病风险因而大增。他们每年可能多次换新的工作，因为新工人所掌握的关于他们所面临的危险的信息通常较少。雇主通常不太愿意提供教育或投资以保护临时工。[54] 政府对安全和健康的指导和检查可能有限。

5. 残疾工人

53. 残疾工人可能面临其他风险或可能更容易受到接触有毒物质的后果的影响。残疾工人往往从事低技能工作，根据非标准合同就业，如兼职工作合同或临时合同。

6. 其他工人

54. 老年人在工作中也会接触有毒物质。一般而言，老龄化与认知功能、健康和体力恢复能力的下降有关，包括有氧能力下降、耐热力降低、肌肉力量减弱以及视力和听力敏锐度下降。老年工人因其职业而面临的任何风险将叠加在他们现有的健康问题上，或者会加剧他们的感官能力和体力的自然恶化。遗憾的是，职业接触对老年工人健康的影响通常完全归因于老龄化，而不是接触本身。

E. 非正规经济

55. 促进安全和健康工作条件的国家政策和方案不仅应针对正规经济，也应针对非正规经济。在许多发展中国家，与在非正规部门工作的人相比，正式就业人数反而较少。在非正规部门工作的人往往未记入有关有害物质对工人影响的统计数据。[55]

F. 故意拖延或阻挠提供保护防止接触有毒物质

56. 为了经济利益，工商企业试图通过有针对性的运动扭曲科学，[56] 拖延采用保护性法律和法规，并通过失业的威胁来利用工人的经济不安全感。这些运动本质上试图通过威胁革职并利用对工人的经济恐惧的竞争劣势来损害工人的权利。工人仍然担心如果拒绝或退出接触有毒物质的工作，会被减薪或开除。

57. 此外，工商企业继续歪曲各种有毒化学品(如致癌物)的内在危害、有害接触和其他危险因素的证据。工商企业及其代理人进行了有针对性的营销活动，以制造对表明对工人健康具有风险和影响的科学研究结果产生怀疑和不确定性。

58. 工商企业阻碍采用健康保护法、接触标准和改进做法的努力表明，某些工商企业对防止工人接触有毒物质的责任的蔑视，不仅不尊重，还试图使对社会内部和社会之间利用不平等的情况持续存在。

---

[54] 美国劳工部，*Adding Inequality to Injury: The Costs of Failing to Protect Workers on the Job* (2015)。

[55] Hämäläinen, p. 7。

[56] David Michaels, ed., *Doubt Is Their Product: How Industry's Assault on Science Threatens Your Health* (Oxford, Oxford University Press, 2008)。

G. 不透明的供应链和危险工作的转移

59. 虽然认识到有益技术的国际转让可带来的社会效益，但将有毒工作从拥有更先进制度的国家转移到工人保护标准较低的国家的问题仍然是一个重大的问题。例如，曾经主要位于高度工业化国家的化学密集型制造和加工业务现在通过供应链的全球化稳步扩展到发展中国家和经济转型国家。[57]

60. 危险和肮脏工作的国际转移，无论是开采自然资源、使用有毒化学品和杀虫剂，还是在没有采取适当措施保护工人不接触有毒物质的情况下处置危险废物，都使工人及其社区面临相当大的风险，对他们的人权带来严重影响。[58] 整个供应链缺乏透明度，加剧了问题的严重性，阻碍了各利益攸关方改善职业健康的努力。

H. 在职业和环境卫生方面的工作脱节

61. 有毒工作场所通常会带来有毒环境。例如，空气污染物影响直接接触空污物的工人的健康，但也影响他们的子女和更广泛的社区的健康。从事手工采矿、废物处理和一系列制造业(如纺织品)和农业活动等高毒性生计的工人往往在他们的住家和社区附近工作，有时有子女伴随或帮助。然而，劳动与环境健康之间更紧的挂钩可能产生的潜在协同效应往往未能实现。

I. 无法实现信息权

62. 信息差距造成了尊重、保护和实现若干人权的根本障碍，这些人权因工人接触有毒化学品而遭到违反或侵犯(见 A/HRC/30/40，第 22 和 24-25 段)。[59]

63. 在最基本的层面，仍然没有关于绝大多数工业化学品固有健康危害的全面信息，包括它们致癌、诱导有机体突变或对生殖有毒的可能性(A/HRC/30/40)。此外，向工人传达有关健康风险的信息的形式和内容仍然是一个相当大的挑战。缺乏或不恰当地传达信息等同于欺骗，而欺骗工人是一种剥削，可构成强迫或强制劳动。[60]

64. 虽然风险评估有助于识别和限制对工人构成风险的物质的使用，但存在局限性，包括难以预测工人的接触水平；事实上，少数物质的健康危害已知，但却缺乏有关数万种物质危害的信息；对关于在不同条件下接触数种有害物质、生产过程中的中间物质和物质随时间衰变产物的影响知之甚少。

[57] 联合国环境规划署,《全球化学展望：迈向化学品的健全管理》(2013 年)。

[58] 同上。

[59] 另见人权事务委员会，关于意见与言论自由的第 34 号一般性意见(2011 年)，第 18 段。

[60] 例如见，大不列颠及北爱尔兰联合王国 2015 年《现代奴役法》。

65. 在有毒化学品背景下实现信息权，持续出现的挑战是保密或机密的问题。不合理主张关于有毒物质和可能的接触为机密商业信息或商业秘密，可能会剥夺工人的人权，包括涉及安全和健康的工作条件以及获得补救措施的人权。对涉及健康和安全信息进行保密和列为秘密的不合理主张会掩盖问题，从而阻挠目的在改善职业健康的产品和流程的创新研究，同时形成有罪不罚现象，这种现象又可能会在工商企业中蔓延，这些企业则让工人接触有毒物质，继续剥削和虐待他们，并认为用这种方式获取利益是合理的。

66. 在保护工人隐私的良好控制系统中收集、处理和使用与健康有关的信息非常重要，并确保不将卫生监督用于歧视目的或以任何损害工人利益的其他方式使用。[61] 但是，工人可以获得自己的医疗记录同样重要。

J. 国际劳工组织文书的执行有限

67. 令人担忧的是，国际劳工组织关于保护工人人权的相关标准没有得到充分执行，而其他标准已经过时。国际劳工组织委托对其自身的组织问题进行的一项独立评估，除其他外，将其归因于单位之间的合作有限或根本不存在，以及专门用于与职业安全和健康相关活动的经费有限。[62]

68. 国际劳工组织关于职业安全与卫生文书的批准率较低可能是另一个因素，尽管在某些情况下它们可能是作为国家标准的有用模式。另一个可能是国际劳工组织理事会令人遗憾地未将安全和健康工作的权利列为“工作中的基本权利”。

K. 限制结社自由

69. 在实现国际劳工组织认为工作中的基本权利，即结社自由权、组织权和集体谈判权方面，仍然存在挑战。某些国家的某些类别的工人被剥夺了结社权。[63] 工人组织和雇主组织被非法解散或干涉，在某些极端情况下，工会会员被逮捕或遭杀害(A/71/385)。[64] 无法行使这些权利，加上对言论自由的限制，妨碍工人捍卫其权利的能力，免受与有毒接触有关的侵权行为的侵害，无论是就个人还是就集体而言。

[61] 劳工组织，*Technical and Ethical Guidelines for Workers' Health Surveillance*, Occupational Safety and Health Series No. 72 (Geneva, 1998)。

[62] 劳工组织，*Independent Evaluation of the ILO's Strategy on Occupational Safety and Health Conditions at Work* (2013), pp. 46-47。

[63] 见劳工组织, International Labour Standards on Freedom of Association。

[64] 同上。

L. 无法获得补救措施、正义和问责制

70. 研究表明，在接触有害物质而受到伤害的工人中，只有很小部分能够利用补救措施。[65] 问责制的主要障碍包括举证责任不合理的沉重，在某些情况下，后果出现的潜伏期很长以及难以确定因果关系；在确定危害、测量接触和流行病学影响的规范方面存在重大信息空白；在不同的职业环境和工作生涯中可能接触多种不同的物质；以及供应商和购买者之间的合同关系条款，可以将责任转移到供应链的上端或下端。

71. 在工人努力获得有效补救措施的情况下，所需的信息类型和证明受害原因的责任往往是共同点。工人往往缺乏必要的知识和资源，无法建立获得补救措施的必要要素。首先，他们不知道他们接触了哪种物质，这种情况并不罕见。第二，他们所接触的物质可能尚未被研究过是否具有引起人类疾病或残疾的能力；数以万计的潜在危险工业化学品缺乏足够的信息，即使是最少量的健康和安全数据。第三，在提出有关接触有害物质的指控时，“接触程度甚至是否接触过的客观证据几乎完全没有”，[66] 尽管雇主有责任追踪和维护这些数据，没有这样做往往被用来作为拒绝对生病工人和受损工人提供补救的理由，这是不可接受的。最后，工人经常换雇主和换行业，这会使他们接触到各种危险物质。也可以提出工人的个人行为，例如吸烟或酒精使用，以进一步促使因果关系的确定复杂化。

四. 结论和建议

72. 工人接触有毒物质可以而且应该被视为一种剥削形式，是一项全球性挑战，处于不同发展水平的国家都可以就这个问题发挥作用。国家、工商业行为者和国际组织可以消除或尽量减少风险，并且必须紧急地做到这一点。

73. 特别报告员提出了 15 项原则，以协助各国、工商企业和其他利益攸关方保护、尊重和实现因职业而接触有毒物质和其他有害物质而受到侵害的工人的人权。原则以国际人权法为基础，并以《工商企业与人权指导原则》、国际劳工组织文书和有毒化学品和废物的国际协定为依据。[67] 这些原则是自 1995 年任务自设立以来提请特别报告员注意的案件的产物。

74. 特别报告员认为，这些原则如果实施，将有助于加强人权与职业健康和关于工人接触有毒物质安全标准之间的一致性。原则并不是最终的，而是标志着澄清各方责任和义务的过程的一个开端。

75. 在今后几个月中，特别报告员将征求各国和其他利益攸关方的意见，说明这些原则如何反映在其与职业接触有毒物质相关的法律、政策和程序中。他计划向未来的一届人权理事会会议提出一套更为详尽的原则，为各国、工商企业和其他行为者提供执行框架。特别报告员鼓励劳工组织和世卫组织继续努力，特别是鼓励劳工组织努力在审查和修订其关于职业安全与卫生的公约和标准的努力中反映这些原则。

---

[65] Andrew Watterson and Rory O’Neill, “Double trouble on relative risk for occupational diseases”, *Hazards Magazine*, March 2015。

[66] McElveen, “Establishing proof of exposure”。

[67] 例如，国际化学品管理大会(SAIGM/ICCM.3/15)通过的建议和 2011 年在维也纳举行的电气和电子产品生命周期中有害物质国际研讨会的建议(SAIGM/OEWG.1/11)。

A. 关于防止接触的义务和责任的原则

76. 国家有义务和工商企业有责任尊重、保护和实现工人的权利；消费者、军队、投资者和其他人也有责任，他们的责任必须加以考虑。

原则 1
各国有责任通过防止接触有毒物质来保护所有工人的人权。

77. 各国必须竭尽全力，保护其领土和/或管辖范围内的所有工人不在职场接触有毒物质。无论雇主是工商企业还是国家都有这种义务。这就需要采取适当措施，通过有效的政策、立法、监管和执法以及审判来防范、调查、惩罚在职场接触有毒和其他危险物质案件，并提供补救措施。[68]

78. 人权是普遍的。每个人无论收入、年龄、性别、族裔、种族、宗教或其他阶级或地位如何，都享有相同的安全和健康工作的权利。各国在保护面临较高社会或生理风险的工人方面的职责更加显著，包括保护全球供应链中的非正规工人的职责。移民、少数群体和残疾人有权享有同等的保护标准。儿童和孕妇在工作中不得使用或以其他方式接触有毒物质。必须采取特别措施，保护采矿、农业、建筑、能源、军事、制造和废物处理等高风险行业的工人免受接触有毒物质的危害。

原则 2
工商企业有责任防止职业接触有毒物质。

79. 作为要求遵守克尽职责的一部分，工商企业有责任“防止[和]减轻”由于接触有毒物质而对人权，包括工人权利的影响。[69] 这些企业包括雇主、产品购买者和有毒物质供应商等。就职业接触而言，工商企业必须承担责任的“影响”包括接触有毒物质和对健康产生不利影响。这一责任要求不断改善工作条件，并通过其国内外业务关系和供应链以及整个产品的生命周期适用于与之相关的人权影响。[70]

80. 防止侵犯人权是主要的，也是克尽职责程序中减轻工作的前奏。[71] 为防止对工人权利的影响，工商企业首先要承担责任，通过尽可能消除产品和生产过程中的有毒物质来防止接触。如果无法消除危险性，工商企业应严格并有系统地应用危险控制分等级办法来防止接触，个人防护设备则是最后的手段。如果在应用控制等级后仍无法避免接触，工商企业必须减轻接触对健康的影响。

[68] 《工商企业与人权指导原则》，原则 1、4 和 15。

[69] 同上，原则 15。

[70] 例如见，Global Sustainability Standards Board, Global Reporting Initiative, *GRI 403: Occupational Health and Safety 2018*。

[71] 《工商企业与人权指导原则》。

原则 3

消除危险性对预防职业接触至关重要。

81. 各国应将危险控制分等级办法纳入法律，以尽可能防止工人接触有毒物质。各国应确保这些法律和政策在实践中具有防范作用，因为在科学方面往往存在高度的不确定性。作为其职业安全和健康法的一部分，各国应强迫工商企业尽可能消除危险，并在无法消除危险时应用的分等级制度。

原则 4

未经事先知情同意，工人有权不接触有毒物质。

82. 安全和健康工作的权利包括工人未经事先知情同意不得让其接触有毒物质的权利。工人有权退出他们有合理理由相信存在接触有毒化学品和其他危险物质的危险情况。

83. 各国应尊重、保护和实现关于工人未经事先知情同意可以不接触有毒物质的权利。各国应在其法律中明确反映这一权利，并调查和惩罚任何违反国际劳工组织公约批准的任何指控违法行为并批准国际劳工组织公约。各国应当将工商企业不遵守上述原则的行为列入强迫劳动、现代奴役和/或剥削的定义中。

84. 在让工人接触有毒物质之前，雇主有责任充分告知工人并经工人同意。无论国家是否愿意制定必要的法律，雇主都应尊重这一原则和权利。雇主应该能够证明已经将这一权利通知所有雇员、分包商和供应商，并且已经建立了将自己从不安全或不健康的工作条件中撤出的机制或程序。未建立这种机制或程序不应成为行使这项权利的障碍。

原则 5

防止工人接触有毒物质的责任和义务超越国界。

85. 如果未采取合理措施保护工人，将危险工作越境转移到保护水平较低的国家行为应被视为一种形式的剥削。

86. 各国有义务采取合理措施，防止在其领土之外发生的工人接触有毒物质行为，这种行为是工商实体的活动而导致并侵犯适用权利，而这些活动工商实体是可以控制并且可以合理预见的。[72] 各国应要求此类商业实体克尽职责，以识别和防止外国子公司、供应商和其他商业伙伴的侵权行为。

87. 工商企业应对由它们引起、造成或与之相关的工人接触有害物质的后果负责。[73] 企业在其产品的整个生命周期中都有责任，在整个供应链中，从产品的产出到最终处置。它们有责任确保它们本身及其在国内外的供应商采取良好做法，例如危险控制分等级办法，以防止在其产品的生命周期、运营和服务中接触有毒物质。

[72] 经济、社会及文化权利委员会，关于国家在工商活动中履行《经济、社会及文化权利国际公约》规定的义务的第 24 号一般性意见(2017 年)，第 30-32 段。

[73] 《工商企业与人权指导原则》，原则 13。

原则 6

各国必须防止第三方歪曲科学证据或操纵程序以使接触持久化。

88. 各国必须通过立法或其他措施，防止工商企业和其他第三方故意歪曲科学证据或操纵程序，从而损害工人的健康和安全。保护公共健康是言论自由的合法例外。应对工商企业和其他行为者的此类不当行为进行刑事制裁。

原则 7

保护工人免接触有毒物质就等于保护他们的家人、社区和环境。

89. 保护工人免接触有毒物质对社会有更广泛的益处。各国应认识到保护工人在职场免接触有毒物质和保护环境是相辅相成的。保护人类健康免受危险物质侵害的法律和政策应考虑到职业接触和环境接触以及其他因素。各国应确保负责劳动、公共卫生和环境当局之间的有效合作。

B. 关于信息、参与和集会的原则

90. 信息权、参与权以及言论和结社自由权以及工会和集体谈判的权利，可以防止因工人接触有毒物质而违反和侵犯人权。此外，充分实现信息权是工人实现获得有有效补救措施的权利以应对此类风险的不利影响的必要条件。

