



JRC Annual analysis of chemical accidents in the media 2017-2018 in the Eastern and Central Africa Region

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Chemical accidents in the media worldwide

In 2017, the JRC's Major Accident Hazards Bureau (MAHB) began collecting data on chemical incidents reported in the media throughout the world using EMM alerts and other sources. This work was originally prepared for the OECD Working Group on Chemical Accidents (OECD WGCA), but has been subsequently incorporated into forthcoming publications of UN Environment (the Global Chemicals Outlook) and the Global Assessment of Risk 2019. The study serves to provide an important baseline for measuring the status of chemical accident risk in line with the Sendai Disaster Risk Reduction Framework.

In 2017, MAHB compiled a total of 805 chemical small and large incidents reported in the media, identified through the European Media Monitor (EMM) news briefs. Any incident involving a chemical release on a fixed site, transport, pipeline, or offshore platform is included in the database.

Annual figures for 2018 will be available in April 2019. While OECD countries showed more incidents of chemical releases reported, far fewer deaths per incident occurred in the world's most developed countries, as represented by OECD countries, than in less developed countries (non-OECD countries)

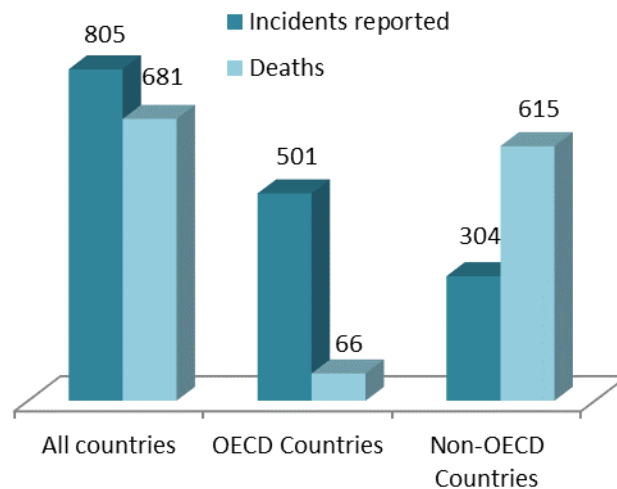


Figure 1 Chemical incidents in the global media, OECD and non-OECD countries – 2017 (JRC-MAHB – March 2019)

Focus on Africa: Chemical incidents in the media in 2017-2018

Figure 2 shows Africa in comparison to other continents showing deaths in relation to GDP in 2017. In total one-third of chemical incidents in African countries resulted in fatalities in 2017, including four incidents where 10 or more people were killed. The numbers also suggest a link between higher economic growth and increased fatalities from chemical accidents in Africa. It is expected that as African countries acquire the capacity to understand and control their chemical accident risk, they will impose targeted measures that decrease it. As Europe and North America show, a rise in fatal chemical accidents is not an inevitable result of economic growth.

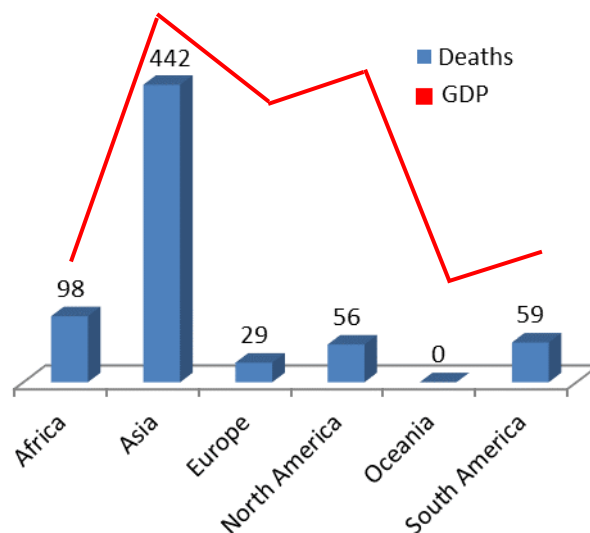


Figure 2 Chemical incidents and related fatalities reported in the media by continent in 2017 (JRC-MAHB - March 2019)

Figure 3 shows the number of incidents reported per country in Africa during 2017 and 2018.

