Storing and Handling Ethanol and Gasoline-ethanol Blends at Distribution Terminals and Filling Stations

API RECOMMENDED PRACTICE 1626
SECOND EDITION, AUGUST 2010

ERRATA, FEBRUARY 2011

ADDENDUM, AUGUST 2012

REAFFIRMED, MAY 2020

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AMERICAN PETROLEUM INSTITUTE

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Downstream Segment

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Introduction

Ethanol is widely blended with gasoline in concentrations up to 10 % (E10). E85, a high-ethanol/gasoline blend is available in many parts of the US and will be required under current Federal rules in the near future. Also, there is interest in increasing the ethanol percentage in gasoline to 15 %.

This recommended practice (RP) provides guidance for designers and operators of terminals and filling stations in ethanol fuel blend service. This document will help interested parties understand the properties of ethanol fuel blends and how they differ from gasoline. It will assist in the design and selection of equipment that will promote safe storage, handing and dispensing of quality ethanol blends.

Storing and Handling Ethanol and Gasoline-ethanol Blends at Distribution Terminals and Filling Stations

1 Scope

This publication describes recommended practices for the storing, handling, and fire protection of ethanol and gasoline-ethanol blends from E1 to E15 and from E65 to E100 (used for E85) at distribution terminals and filling stations. Where information exists for gasoline-ethanol blends from E11 to E15, it is shared. Recommended practices for E16 through E69 are not covered because currently these blends are not legal gasolines blends or alternative fuels. There is a general lack of information on the properties of these blends and there are currently no filling station components certified by any nationally recognized testing laboratory for these blends.

This document is current at the time of publication, but changes to regulations and listings may affect the accuracy certain recommended practices. See the form in Annex D to provide suggestions for updating or revision.

While this publication does not address second or future generation biomass-based alcohols which use feedstocks and manufacturing processes that are different than those employed for current U.S. ethanol supplies, it is unlikely that sugar or cellulosic ethanols will alter the overall recommendations in this RP.

Future generation bioethanol fuels may have different properties and the practices described in this publication may not be applicable. When dealing with those fuels, good engineering practices should be employed until this document is updated.

This publication does not address ethanol diesel blends.

This publication does not address health effects or the remediation of ethanol or gasoline-ethanol blend spills or releases.

2 References

2.1 General

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

2.2 Normative References

API Publication 327, *Aboveground Storage Tank Standards: A Tutorial*

API Recommended Practice 562, *Lining of Aboveground Petroleum Storage Tank Bottoms*

API Standard 570, *Piping Inspection Code: Inspection, Repair, Alteration, and Rerating of In-service Piping Systems*

API Recommended Practice 574, *Inspection Practices for Piping System Components*

API Recommended Practice 579/ASME FFS-1, *Fitness-for-Service*

API Recommended Practice 580, *Risk-Based Inspection*

API Recommended Practice 582, *Recommended Practice and Supplementary Welding Guidelines for the Chemical, Oil, and Gas Industries*