原则 8

每个工人都享有知情权，包括了解他们的权利。

91. 每个工人都有权了解有关他们实际和潜在接触有毒和其他有害物质的最新信息。必须提供职业健康和安全信息，并以有效满足其需要的形式提供给工人，并牢记其技能和情况，通过培训和其他方式传递信息(A/HRC/30/40)。国家、雇主和工商企业必须有效地向工人、工会和其他工人代表传递关于健康和安全的信息，包括体检结果。

92. 各国有责任创造、收集、评估和更新有关工人遇到的危险和风险的信息，以及职业病和残疾的流行病学证据(同上)。

93. 工商企业有责任查明和评估工人接触其供应链中的危险物质的实际和潜在风险，并由它们自己的活动产生的危险物质(同上)。这包括有关职业环境中危险物质类型，此类物质的内在危险和与接触相关数据的信息。化学品供应商有更大的责任来识别和评估并向工人、雇主、其他工商企业和国家传递保护工人的信息。[74]

94. 除了有关职业健康风险的信息权外，工人还有权了解各自的权利以及国家和企业就这些权利所承担的相关义务和责任，以及一旦他们的权利被侵犯和违反，他们如何行使和维护自己的权利。

[74] 劳工组织，《化学品公约》。

原则 9

关于有毒物质的健康和安全信息绝不能保密。

95. 各国有义务确保有关有毒物质的信息是机密商业信息或贸易秘密的说法必须是合法的(同上)。虽然必须确保个人病史的机密性，但不得用它们来掩盖工作场所中出现的健康问题。各国应确保刑事制裁适用于未披露健康和安全信息的企业和其他行为者。雇主和化学物质供应商应在其政策中明确说明他们不会将此类信息保密。

原则 10

安全和健康工作的权利与结社自由权、组织权和集体谈判权是分不开的。

96. 结社自由和有效承认集体谈判权是基本的劳工权利，适用于所有国家的所有人，不论经济发展水平如何。[75] 没有结社自由，包括组建工会和集体谈判的权利，工人几乎没有机会捍卫他们享有的安全健康的工作权和其他人权。为了实现人权义务和实现可持续发展的目标，必须让权利人参与，并维护整个系统的工人参与。[76]

97. 各国有义务通过有效的立法、管制和政策保护、促进、尊重和实现结社自由权、组织权和集体谈判权。它们必须确保每个人都能在不受歧视的情况下在工作场所行使结社自由权。[77]

98. 工商企业应履行其尊重工人结社自由、组织和集体谈判的权利的义务。各国应发挥作用，防止或制止工商企业和其他各方对这些权利的侵犯。

原则 11

工人、工人代表、举报人和权利维护者都必须受到保护，免受报复和报复威胁。

99. 授权权利持有人、特别是那些风险最大的权利人，捍卫自己的权利，有助于各国履行人权法规定的义务，维护问责制原则、信息权以及有效补救等。

100. 为了使工人享有安全和健康工作的权利，工人或其代表必须能够向雇主、他们的同事和政府机构提出他们关注问题，而不必担心遭到报复。工人、举报人和人权维护者必须能够在免于恐吓、威胁和其他报复的情况下，行使其权利，并维护那些曾经或可能是在职场中接触有毒和其他危险物质的受害者的权利。

101. 在努力就保护工人的安全和健康工作权利达成协议时，绝不能利用革职或减薪作为威胁，来获取谈判优势，包括雇主威胁将工作转移到国外。

102. 各国应制定保护劳工权利维护者的国家方案，并对针对维权者进行报复、恐吓或威胁报复的犯罪者提起适当的纪律、民事和刑事诉讼。各国应与工人、举报人和维权者以及代表他们的工会和民间社会组织协商，对国家保护方案进行独立定期审查，以增强向劳工权利维护者提供的保护的有效性。

[75] 劳工组织《关于工作中基本原则和权利宣言》(10.998 年)。

[76] 劳工组织《安全和卫生公约》。

[77] 例如，基于工作或就业类型、工作场所、企业或部门的性质、或移民或其他身份。

C. 关于有效补救措施的原则

103. 确保能够诉诸司法和利用有效补救措施，可以促使工商企业制定和采用更负责任的更安全的做法，包括采用危险性较小的替代品和采用工程控制来减少接触。另一方面，某些工商企业和其他受益者逍遥法外，其行为或不作为导致工人接触有毒物质，是改善世界各地无数工人境遇的障碍。接触有毒物质的受害工人普遍无法获得有效补救措施，是全世界数百万工人过渡到更安全、更健康的工作的障碍。

原则 12

政府应将使工人接触已知或应该知道的危险物质的行为定为刑事犯罪。

104. 应提供刑事制裁，以协助确保就人权义务问责并打击有罪不罚现象。

105. 各国应确保国家立法规定，雇主和其他负责任的个人和实体承担使工人接触已知或应当知道的危险物质的刑事责任。 各国应调查和起诉此类案件，确保工商企业负责人与知情或不经意参与的其他行为者一起承担责任。

原则 13

工人、他们的家属和他们的社区必须立即获得适当和有效的补救措施，这些措施应从接触时起提供。

106. 接触有毒物质的工人受到伤害，他们的权利在接触时即被侵犯或违反，而不是只在工人或其子女发现疾病缠身或沦为残疾时才被侵犯或违反。接触后，疾病和残疾的潜伏期可能长达几年甚至几十年，这使得许多工人及其家人难以获得有效的补救措施。

107. 适当和有效的补救措施包括迅速赔偿受到的伤害、保健、补偿、保证不重犯以及对康复、重返社会和合理便利提供充分培训。[78] 有效的补救措施还包括将使工人接触有毒物质的责任人绳之以法。

108. 各国承担实现工人获得适当和有效补救权利的主要责任，包括根据其法律实现这一权利。各国有义务在达到最低门槛后自动调查是否存在广泛侵权行为，并在此过程中进行国际合作。这种调查应与受害者为寻求有效补救而进行的任何调查或行动分开。各国应确保制止产生职业接触有毒物质的条件，包括修订相关法律和做法，禁止生产和使用某些类别的物质以及传播信息以防止再次发生(见 A/HRC/33/41，第 40 段)。所施加的惩罚应足以引起和鼓励工商企业和其他行为者采取预防措施，防止工人接触有毒物质，并起到威慑作用，确保不再发生。

109. 造成、导致在职场中与有毒物质接触或与之有关的工商企业有责任建立健全的流程，使工人能够及时获得适当和有效的补救措施。

[78] 劳工组织，*Promoting Diversity and Inclusion Through Workplace Adjustments: A Practical Guide* (Geneva, 2016).

原则 14

为了获得有效的补救的目的，工人或其家属不应承担证明其疾病或残疾原因的责任。

110. 要求工作中受有毒物质危害的人承担举证责任可能是一项巨大而且往往难以克服的挑战。各国应确保在有工人可能在工作中接触有毒物质的信息以及在此类接触可能造成伤害的类似情况下，证明无害的责任应转由雇主承担。[79] 如果与解决索赔相关的事实和事件全部或部分是在雇主或其他第三方的专属控制范围内，更加适用。

111. 工人可能接触过有毒物质的信息不必采用注明接触水平或确定精确化学品的形式退出；它还可以包括已知在特定类型的工作或行业中发生的职业病的信息。应允许雇主或其他服务受益人试图反驳责任推定，但举证责任应由雇主承担。

112. 供应链中的工人面临的主要挑战是，企业可能没有足够的资源来为受伤害的工人提供充分有效的补救措施。各国必须确保服务的受益人也负责提供补救措施。事实际上，各国制定了立法，以解决企业提供(或使另一个企业)从工人剥削中获得任何形式的利益的情况，其中可能包括接触有毒物质。[80]

原则 15

各国应评估因职业接触有毒物质而受到伤害的工人的跨境案件的管辖权。

113. 跨国企业侵害权利的受害者要就在职业中接触有毒物质得到有效补救方面面临具体障碍。挑战包括证明损害和确定因果关系、诉诸大多数司法管辖以获得补救的费用以及某些司法系统缺乏独立性。各国有责任采取必要步骤解决这些挑战，以防止拒绝司法，并确保在职业中接触有毒物质的受害者获得有效补救的权利。[81]

114. 各国应确保其法律规定对在国外发生的接触有毒物质案件拥有管辖权。母国应宣布对此类公司侵权行为拥有管辖权，包括适当的刑事制裁。对跨界案件的有效问责和获得补救措施需要进行国际合作，包括制定预防和披露信息的措施。

[79] 如果雇主不存在或无法以其他方式为工人提供有效的补救措施，则应提供替代追诉办法。

[80] 例如见，《2015 年英国现代奴役法》，第 1 部分，第 3 (5)节。

[81] 经济、社会及文化权利委员会，第 24 号一般性意见。

Mapping references to the rights of workers in previous reports and selected communications of the Special Rapporteur

For over 20 years, the Commission on Human Rights, and subsequently the Human Rights Council, have mandated a special rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes (formerly the illicit movement and dumping of toxic and dangerous products and wastes) to monitor and report on the issues confronting workers in various industries around the world. These sectors include extractive industries, manufacturing, agriculture and food, the dismantling of end-of-life ships (shipbreaking) and the disposal of electronic waste and other forms of waste disposal, in both the formal and informal sectors. The present annex contains examples of cases brought to the attention of the mandate, selected from reports of and communications to the Special Rapporteur. It is envisaged that a more complete compilation will be submitted to the Council at future sessions.

Report	*References to occupational exposures*	*Challenges faced by workers*
"Legal framework related to the release of toxic and dangerous products during armed conflict" **(A/HRC/5/5, sect. III) (2007)**	The report contained an overview of previous reports that illustrate impacts of workers' exposure to toxic chemicals on human rights. The former Special Rapporteur's report in 2004 highlighted the adverse impacts on the human rights of workers and communities involved in hazardous waste disposal or recycling operations of obsolete ships and electronic wastes in developing countries.[1] The 2006 report of the former Special Rapporteur focused on chronic, low-level exposure to hazardous chemicals.[2] Previously the former Special Rapporteur reported on the human rights impact of hazardous chemicals from acute exposures, such as in the context of incidents of pesticide poisoning in developing countries or from catastrophes like the Bhopal disaster. In the 2007 report the former Special Rapporteur drew attention to the adverse effects of toxic and dangerous products in the context of armed conflicts, including on soldiers.	• Inadequate standards of protection • Limited progress in prevention of exposure • Disconnected efforts on occupational and environmental health • Opaque supply chains and the transfer of hazardous work • Exploitation of those most at risk

[1] E/CN.4/2004/46 and Corr.1, paras. 29-43.

[2] E/CN.4/2006/42.

Report	*References to occupational exposures*	*Challenges faced by workers*
"Mission to Ukraine" **(A/HRC/7/21/Add.2) (2008, mission carried out in 2007)**	In relation to workers, the former Special Rapporteur was informed that workers handling toxic material (acid tars) were not informed of the materials toxicity and would unload the acid tars manually. These tars observed to be in partially exposed conditions around the grounds of the Dobrotvir power station, posing threats of exposure to the workers, their families and the communities living around the area.	• Monitoring and enforcement gaps • Failures to realize the right to information
"Adverse effects on human rights and right to information and participation" **(A/HRC/7/21, sect. III) (2008)**	The former Special Rapporteur noted that, because of structural conditions in many developing countries, women and the young are particularly at risk from transfers of toxic and dangerous products and wastes. Women, children and the young are often among the poorest and therefore likely to work in polluting industries and scavenge dumps of waste for reusable materials. They are also most likely to have limited access to information on waste products and to health facilities in the event of contamination. The former Special Rapporteur called for greater global attention to the gender and age dimensions of the illicit movement and dumping of toxic and dangerous products and wastes on the enjoyment of human rights.	• Exploitation of those most at risk • Failures to realize the right to information • Opaque supply chains and the transfer of hazardous work
"Mission to the United Republic of Tanzania" **(A/HRC/9/22/Add.2) (2008)**	During a country visit to Tanzania in 2008, the former Special Rapporteur observed that workers did not use safety equipment such as gloves, dust masks, boots and glass retorts in the course of extracting and processing gold. He was particularly concerned because dangerous chemicals, mercury and cyanide, were used in the extraction process. Most of these were artisanal and small-scale miners (ASM) in the informal sector. The former Special Rapporteur was informed that there were instances of miners not receiving adequate information on the impact mercury can have on their health. In other cases, however, local miners were sensitized through efforts made by the Government, non-governmental organizations and through projects such as the Global Mercury Project, launched by UNIDO and the Ministry of Energy and Minerals with the support of other stakeholders. Some workers informed the former Special Rapporteur that they were aware of the dangers of using mercury and other chemicals in the extraction process; however, due to poverty and the lack of a suitable alternative, the miners were forced to continue to use mercury and other dangerous products without supervision, endangering the health of themselves, their children and their community more broadly. The former Special Rapporteur was concerned about the number of women and children he saw during his visits to the artisanal and small-scale mining areas. Many of the women and children were unaware of the health and safety hazards that are associated with artisanal and small-scale mining, such as mercury poisoning in the long term, amongst others. It was the case that during the processing of gold, ore is moved to the milling centres by women and children. In addition to	• Inadequate standards of protection • Limited progress in prevention of exposure • Exploitation of those most at risk • Failures to realize the right to information • Opaque supply chains and the transfer of hazardous work • Monitoring and enforcement gaps • Informal economy

Report	*References to occupational exposures*	*Challenges faced by workers*
	working in harsh environments, often exposed to direct sunlight and not able to afford safety equipment, the women were sometimes subjected to threats and intimidation by other members of the community, especially if they were migrants. The presence of child labour in mining was attributed to poverty. Children were documented working in artisanal and small-scale mines in order to help the family and supplement total household income in order to buy basic goods and food. In Tanzania, child labour in the mining sites was described as common from the age of 10. The former Special Rapporteur saw children working and playing with their bare hands with toxic mercury, a particularly dangerous state of affairs as they are vulnerable to physical and chemical hazards. Mercury can cause severe damage to the developing brain, especially for developing children. The former Special Rapporteur was particularly concerned that children as young as 10 were being exposed to such highly toxic substances. The former Special Rapporteur regretted the lack of statistics on occupational diseases related to mining. The former Special Rapporteur was informed by the authorities, non-governmental organizations and mining associations that there was no system of recording mining-related incidents, such as accidents that occur during the processing of gold amongst others. This was particularly worrying given the fact that artisanal and small-scale miners are often some of the poorest people and are therefore unlikely to have access to health-care. The former Special Rapporteur was further informed that while many miners were aware of the toxicity and dangers of mercury poisoning as well as other chemicals that may be harmful to their health, the miners and communities do not know when deaths and illnesses are related to their work, or to other illnesses.	
Communications sent to and replies received from Governments **(see A/HRC/7/21/Add.1, Germany, Malaysia) (2006)**	On 17 July 2006, the former Special Rapporteur sent an urgent appeal regarding allegations relating to the SS Blue Lady (ex-Norway) bearing tonnes of toxic wastes such as asbestos, polychlorinated biphenyls (PCBs) and other contaminants in its structure, and which was reportedly waiting to be dismantled in Alang, state of Gujarat, India. The ship was reportedly denied entry to ship breaking yards in Bangladesh in February 2006 based on its toxic waste content. It was alleged that the ship-breaking yards in Alang lacked the possibility of protection of workers from exposure to toxic chemicals and environmentally sound management of toxic wastes. According to reports from experts, as much as 1,200 tonnes of asbestos remained in the SS Blue Lady, posing grave risks to workers and the community. The former Special Rapporteur expressed concerned with the potential human rights violations that could occur if the allegations mentioned in this communication were correct and the dismantling of the ship did indeed take place.	• Monitoring and enforcement gaps • Exploitation of those most at risk • Informal economy • Opaque supply chains and the transfer of hazardous work • Failures to realize the right to information