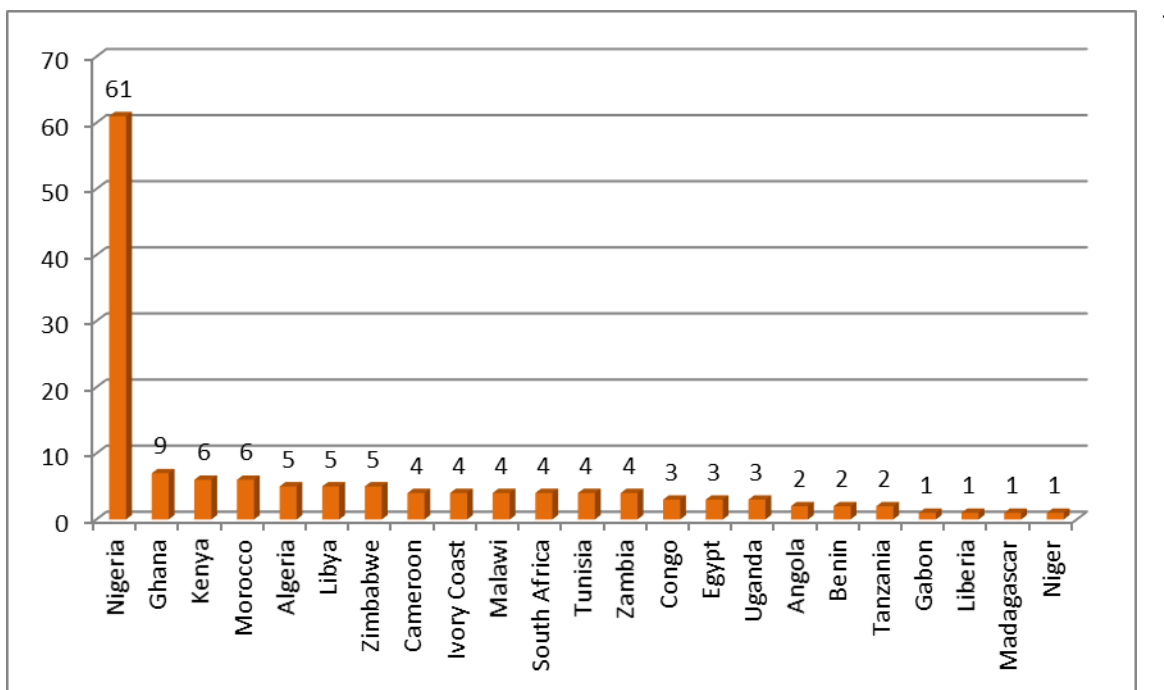


Figure 3 Chemical incidents occurring in African countries as reported by the media in 2017 and 2018 (JRC-MAHB - March 2019)

Chemical incidents in the Eastern and Central Africa Region

In 2018, MAHB began classifying incidents in terms of three levels of severity, “no or limited consequences”, “locally serious incident” and “major catastrophe”. These ratings are based mainly on the [European Gravity Scale](#) (0-2, 3-4, 5-6, respectively) but can be increased if there are also exceptional political or economic consequences. The classification of the criteria is shown in the text box at right.

Figure 4 shows that in 2018, 17 chemical incidents were reported in the media as occurring in one of the 11 countries in the Eastern and Central Africa region, of which two qualified as local disasters and one as a major catastrophe.

Local level disaster = 3-4 on the European Gravity Scale =

- 2-19 deaths
- 6-50 serious injuries
- 500 – 50,000 (people x hours) evacuated
- € 2 – 10 million property damage,
- 10,000 to 1 million m³ environment damage
- Politically significant at local level

Major catastrophe = ≥ 5 on the European Gravity Scale (including politically significant at national level)

