

Facility Safety

# Flashlight Safety Ratings Explained

Brought To You by Streamlight | Dec 11, 2017

## Safety Ratings Explained

Any flashlight that will be used in a hazardous environment or confined space should be properly tested to meet or exceed all applicable safety standards for those locations. When selecting a flashlight, make sure it carries the proper approval ratings. Choosing the correct light for your application requires a thorough understanding of your working environment, and a realistic expectation of how a properly selected flashlight will operate in those conditions.

## What Is a Hazardous Location?

Hazardous locations, or potentially explosive atmospheres, are areas where fire or explosion hazards may exist due to the presence of ignitable concentrations of flammable gases, liquids, vapors, dusts or ignitable fibers or flyings. These locations are classified or "grouped" according to the properties of the flammable materials that may be present and the likelihood of flammable concentrations.

The National Electric Code (NEC) defines hazardous locations classifications and protection techniques. The basic designation is by "class" and "division." There are three classes characterized by the type of material present:

1. **Class I** locations are made hazardous by the presence of flammable gases, liquids or vapors.
2. **Class II** locations can be described as hazardous because of the presence of combustible dusts.
3. **Class III** locations contain easily ignitable fibers or flyings.

"Division" refers to the likelihood that ignitable concentrations of flammable materials are present in a given area.

1. **Division 1** designates an environment where ignitable concentrations of flammable gases, liquids, vapors or dusts can exist some of the time or all of the time under normal operating conditions or where easily ignitable fibers and flyings are manufactured, handled or used.
2. **Division 2** locations are areas where ignitable concentrations are NOT likely to exist under normal operating conditions or where Class III materials are stored or handled.

Hazardous atmosphere classes are further defined by "groups." Combustible materials are grouped by their relevant physical properties. These groups include (but are not limited to):

- **Group A** Acetylene
- **Group B** Hydrogen
- **Group C** Ethylene, carbon monoxide
- **Group D** Propane, gasoline, naphtha, benzene, butane, ethyl alcohol, acetone, methane
- **Group E** Metals including aluminum, magnesium (Div. 1 only)
- **Group F** Carbonaceous dusts including coal, carbon black, and coke
- **Group G** Dusts not included in E and F including wood, plastics, flour, starch or grain dusts

As of July 2003, mandatory compliance to the European Union (EU) Directive 94/9/EC (ATEX) for all

products intended for use in potentially explosive atmospheres within the EU member countries came into effect. Differing from the NEC, the ATEX Directive categorizes equipment into Group I (mining) and Group II (non-mining) applications according to the relevant protection methods used in their design. Similar to divisions, “zones” (0, 1 or 2) and gas groups; A (propane), B (ethylene) and C (Acetylene and Hydrogen), are used to define Group II hazardous area characteristics. For a particular zone and group a specific equipment category and protection concept are required.

NEC			ATEX	
Division	Occurrence	Group	Category	Zone
1	Continuous	II	1	0
	Likely		2	1
2	Not likely		3	2

Further, all approved flashlights are temperature rated from T1 (less than or equal to 450°C) to T6 (less than or equal to 85°C) and the flashlight you select partly depends on the auto ignition temperature characteristics of the substances you may encounter and the ambient temperature (adjusted to 40°C) of the area. This document contains a simplified explanation of safety approvals and list of some of the substances and conditions for which the approval is valid. It is not intended as a substitute for a thorough understanding of the subject. Remember; you or the “Authority Having Jurisdiction” are responsible for the proper selection and application, in a properly defined area, of any hazardous locations approved product. The National Fire Protection Agency (NFPA), The International Electrotechnical Association (IEC) as well as most certifying agencies offering hazardous locations services are helpful references for defining hazardous locations. Streamlight flashlights have been tested and certified by the world’s leading independent laboratories such as Underwriters Laboratories Inc. and Demko. It’s your assurance that the Streamlight flashlight you choose will be safe, reliable and tough enough for the job - characteristics that have distinguished our products for over a quarter century.

## ATEX Update

April 26th, 2016

As a result of the new ATEX Directive 2014/34/EU, all of Streamlight’s existing CE Declarations of Conformity have been revised accordingly. These revisions were made to reflect the implementation of the new ATEX Directive 2014/34/EU. For further information about these revised Declarations, please contact your Streamlight representative.

The below information provides some background about the new Directive and Streamlight’s compliance:

On 20 April 2016, the new ATEX Directive 2014/34/EU came into effect. The implementation of the 2014/34/EU Directive does not change the scope or essential requirements of the old 94/9/EC ATEX Directive. It is a result of the alignment of the previous 94/9/EC Directive to the new “New Legislative Framework (NLF).”<sup>1</sup>

Article 41(2) of the new ATEX Directive states that certificates issued under Directive 94/9/EC will remain valid under the new Directive 2014/34/EU and certificates that still refer to 94/9/EC do not have to be re-issued to reference the new Directive.<sup>2</sup>

Existing Suppliers’ Declaration of Conformity will have to be revised to reflect the new ATEX Directive.

All economic operators involved in the manufacture, sale or distribution are encouraged to review their obligations under the new ATEX Directive 2014/34/EU.

1. **Guidance Document:** On the ATEX Directive Transition from 94/9/EC to 2014/34/EU. 1st Edition, April 2016. European Commission, Brussels.
2. **The Bulletin:** An Update on Hazardous Environments, February 2016. CSA Group, Ontario Canada.

## June 4th, 2015

The recent revision to ATEX Directive 94/9/EC informs all manufacturers that when placing new products onto the market on or after April 2, 2015, these products should meet the requirements of the revised safety standard EN 60079-0:2012. Here at Streamlight, our product development and compliance teams have been working in an on-going way to develop and evolve our ATEX product lines, continually striving to balance the application-driven performance that our customers require while meeting the strict requirements of the ATEX Directive.

Streamlight has a complete line-up of products that meet the revised safety standard. Several products that have been placed on the market as new prior to April 2, 2015, remain available while we expand our line-up of new products certified to the latest revision.

Please visit our offering of ATEX products on our website in both our rechargeable and non-rechargeable product categories.

For more information regarding Safety flashlights, please visit **Streamlight** on MSCDirect.com.

*Previously featured on Streamlight.*

[www.mscdirect.com/betterMRO](http://www.mscdirect.com/betterMRO)

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