Report	*References to occupational exposures*	*Challenges faced by workers*
"Shipbreaking" (A/HRC/12/26) (2009)	Shipbreaking represents an important source of raw material supply and provides jobs to tens of thousands of persons. Over 95 per cent of a ship can be recycled. In principle the recycling of end-of-life vessels constitutes the best option for ships that have reached the end of their operating life, and proper facilities are available to recycle ships. However, the abhorrent working conditions and abysmal environmental protections prevailing at many shipbreaking yards in the world, and in particular in South Asian countries where ships are dismantled directly on tidal beaches, are noted to risk adversely affecting the enjoyment of several human rights, including the right to life, the right to the highest attainable standard of physical and mental health, and the right to safe and healthy working conditions, among others. The report notes with concern the ongoing use of these substandard shipping yards, and their unsustainable "beaching" practice, by major shipping companies around the world despite the availability of safer methods and the prohibition on such substandard practices in their home states. In shipbreaking yards, workers often are exposed to toxic chemicals including asbestos dusts and fibres, highly toxic industrial chemicals which have been banned for decades but are still present in ships, as well as lead, mercury, arsenic or cadmium in paints, coatings and electrical equipment. Workers are often without protective equipment to reduce exposure. Prolonged exposure to these chemicals increases the risk of developing slow-progressing but fatal diseases, which may not become apparent until many years after exposure. Shipbreaking activities expose workers to a wide range of workplace activities or conditions which may cause death, permanent or temporary disabilities, injuries, ill-health and occupational diseases. Long-term exposure to hazardous substances and wastes protection may also lead to serious or irreversible work-related diseases, including lung diseases, several forms of cancer and asbestos-related illnesses. Most workers are illiterate, very poor and are not aware of the health and safety risks associated with long-term exposure to these substances. Persons living in residential areas close to the yards also risk developing diseases related to the exposure to toxic and dangerous substances produced during shipbreaking activities. Furthermore, a great number of workers die or are seriously injured because of work-related accidents or occupational diseases related to long-term exposure to hazardous materials present on end-of-life ships. Workers do not usually receive any information or safety training. They live in makeshift facilities which often lack basic minimum requirements such as sanitation, electricity and even safe drinking water, compounding health risks of toxic exposures at work. There is a general lack of medical facilities and social protection, and injured workers or their relatives hardly receive any compensation for work-related accidents resulting in fatal injuries or permanent disabilities. In spite of an increased international awareness on the issue in past years, shipbreaking continues to be one of the most hazardous occupations in the world due to the extremely poor	• Inadequate standards of protection • Monitoring and enforcement gaps • Opaque supply chains and the transfer of hazardous work • Inaccessible remedies, justice and accountability • Disconnected efforts on occupational and environmental health • Failures to realize the right to information • Limited progress in prevention of exposure • Exploitation of those most at risk • Restrained freedom of association • Deliberate efforts to delay or obstruct protection from toxic exposure

Report	*References to occupational exposures*	*Challenges faced by workers*
	working practices and environmental conditions prevailing in many shipbreaking yards. Health and safety legislation is often not applicable to shipbreaking activities, due to the fact that it is not recognized as an industry in some countries, and this leaves workers in shipbreaking yards in a particularly vulnerable situation. Furthermore, when national labour standards are applicable, they are rarely enforced due to corruption of law enforcement officials and the lack of effective inspection mechanisms. In many shipbreaking yards, workers are not provided with personal protective equipment (PPE), such as skin, eye or lung protection, aimed at ensuring the safe handling of hazardous materials or preventing the inhalation of toxic substances. Appropriate PPE for working in specialized areas, such as respiratory protective equipment for work in conditions where there is a risk of oxygen deficiency, is also generally not available. There is usually no equipment for machine safety, fire safety, chemical safety and water safety, and when such equipment exists, it is poorly maintained. With a few exceptions, the vast majority of workers do not receive any information on the hazards or risks to health and safety, nor do they receive any training on how to minimize risks to health and safety at work. Due to the informal nature of working arrangements, workers are not covered by social protection schemes, and do not receive any benefit in case of injury, sickness, temporary or permanent disability in the case of occupational accidents or diseases. Injured workers or relatives of deceased workers receive hardly any compensation for work-related accidents resulting in fatal injuries or permanent disabilities. When compensation is paid, the amount received is generally much lower than the amount stipulated by the law. In case of accidents, employers usually pay for first treatment and immediate medical expenses, but not for long-term medical treatment or for expenses linked to chronic work-related diseases. If a worker is affected by an occupational disease, he is often unable to retain or find further employment opportunities in any of the yards. There is no written contract of employment for semi-skilled and unskilled workers. They can be fired at any time with no prior notice, and without the need to indicate any reasonable ground. The absence of job security, due to the lack of formal work contracts, and the climate of intimidation prevailing in the yards de facto prevent workers in shipbreaking yards from exercising their right to form trade unions for the promotion and protection of their economic and social interests and their right to collective bargaining. Semi-skilled and unskilled workers usually live in makeshift facilities built by yard owners on, or just outside, the yards. The shacks are often congested, and lack basic sanitation facilities, electricity and even drinking water. Workers are too often not provided with proper cooking or eating facilities in the yards, and are compelled to go to nearby shops and tea stalls for their food. Due to their proximity to the yard, workers continue to be exposed to toxic and dangerous substances like asbestos and hazardous fumes at their sleeping quarters.	• Informal economy

Report	*References to occupational exposures*	*Challenges faced by workers*

There are no comprehensive statistical data on persons who died or developed disabilities as a result of occupational accidents in the shipbreaking industry. The authorities rarely keep records on accidents occurring at shipbreaking facilities. In Bangladesh, for example, neither the yard owners nor public authorities appear to collect statistical data about deaths and disabilities caused by accidents at shipbreaking yards. According to media reports, more than 400 workers were killed and 6,000 seriously injured between 1985 and 2005 in Bangladesh, but NGOs estimate that at least 1,000 people have died in Chittagong due to accidents over the last decades. When official figures exist, they appear to be largely underestimated. According to official figures, for example, there were 434 incidents at the Alang yards between 1996 and 2003, killing 209 workers; however, NGOs feared that that the number of workers who died or developed disabilities as a result of work accidents may be much higher.

Through the adoption of various unfair practices, employers often conceal information about work-related accidents. Many major cases are not reported and settlements are reached with the workers secretly. In case of fatal accidents, families of the victims are usually not informed, as contractors do not use proper names or addresses of the workers and there is no monitoring or inspection of the yards.

Official and estimated figures do not include workers who died of occupational diseases related to long-term exposure to toxic and hazardous wastes and materials: the “hidden” deaths. It is virtually impossible to get any data about the number of affected workers, since the symptoms of many of these occupational diseases only appear several years after exposure, but it is estimated that a significant number of individuals died, and many others will die in the future, because of occupational diseases related to shipbreaking activities. For example, a medical study submitted to the Indian Supreme Court in September 2006 concluded that 16 per cent of the workforce handling asbestos in Alang showed symptoms of asbestosis, and was therefore at serious risk of developing mesothelioma in the future.

In relation to workers’ rights, the former Special Rapporteur encouraged States to take steps to improve their regulatory and enforcement capacities in the field of labour law and worker safety, health and welfare, so as to strengthen the protection afforded to persons employed in the shipbreaking industry. States were also encouraged to eliminate obstacles which de facto prevent workers in shipbreaking yards from exercising their freedom of association and right to collective bargaining, and set up an effective and reliable system of labour inspections, with the participation of workers’ representatives. Shipbreaking States should also take immediate steps, to the maximum of their available resources, with a view to realizing fully the right of workers to social security in the event of accidents and occupational diseases. Yard owners should take all appropriate measures, when needed through State support and international assistance and cooperation, to improve health and safety at work (inter alia by providing adequate personal

Report	*References to occupational exposures*	*Challenges faced by workers*
	protective equipment and safety training), promote better health care, housing and sanitation facilities for workers, and develop appropriate mandatory insurance schemes to protect workers in the event of accidents and occupational diseases. In relation to data collection, the former Special Rapporteur urged ship-recycling States and yard owners to collect disaggregated statistical data on an annual comparative basis on workers who die or develop disabilities as a result of work-related accidents or occupational diseases, and make these data publicly available.	
"Review of the Work and Activities" **(A/HRC/15/22) (2010)**	The former Special Rapporteur reminded the Council of the extremely poor working practices and environmental conditions prevailing in most shipbreaking yards would continue to require the attention of the mandate holder. The former Special Rapporteur was of the view that the Convention alone is not sufficient to bring about significant improvements in the working practices prevailing in shipbreaking yards or in the elimination of the serious environmental pollution that the yards generate. Electronic and electrical appliances contain hundreds of different substances, many of which are highly toxic and pose significant risks to human health and the environment if they are not managed and disposed of in an environmentally sound manner. In developing countries, the vast majority of obsolete electrical and electronic equipment is dismantled in small-scale, informal workshops that separate their various components (i.e. plastic, ferrous metals, non-ferrous metals, glass) for recycling or reuse. During the process of breaking down old computers and other high-tech devices, workers are exposed to hazardous substances, including toxic heavy metals such as lead, cadmium, beryllium and mercury, hazardous chemicals, such as brominated flame retardants, and other toxic plastic additives. Furthermore, unusable parts are usually disposed of in landfills or burned, causing widespread and long-lasting contamination of soil, air and surface and groundwater resources. The report notes with concern the problems posed by pesticides in developing countries, due to the large number of persons employed in the agricultural sector, weak or non-existent regulatory regimes and little public awareness of the potential health and environmental harm caused by pesticide exposure. It is reported that as many as 25 million agricultural workers suffer serious or irreversible work-related diseases, including several forms of cancer, endocrine system disruption and reproductive and neurological disorders, linked to long-term exposure to hazardous pesticides. Lead in paint was noted as a major source of lead exposure of workers and others. Inhalation of lead-contaminated house dust is the most common exposure pathway to lead-based paint for children and adults alike. However, residential renovation and paint removal can be significant sources of lead exposure for construction workers as well as residents. Dry sanding, abrasive blasting, and burning, welding, or heating surfaces covered with lead paint typically generate highly dangerous airborne lead levels.	• Inadequate standards of protection • Monitoring and enforcement gaps • Exploitation of those most at risk • Informal economy • Opaque supply chains and the transfer of hazardous work

Report	*References to occupational exposures*	*Challenges faced by workers*
"Mission to Kyrgyzstan" **(A/HRC/15/22/Add.2) (2010)**	High unemployment rates, decreases in living standards and lack of social protection force a large number of individuals to leave their villages to search for employment opportunities and a better standard of living abroad. About 400,000 citizens leave the country every year. Most choose to migrate, both legally and illegally, to Kazakhstan and the Russian Federation, where they are at risk of occupations. Risks to agricultural workers from obsolete, prohibited or poor quality pesticides, such as DDT manufactured in China, were noted with concern. Such highly hazardous pesticides reportedly continued to be illegally imported into, and exported out of, the country due to the lack of adequate controls at the borders with China and Tajikistan. Such highly hazardous pesticides were noted as being frequently unlabelled, or are labelled with information that farmers or agricultural workers cannot read either because they are not in the worker's local language or because of insufficient literacy. Studies showed accumulation of highly toxic mercury in various tissues and parts of the body (hair, blood, urine) of workers and other persons analysed. Maximum levels were registered among workers employed in the mercury plant. High concentrations of mercury were also observed in children's blood and in the milk of nursing mothers. Although no comprehensive study was then carried out to assess the extent of mercury contamination, elevated mercury concentration, often exceeding maximum allowable concentration norms, have been recorded in air and water resources in areas surrounding large enterprises that are currently producing or had produced mercury in the Batken and Osh oblasts. Information on chemical products sold in the country should be available, accessible, user-friendly, adequate and appropriate to the needs of all stakeholders. People handling hazardous chemicals, such as farmers and employees in the chemical or energy sector, should receive appropriate information and training on such chemicals and their intrinsic properties, and on how to use them in ways that minimize adverse health consequences.	• Exploitation of those most at risk • Inadequate standards of protection • Monitoring and enforcement gaps • Failures to realize the right to information
"Mission to India" **(A/HRC/15/22/Add.3) (2010)**	The purpose of the visit was to examine the progress made, and the difficulties encountered, by the country in implementing its obligations under human rights and environmental law to ensure the sound management and disposal of hazardous products and wastes. In particular, the aim of the mission was to gather first-hand information on the adverse effects that hazardous activities, such as shipbreaking and the recycling of electrical and electronic waste (e-waste), have on the enjoyment of human rights of the countless individuals working in these sectors or living close to the places where these activities take place. Despite some progress noted, the former Special Rapporteur identified a number of key challenges. National legislation on waste management and health and safety at work was not effectively implemented, and the current institutional framework appeared inadequate to respond	• Inadequate standards of protection • Monitoring and enforcement gaps • Opaque supply chains and the transfer of hazardous work

Report	*References to occupational exposures*	*Challenges faced by workers*
	to the challenges posed to worker and others by the generation, management, handling, transport and disposal of toxic and dangerous products and wastes. The health and safety situation prevailing at the shipbreaking yards continued to remain critical, especially in Mumbai, where the working conditions and the quality of facilities remain highly inadequate for guaranteeing health and safety at work and an adequate standard of living for those employed in the shipbreaking sector. Shipbreaking was noted to be of grave concern, noting that during the dismantling process, workers are exposed to a wide range of hazardous workplace activities, such as entry into confined, enclosed or other dangerous atmospheres, paint removal, oil/fuel removal and tank cleaning, which may cause death, permanent or temporary disabilities, and injuries. Furthermore, long-term exposure to toxic and hazardous substances and materials which may be present on ships sent for dismantling, such as asbestos, polychlorinated biphenyls (PCBs), heavy metals in paints, oils and oil sludge, may lead to serious or irreversible work-related illnesses and diseases, including lung diseases, several forms of cancer and asbestos-related illnesses. At the time of the former Special Rapporteur's visit, the 128 yards that were operational provided employment to about 30,000 workers. In addition, over 500,000 workers were employed in associated downstream industries, such as re-rolling mills, foundries, scrap-handling yards, local goods stores and other small businesses. Most of the shipbreaking workers at Alang/Sosiya and Mumbai were migrant workers coming from poorer, less industrialized states of the Union, such as Uttar Pradesh, Orissa and Bihar. Many workers would go back to their villages for three to four months a year, usually during the monsoon season, to work in agriculture, likely exposed to a different type of occupational toxic substances. It was a largely uneducated workforce, relatively young (19-45 years old) and mostly male. Most of the workers are either illiterate or have attended primary levels of schooling. A large percentage of workers are married, but only 20 per cent of them live with their families. The former Special Rapporteur noted the development of training opportunities for some workers. The Safety Training and Labour Welfare Institute, established in 2003 in Alang, provided a number of training programmes, seminars and workshop aimed at raising awareness on the risks associated with ship-dismantling activities and on the measures to adopt to minimize such risks. From 2003 to 2009, some 49,000 workers participated in training activities at the Institute. The "basic safety for all" programme was compulsory for all workers in the yards. The former Special Rapporteur also noted the progressive introduction and use of basic PPEs, such as helmets, gloves and goggles, reportedly contributing to the reduction in the number of serious accidents resulting in death or disabilities. The Special Rapporteur welcomed the efforts made by the local authorities and the shipbreaking industry to improve the health and quality of life of workers and their families in Alang/Sosiya.	• Exploitation of those most at risk • Failures to realize the right to information • Limited progress in prevention of exposure • Informal economy • Restrained freedom of association • Inaccessible remedies, justice and accountability

Report	*References to occupational exposures*	*Challenges faced by workers*

Notwithstanding these positive developments, the health and safety situation prevailing at the shipbreaking yards continued to remain critical, as witnessed by the 12 fatal accidents that occurred in Alang/Sosiya during the course of 2009, and there are a number of identifiable shortcomings which need to be addressed. The former Special Rapporteur was particularly concerned about the quality of infrastructure facilities in Mumbai, which continue to be highly inadequate for guaranteeing health and safety at work and an adequate standard of living for those employed in the shipbreaking sector.

The informal nature of shipbreaking activities hampers the effective implementation of national labour standards aimed at guaranteeing job security and just and favourable conditions of work. There is no written contract of employment. Workers were hired either on a monthly basis or for a specific task on a vessel. They regularly change plots, depending on the arrival of ships and workload. Workers were paid monthly, usually at the daily rate. The average daily rate is 250 rupees a day (about US$ 5). Working hours are from 8 a.m. to 5 p.m., but reportedly there is a two-hour compulsory overtime every day until 7 p.m. in most yards. Workers can be fired at any time with no prior notice and with no reasonable ground.

The former Special Rapporteur considered that the absence of a written contract of employment, and the possibility of dismissal overnight, are at the core of the vulnerability of shipbreaking workers, and de facto prevent the full and effective enjoyment of the core labour rights enshrined in articles 6, 7 and 8 of the Covenant.

With a few exceptions, the vast majority of the workforce in Mumbai do not receive any information on the hazards or risks to health and safety, nor do they receive any training on how to avoid or minimize them. With regard to safety training, the former Special Rapporteur was of the view that existing training opportunities in Alang/Sosiya should be improved, considering the magnitude of the risks associated with shipbreaking activities and the hazardous substances workers are potentially exposed to. In Mumbai, workers do not receive any formal training from their employers, which makes them more prone to serious accidents and injuries. As far as PPEs are concerned, the former Special Rapporteur regrets that not all the workers in Mumbai receive helmets, gloves and goggles, and that only a fraction of them actually use them during work.