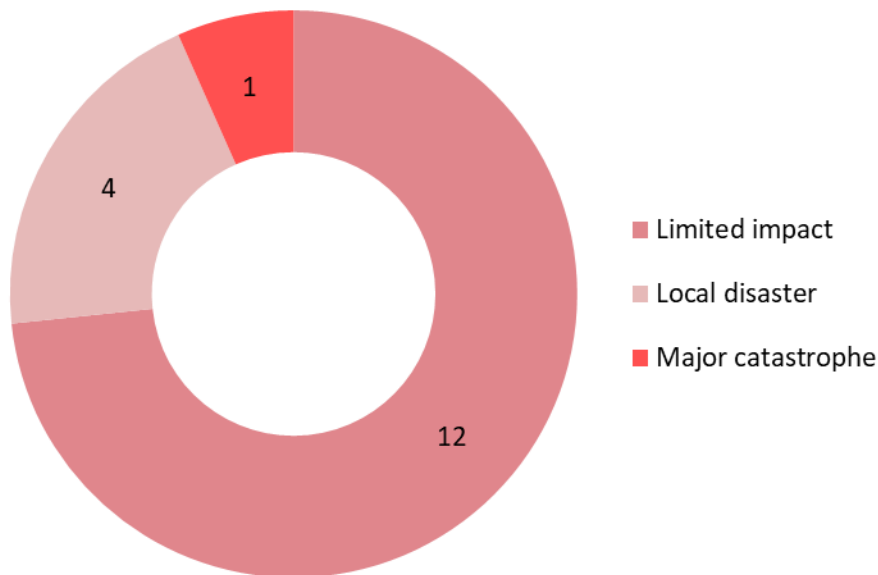


Figure 4 Chemical incidents occurring in 2018 in the Eastern and Central Africa Region as reported by the media, classified by impact severity (JRC-MAHB, March 2019)

Figure 5 shows deaths and injuries from the 26 chemical incidents occurring in 2017 and 2018 in ECA region countries as reported in the media. In total three incidents, two in Ghana and one in the Democratic Republic of Congo (DRC), resulted in major catastrophes causing substantial death and injury, as summarized in the paragraphs below.

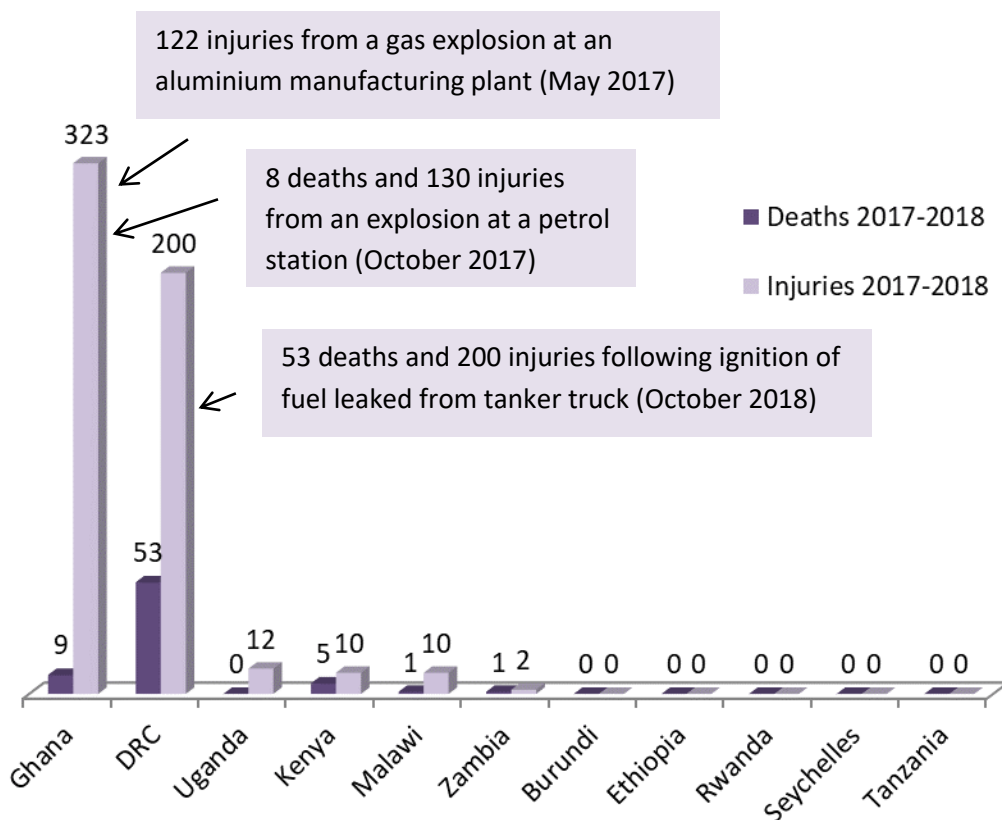


Figure 5 Deaths and injuries reported from chemical incidents occurring in 2017 and 2018 in the Eastern and Central Africa Region as reported by the media (JRC-MAHB, March 2019)

