



# **SAFETIN** **AUDIT**

**MultiFunctional Environmental Token**  
**- Main.sol**

**September 22nd, 2022**



## TABLE OF CONTENTS

- I. SUMMARY
- II. OVERVIEW
- III. FINDINGS
  - A. [CENT-1](#) | Centralization of major privileges
  - B. [COMP-1](#) | Unlocked compiler versions
  - C. [FUNC-1](#) | Unused functions
  - D. [GAS-2](#) | Overly long error messages
  - E. [MSG-2](#) | Limited NatSpec comments
- IV. DISCLAIMER

## AUDIT SUMMARY

This report was written for [MultiFunctional Environmental Token](#) in order to find flaws and vulnerabilities in the [MultiFunctional Environmental Token](#) project's source code, as well as any contract dependencies that weren't part of an officially recognized library given they were provided.

A comprehensive examination has been performed, utilizing Static Analysis, Manual Review, and [MultiFunctional Environmental Token](#) Deployment techniques. The auditing process pays special attention to the following considerations:

- ❖ Testing the smart contracts against both common and uncommon attack vectors
- ❖ Assessing the codebase to ensure compliance with current best practices and industry standards
- ❖ Ensuring contract logic meets the specifications and intentions of the client
- ❖ Cross referencing contract structure and implementation against similar smart contracts produced by industry leaders
- ❖ Through line-by-line manual review of the entire codebase by industry expert

## AUDIT OVERVIEW

### PROJECT SUMMARY

Project name	MultiFunctional Environmental Token
Description	MFET is an ecosystem that provides consultancy to companies in their environmental works as an environmentally friendly token supporting sustainable projects.
Platform	BNB Smart-chain
Language	Solidity
Codebase	Main.sol <a href="https://bscscan.com/address/0x6d23970ce32Cb0F1929bECE7C56D71319e1b4F01">https://bscscan.com/address/0x6d23970ce32Cb0F1929bECE7C56D71319e1b4F01</a> Stake.sol <a href="https://bscscan.com/address/0xe0cd1e9820001faff0c98935dae500471f92c6e1">https://bscscan.com/address/0xe0cd1e9820001faff0c98935dae500471f92c6e1</a> Lock.sol <a href="https://bscscan.com/address/0x3b7f0d2BaB984c9dbc70F53Ef0B5C65a8E86c463">https://bscscan.com/address/0x3b7f0d2BaB984c9dbc70F53Ef0B5C65a8E86c463</a>

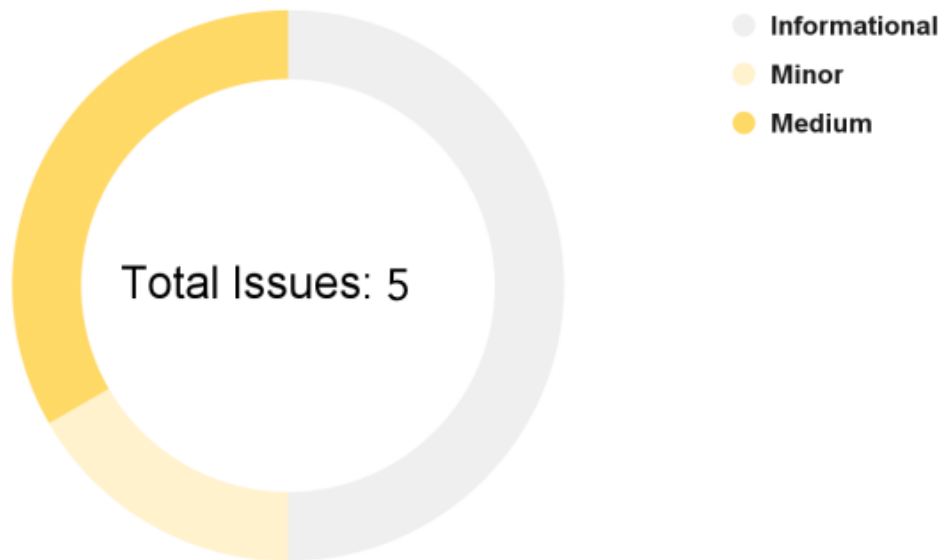
## FINDINGS SUMMARY

Vulnerability	Total	Resolved
● Critical	0	0
● Major	0	0
● Medium	1	0
● Minor	1	0
● Informational	3	0

## EXECUTIVE SUMMARY

There have been no critical issues related to the codebase and all findings listed here range from informational to medium. The medium security problems are the following: Centralization of major privileges and Dependence to external protocol.