Due to the informal nature of working arrangements, workers are not covered by social protection schemes, and do not receive any benefit in case of work-related injuries or diseases. The compulsory insurance that the industry is required to have covers only death and permanent disabilities. In cases of minor accidents, employers usually pay for first aid and immediate medical expenses, but not for long-term medical treatment or for expenses linked to chronic work-related illnesses. Workers do not usually receive any wages or benefits when absent from work on medical grounds.

Report	*References to occupational exposures*	*Challenges faced by workers*
	Health facilities in Alang/Sosiya do not possess sufficient human, technical and financial resources to provide any treatment other than first aid for minor injuries. The nearest hospital equipped to deal with life-threatening conditions is in Bhavnagar, more than 50 kilometres away. The Red Cross hospital in Alang, which the former Special Rapporteur visited, can count on only four medical doctors and nine beds to provide health care not only to some 30,000 workers in the yards, but also to the neighbouring villages of Alang (which has a population of about 18,000 people) and Sosiya (4,000 people). In Mumbai the situation is even worse, with no permanent facilities except first aid and ambulance services. The former Special Rapporteur notes with concern that most workers, but reportedly also a number of yard owners, are not aware of the serious life-threatening work-related diseases which may result from long-term exposure to toxic and hazardous substances and materials present on end-of-life ships. In particular, it appears that the majority of the workforce and the local population do not know the adverse consequences of prolonged exposure to asbestos dusts and fibres and are not familiar with the precautions that need to be taken to handle asbestos-containing materials.	
	The former Special Rapporteur also reported on the situation of workers handling electronic waste (e-waste). The term “e-waste” is generally used to describe obsolete, broken or discarded appliances using electricity, such as computers, mobile phones and household appliances. E-waste may contain a number of hazardous substances, which can be released in the workplace and in the surrounding environment during the separation and recovery process. At the time, it appeared that only 3 to 5 per cent of e-waste is recycled in authorized recycling facilities. The vast majority of electrical and electronic equipment (EEE) was collected, dismantled and processed in the informal sector by some 80,000 workers, including women and children, who earn their livelihood by breaking down old computers and other high-tech devices to recover precious metals such as gold, copper and silver. The work is done largely by hand, using rudimentary techniques. Workers recovering glass by hammering cathode ray tubes or heating PCBs to remove capacitors are a common sight in most workshops dismantling e-waste. Workers did not use any protective gear to guard against hazardous substances released during the breaking of obsolete EEE. The Delhi area is the main hub for informal recycling of e-waste in India, with about 25,000 workers engaged in the various stages of the process. The recycling business is based on a network of collectors, traders and recyclers. Each phase of the process adds value to the materials and creates job opportunities for a great number of people. The e-waste market was not centred in one main area, but spread around different zones, each handling a specific stage of the process (for example storage, component separation, plastic shredding, acid processing/leaching, open burning and residue dumping).	• Inadequate standards of protection • Limited progress in prevention of exposure • Monitoring and enforcement gaps • Exploitation of those most at risk • Opaque supply chains and the transfer of hazardous work • Disconnected efforts on occupational and environmental health

Report	*References to occupational exposures*	*Challenges faced by workers*
	At the time, legislation on waste management has not proved effective in informal sectors, and was regarded as not providing sufficient protection for the estimated 80,000 persons working in the informal e-waste recycling sector and their families. The failure to incorporate the informal sector into Government strategies on the sound management and disposal of e-waste constitutes, in the former Special Rapporteur's view, a violation of the obligations undertaken by the State under articles 6, 7 and 11 of the International Covenant on Economic, Social and Cultural Rights. The former Special Rapporteur is concerned about the extremely dangerous recovery processes and techniques used in the informal e-waste recycling sector and their adverse effects on the right to health of those employed in small-scale informal workshops. Such health-threatening practices include the physical breaking of hazardous components, open-air incineration and acid leaching to extract gold and copper, and the melting of lead. Most of these activities involve physical dismantling by bare hands and basic tools. Workers were observed to not use any protective gear to prevent exposure to the hazardous substances contained in EEE; indeed, most of them possessed very little or no knowledge of the risks associated with the handling of these hazardous substances or the precautions to use to minimize their adverse health effects.	• Informal economy • Failures to realize the right to information
"Medical Waste" (A/HRC/18/31) (2011)	Each type of hazardous medical waste presents hazards that jeopardise the enjoyment of human rights by workers and others. The 2011 thematic report contained several examples of the adverse impact that the improper management and disposal of medical waste continue to have on the enjoyment of human rights in many countries. All individuals exposed to health-care waste are potentially at risk of being injured or infected, including medical staff: doctors, nurses, sanitary staff and hospital maintenance personnel; workers in support services linked to health-care facilities such as laundries, waste-handling and transportation services; and workers in waste-disposal facilities, including scavengers. While all persons exposed to hazardous medical waste are at risk of health impacts, the main occupational groups at risk include hospital personnel, workers handling and transporting waste, persons working at waste disposal facilities, and scavengers. In many developing countries, nurses and (to a lesser extent) doctors do not receive adequate information on the hazards associated with the unsafe handling of hazardous medical waste, nor do they receive any training on how to eliminate, or reduce to a minimum, such hazards. Medical personnel often receive limited instructions on the use of personal protective equipment, and are not aware of safety emergency procedures for dealing with spillages (for example, when mercury-containing equipment breaks) and accidents. In some health-care establishments, staff members are not vaccinated against common infectious diseases, such as tetanus and hepatitis. Hospital cleaners and waste handlers are in an even more vulnerable position than the medical staff that produce the waste. An increasing number of them are employed by external contractors rather than being directly employed by the hospital, and may not receive any information on the occupational risks to which they are exposed and on the correct procedures for handling, loading and unloading	• Inadequate standards of protection • Exploitation of those most at risk • Failures to realize the right to information • Limited progress in prevention of exposure • Monitoring and enforcement gaps • Informal economy • Disconnected efforts on occupational and environmental health

Report	*References to occupational exposures*	*Challenges faced by workers*
	waste bags and containers. They are often poorly educated, and often do not receive any vaccinations or proper personal protective equipment. Disposable latex gloves may be provided, but they are usually thin and offer little protection. In many health-care establishments, it is not uncommon to see medical waste being transported by hand in bin bags, risking spills of toxic or infectious liquids, or staff injuries from protruding needles or other sharp objects. Like hospital cleaners and waste handlers, operators of small-scale medical waste incinerators, garbage collectors and people working in municipal waste facilities, where large amounts of medical waste are mixed and disposed of with general household waste, are unlikely to receive proper training on the risks associated with the handling of hazardous medical waste or protective clothing, including gloves against needle-stick injuries. They do not usually receive any vaccinations against common infectious diseases. Untreated medical waste can reach the recycling industry by a number of routes. In many developing countries, where hospitals have no recycling programmes, staff at healthcare facilities often sell medical waste to waste recyclers in order to supplement their incomes. This practice allows for the reuse and recycling of a large amount of non-hazardous hospital materials, such as empty bottles and containers or aluminium from vial caps. Other materials, such as syringes, blood bags or laboratory waste, are, however, extremely hazardous, and the practice puts whoever processes these products at risk. Waste recyclers usually have no formal education and possess very little or no knowledge of the risks associated with the handling of hazardous substances or the precautions to adopt to minimize their adverse health effects. They usually use no protective gear to prevent them from exposure to the hazardous substances contained in medical waste. Medical waste is also sought out by scavengers, who put themselves at great risk by collecting it. In some countries, scavengers are often seen in hospital grounds, while others collect waste from municipal dumps or at illegal landfills. In December 2007, for instance, a large number of scavengers, mainly children, were suspected to have contracted hepatitis C as a result of needle-stick injuries during the collection of used syringes and other clinical waste for recycling. Even in countries where there is less of a recycling industry, the practice of mixing medical waste with ordinary garbage exposes scavengers to a number of infectious diseases, such as hepatitis and tetanus, and to physical risks associated with the handling of infected needles and broken glass. Information on the hazards associated with the handling of hazardous medical waste, access to training opportunities on the safety procedures to minimize hazards, and proper personal protective equipment were noted to constitute essential preconditions for the enjoyment of the right to safe and healthy conditions of work. In many health-care establishments around the world, the lack of adequate waste management plans to ensure the safe and environmentally sound segregation, collection, transport, treatment and disposal of medical waste continue to expose a significant number of people from a wide range of occupations to the risk of injury and illness.	• Inaccessible remedies, justice and accountability

Report	*References to occupational exposures*	*Challenges faced by workers*
	The report notes that WHO has elaborated a number of policy, management and advocacy tools to minimize the risks that the improper management of health-care waste pose to health-care workers, patients, waste handlers, the community at large and the environment, and to facilitate the establishment and sustained maintenance of a sound system of health-care waste management. In most developing countries and economies in transition, the lack of adequate technical resources for the safe and sound management of health-care waste, the limited funding for health-care waste management and the inadequate awareness of the direct and indirect risks posed by health-care waste constitute the main obstacles to the development of a comprehensive regulatory framework on health-care waste management and to its effective implementation. The former Special Rapporteur recommended that States strengthen their legal framework on hospital hygiene and occupational health and safety, and provide adequate human, technical and financial resources to national authorities responsible for its enforcement. He also recommends that health authorities organize educational programmes and training opportunities to raise awareness about health, safety and environmental protection issues relating to medical waste management. In view of the fact that persons working within and outside health-care establishments often receive limited information and training opportunities on the occupational risks to which they are exposed and on the correct procedures for handling waste in a safe manner, the former Special Rapporteur urged relevant national health authorities to include waste management in the curricula of future medical practitioners and nurses, to provide appropriate information on the occupational risks to which medical and paramedical staff may be exposed, and to organize training opportunities on safe health-care waste management for staff handling medical waste. The former Special Rapporteur called on health-care establishments to take all appropriate measures to improve health and safety conditions for those handling medical waste in and outside health-care establishments. Such measures should include: (a) Access to information on the specific occupational risks to which different categories of workers are exposed, and the safety measures to minimize such risks; (b) The provision of appropriate personal protective equipment for persons handling hazardous health-care waste; (c) Access, on a voluntary basis, to vaccination against such common infectious diseases as tetanus and hepatitis; (d) The organization of training opportunities and safety workshops designed for and targeting different categories of hospital personnel (such as medical doctors, nurses, hospital cleaners and waste handlers); (e) Regular drills in emergency prevention, preparedness and response procedures.	

Report	*References to occupational exposures*	*Challenges faced by workers*
	The former Special Rapporteur recommended a number of principles be taken into account while drafting and implementing such health-care waste management plans, some of which relate to the protection of workers in the healthcare sector from exposure to hazardous substances and wastes: Prevention/minimization of hazards — The former Special Rapporteur called on States, healthcare facilities and the private sector to take all appropriate measures, including educational programmes and improved production processes, to ensure that the generation of hazardous medical waste is reduced to a minimum. Hospitals should, whenever feasible, replace hazardous chemicals/products (for example, mercury-containing devices) or disposable instruments (such as scissors and kidney dishes) with alternative products or reusable products. Prescription practices should also be changed so that unnecessary injections in cases where effective oral medical is available may be avoided. Packaging and labelling — The use of internationally recognized symbols and signs is essential to ensure the safe handling of hazardous waste. A common system of labelling and coding of packaging should be used in all health-care establishments and be part of the waste management instructions for hospital workers who handle hazardous waste. Medical waste should be packaged in resistant and sealed bags or containers to prevent spilling during handling and transportation. If shipped abroad for treatment, medical waste should be labelled in accordance with international agreements (such as the Basel Convention). Handling, transportation and storage — Medical waste should be handled and transported in such a way as to prevent unnecessary exposure to staff and others. Handling and transportation should be minimized to reduce the likelihood of exposure to the waste. Medical waste should be held in storage areas that are identified as containing infectious waste. Such areas should always be fitted with a lock in order to prevent access by unauthorized persons.	
"Mission to Poland" **(A/HRC/18/31/Add.2) (2011)**	The former Special Rapporteur noted with concern that national authorities responsible for monitoring compliance with national legislation including in relation to health and safety at work frequently lacked adequate human, technical and financial resources to carry out their monitoring functions adequately. Small and medium enterprises were inspected only once every four years, and only big industrial and agricultural enterprises were subject to more regular controls. The former Special Rapporteur recommended that Poland allocate adequate human, technical and financial resources to the various agencies responsible for enforcing and monitoring compliance with national legislation on environmental protection, waste and chemicals management, and health and safety at work.	• Inadequate standards of protection • Monitoring and enforcement gaps • Failures to realize the right to information

Report	*References to occupational exposures*	*Challenges faced by workers*
	The former Special Rapporteur shared the concerns expressed by the Committee on Economic, Social and Cultural Rights that that Poland had not at the time taken the necessary measures to ensure that the Covenant is given full effect in its domestic legal order. In this regard, the Special Rapporteur noted that some of the economic and social rights enshrined in the Constitution, including the right to safe and healthy working conditions and the right to a healthy environment, could not be directly invoked before national courts and tribunals. The former Special Rapporteur noted that Poland was not a party to a number of ILO conventions on health and safety at work, and called on the Government to consider ratifying these conventions, in particular the Convention concerning Occupational Safety and Health and the Working Environment, 1981 (No. 155) and the Convention concerning the Prevention of Major Industrial Accidents, 1993 (No. 174).	• Limited implementation of ILO instruments
"Human rights and Extractive Industries" **(A/HRC/21/48) (2012)**	The report surveys the human rights impacts to workers engaged in mining from exposure to hazardous substances. Mining is considered one of the world's most dangerous occupations. Workers are exposed to intense heat, toxic substances and fumes, unstable geological structures and intense sounds. Inadequate safety protocols in the handling, storing and disposal of toxic substances are contrary to international human rights treaties protecting the right to safe and healthy working conditions. For example, more significant health effects have been found among uranium miners who are exposed to high levels of radon. A well-known and potentially fatal respiratory disease affecting extractive industry workers is coal worker's pneumoconiosis, or black lung disease, which causes the lungs to inflame and stiffen from scarring. Another potentially debilitating and fatal outcome of exposure to coal dust is silicosis. Disturbingly, up to 12 per cent of coal miners develop these two deadly diseases. Despite increasing global consensus of the dangers of mercury, the former Special Rapporteur expressed concern that miners and their families are still exposed to this hazardous substance and neurotoxin; miners in Brazil, Colombia, Guyana, Indonesia, the Philippines, United Republic of Tanzania and Zimbabwe were recorded with mercury levels of up to 50 times above the limits set by the World Health Organization (WHO). A study by the National Institute for Occupational Safety and Health (NIOSH) and the National Cancer Institute of the United States of America showed a direct relationship between diesel exhaust and lung cancer. Underground miners are exposed to over 100 times the background concentrations of diesel exhaust, and the use of diesel-fuelled equipment is growing in the mining community. Not surprisingly, the study found that underground miners, who have the greatest exposure to diesel exhaust, have a higher lung cancer mortality rate than surface miners, as well as elevated oesophageal cancer and pneumoconiosis. In most cases, children working in extractive industries constitutes one of the worst forms of child labour. The 2012 report notes ILO estimates that one million children worldwide are involved in mining and quarrying, and often with little or no pay; UNEP estimates put that number at between one million and two million. Children as young as 3 years work in dangerous conditions which	• Inadequate standards of protection • Limited progress in prevention of exposure • Monitoring and enforcement gaps • Exploitation of those most at risk • Informal economy

Report	*References to occupational exposures*	*Challenges faced by workers*
	expose them to hazardous substances, including mercury, lead and cyanide. The mines are often too remote to have regular labour inspections, and they do not have unionized workers, resulting in the so-called "frontier communities" where traditional social structures of society and ethical value systems have broken down. Mercury intoxication has been called an epidemic among children working in gold mines. The report notes that one-fifth of the children covered by an International Labour Organization (ILO) survey reported having a health problem since they took up gold mining, primarily aches in limbs and backbone, kidney and urinary tract diseases and exhaustion. In one country, over 400 children under the age of five reportedly died due to lead poisoning associated with gold miners grinding lead-containing rock at home in order to extract the gold, and leaving lead dust on the floors where children crawl. Health risks related to exposure to hazardous substances is exacerbated by children's inclinations to more hand-to-mouth behaviour as well as the fact that personal protective equipment (PPE) is invariably made in adult sizes. Impacts on maternal health from exposure to hazardous substances, especially during the already immune-challenged gestation period, was also noted. The former Special Rapporteur expressed alarm at the discovery of elevated mercury levels in the breast milk of mothers in several countries. He expressed concerned that this may diminish the rights of infant children, reduce the practice of breastfeeding and increase the likelihood for women of diseases associated with exposure to these substances. The report notes how women experience the impacts of artisanal and small-scale mining(ASM) differently, either because of their sex — their biological characteristics as a female —, but more often because of their gender — their sociocultural definition as women. The former Special Rapporteur emphasizes that due to the harmful effects of mercury on the female reproduction function, international human rights law requires States parties to put in place preventive measures and programmes to protect women of childbearing age from mercury exposure. The former Special Rapporteur expressed concern about the extent of child slavery and child labour in the mining and quarrying industries and the impact on children as they face the same risks as adults, but lack the strength and judgment to protect themselves from sexual, moral, social and physical harm, including death and injuries resulting in disabilities. Poverty, lack of access to education, insufficient or non-existent legal frameworks, trafficking and debt bondage have been identified as root causes, manifestations and aggravating factors that lead to child slavery in the mining and quarrying sector. The former Special Rapporteur observed that unaccompanied minors are more likely to be exposed to harmful substances for want of parental protection in already exploitative environments.	