Gas explosion at an aluminium plant, Takoradi, Ghana, 9 May 2017. According to workers, an explosion occurred during refueling of the production unit at the beginning of the production cycle of the Ghana Household Utilities Manufacturing Company (GHMUCO). The incident injured 180 persons, including 15 GHMUCO workers (12 of whom were contractors), 7 firefighters and 13 students attending a nearby school. It was reported that several people were severely burned and had to be airlifted to various hospitals for treatment. In January 2019, the Ghana-based organisation, “OurStorisOnline” published Part 1 of an in-depth report of the incident.

<http://ourstorisonline.com/2019/01/10/accidents/takoradi-gas-explosion-victims-speak-part-1/>

Petrol station explosion and fire, Accra, Ghana, 5 October 2018. A tanker reportedly caught fire at a gas-filling station while unloading was taking place, triggering two explosions that killed 7 persons, while an official disclosed that 132 persons have been left with various burn injuries. More than twenty-

five (25) vehicles were burnt beyond repairs as a result of the gas explosion after owners of the some of the vehicles abandoned them at the mercy of the fire and fled for the lives at the heat of the explosion. (<https://www.ghanaweb.com>)

Tanker fire and explosion, Mbuba, Democratic Republic of Congo, 6 October 2018. A tragic traffic accident killed at least 53 people and severely burned more than 200 others after a collision occurred between a tanker transporting gasoline and a trailer. According to reports about the tragedy, the high number of victims is explained by the fact that after the collision between the two vehicles, the population had rushed to collect gasoline flowing from the tank before it exploded. (<https://www.afriwave.com>)

Local disasters and disasters with Limited impact in the Eastern and Central Africa Region in 2018

Four incidents were classified as having limited impact in 2018. Two incidents (in Bolgatanga, Ghana, and in Buguruni, Tanzania) were included in this category due to their significant impacts on local business. The incidents are summarized below.

Bolgatanga, Ghana, 26 February 2018. Several shops in Bolgatanga, Upper East Region, were burnt to ashes following a gas explosion. A loud explosive sound was heard behind the shops and later smoke and fire were seen from the roof of a canteen that spread quickly to other adjoining shops. (www.reportingoilandgas.org)

Chaweta, Malawi, 2 May 2018. One person was reported dead while 10 others sustained serious injuries after a fuel tanker accidentally caught fire in Chaweta. (<http://www.faceofmalawi.com>)

Kumasi, Ghana, 21 November 2018. Two persons died following a gas explosion in Kumasi in the Ashanti region. (<https://otecfmghana.com/>)

Buguruni, Tanzania, 9 January 2018. A gas pipeline exploded after it was struck by Dar es Salaam Water and Sewerage Corporation (Dawasco) officials who were fixing water pipes close to the area. Technicians worked until late in the night in efforts to restore the pipeline and continue with gas distribution to more than 37 factories receiving the service. (<https://allafrica.com>)

The table on the next page gives examples of chemical incidents in ECA countries classified as having a limited impact on local communities. These events range from chemical releases with no impacts to accidents involving one death.