## AUDIT FINDINGS



Code	Title	Severity
<a href="#">CENT-1</a>	Centralization of major privileges	● Medium
<a href="#">COMP-1</a>	Unlocked compiler versions	● Minor
<a href="#">FUNC-1</a>	Unused functions	● Informational
<a href="#">GAS-2</a>	Overly long error messages	● Informational
<a href="#">MSG-2</a>	Limited NatSpec comments	● Informational

## CENT-1 | Centralization of major privileges

### Description

The `onlyOwner` modifier of the smart contract(s) gives major privileges over it (`manage liquidity`)\*. This can be a problem, in the case of a hack, an attacker who has taken possession of this privileged account could damage the project and the investors.

\*This list is not exhaustive but presents the most sensitive points

### Recommendation

We recommend at least to use a multi-sig wallet as the owner address, and at best to establish a community governance protocol to avoid such centralization. For more information, see <https://solidity-by-example.org/app/multi-sig-wallet/>



## COMP-1 | Unlocked compiler version

### Description

MultiFunctional Environmental Token's contract does not have locked compiler versions, meaning a range of compiler versions can be used. This can lead to differing bytecodes being produced depending on the compiler version, which can create confusion when debugging, as bugs may be specific to a specific compiler version(s).

### Recommendation

To rectify this, we recommend setting the compiler to a single version, the version tested the most to be compatible with the code, an example of this change can be seen below.

```
pragma solidity 0.8.0;
```

## FUNC-1 | Unused functions

### Description

Multiple functions within [MultiFunctional Environmental Token's](#) contract are defined as private or internal but are never called within the contract. This wastes contract space as there is a maximum size a contract can have. Functions found with this issue have been listed below:

#### ❖ Main.sol

- [\\_msgData](#) -> Line 66
- [sendValue](#) -> Line 120
- [functionStaticCall](#) -> Line 193
- [functionStaticCall](#) -> Line 180
- [functionDelegateCall](#) -> Line 216
- [functionDelegateCall](#) -> Line 204
- [functionCallWithValue](#) -> Line 148
- [functionCall](#) -> Line 133

### Recommendation

We recommend safely removing these functions from the contract.

## GAS-2 | Overly long error messages

### Description

The smart contract has some error messages that are too long. The industry standards specify error messages must have a maximum length of 32 bytes. We recommend having the short error messages within 32 bytes to optimize gas costs. Require statements with this issue have been listed below:

#### ❖ Main.sol

- line -> 88
- line -> 198
- line -> 221
- line -> 483
- line -> 484
- line -> 487
- line -> 497
- line -> 500
- line -> 514
- line -> 515

## Recommendation

We recommend shortening these error messages to be 32 characters or less in length.

## MSG-2 | Limited NatSpec comments

### Description

Throughout [MultiFunctional Environmental Token's](#) contracts many functions remain uncommented. This can make understanding the code's functionality difficult for developers and users (if the code is open source) thus reducing maintainability.

### Recommendation

We recommend using [NetSpec](#) standard comments throughout all of [MultiFunctional Environmental Token's](#) contracts.

See: <https://docs.soliditylang.org/en/v0.5.17/style-guide.html?highlight=natspec%23natspec>

## Global security warnings

These are safety issues for the whole project. They are not necessarily critical problems but they are inherent in the structure of the project itself. Potential attack vectors for these security problems should be monitored.

### CENT-1 | Global SPOF (Single Point Of Failure)

The project's smart contracts often have a problem of centralized privileges. The [owner](#) system in particular can be subject to attack. To address this security issue we recommend using a multi-sig wallet, establishing secure project administration protocols and strengthening the security of project administrators.

### Compliance with industry standards

The way the contract is developed and its compliance with industry standards are part of the project. In order to increase the optimization of the latter, we recommend refining the code to best fit industry best practices, in particular the use of error messages and library utilization.

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This report in no way provides investment advice, nor should be leveraged as investment advice of any sort. This report represents an extensive assessing process intending to help our customers increase the quality of their code while reducing the high level of risk presented by cryptographic tokens and blockchain technology.

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