Report	*References to occupational exposures*	*Challenges faced by workers*
	The report notes several International Labour Organization (ILO) conventions concern the occupational hazards facing workers in extractive industries.[3] Despite the robust and varied protection offered by the ILO conventions, the former Special Rapporteur stressed what he considered their three primary shortcomings. First of all, the lack of widespread ratification (ranging from 6 to 57 countries) of these conventions means that global commitment to the full extent of the standards articulated is difficult. Secondly, implementation remains a substantial problem in States that have ratified some or all of these conventions. Indeed, several States parties to Convention No. 169 fail to adequately consult indigenous peoples prior to development and promotion of an extractive undertaking, despite the requirement under the Convention to establish or maintain procedures for consultation with affected indigenous communities, "with a view to ascertaining whether and to what degree their interests would be prejudiced, before undertaking or permitting any programmes for the exploration or exploitation of such resources pertaining to their lands" (art. 15, para. 2). With regard to asbestos extraction, Convention No. 162 has been somewhat successful in reducing asbestos extraction and consumption around the world from an estimated 4.73 metric tons in 1980 to about 2.11 metric tons in 2003. However, despite the adoption of the resolution concerning asbestos in 2006, which endorsed the "elimination of future use of asbestos," extraction and use of asbestos remains alarmingly high (in some cases, production has increased), including in countries that have ratified the Convention.	• Limited implementation of ILO instruments

[3] Convention No. 148 concerning the Protection of Workers against Occupational Hazards in the Working Environment Due to Air Pollution, Noise and Vibration states that, "as far as possible, the working environment shall be kept free from any hazards due to air pollution, noise or vibration."33 • Convention No. 155 concerning Occupational Safety and Health and the Working Environment requires parties to establish a coherent national policy on occupational safety and health in order to improve working conditions. • Convention No. 162 concerning Safety in the Use of Asbestos obligates States parties to prescribe measures to protect workers from exposure to asbestos, including partial or total bans on future asbestos use, and thus its extraction; proper asbestos waste disposal; inspection and monitoring procedures of working conditions; and providing information on the hazards of asbestos to workers. • Convention No. 170 concerning Safety in the Use of Chemicals at Work compels States parties to protect workers from exposure to hazardous chemicals. Employers in States parties to the Convention are obligated to classify and identify hazardous chemicals so as to ensure that workers are not exposed to hazardous chemicals in excess of exposure limits, and to minimize risk. • Convention No. 174 concerning the Prevention of Major Industrial Accidents obligates States parties to "formulate, implement and periodically review a coherent national policy concerning the protection of workers, the public and the environment against the risk of major accidents" (art. 4) and "establish a comprehensive siting policy arranging for the appropriate separation of proposed major hazard installations from working and residential areas and public facilities" (art. 17). • Convention No. 176 concerning Safety and Health in Mines establishes standards for all mining operations, excluding oil and gas extraction. Parties to the convention must consult with representatives of employers and workers to formulate a policy on safety and health in mines consistent with the minimum standards set out in the Convention. 34 • Convention No. 169 concerning Indigenous and Tribal Peoples in Independent Countries recognizes the need for special safeguards of the rights of indigenous peoples to the natural resources, including mineral or sub-surface resources, pertaining to their lands, including the right to participate in the use, management and conservation of these resources and in the benefits of their extraction. 62.

Report	*References to occupational exposures*	*Challenges faced by workers*
	Thirdly, the obligations contained in the conventions are often inadequate to address the problems related to hazardous wastes. For example, Convention No. 169 only requires consultation with affected indigenous and tribal peoples in decision-making on the extraction of natural resources and only provides for compensation for damage from harms caused by such extraction rather than mitigation, which could be accomplished through a robust free, prior and informed consent procedure. Likewise, the other conventions mentioned above contain critical qualifiers to obligations based on "national conditions and practice" which can result in reduced standards in some countries on the grounds that they lack the resources to meet obligations under one or more conventions.	
"Preliminary and scoping report" **(A/HRC/24/39) (2013)**	The report notes that, unlike most other areas of international environmental law, there is neither a framework Convention nor a comprehensive global regime on the regulation of toxic chemicals and wastes. Fewer than 30 of thousands of toxic substances are regulated through their lifecycle under international conventions. The report notes that the impact of substances on human health and the environment can be reduced by limiting or prohibiting the use of these substances in certain industrial processes, where substitutes or alternative processes exist. These restrictions were first designed to protect the health of workers. For example, the ILO adopted a Convention prohibiting the use of certain pigments of lead in industrial paint to prevent the exposure of workers to the risk of lead poisoning. In 1971, another Convention was adopted by the ILO to restrict the use of benzene or products of benzene in certain industrial activities, while demanding the replacement of these carcinogens produced by less harmful substitutes.	• Inadequate standards of protection • Disconnected efforts on occupational and environmental health • Limited implementation of ILO instruments
"Mission to Hungary" **(A/HRC/24/39/Add.1) (2013)**	In Hungary, when a reservoir containing red sludge collapsed, the most serious immediate effects were caused by the high alkalinity (pH 13+) of the sludge. The people of Devecser and Kolontár experienced serious first- and second-degree chemical burns to the skin; respiratory problems were also documented. In addition, the health of some 4,000 volunteers and rescue workers were similarly affected. The former Special Rapporteur attached great importance to the issue of occupational health during rescue operations, and reiterated the recommendation of WHO that personal protective equipment should be selected on the basis of the hazards identified, the protective qualities of the equipment and its suitability for the tasks performed. The former Special Rapporteur was concerned by information he received indicating that there are no special protocols for the rescue of children, the elderly, persons with disabilities or other persons in need of protection in the training programme developed for disaster management forces in Hungary. The former Special Rapporteur recommended that the Government of Hungary: (a) Consider accession to the Protocol on Liability and Compensation for Damage resulting from Transboundary Movements of Hazardous Wastes and their Disposal and to contribute to its entry into force; (b) Consider ratifying the ILO Chemicals Convention, 1990 (No. 170) and the	• Inadequate standards of protection • Monitoring and enforcement gaps • Exploitation of those most at risk • Disconnected efforts on occupational and environmental health • Failures to realize the right to information

Report	*References to occupational exposures*	*Challenges faced by workers*
	Prevention of Major Industrial Convention, 1993 (No. 174) to strengthen the framework for occupational safety. The former Special Rapporteur also recommended among other measures that the Government of Hungary in the mining law place emphasis on provisions that provide for meaningful engagement with affected communities and for the safety of workers, especially those dealing with harmful substances; and ensure that impact assessments use reliable baseline studies for both environmental contaminants and human health conditions, and are carried out by competent authorities to ensure an environmentally sound reflection of the impact of contaminants on the environment and human health of proposed developments.	• Limited implementation of ILO instruments
"Right to information on hazardous substances and waste" **(A/HRC/30/40) (2015)**	The Special Rapporteur's report describes the rights of workers and others in relation to right to information. The report contains obligations of States and responsibilities of business enterprises in relation to the right to information. It clarifies that information on hazardous substances should be available, accessible and functional for everyone, consistent with the principle of non-discrimination, in order for States to meet their human rights obligations and businesses their corresponding responsibilities. The Special Rapporteur noted with concern that workers are exposed to above-average levels of hazardous substances, with regular reports of inadequate training and adverse health impacts from preventable accidents and occupational exposure. The Special Rapporteur also noted the right of workers to remove themselves from situations they believe are hazardous, which is contingent on information about the known and unknown risks of the substances to which they are exposed. The reports notes that in order to protect those most at risk, States must ensure that disaggregated information is available and accessible regarding the risks of hazardous substances to various population groups, such as workers, children or pregnant women. Similarly, the information should be monitored and disaggregated by sex and population group, such as workers in industries with exposure to hazardous substances, low-income communities, indigenous peoples or minorities, or other groups who are at high risk of adverse impacts. In addition, States must ensure information flows effectively to communities at risk to enable them to be aware of risks and options to prevent harm. Disaggregated information on adverse effects linked to hazardous substances, such as cancer, can help to identify those at risk of disproportionate impacts, and help to provide an effective remedy. In addition, bio-monitoring initiatives can also help to provide disaggregated information, for example on hazardous substances in mother's breast milk passed onto children.	• Failures to realize the right to information

Report	*References to occupational exposures*	*Challenges faced by workers*
	To help overcome the challenge of making information accessible to workers and others at risk, a long-standing tool nationally and internationally is classification and labelling. These laws help to ensure businesses, workers and the public have access to information about the risks associated with hazardous substances in the workplace. To this end, States have pledged to implement "hazard communication mechanisms",[4] such as the Globally Harmonized System of Classification and Labelling of Chemicals, and to use safety data sheets. Training of workers is required for these tools to work effectively.	
"Impact of Toxics and Pollution on Children's Rights" **(A/HRC/33/41) (2016)**	The illegal use of banned pesticides and toxic chemicals, as well as of counterfeit products, continues to be a major problem globally, a serious threat to children of the workers affected, to communities and to consumers. Tens of millions of children are engaged in hazardous work, where they are often exposed to toxic chemicals. For example, children around the world continue to work in artisanal and small-scale mines, where they are exposed to mercury and other toxic chemicals. The United Nations Children's Fund (UNICEF) has estimated that 40,000 children toil in mines, extracting a known carcinogen (cobalt) to be used in cell phones, laptop computers and cars by companies that undoubtedly have resources for human rights due diligence. Children working in agriculture continue to use hazardous pesticides despite the bans on such products in several countries, raising questions of double standards and discrimination. Childhood exposure to toxics occurs without the child's (or parent's) consent. Even if a parent were somehow able to identify every product and possible source of exposure to toxics that might harm their child, they are often powerless to do anything about it, particularly when it involves food, water or air pollution. Young children lack the physical and/or mental ability to vocalize opinions and understand the dangers and potential consequences of toxics until long after harm has been inflicted. This, for example, is why children are not allowed to buy cigarettes or alcohol until a certain age in many countries and are prohibited from working in hazardous conditions. As parents' exposure to toxic chemicals can affect the development of the child, this is inextricably linked to the realization of several rights of the child. Cases of children born with disabilities because their mothers worked with toxic chemicals before or during pregnancy, or harmed by toxic residues brought into the home from work ("take-home exposures") by their parents or others illustrate the importance of protecting not only women and girls of reproductive age, but the population at large.	• Inadequate standards of protection • Limited progress in prevention of exposure • Monitoring and enforcement gaps • Exploitation of those most at risk • Deliberate efforts to delay or obstruct protection from toxic exposure • Opaque supply chains and the transfer of hazardous work • Disconnected efforts on occupational and environmental health

[4] SAICM, Overarching Policy Strategy (see footnote 13 above), para. 15 (b) (ii).

Report	*References to occupational exposures*	*Challenges faced by workers*
	Examples of addressing certain sources of exposure to toxics by young children include the European Union directive on the safety of toys, which prohibits the presence of substances in toys that are classified as carcinogenic, mutagenic or toxic for reproduction, and United States legislation to protect children working on tobacco farms from toxic pesticides.101 Globally, a new treaty on mercury pollution holds promise, but only addresses one element of a much larger problem. States and businesses still have a long way to go. The importance of upstream prevention is illustrated by the case of children working in cobalt mines in the Democratic Republic of the Congo. Reports describe children in Indonesia and Peru poisoned by mercury and suffering from birth defects due to small-scale gold mining. Companies that purchase or invest in such commodities have a responsibility to ensure that child rights are not violated as a result of their demand. At the tail end of industrial activity, children are far too often found working at toxic waste dumps, burning plastics and cables to recover and recycle precious metals. Electronic waste (e-waste) is of particular concern. Children, sometimes as young as five, are involved in manual dismantling and burning of electronic products at e-waste sites in Africa, Latin America and Asia. Some are described as being among the most polluted places on earth. Infants living near waste disposal sites, due to their hand-to-mouth behaviour, are among the most vulnerable groups, as soils and dusts are generally contaminated with lead and other toxics. In Latin America, many of these recycling and recovery operations take place in communities, not in clearly defined waste dumps. Children are found with record levels of toxic chemicals in their bodies at such waste sites. Young girls, still developing and approaching the age of reproduction, work as collectors or vendors in highly toxic environments. At La Chureca in Managua, Nicaragua, approximately half of all waste pickers were less than 18 years old. 134 In Guiyu, China, about 80 per cent of children suffer from respiratory diseases, and there has been a surge in cases of leukaemia and concentrations of lead in blood are high. The Special Rapporteur offered various recommendations to stakeholders to protect the rights of the child from toxic chemicals, including that: States should eliminate work by children where they are exposed to toxics and ensure safer alternative employment, and monitoring of children affected. States should ensure that children affected receive the necessary treatment and compensation. States should also ensure that women and girls of reproductive age are guaranteed protection from occupational exposure to toxics and the substitution of toxics with safer alternatives as the primary means of prevention; International organizations should integrate the problem of toxic chemicals, pollution and waste into the work of their organization, based on their respective competencies, and monitor and report on the issue; and increase efforts to reduce the exposure of children and women of reproductive age to toxic chemicals, particularly of child workers and those living in high-risk situations.	• Failures to realize the right to information • Inaccessible remedies, justice and accountability • Informal economy

Report	*References to occupational exposures*	*Challenges faced by workers*
"Mission to Republic of Korea" **(A/HRC/33/41/Add.1) (2016, mission carried out in 2015)**	During the mission, the Special Rapporteur examined the rights of workers who may develop diseases or other injuries on account of their exposure to hazardous substances. Workers in the Republic of Korea have the right to a healthy workplace. The report notes a long history of illness among workers in the electronics sector as a result of exposure to toxic chemicals. For example, a study of nearly 32,000 workers at IBM between 1969 and 2001 showed that "male manufacturing workers were around 60-80 per cent more likely to have died from cancers of the kidney, skin, brain and central nervous system". Given the prominent role of electronics in the Republic of Korea in recent decades, the Special Rapporteur paid close attention to how the Government and businesses were protecting and respecting the human rights of workers in the electronics sector to a safe and healthy workplace. In the electronics industry, chemical substances are used in the manufacture of devices, including in displays, semiconductor chips, casings and batteries and other component materials. There is a significant likelihood that workers may be exposed to hazardous substances, which can lead to serious health impacts such as cancer, infertility, birth defects, respiratory illness and disruption of hormone (endocrine) systems. Former workers in the electronics industry in the Republic of Korea began to be diagnosed with leukaemia around 2005. Yumi Hwang, a former Samsung Electronics employee, died of acute myeloid leukaemia in March 2008. She was diagnosed 20 months after she began working, at the age of 19, as an operator in production line No. 3 at the Samsung Electronics Giheung Plant. As of January 2015, more than 350 former workers in the electronics industry, of which approximately 130 have died, had alleged that they had developed various diseases. Victims had suffered from cancer, including lymphoma, malignant brain tumours, myelogenous leukaemia and non-Hodgkin's lymphomas, as well as aplastic anaemia, reproductive abnormalities and other health impacts. All former workers described to the Special Rapporteur were young females, including several in their early twenties. With many female workers of childbearing age, the alleged victims extend to the children of former workers. For example, the Special Rapporteur heard from a mother who had been pregnant during her employment and subsequently given birth to a child with birth defects. The Special Rapporteur heard testimony from former Samsung workers (all women) and their family members about tasks performed in the manufacture of semiconductor chips, such as dipping semiconductors into a chemical solution by hand to remove unnecessary parts and manually sorting and testing chips under high temperatures or voltages, releasing fumes. Former workers explained that they would still smell fumes from the workplace long after returning home. Neither the former workers nor the family members of the deceased could name the substances they had used in the workplace.	• Inadequate standards of protection • Exploitation of those most at risk • Inaccessible remedies, justice and accountability • Failures to realize the right to information • Opaque supply chains and the transfer of hazardous work

Report	*References to occupational exposures*	*Challenges faced by workers*
	The former workers of Samsung Electronics also described the pressure that they worked under at the time to meet production targets. They explained that they were often in a state of chronic fatigue and stress due to their 12-hour rotating shifts, working six days a week in addition to preparing for regular mandatory exams outside of working hours (unpaid). They described the constant pressure placed on them to train and to pass tests to perfect their workmanship, along with pressures not to unionize and insufficient training on chemical safety. Samsung would not disclose which substances were used during the time of employment of the alleged victims, claiming that it was confidential business information. Samsung explained that it does require suppliers to submit a letter of warranty that chemical formulas purchased do not contain hazardous substances. The Special Rapporteur reiterates that, under international laws, global policy frameworks and national law, health and safety information on hazardous substances should not be confidential. Samsung Electronics claims no hazardous substances are used in its production processes. Information was not provided by the company to justify this claim, clarify the categorization of "hazardous" or to explain if and when changes to chemicals used in production processes were implemented. There is strong evidence that hazardous substances are used in electronics manufacturing. Apple Inc. has stated that it has eliminated or plans to eliminate the use of certain hazardous substances in the production of its electronics. Of note, many of these substances were used in Apple's electronics supply chain during the period of employment of the alleged victims at Samsung Electronics. Also, Apple has stated that it has yet to phase out certain hazardous substances in power cords in the Republic of Korea due to an inability to obtain Government approval. The Special Rapporteur is deeply concerned about the withholding of or failure to generate information about toxic chemicals in order to shield corporate liability. In addition to the lack of transparency about hazardous substances used or released in the workplace, critical information about alleged victims was not disclosed by the Government, businesses or civil society to the Special Rapporteur. However, the Special Rapporteur had the opportunity to meet with several victims and victims' family members, Samsung Electronics, the Mediation Committee, and members of the Government. As of May 2016, Samsung Electronics claimed it had compensated 110 former workers affected with the specified diseases and had physically presented apology letters from the chief executive officer to those subject to compensation. The Special Rapporteur understands there are concerns regarding how the compensation process adhered to the recommendations of the Mediation Committee and encourages all parties to increase transparency and participation in this regard.	