Table 1. Examples of chemical incidents in ECA countries with “limited impact” as reported in the media in 2018

Mpika, Zambia 9 February 2018	The driver of a tanker was burnt beyond recognition in Mpika after he lost control of a petrol tanker he was driving, resulting in the vehicle overturning and catching fire. (http://www.daily-mail.co.zm)
Mpigi, Uganda 10 January 2018	At least three people were critically injured after a fuel tanker exploded Wednesday night following a head-on collision on a highway in central Uganda. (http://www.angop.ao)
Chyullu, Kenya 13 March 2018	One person was burnt to death and three others hospitalised when a truck carrying liquefied gas burst into flames. (https://www.standardmedia.co.ke)
Busesa, Uganda 17 June 2018	Three people sustained serious injuries after two fuel trucks caught fire on the Iganga-Bugiri highway in eastern Uganda. Both trucks were reportedly going to refill from another one belonging to the same company, which overturned after it went out of control. (https://www.theeastafican.co.ke/)

Industry sector and type of hazard source

Figures 6 and 7 provide an indication of the type of industry and hazard source of chemical incidents reported in the North Africa and Sahel Region countries. There are only slightly more incidents associated with the oil and gas industry than with chemicals. Most of the incidents also were reported to occur in fixed locations. This experience differs somewhat from other regions notably the African Atlantic Façade where incidents are dominated by oil and gas with a high number occurring in transport.¹

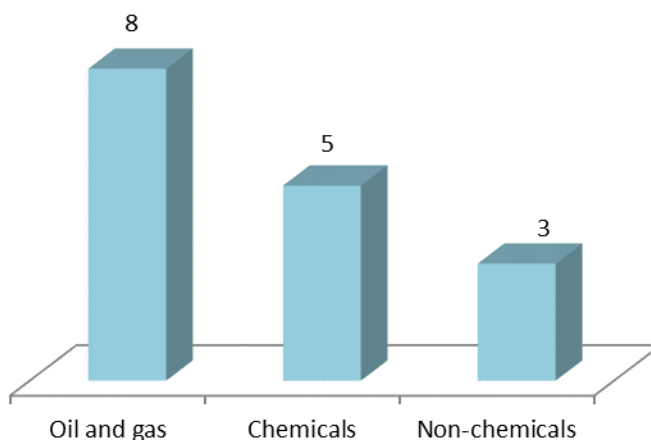


Figure 6 Chemical incidents in the North Africa and Sahel Region as reported by the media by industry (JRC-MAHB, March 2019)

Update in 2019

In 2019, so far two incidents have occurred in the North Africa and Sahel Region.

- On January 14, an explosion occurred in the Silmiyiri neighborhood of Ouagadougou, **Burkina Faso**, leaving at least one person dead and several more injured. According to preliminary reports, the explosion was caused by the detonation of explosive material used in mining operations. (<https://www.garda.com>)

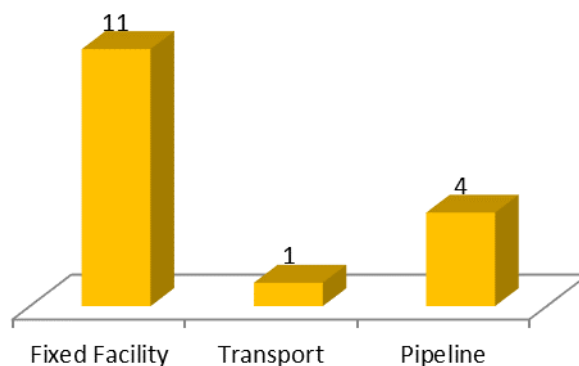


Figure 7 Chemical incidents in North Africa and Sahel Region countries as reported by the media by hazard source (JRC-MAHB, March 2019)

¹ Wood, M. 2019. JRC annual analysis of chemical accidents in the media 2017-2018 in African Atlantic Façade Countries and Nigeria.

- On 25 January a tanker laden with diesel caught fire along the Lagos-Benin express way in Ugbowo, **Benin**, where the driver of the tanker was burnt to death. The accident occurred opposite the University of Benin Teaching Hospital (UBTH) and slowed traffic for several hours (www.vanguardngr.com).

Important past disasters

Ghana has experienced at least 10 major gas explosion cases across the country since 2014, including two local disasters in 2018. On 3 June 3, 2015, a fuel leak spread by heavy flooding at an Accra gas station caused a massive explosion and fire that killed 150 people. The disaster also affected more than 50,000 residents in Accra. The needs assessment carried out by the World Bank soon after the disaster identified \$105 million reconstruction needs in the transport, housing and water sectors alone. (<https://www.ghanabusinessnews.com>)