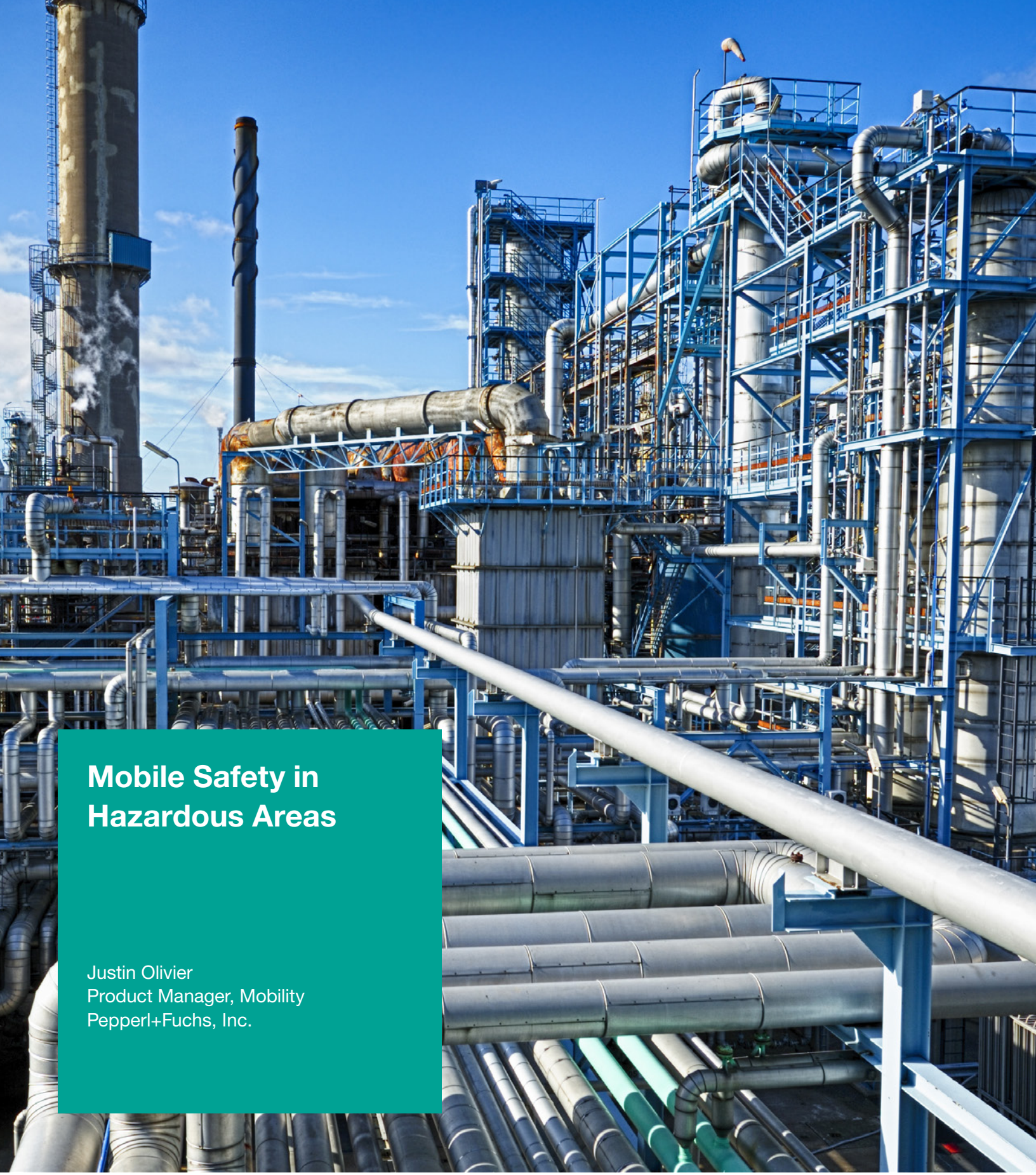

Mobile Safety in Hazardous Areas

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Which Mobile Devices Are Safe to Use?

Mobile devices can solve many challenges in hazardous industrial environments—from monitoring lone workers to enabling predictive maintenance to streamlining field support. But a device that lacks the proper protection could seriously compromise the safety of your plant and personnel. Even something as simple as a hot surface on an unprotected device can have disastrous consequences.