Report	*References to occupational exposures*	*Challenges faced by workers*
	Also in January 2016, Samsung Electronics reversed its previous position on "prevention". It agreed with other parties to establish a three-member Ombudsman Committee to conduct an audit of the efforts of Samsung Electronics relating to prevention and propose recommendations for improvement. The Special Rapporteur welcomes the establishment of the Ombudsman Committee, and looks forward to its implementation with both transparency and meaningful public participation by all stakeholders. The Special Rapporteur also welcomes the acceptance by SK Hynix of including miscarriage and infertility in the scope of the agreement of what would be considered for compensation, in line with safety in working conditions, including the safeguarding of the function of reproduction. As of January 2016, SK Hynix had identified and compensated 39 former workers.	
	The long path to resolving cases illustrates the considerable difficulty workers face in demonstrating a sufficient causal relationship to realize their right to an effective remedy for the impacts of toxic chemicals. For a disease to be recognized as an occupational disease under article 5 (1) of Industrial Accident Compensation Insurance Act by the Korea Workers' Compensation and Welfare Service, there must be a "proximate causal relationship" between the worker's duties and disease. Article 34 of the Enforcement Decree of the Industrial Accident Compensation Insurance Act stipulates the specific conditions, in particular, that "causal relationship between the work-related injury and the disease should be medically recognized". In contrast to the strict standard applied by the Korea Workers' Compensation and Welfare Service pursuant to article 34 of the Enforcement Decree of the Industrial Accident Compensation Insurance Act, courts in the Republic of Korea take a more lenient approach to the issue of causation. The Supreme Court has ruled that the claimant has the burden of proving the causal relationship; however, the causal relationship need not be proven medically or scientifically but can be inferred from the consideration of various situational factors. Consideration of all the circumstances, such as the health of the worker at the time of employment, possible explanations for the disease, whether any hazardous substances existed in the workplace and the amount of time the worker spent in the workplace, makes possible the conclusion that there is a proximate causal relationship between the worker's duties and the disease. In 2014, the Seoul Administrative Court held that the deduction can be made that there is a proximate causal relationship between the former workers' diseases and their duties. The Supreme Court also said that the question of whether a proximate causal relationship exists should be judged on the basis of the health and physical conditions of the worker concerned and not an average person. Most recently, the Seoul Administrative Court reversed the decision of the Korea Workers' Compensation and Welfare Service and acknowledged ovarian cancer to be an occupational disease. It further stressed that, for rare diseases such as ovarian cancer, a more relaxed standard for assessing causality should be applied.	• Inaccessible remedies, justice and accountability

Report	*References to occupational exposures*	*Challenges faced by workers*
	Noting the disparity among the Korea Workers' Compensation and Welfare Service industrial accident compensation scheme, decisions by courts in the Republic of Korea, and the dispute resolution committees established by Samsung Electronics and SK Hynix, the Special Rapporteur is concerned about the difficulty in accessing compensation under that scheme due to the high burden of proof imposed on the claimants. The Government's criteria for work-related diseases were revised in 2013. The Special Rapporteur emphasizes that States are obligated to refrain from interfering with the enjoyment of the right to social security. The burden upon the claimant to prove causation between the health impacts from which workers suffer and the hazardous substances in the workplace can be a significant inconvenience and obstacle, often because of difficulty in using or accessing information. The Special Rapporteur sincerely commended Samsung Electronics for its spirit of cooperation, openness and continuing dialogue with him. He acknowledged internal changes by Samsung Electronics and steps taken to realize the right of former workers to an effective remedy, and recommended that Samsung Electronics and other implicated businesses, among other steps ensure that all former workers and contractors harmed by toxic chemicals in the manufacture of their products are indeed compensated, at a minimum according to recommendations of the Mediation Committee.	
	One major chemical accident affecting workers in the Republic of Korea was the hydrofluoric acid leak in Gumi, which occurred on 27 September 2012 at the Hube Global chemical plant, killing 5 workers and injuring 18 others, including plant employees and emergency personnel. The damage on property, including restoration costs, amounted to 55.4 billion won. Another accident took place at the Samsung Electronics plant in Hwaseong City, where hydrofluoric acid first leaked on 27 January 2013. As a result, one person died and four were injured. Subsequently, on 2 May 2013, three external contract workers were partially exposed to diluted hydrofluoric acid at Samsung's semiconductor manufacturing facility in Hwaseong City. The workers received immediate first aid attention on site and were admitted to hospital for further examination. The Special Rapporteur welcomed the recent enactment of the Liability Act to help ensure that victims have access to an effective remedy, as well as legislative changes to prevent accidents. He also notes the studies and measures implemented by Samsung Electronics to prevent the recurrence of similar accidents. He encouraged the State and businesses to ensure that protections apply to both employees and contractors.	• Exploitation of those most at risk • Inaccessible remedies, justice and accountability
	With regard to legislation, the Special Rapporteur recommended that the Government of the Republic of Korea, among other steps:	• Inadequate standards of protection

Report	*References to occupational exposures*	*Challenges faced by workers*
	Ensure that all laws and policies concerning hazardous substances and wastes provide the greatest protection to those who are at the greatest risk of harm, including children, women, the elderly, communities near sources of pollution or contamination, workers and others who are at elevated risk of harm; Undertake a robust study on the existing recourse of victims, including workers and consumers, to an effective remedy for harm that may be due to hazardous substances and wastes, paying particular attention to the burden placed on victims to establish causation, and develop and implement solutions to address challenges facing victims in accessing an effective remedy, in consideration of the recommendations contained in the findings of that study and those of the national human rights institution, as recommended below; Ensure that information is available to prevent exposure to hazardous substances, protect human rights and ensure that victims have the information necessary to realize their right to an effective remedy in administrative and judicial systems. The Special Rapporteur underlines that States have a duty, and businesses a responsibility, to ensure that information about hazardous substances is available and accessible, and that it functions to protect the rights of everyone; Increase efforts to ensure that health and safety information about hazardous substances is never confidential, and for this purpose ensure the enforcement of existing legislation or the strengthening of said legislation where necessary; Establish a centralized mechanism to monitor all human rights impacts of hazardous substances and wastes, paying particular attention to children, women, workers in all sectors and older persons, and guarantee that adequate and comprehensive prevention measures are taken as a result; The Special Rapporteur also recommended that the national human rights institution: (a) Examine the challenges faced by victims of chronic exposure to hazardous substances, including workers and children, who may develop diseases many years after exposure, in establishing causation and accessing an effective remedy, and make recommendations to relevant ministries; (b) Closely examine challenges presented by victims of hazardous substances, including workers, in meeting their burden of proof in order to access an effective remedy under administrative and judicial proceedings.	• Limited progress in prevention of exposure • Monitoring and enforcement gaps • Exploitation of those most at risk • Failures to realize the right to information • Inaccessible remedies, justice and accountability • Inaccessible remedies, justice and accountability

Report	*References to occupational exposures*	*Challenges faced by workers*
"Mission to Germany" **(A/HRC/33/41/Add.2) (2016, mission carried out in 2015)**	The Special Rapporteur noted how, in realizing the workers' right to information, the EU's Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulation has a number of noteworthy features. First, it contains tiered health and safety requirements for all industrial substances produced or imported at or above one ton per year. This pragmatic requirement, known as "no-data, no-market", shifts the burden of proof away from public authorities and onto relevant businesses. Second, it requires industry to share information on the use of hazardous industrial chemicals up and down the supply chain to help ensure that substances are being used safely and information is current. In this way, the right to information also contributes to workers' and consumers' rights. Third, health and safety summaries are made available to Governments around the world, enabling those with fewer resources to avoid duplication of efforts and enhance cooperation. Fourth, consumers have the right to contact businesses to inquire whether a chemical linked to cancer, hormone disruption or other health and environmental hazards are found in certain products if they are on the "candidate list". Finally, the information generated is enabling businesses to transition to safer chemicals and safer products. These are good practices for the realization of the right to information about industrial chemicals, and implementation of the Guiding Principles on Business and Human Rights.	• Inadequate standards of protection • Limited progress in prevention of exposure • Opaque supply chains and the transfer of hazardous work • Failures to realize the right to information
	One of the most innovative features of recent changes to European Union pesticides laws is the prohibition on the use of certain pesticides linked with cancer, reproductive effects, hormone (endocrine) disruption and other adverse health effects, and certain physical properties. The approach of European Union pesticides legislation is risk-based, in that the exposure levels and corresponding risks to worker health, as well as human health and the environment more broadly, cannot be adequately assured for certain pesticides with such properties. This approach to pesticides is grounded in the principle of precaution, provided in the Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community. The Special Rapporteur considers this approach of using hazard-based criteria to be in line with the universality of human rights and the uncontrollable risks that certain hazardous substances pose to those rights. It is a commendable step by the European Union to protect the human rights of everyone, including agricultural workers and children. During meetings with Bayer, the business enterprise informed the Special Rapporteur that they had a human rights policy in compliance with the FAO International Code of Conduct on the Distribution and Use of Pesticides, and a stewardship policy that they say reflects the whole life cycle of a product. For each life cycle step, Bayer says it works on best management practices with the objective of human safety, worker/operator safety, residues in food, consumer safety and environmental aspects. It also claims to work as an industry on training materials to ensure the	• Inadequate standards of protection • Limited progress in prevention of exposure • Opaque supply chains and the transfer of hazardous work • Failures to realize the right to information

Report	*References to occupational exposures*	*Challenges faced by workers*
	safe use of pesticides. The Special Rapporteur was pleased to learn of Bayer's phase-out policy to remove all highly hazardous pesticides considered to be carcinogenic from their portfolio by 2012, and of its process of "portfolio screening" (covering insecticides and fungicides in 2011 and herbicides in 2015). However, he was concerned to learn that highly hazardous pesticides remain in the Bayer portfolio with no target date for phase-out. The Special Rapporteur is concerned that, rather than substituting hazardous pesticides with safer alternatives, it would seem that Bayer prefers mitigation strategies that carry greater risks for workers and communities, such as wearing protective personal clothing and improvements on labelling. The Special Rapporteur considers that typically the only effective mitigation strategy for hazardous pesticides is a concerted effort to develop and adopt safer alternatives.	
	The Special Rapporteur also addressed the role of the German shipping industry in the abuses of human rights of workers in substandard shipbreaking facilities, particularly those in South Asia. German ship owners operate the world's fourth largest merchant fleet in terms of vessels and have been linked to widespread contamination of the food, water and air of local communities, in addition to fatalities and toxic chemical exposure among workers, including child and migrant workers, who dismantle ships in hazardous and deadly conditions. According to assessments by civil society, but disputed by the Government, in 2014, German ship owners sold a record high of 95 per cent of their end-of-life tonnage for substandard breaking on the beaches of South Asia. Despite recent progress, the extremely poor working practices and environmental conditions prevailing in many ship-breaking yards continue to be the source of widespread concern in the international community.	• Monitoring and enforcement gaps • Exploitation of those most at risk • Informal economy • Deliberate efforts to delay or obstruct protection from toxic exposure • Opaque supply chains and the transfer of hazardous work
	A major source of exposure to hazardous chemicals in Germany is in the workplace, and it is estimated that about 74,000 work-related deaths may be linked to workplace exposure to hazardous substances each year in the European Union – about 10 times more than workplace accidents. While identification and controls for carcinogens are well developed with a specific Directive for Carcinogens and Mutagens at work, there is a need to extend protection against reproductive hazards. The European Union regulation protecting pregnant women in the workplace includes a list of chemicals that is very old and not updated, which means that many chemicals of concern,	• Inadequate standards of protection • Limited progress in prevention of exposure • Monitoring and enforcement gaps

Report	*References to occupational exposures*	*Challenges faced by workers*
	like endocrine disrupting chemicals or nano-materials, are missing. According to a study by the European Agency for Health and Safety at Work, around 15 per cent of European workers report handling chemical products for a quarter of their working time and 19 per cent report breathing in dust, fumes and smoke at their workplaces. This study highlighted nanoparticles, ultrafine particles, man-made fibres, carcinogenic, mutagenic and reprotoxic substances, dermal exposures, exposures in waste management and the increasing use of allergenic and sensitizing substances as emerging risks. Specific occupations of emerging concerns include the growing waste management industry, construction and service activities such as cleaning or home nursing. In addition, there are a growing number of workers in small and medium-sized enterprises and subcontracted jobs, where the management of chemical risks is generally poorer. The report also expresses concern about multiple exposures on emerging biological, physical and psychosocial emerging risks. REACH may not adequately protect workers, because the risks of daily exposure are primarily assessed for industrial chemicals at higher tonnage thresholds, whereas the majority of chemicals to which workers are exposed are at the lower thresholds. Since the level of hazardous substance exposure for workers is at much higher levels than the permissible exposure levels for consumers, information about adverse effects of chronic exposure is critical. In Germany, 16,165 suspected cases of occupational skin disease were recorded in 2004, representing a quarter of all registered occupational diseases. Other skin diseases include chemical burns ranging from rashes to full thickness skin damage requiring grafts. Chromate is the most dominant allergen, followed by epoxy resins and cobalt in the German construction industry. The German trade union IG Bergbau, Chemie, Energie says that information needs to feature more prominently on the European Chemicals Agency database, so workers can better access health and safety information. Although asbestos is prohibited in Germany, it is still found in buildings and ships. Specialized training and qualifications are required to dispose of asbestos safely, for instance, in demolition or renovation, particularly for informal workers. It was brought to the Special Rapporteur’s attention that Germany has not put in place any specific measures to protect informal workers from the risks of hazardous substances. Currently the trade union IG Bauen-Agrar-Umwelt is campaigning for informal and migrant workers to receive basic health and safety instructions prior to working. BASF informed the Special Rapporteur of its global standards for workers’ safety. BASF assured the Special Rapporteur that all plants were built according to the same standards and safety levels for workers. The company’s goal is to reduce work-related accidents by 80 per cent by 2020.	• Deliberate efforts to delay or obstruct protection from toxic exposure • Disconnected efforts on occupational and environmental health • Failures to realize the right to information • Inaccessible remedies, justice and accountability • Opaque supply chains and the transfer of hazardous work • Restrained freedom of association

Report	*References to occupational exposures*	*Challenges faced by workers*
	In both areas of private liability — the Environmental Liability Act and Law on Pharmaceuticals — a shift in the burden of proof to reflect a victims-based approach is welcomed. However, in the area of occupational health and safety, the Special Rapporteur heard of the immense challenges still faced by workers who fall ill from toxic chemicals to access any remedy.	• Inaccessible remedies, justice and accountability
	The Special Rapporteur is particularly concerned that European Union business enterprises, beyond Germany businesses, are exporting their manufacturing activities — and the risks to workers of toxic chemicals — to developing countries. Post-production, European Union businesses can import a product that claims to be "free of hazardous substances" even though hazardous substances were used in the supply chain outside the European Union.	• Limited progress in prevention of exposure • Exploitation of those most at risk
	This practice is comparable to the supply chain of clothing that originates, for example, from a garment factory in Bangladesh that fails to respect workers' rights, including against sexual violence, and unlawfully targets labour leaders with intimidation, threats and violence. It is also similar to the global trade and supply chain in cobalt, a key component in rechargeable lithium-ion batteries, which may originate from artisanal miners in the Democratic Republic of the Congo, including child labourers who suffer health consequences from prolonged exposure to cobalt without even the most basic protective equipment.	• Opaque supply chains and the transfer of hazardous work
	These two examples also highlight one of the major problems of REACH where business enterprises are seriously challenged in tracing the use of industrial chemicals throughout the supply chain, despite the reporting requirements of the Regulation.	
	Among the recommendations of the Special Rapporteur was one to increase information for marginalized persons and those in vulnerable situations, especially pregnant women and those who work or live with children, about protection measures, especially endocrine disrupting chemicals.	• Exploitation of those most at risk • Failures to realize the right to information

