

## Spontaneous explosion of a plastic ruler

Safety Flash Published on 12 January 2026 Generated on 28 January 2026 IMCA SF 01/26

There was a spontaneous brittle failure of a 30cm clear plastic ruler stored in an office drawer on a DSV.

### What happened?

While working in an office onboard the vessel, the reporter observed that a clear 30 cm plastic ruler—stored flat inside a desk drawer—suddenly fractured into three main pieces and several smaller fragments. The event forced the drawer ajar and scattered fragments several metres across the office floor. No injury occurred, though potential hazards included eye injury from flying shards and minor lacerations from sharp edges.

Just when you thought office work was the safest gig in the world... the stationery decided to go BOOM!



Detached end fragments



Carpet showing how far fragments travelled

### What went wrong?

The ruler material (likely PMMA acrylic) is known to be brittle and susceptible to environmental stress cracking (ESC). Stored tension from compression in a confined drawer or long-term creep likely triggered a sudden brittle fracture. When the crack propagated through the ruler, elastic energy was released, forcing the drawer open and ejecting fragments. Acrylic's low elongation at break (~5%) explains the violent, "explosive" shatter pattern observed.

Although rare, similar spontaneous explosions of plastic have resulted in injuries. Anecdotal evidence indicates that this phenomenon can also occasionally occur in the tempered glass used in tables and elsewhere.

## Can there be any actions? Yes!

- Replace rigid acrylic rulers with polycarbonate “shatter-resistant” or metal types.
- Inspect and discard cracked or discoloured rulers.
- Avoid tightly packed drawers or solvent exposure.
- Be aware of the potential risks of brittle materials.

This event, though minor, highlights that even in the controlled environment of the office on board a DSV, unexpected failures can occur. The spontaneous fracture of a simple ruler demonstrated a genuine potential for eye injury and lacerations, reminding all personnel that safety vigilance applies everywhere — from the dive bell to the back office drawer.

*IMCA Safety Flashes summarise key safety matters and incidents, allowing lessons to be more easily learnt for the benefit of the entire offshore industry.*

*The effectiveness of the IMCA Safety Flash system depends on the industry sharing information and so avoiding repeat incidents. Incidents are classified according to IOGP's Life Saving Rules.*

*All information is anonymised or sanitised, as appropriate, and warnings for graphic content included where possible.*

*IMCA makes every effort to ensure both the accuracy and reliability of the information shared, but is not be liable for any guidance and/or recommendation and/or statement herein contained.*

*The information contained in this document does not fulfil or replace any individual's or Member's legal, regulatory or other duties or obligations in respect of their operations. Individuals and Members remain solely responsible for the safe, lawful and proper conduct of their operations.*

*Share your safety incidents with [IMCA online](#). Sign-up to receive Safety Flashes [straight to your email](#).*