Ignition sources are possible even when unprotected mobile devices are turned off, including:

- A battery short-circuit in an unprotected device
- A loose battery in an unprotected device
- Electrostatic discharge—for instance, from pulling an unprotected device out of a holster

Other typical ignition sources include the following:

- Hot surfaces and open flames
- Electrical arks and sparks
- Lightning
- Mechanical friction or impact sparks
- Electromagnetic and optical radiation—i.e., from radios or barcode scanners in an unprotected device

Intrinsically safe mobile devices ensure that these potential ignition sources are removed or prevented. But to eliminate the risk of explosion, it is not enough to select just any protected device.

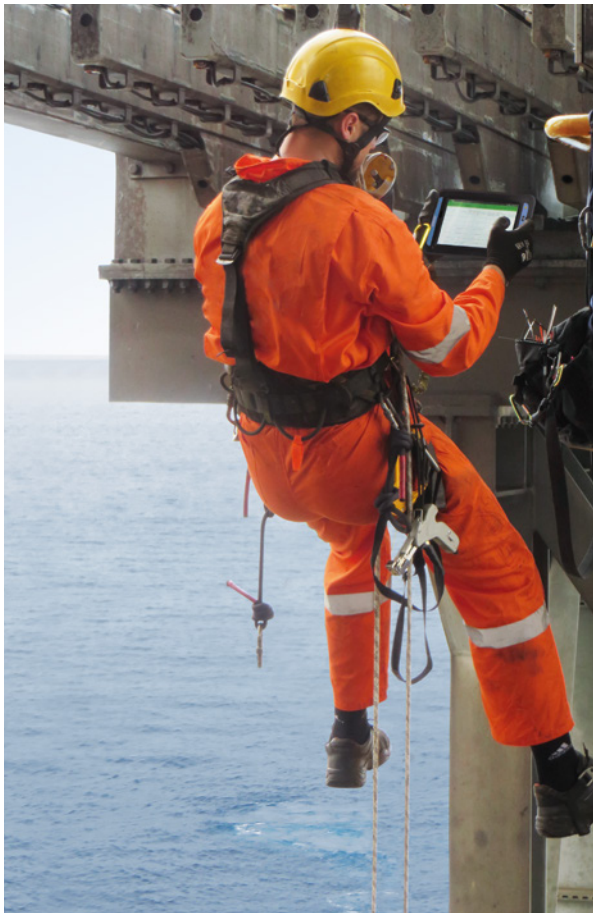
Zone/Division 1 or Zone/Division 2?

Zone/Div. 2 devices are only tested for the above-listed ignition sources under normal conditions—not if the device develops a fault. Zone/Div. 1 devices, on the other hand, are tested in both normal and fault conditions. Further, the batteries in Zone/Div. 2 devices are not tested for temperature increase under short circuit conditions. Only Zone/Div. 1 devices ensure that temperatures remain low enough to prevent an ignition. In short, Zone/Div. 1 devices are subjected to more stringent tests under both normal and fault conditions.

Answer the below questions to help determine whether the smartphones, tablets, scanners, and other mobile devices in your plant are putting personnel, assets, and the environment at risk.

Note: This information is intended for educational purposes only.

Question	Response	Risk Level
Are you using Zone/Div. 2 devices in Zone/Div. 1 areas?	Yes	High
Are you carrying switched-off Zone/Div. 2 devices through Zone/Div. 1 areas?	Yes	High
Does your Zone/Div. 2 device protect against, and has it been tested for, all typical ignition sources?	No	High
Will your Zone/Div. 2 device be used for multiple applications in the future, in both Zone/Div. 1 and Zone/Div. 2 areas?	Yes	High
If your Zone/Div. 2 device develops a fault, is it protected from causing a fire or explosion? (Look for markings such as Ex ic, UL 913, FM2610, or CSA 157.)	No	High
Are Zone/Div. 2 and Zone/Div. 1 areas clearly marked in your plant? Do mobile workers know when they are in a Zone/Div. 1 area?	No	High
Does your insurance liability cover incidents caused by Zone/Div. 2 devices found in Zone/Div. 1 areas?	No	High



Mobile devices solve a variety of challenges in hazardous areas—but an unprotected device can have disastrous consequences.

Don’t Just Minimize the Risk—Eliminate It

Using the wrong mobile device creates an enormous amount of risk. To eliminate risk, follow these basic steps:

- Use the correctly certified and marked devices in hazardous areas.
- Select manufacturers with a proven track record of delivering mobile devices for use in hazardous areas.
- Do not compromise on safety. Always consult safety and certification specialists.

To learn more about keeping your plant safe, visit **www.pepperl-fuchs.com/ecom.**

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Printed in USA · 06/18