Report	*References to occupational exposures*	*Challenges faced by workers*
"Pesticides and the right to food" **(A/HRC/34/48) (2017)** **(Report written in collaboration with the Special Rapporteur on the right to food)**	Human rights standards require States to protect vulnerable groups, such as farm workers and agricultural communities, children and women from the impacts of pesticides. Agricultural workers are routinely exposed to toxic pesticides via spray, drift or direct contact with treated crops or soil, from accidental spills or inadequate personal protective equipment. Even when following recommended safety precautions, those applying pesticides are subject to higher exposure levels. Families of agricultural workers are also vulnerable, as workers bring home pesticide residues on their skin, clothing and shoes. Studies in developed countries show that annual acute pesticide poisoning affects nearly 1 in every 5,000 agricultural workers. Globally, however, it is unknown what percentage of farmworkers experience acute pesticide poisoning owing to a lack of standardized reporting. Poor enforcement of labour regulations and lack of health and safety training can elevate exposure risks, while many Governments lack the infrastructure and resources to regulate and monitor pesticides. The exposure risk of children engaged in agricultural work is particularly alarming. Although little data are available, the International Labour Organization estimates that about 60 per cent of child labourers worldwide work in agriculture, and children often make up a substantial portion of the agricultural workforce in developing countries. Their increased sensitivity to the hazards of pesticides, the inadequacy of protective equipment and their lack of experience may leave them particularly exposed. Seasonal and migrant workers are also more vulnerable, as they may work temporarily at various agricultural sites, multiplying their exposure risk to pesticides. Language barriers may further prevent these workers from understanding labels and safety warnings, they may experience poor working conditions without access to adequate safety equipment and they may have difficulty accessing medical care and compensation for pesticide-related diseases. Workers may also have little control over the types of pesticides used.	• Inadequate standards of protection • Limited progress in prevention of exposure • Monitoring and enforcement gaps • Failures to realize the right to information • Inaccessible remedies, justice and accountability • Opaque supply chains and the transfer of hazardous work
"Guidelines for good practices in relation to the human rights obligations related to the environmentally sound management and disposal of hazardous substances and wastes"	The Special Rapporteur articulates a human rights-based approach to hazardous substances and wastes, including pollutants, toxic industrial chemicals and pesticides, which requires a specific focus on the protection of those most vulnerable or at risk: children, the poor, workers, persons with disabilities, older persons, indigenous peoples, migrants and minorities, while taking into account gender-specific risks. Designing laws and policies to protect those most at risk has been shown to have a ripple effect for the broader community. States must ensure that laws, policies and institutions aimed at assessing and mitigating the potential impacts of toxics are based on the needs of the most vulnerable.	• Inadequate standards of protection • Exploitation of those most at risk • Restrained freedom of

Report	*References to occupational exposures*	*Challenges faced by workers*
(A/HRC/36/41) (2017)	In 2013, the International Labour Organization (ILO) estimated that nearly 2 million workers per year — between 3 and 4 workers per minute — die prematurely from occupational diseases linked to toxic chemicals.[5] Laws in most countries permit workers to be exposed to levels of toxic chemicals hundreds of times higher than the exposure allowed among the general public and often do not take into account real-world exposure scenarios or gender-specific and other sensitivities. Workers are frequently unable to exercise their right to freedom of association and collective bargaining, which is necessary to secure a healthy workplace.	association
	The report notes how information on toxics is essential in order to prevent adverse impacts, to ensure the realization of freedom of expression and to enable individuals and communities to participate in decision-making processes and to seek and obtain remedy. Health and safety information about toxic chemicals must never be confidential. Information must be available, accessible, functional and consistent with the principle of non-discrimination in order for human rights to be respected, protected, enjoyed and fulfilled. Despite notable improvements in many countries over recent decades, the right to information remains insufficiently realized in the area of hazardous substances and wastes, particularly with respect to protecting the most vulnerable from adverse impacts of exposure, whether from consumer products, at the workplace or via food, water, air or other sources.	• Failures to realize the right to information • Limited progress in prevention of exposure • Inaccessible remedies, justice and accountability
	Workers should have the right to remove themselves from conditions they believe are unsafe, and the right to information regarding occupational health and safety. However, necessary information on safety precautions or health risks linked to toxic chemicals is often unavailable or inaccessible to workers. Information may be in a foreign language, and labelled pictures may be indecipherable or too small to be legible. States continue to allow the use of industrial chemicals and pesticides under the presumption that personal protective equipment will be used, and that it will be used as effectively as expected. However, workers often do not have access to necessary protective equipment of reasonable quality, and the conditions under which they are expected to use the equipment are often completely unreasonable; thus, risk assessments are inaccurate. Workers are exposed to substances whose health effects have not been studied adequately. Adverse health impacts from chronic occupational exposure to toxic chemicals may not manifest as a disease for several years. Due to these and other factors, only a small percentage of workers have access to an effective remedy for violations of their rights.	

[5] Updated figures are available in the present report at para. 3.

Report	*References to occupational exposures*	*Challenges faced by workers*
	Child labourers, female workers, migrant workers and residents of low-income communities are significantly more vulnerable to toxic impacts due to unique sensitivities, cumulative impacts or unequal protections under the law. One of the worst forms of child labour is that in which children work with, or are exposed to any level of, hazardous substances. The World Health Organization (WHO) has published studies showing that children who work with hazardous substances have shorter average lifespans. Children are also at risk through the transmission of their parents' occupational exposures, in particular from their mother while they are in the womb or through breast milk. States must ensure that workers are able to enjoy the right to safe and healthy working conditions. States must protect the right of workers to just, decent and favourable conditions of work by preventing occupational exposure to toxic chemicals, a right that is indivisible from the right to the highest attainable level of physical and mental health and the right to physical integrity. States must ensure that workers have access to information and effective remedy for violations; they must also ensure that migrant workers enjoy the same rights as nationals of the State of employment regarding protection from toxic exposure.	• Exploitation of those most at risk
	The report recommends States uphold human rights through legislation to protecting against infringements resulting from toxic exposures at work. Many States have established constitutional rights and legislation of direct relevance to toxics in the workplace. Legislation in place covers particular life-cycle stages, different types of substances, different product categories, information requirements and other aspects relevant to the State's duty to protect.	• Inadequate standards of protection • Limited progress in prevention of exposure
	The report recommends States translate evidence of potential impacts on the enjoyment of human rights into timely and effective measures to respect, protect and fulfil each right implicated. The ability to protect the human rights to life and to health and to realize the right to access to the benefits of scientific progress and its applications hinges upon the ability to translate evidence into protective laws and policies. As discussed above, States must make expeditious progress in the realization of the rights to life and to health, taking all possible measures to protect those rights. However, despite evidence of risks and impacts, there have been instances where the procedures of some States have enabled private interests to use scientific uncertainties as a basis for delaying action to reduce risks. This has led to extreme delays, some lasting decades, in translating evidence of hazard and risk into measures necessary to protect workers, children and others most at risk. This is an unfortunate exploitation of scientific uncertainty by private interests. Scientific uncertainty will always exist. Several States have adopted the principle of precaution to help ensure that action is taken despite those uncertainties. The principle of precaution is essential to the progressive realization of numerous human rights implicated by hazardous substances and wastes.	• Deliberate efforts to delay or obstruct protection from toxic exposure
	The report notes that businesses should identify and assess the actual and potential adverse human rights impacts in which they may be involved either through their own activities or as a result of their business relationships. They should identify actual and potential impacts throughout the life	• Limited progress in prevention of exposure

Report	*References to occupational exposures*	*Challenges faced by workers*
	cycle of their products, including supply and value chains. Traceability of supply chains and the life cycle of products is essential to identifying human rights abuses linked to the exposure of workers and communities to toxics. The importance of the supply and value chain and a lifecycle approach is emphasized in terms of the protection of human rights from toxic exposures. In addition to the pesticide manufacturers, downstream businesses are implicated in the value chain of food and agricultural production in which such hazardous substances are used. For example, according to UNICEF, "exposure to toxic chemicals is likely to be the single greatest health risk to pregnant and nursing workers in the palm oil sector". Approximately 50 per cent of all consumer products around the world use palm oil, implicating large numbers of consumer product companies. Air pollution is also of grave concern to child, women and older workers as well as local communities. Illnesses related to haze resulting from the clearing of forests and peat lands for palm plantations not only affect workers and communities near plantations, but can have transboundary impacts. Although the burning of forests and the use of certain pesticides are illegal, compliance and enforcement is poor and such practices continue. Other food and agriculture sectors noted as facing challenges in preventing human rights abuses include coffee, cocoa, cotton and tobacco production.	• Monitoring and enforcement gaps • Opaque supply chains and the transfer of hazardous work
	The Special Rapporteur notes that hazardous substances continue to be used in the manufacturing sector and as components of a variety of consumer products, implicating the rights of workers, local communities and consumers, as well as the rights of those who may be exposed to postconsumer waste. Concerns about human rights abuses linked to toxic chemicals have been raised in the context of the electronics sector and the textile, leather and other garment industries. Researchers have also identified a myriad of adverse health impacts linked to toxic chemicals in cosmetics, personal care products, cleaning products, detergents and other household consumer products.	• Inadequate standards of protection
	Retailers are able to demand compliance with human rights from their suppliers upstream to ensure that no community, consumer or worker suffers abuses due to hazardous substances linked to products they sell. Indeed, in response to consumer demands for products free of toxic chemicals and for ethical conduct by businesses, certain retailers are exceeding the standards provided by national and international laws. For example, retailers have prohibited the inclusion of certain chemicals of concern in their products.	• Opaque supply chains and the transfer of hazardous work
	The guidelines for good practices are intended to assist States in ensuring that their laws and other practices are in line with their human rights obligations. In this vein, the Special Rapporteur recommended that States and other stakeholders apply a number of principles, including that: States must ensure that their practices relating to hazardous substances and wastes ensure equality, do not discriminate against any vulnerable group, including children, the poor, workers, persons with disabilities, older persons, indigenous peoples, migrants and minorities, and take into account gender-specific risks.	• Inadequate standards of protection • Exploitation of those most at risk

Report	*References to occupational exposures*	*Challenges faced by workers*
"Mission to the United Kingdom of Great Britain and Northern Ireland" **(A/HRC/36/41/Add.1) (2017)**	The mission of the Special Rapporteur to the U.K. examined several worker rights-related issues. For workers who develop diseases from exposures to toxic chemicals at work, compensation, health care and other aspects of their right to an effective remedy can very often be unattainable. It is calculated that less than 1 per cent of sick workers receive compensation in the United Kingdom for non-asbestos-related occupational diseases. While the Health and Safety Executive has conservatively estimated that approximately 13,000 new cases of occupational disease arise each year, including cancers related to chemical exposure, alarming shortcomings in the United Kingdom compensatory system exclude many claimants due to disability thresholds, minimum exposure times and lack of recognition of elevated risks due to multiple exposures. The United Kingdom Industrial Injuries Advisory Council generally imposes a non-legal, non-scientific "relative risk" test, which requires that the condition be twice as common in the affected group as in the general population. Considering that this threshold is very difficult to meet, fewer occupational diseases are officially recognized in the United Kingdom compared with other countries that apply different criteria. In an example dating back to the 1980s, farmers and agricultural workers who believe they were affected by the use of organophosphate-based or "OP" pesticides in sheep dipping activities have faced severe difficulties in accessing an effective remedy. At the time, the United Kingdom Government ran a mandatory programme requiring farmers to chemically treat their sheep with pesticides to combat sheep scab. Most farmers used organophosphate-based dips to comply, as they were the only licensed products available initially. Organophosphate compounds were initially developed as neurotoxic chemical warfare agents due to their ability to inhibit blood cholinesterase activity. Over the next two decades, farmers reported a range of debilitating health problems, which they believed to be the result of poisoning from the organophosphate-based products, with symptoms including nausea, anxiety, pulmonary oedema and long-term neurological damage. Victim support groups compiled a list of more than 500 farmers believed to have suffered from ill health as a result of their exposure, although campaigners claim the real number to run in the thousands. Victims struggled to access appropriate treatment under the public health regime, as organophosphate poisoning was not considered to be a medical condition. Some were allegedly wrongly diagnosed as suffering from psychological issues and given medications that exacerbated their suffering. A number of individuals who were medically tested by the Government claim they experienced serious difficulties in obtaining the release of their medical records. The difficulty in establishing causation between chronic ill health and the use of organophosphate-based pesticides has seen many legal claims fail. In 2015, an internal report of the Health and Safety Executive of May 1991 was released under a freedom of information request, which established that government officials had warned of the	• Inaccessible remedies, justice and accountability • Deliberate efforts to delay or obstruct protection from toxic exposure • Failures to realize the right to information • Limited progress in prevention of exposure

Report	*References to occupational exposures*	*Challenges faced by workers*
	dangers of exposure to organophosphate-based pesticides. Yet in the same month, the Minister of Farming demanded that local authorities clamp down on farmers who refused to use the chemical. The release of the internal report triggered calls by more than a dozen Members of Parliament for an inquiry and public debate into whether farmers were misled over the use of organophosphate-based pesticides. Officials of the Department for Environment, Food and Rural Affairs explained that no precaution could ever offer 100 per cent protection from any exposure to organophosphate-based pesticides, and explained the difficulty in predicting exposure levels. In the May 1991 report, manufacturers of the sheep-dipping chemicals were criticized for providing inadequate protective measures and instructions for the use of the product. At the time, legislation and guidance to ensure the protection of agricultural workers using the organophosphate-based pesticides placed the burden on farmers to protect themselves. Since 1995, the sale and supply of organophosphate-based pesticides have been restricted to appropriately trained and certified users. The Veterinary Medicines Regulations 2006 introduced a requirement for sheep dipping to be supervised by a holder of a certificate of competence. The United Kingdom Government stated that it has invested a considerable amount of time and public money to understand all the risks relating to those compounds and determine how they could be minimized, and that it has been unable to identify any causal link between exposure to organophosphate-based pesticides and the symptoms reported. The Special Rapporteur was also referred to a statement on organophosphates issued by the Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment in 2014, which concluded that exposures to cholinesterase-inhibiting organophosphates that are insufficient to cause overt acute poisoning do not cause important long-term neurological toxicity in adults. However, a number of medical experts have spoken out about the use of organophosphate-based sheep dips and the high number of incidents of chronic ill health within the farming community. One independent study, which reviewed the available evidence concerning the neurotoxicity of low-level occupational exposure to organophosphate-based pesticides, found that 13 out of 16 studies showed evidence of neurological problems following long-term, low-level exposure. The United Kingdom Government stated that the Committee had reviewed this study, reaching its conclusion in 2014.	
	While the United Kingdom has certain specific laws and common law rules to protect human rights in the context of business activities, for example the Health and Safety at Work Act 1974 and the Gangmasters (Licensing) Act 2004, comprehensive legislation to hold businesses to account for human rights abuses is lacking. While legislation provides for the criminal prosecution of a business enterprise, it is very difficult to prove the intent of a business, and the criminal justice system tends to focus on individual criminal liability, which can be difficult to attribute to a company. The Parliamentary Joint Committee on Human Rights, mandated to	• Inadequate standards of protection • Limited progress in prevention of exposure

Report	*References to occupational exposures*	*Challenges faced by workers*
	examine human rights matters within the United Kingdom, has recommended that the Government bring forward legislation to impose a duty on all companies, including parent companies, to prevent human rights abuses, with failure to do so becoming an offence, as under the Bribery Act 2010. The United Kingdom also appears to suffer from insufficient expertise and resources to efficiently combat corporate crime. The Special Rapporteur made a number of recommendations to the Government, including one that the Government examine the obstacles to the right to effective remedy by workers and other victims suffering from toxic exposure, including causation, and ensure that victims of United Kingdom companies operating abroad are able to access justice and remedy in the United Kingdom.	• Inaccessible remedies, justice and accountability
"Mission to Sierra Leone" **(Mission carried out in 2017)**	During his country visit to Sierra Leone, the Special Rapporteur met local residents and workers, paying particular attention on the impact of the agriculture, mining and waste sectors on workers and their communities. The Special Rapporteur noted with concern issues regarding workers in agriculture and mining sectors. The agriculture sector is linked with challenges including in relation to the monitoring and use of agro chemicals and their potential impact on agriculture workers communities living around areas where chemicals are used and the potential contamination of food and water sources. A study on the use of pesticides in Sierra Leone rice crops provided very concerning results.[6] In his visit to rural communities, the Special Rapporteur heard complaints of contamination potentially related to the activities of business enterprises engaged in large-scale oil palm farming.	• Inadequate standards of protection • Limited progress in prevention of exposure • Monitoring and enforcement gaps • Exploitation of those most at risk • Informal economy • Disconnected efforts on occupational and environmental health • Failures to realize the right to information

[6] http://eprints.lancs.ac.uk/80079/1/ENVINT_D_16_00107.pdf.

Report	*References to occupational exposures*	*Challenges faced by workers*
"Mission to Denmark" **(Mission carried out in 2017)**	During his country visit to Denmark, the Special Rapporteur was informed on concerns regarding potential health impacts of antibiotic use in livestock. These antibiotics increase the potential of spreading of Associated Methycillin Resistant Streptococcus Aureus (LA-MRSA or MRSA) CC398, an antibiotic resistant 'superbug', in the food chain, and among workers exposed to the raw pork.[7] The Special Rapporteur remains seriously concerned by the vast human health consequences of antimicrobial resistance on workers and more broadly.[8]	• Inadequate standards of protection • Limited progress in prevention of exposure • Exploitation of those most at risk • Opaque supply chains and the transfer of hazardous work • Failures to realize the right to information
	The Special Rapporteur acknowledges the efforts of Denmark in promoting occupational safety and health through cooperation with other governments, to which he attaches great importance given the transnational production and disposal chains of Danish businesses. Among other activities, a 2016 project in Bangladesh established an expert group on Occupational Safety and Health (OSH Unit), in the Department for Inspection of Factories and Establishments (DIFE) of the Government of Bangladesh. The Special Rapporteur welcomes this cooperation and. However, the Special Rapporteur was disappointed to note that cooperation efforts on the protection of workers did not include support to the shipbreaking industry in Bangladesh or elsewhere, despite the substantial impacts of Danish businesses in this sector on the rights of foreign workers. The Special Rapporteur encourages further efforts to ensure all Danish businesses ensure all workers are protected from exposure to toxic substances in their supply chains, among other concerns for workers' rights.	
	The Special Rapporteur was disturbed by the lack of attention to the continued exportation of hazardous pesticides banned by Denmark to countries that have lower levels of protection against the adverse impacts of such pesticides on the human right to health, among others. In some cases, products produced with such banned pesticides and other toxic chemicals can be imported back into Denmark.	• Limited progress in prevention of exposure • Exploitation of those most at risk • Opaque supply chains and the transfer of hazardous work
	The Danish company Cheminova is one of the main producers of one such pesticide, Malathion, an insecticide to be used against chewing and sucking insect pests in crops. Evidence is publicly available on the serious risks posed by Malathion to the environment, especially water sources and biodiversity and to human health.[9] An analysis conducted in 2016 by the World Health Organization International Agency for Research on Cancer (IARC)[10] concluded that Malathion is probably carcinogenic to humans while identifying strong evidence that exposure to malathion-	

[7] See https://countercurrents.org/2017/03/13/the-pig-industry-and-the-usage-of-antibiotics-in-denmark/.

[8] http://www.who.int/drugresistance/documents/surveillancereport/en/.

[9] http://www.pesticideinfo.org/Detail_Chemical.jsp?Rec_Id=PC32924.

[10] https://monographs.iarc.fr/ENG/Monographs/vol112/mono112-07.pdf.

Report	*References to occupational exposures*	*Challenges faced by workers*
	based pesticides is genotoxic. For these reasons Malathion is not commercialized in the EU, including Denmark. Yet, only in 2017, Cheminova A/S, a multinational pesticide producer based in Denmark exported Malathion to over 40 countries outside the EU.[11] In 2015, the Special Rapporteur expressed his concerns on the extreme impacts on the rights to food and water, and livelihoods of communities in Guatemala, when 500 to 1000 kg of fish were killed in Peten River, Guatemala, reportedly due to the heavy contamination of local waters by Malathion.[12] The practices of Cheminova in countries with weaker normative frameworks have been criticized in the past.[13] The exposure of communities and workers in States with weaker regulations to chemicals banned in Europe is an unacceptable demonstration of double standards.[14] As previously addressed, additional legal instruments should be considered in Denmark in order to ensure companies respect human rights throughout their operations and conduct human rights due diligence in relation to their domestic and international operations and supply chains, always using the highest levels or protection when operating in different jurisdictions.	
	In Greenland, controversy marked the implementation of military activities especially due to the difficulties in accessing information on the full nature of operations implemented by the US forces. Concerns existed, for example, on the impact of the contamination generated by the crash near of a US B-52 bomber loaded with nuclear weapons near the Thule Aribase. The local workers involved in the clean-up operation claimed long-term health problems resulted from their exposure to the radiation and legally challenged the Danish Government for allegedly failing to monitor the health consequences of their exposure to toxics. \ The Special Rapporteur also noted the potential adverse health risks for workers who may be employed in the developing mining industry of Greenland.	• Inadequate standards of protection • Limited progress in prevention of exposure • Monitoring and enforcement gaps • Exploitation of those most at risk • Failures to realize the right to information • Inaccessible remedies, justice and accountability

[11] See Export Notifications, European Chemical Agency.

[12] See GTM 4/2015.

[13] Pesticide export to institutionally vulnerable countries, who is responsible? An assessment of the practices and strategies of a Danish company in Brazil.

[14] A/HRC/33/41/Add.2 — include UK mission, pesticides report by SR food.

Report	*References to occupational exposures*	*Challenges faced by workers*
"Shipbreaking": Government of the United Kingdom, Government of Denmark, the Government of Brazil, and the Government of Bangladesh, and 2 companies (North Sea Production Company, A.P. Moeller Maersk, and Odebrecht) **(2018)**	In January 2018, the Special Rapporteur and the Working Group on Business and Human Rights brought to the attention of the Government of the United Kingdom, Government of Denmark, the Government of Brazil, and the Government of Bangladesh information received concerning the alleged transboundary movement of The North Sea Producer, an end-of-life ship owned by the UK registered North Sea Production Company, a single-ship joint venture between the A.P. Moeller Maersk (headquartered in Denmark) and Odebrecht (headquartered in Brazil) The ship, containing hazardous substances and wastes, arrived in August 2016 in Chittagong, Bangladesh for dismantling (shipbreaking). A similar letter was also addressed to the companies involved. At the yard where the North Sea Producer was supposed to be dismantled, shipbreaking work is carried out without workers having access to necessary safety equipment as well as use of proper safety and procedures. Work reportedly is carried out manually by workers with torch cutters. Oxygen and gas are pumped through a device that creates a 1500ºC flame that can cut through steel coated with paints that contain hazardous substances such as heavy metals. Reports also indicate that workers do not use necessary protective clothing, some moving with bare feet and sandals in the tidal mudflat used as the dismantling area. Most workers live in unhealthy conditions in wood and sheet metal shacks right next to the walls of the shipyard. Coughs, headache and breathing problems are reported among workers in dismantling yards in the same area in Bangladesh. Apart from highlighting the poor working conditions of the workers, this issue also exhibited the challenges in realizing the right to decent work, including transfer of hazardous work to developing countries, exploitation of those most at risk (migrant workers), capitalizing on the informal sector to skirt international obligations, as well as what may amount to deliberate efforts by business enterprises to delay or obstruct protection from toxic exposure of workers.	• Inadequate standards of protection • Limited progress in prevention of exposure • Monitoring and enforcement gaps • Exploitation of those most at risk • Informal economy • Deliberate efforts to delay or obstruct protection from toxic exposure • Opaque supply chains and the transfer of hazardous work
"Electronics Industry": Government of the People's Republic of China, Government of the United States of America, and 2 companies (Catcher Technology Co. Ltd. and Apple Inc.) **(2018)**	In May 2018, the Special Rapporteur and others brought to the attention of the Government of the People's Republic of China information received concerning the alleged unsafe working conditions at Catcher Technology's factory in Suqian, northern Jiangsu Province, People's Republic of China, and the implications for the human rights of the affected workers. A similar communication was also addressed to the Government of the USA and two companies: Catcher Technology Co Ltd and Apple Inc. At the time of drafting this report, there were no responses received from the Governments regarding the allegations. Catcher Technology Co Ltd. (Catcher), headquartered in Taiwan, Province of China, is a world leader in the light metal industry, specializing in notebook computers, digital cameras, and disc drives. Catcher manufactures products for many well-known consumer electronics companies including Apple Inc. (Apple), an American technology company headquartered in Cupertino, California, United States of America. This communication highlighted various challenges faced by workers in relation to their health and exposure to hazardous substances and wastes including:	• Inadequate standards of protection • Opaque supply chains and the transfer of hazardous work • Limited progress in prevention of exposure • Failures to realize the right to information

Report	*References to occupational exposures*	*Challenges faced by workers*
	The exposure of workers to hazardous substances and polluted indoor air: On 25 May 2017, an incident of toxic gas poisoning at the A6 workshop of the factory resulted in the hospitalization of 90 workers, with five workers admitted to intensive care. An investigation conducted by the Administrative Committee of the Suzhou-Suqian Industrial Park confirmed that poisonous gas permeated throughout the workshop, triggering adverse reactions among operator personnel. In addition, there is severe indoor air pollution at the factory, with some workers suffering from respiratory illnesses as a result. Workers are at risk of other health and safety hazards: The surface of the factory floor is often covered in oil, resulting in instances of workers slipping and falling. In addition, workers at the Computer Numerical Control (CNC) machining workshop of the factory are exposed to excessive loud noise, placing them at risk of irreversible hearing loss. In addition, the main door of the CNC machining workshop only opens 30 cm wide, posing a safety hazard, particularly in case of emergencies. Workers' right to information is not protected: The workers have insufficient information regarding the toxic substances they handle or could be exposed to and their potential hazards. For instance, workers are inadequately informed of the hazards of exposure to cutting fluid and of any relevant protection methods. While factory regulations require providing a 24-hour training to workers prior to starting work, the training offered is neither adequate nor effective. Training sessions are frequently less than an hour long and workers are handed questionnaires, the answers to which are read out by the staff. Such a practice restricts workers from fully understanding the nature and potential hazards of the toxic substance they handle or could be exposed to. Furthermore, information is not available regarding the exposure levels of workers to various toxic chemicals that are commonly used in electronics production and relevant information about the use of toxic chemicals at the factory. Workers are not provided with adequate Personal Protective Equipment (PPE): Excluding some workers who wear glasses, all other workers in the workshop operate machinery with no eye protection. The CNC machining workshop provides workers with a pair each of rubber and cotton gloves every day. However, the cotton gloves appear to be have been previously used as they would be given to the workers while they were already damp and water-stained. The cutting fluid which CNC machine operators come into contact with is absorbed quickly by the cotton gloves along with other chemicals, oils, and fluids, thus eroding the rubber gloves worn inside. This results in the workers' hands making direct contact with the cotton gloves soaked in cutting fluid. The inadequate equipment has resulted in irritation and peeling off of skin on the hands of many workers. In addition, for workers who use pressure guns in the production process, the cutting oil splashes onto their heads. Single-use paper face masks provided by the factory only protect the workers' mouths and faces and the cutting fluid often splashes into the workers' eyes resulting in complications like eye pain, blurred vision and bloodshot eyes for prolonged periods.	• Inaccessible remedies, justice and accountability

Report	*References to occupational exposures*	*Challenges faced by workers*
	Workers face inadequate access to health and sanitation facilities: Workers at the factory are responsible for paying for their physical examinations. Workers do not undergo physical examinations after they resign making it difficult to determine if they have contracted an occupational disease as a result of working at the factory. Workers applying through labour dispatch companies are not given social insurance during their probationary work period. Workers do not have access to healthcare services and have to pay for any occupational treatment out of pocket for the first three months of work, as Catcher only distributes social insurance cards three months after the contract commences. While there is legal provision for access to treatment for occupational illnesses, many workers remain vulnerable due to inadequate access to contractual documents from the employer, insufficient or lack of regular health checks for workers, and unsatisfactory or lack of workplace evaluations which would be evidence for the worker to prove the link between exposure and the illness. The bathrooms in the factory's housing area do not have adequate hot water facilities even during the winter. Workers have on occasion fallen ill due to inadequate heating and insufficient shelter from the wind in the shower areas. There are also no emergency hallways or exits in the workers' dormitories. The food provided to workers is unsanitary: For instance, there have been many occasions where workers have suffered from diarrhoea after eating at the factory cafeteria. The factory does not permit workers to leave the factory area during lunchtime and workers therefore cannot purchase their own food.	
"Tobacco industry": Government of Zimbabwe, **10 companies and the Governments of their countries of domicile**	In May 2018, the Special Rapporteur and others brought to the attention of the Government of Zimbabwe information received concerning alleged human rights violations resulting from exposure of workers including children, to toxic chemicals while working in tobacco farming farms in Zimbabwe, specifically in Mashonaland West, Mashonaland Central, Mashonaland East, and Manicaland. A similar communication was also addressed to 10 companies and to the Governments of their countries of domicile. At the time of drafting this report, there were no responses received from the Governments regarding the allegations.	• Opaque supply chains and the transfer of hazardous work • Exploitation of those most at risk
Companies: **Alliance Once International Inc.** **British American Tobacco (BAT) PLC** **Chidziva Tobacco Processors (Private) Limited**	In 2018, there are approximately 100,000 registered tobacco farmers, comprising both large-scale and small-scale farmers. It is alleged that workers involved in tobacco production in Zimbabwe face serious health and safety risks. Workers allegedly have insufficient information, training, and equipment to protect themselves from exposure to pesticides and other toxic chemicals. Reports of workers hired on large-scale farms suggest that many workers, including some children, are coerced into working hours that are in excess of agreed time without overtime compensation. Some workers allege that they are denied their wages and forced to go weeks or months without pay. Workers who have refused to work overtime without additional pay have allegedly been dismissed or have been threatened with dismissal.	• Informal economy • Inadequate standards of protection • Limited progress in prevention of exposure • Failures to realize the right to information

Report	*References to occupational exposures*	*Challenges faced by workers*
China National Tobacco Corporation & Tian Ze Tobacco Company **Contraf Nicotex Tobacco GmbH (CNT)** **Imperial Brands PLC** **Japan Tobacco Inc & Japan International SA** **Northern Tobacco (Private) Limited** **Premium Tobacco International DMCC** **Universal Corporation** **Countries of domicile:** **Germany** **Japan** **People's Republic of China** **Switzerland** **United Arab Emirates** **United Kingdom** **United States of America (2018)**	Workers reportedly suffer from nausea, vomiting, loss of appetite, stomach pain, headaches, dizziness, skin irritation (particularly of the face), chest pain, blurred vision, eye irritation, respiratory irritation, and other symptoms of Green Tobacco Sickness (GTS), a type of nicotine poisoning that occurs while handling tobacco plants. Some of these adverse health impacts are reportedly developed from the application of pesticides on the tobacco farms. Long-term and chronic health effects of pesticide exposure include respiratory problems, cancer, depression, neurologic deficits, and reproductive health problems. It is reported that neither government officials nor company representatives have provided workers with adequate information about nicotine poisoning and pesticide exposure, or with sufficient training or comprehensive education to protect themselves. Some workers reportedly are not provided with, and often lack the means to procure equipment necessary to protect themselves, despite legal provision requiring employers to ensure that workers handling hazardous substances, including pesticides, are informed about the risks of the work, and provided with proper protective equipment. It is alleged that in the tobacco industry in Zimbabwe children are involved in work on farms and other parts of the production process and do so in hazardous conditions, often performing tasks that threaten their health and safety or interfere with their education. It is reported that during the labour-intensive planting and harvesting seasons, high rates of absenteeism are recorded in schools near tobacco farms as children are engaged in work either as individuals or as part of their families. Children are allegedly exposed to pesticides while working on tobacco farms in Zimbabwe. Some children mix, handle, or apply pesticides directly. Others are exposed when pesticides are applied to areas close to where they were working, or by re-entering fields that had been very recently sprayed. Many children report immediate illness after having contact with pesticides. It is further reported that children work long hours handling green or dried tobacco leaves and as a result suffer specific symptoms associated with acute nicotine poisoning and pesticide exposure. Allegedly, the symptoms of GTS are clearly visible in child labourers, and monitoring systems are inadequate to detect health impacts of chronic exposure to pesticides and other toxic chemicals.	