



TechRate
AUDIT COMPANY

Smart Contract Security Audit

Audit Details



Audited project

HODL Vault Token



Deployer address

0xfd985bba4db2ac7c24abac400cd230f7b8676171



Client contacts:

HODL Vault Token team



Blockchain

Binance Smart Chain



Project website:

<https://www.hodlvault.net>

Disclaimer

This is a limited report on our findings based on our analysis, in accordance with good industry practice as at the date of this report, in relation to cybersecurity vulnerabilities and issues in the framework and algorithms based on smart contracts, the details of which are set out in this report. In order to get a full view of our analysis, it is crucial for you to read the full report. While we have done our best in conducting our analysis and producing this report, it is important to note that you should not rely on this report and cannot claim against us on the basis of what it says or doesn't say, or how we produced it, and it is important for you to conduct your own independent investigations before making any decisions. We go into more detail on this in the below disclaimer below – please make sure to read it in full.

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The analysis of the security is purely based on the smart contracts alone. No applications or operations were reviewed for security. No product code has been reviewed.

Background

TechRate was commissioned by HODL Vault Token to perform an audit of smart contracts:

<https://bscscan.com/address/0x02eaff74b881280d51e25197b0b3a72d5645bffa#code>

The purpose of the audit was to achieve the following:

- Ensure that the smart contract functions as intended.
- Identify potential security issues with the smart contract.

The information in this report should be used to understand the risk exposure of the smart contract, and as a guide to improve the security posture of the smart contract by remediating the issues that were identified.

Contracts Details

Token contract details for 27.10.2021

Contract name	HODL Vault Token
Contract address	0x02EAff74B881280d51E25197B0b3A72D5645bFFa
Total supply	1,000,000,000,000,000
Token ticker	HVLT
Decimals	9
Token holders	1
Transactions count	2
Top 100 holders dominance	100.00%
Dev fee receiver	0xb1d0fab744e98b6b0f3af1fd421efc0929d11873
Autoliquidity fee receiver	0xfd985bba4db2ac7c24abac400cd230f7b8676171
Marketing fee receiver	0xf0e0ede3af6e8c65437212aa60dfb8c200aa3b57
Pair	0xc300ea246540ad271a9b580d0ef4ef0673c91489
Contract deployer address	0xfd985bba4db2ac7c24abac400cd230f7b8676171
Contract's current owner address	0xf66cc556c23efdf4bc7ff32f9da08f83a61a7ac0

HODL Vault Token Token Distribution

The top 100 holders collectively own 100.00% (1,000,000,000,000,000.00 Tokens) of HODL Vault Token

Token Total Supply: 1,000,000,000,000,000.00 Token | Total Token Holders: 1

HODL Vault Token Top 100 Token Holders

Source: BscScan.com



(A total of 1,000,000,000,000,000.00 tokens held by the top 100 accounts from the total supply of 1,000,000,000,000,000.00 token)

HODL Vault Token contract interaction details

Time Series: Token Contract Overview

Tue 23, Nov 2021 - Tue 23, Nov 2021

Token Contract 0x02eaff74b881280d51e25197b0b3a72d5645bffa (HODL Vault Token)

Source: BscScan.com



HODL Vault Token Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	0xf66cc556c23efd4bc7ff32f9da08f83a61a7ac0	1,000,000,000,000,000	100.0000%

Contract functions details

+ [Lib] SafeMath

- [Int] add
- [Int] sub
- [Int] sub
- [Int] mul
- [Int] div
- [Int] div

+ [Int] IBEP20

- [Ext] totalSupply
- [Ext] decimals
- [Ext] symbol
- [Ext] name
- [Ext] getOwner
- [Ext] balanceOf
- [Ext] transfer #
- [Ext] allowance
- [Ext] approve #
- [Ext] transferFrom #

+ Auth

- [Pub] <Constructor> #
- [Pub] authorize #
 - modifiers: onlyOwner
- [Pub] unauthorize #
 - modifiers: onlyOwner
- [Pub] isOwner
- [Pub] isAuthorized
- [Pub] transferOwnership #
 - modifiers: onlyOwner

+ [Int] IDEXFactory

- [Ext] createPair #

+ [Int] IDEXRouter

- [Ext] factory
- [Ext] WETH
- [Ext] addLiquidity #
- [Ext] addLiquidityETH (\$)
- [Ext] swapExactTokensForTokensSupportingFeeOnTransferTokens #
- [Ext] swapExactETHForTokensSupportingFeeOnTransferTokens (\$)
- [Ext] swapExactTokensForETHSupportingFeeOnTransferTokens #

+ [Int] IDividendDistributor

- [Ext] setDistributionCriteria #
- [Ext] setShare #
- [Ext] deposit (\$)
- [Ext] process #

+ DividendDistributor (IDividendDistributor)

- [Pub] <Constructor> #

- [Ext] setDistributionCriteria #
 - modifiers: onlyToken
 - [Ext] setShare #
 - modifiers: onlyToken
 - [Ext] deposit (\$)
 - modifiers: onlyToken
 - [Ext] process #
 - modifiers: onlyToken
 - [Int] shouldDistribute
 - [Int] distributeDividend #
 - [Ext] claimDividend #
 - [Pub] getUnpaidEarnings
 - [Int] getCumulativeDividends
 - [Int] addShareholder #
 - [Int] removeShareholder #
- + HODLVault (IBEP20, Auth)
- [Pub] <Constructor> #
 - modifiers: Auth
 - [Ext] <Fallback> (\$)
 - [Ext] totalSupply
 - [Ext] decimals
 - [Ext] symbol
 - [Ext] name
 - [Ext] getOwner
 - [Pub] balanceOf
 - [Ext] allowance
 - [Pub] approve #
 - [Ext] approveMax #
 - [Ext] transfer #
 - [Ext] transferFrom #
 - [Int] _transferFrom #
 - [Ext] SetEnabledAddLiquidityAddress #
 - modifiers: onlyOwner
 - [Ext] teamWalletAddress #
 - modifiers: onlyOwner
 - [Int] _basicTransfer #
 - [Int] checkTeamWalletUnlocked
 - [Int] checkTxLimit
 - [Int] shouldTakeFee
 - [Pub] getTotalFee
 - [Int] takeFee #
 - [Int] shouldSwapBack
 - [Int] swapBack #
 - modifiers: swapping
 - [Int] shouldAutoBuyback
 - [Ext] triggerHODLBuyback #
 - modifiers: authorized
 - [Int] triggerAutoBuyback #
 - [Int] buyTokens #
 - modifiers: swapping
 - [Ext] setAutoBuybackSettings #
 - modifiers: authorized
 - [Ext] setTxLimit #
 - modifiers: authorized

- [Ext] setIsDividendExempt #
 - modifiers: authorized
- [Ext] setIsFeeExempt #
 - modifiers: authorized
- [Ext] setIsTxLimitExempt #
 - modifiers: authorized
- [Pub] setFees #
 - modifiers: authorized
- [Ext] BeforePresale #
 - modifiers: authorized
- [Ext] AfterPresale #
 - modifiers: authorized
- [Ext] setFeeReceivers #
 - modifiers: authorized
- [Ext] setSwapBackSettings #
 - modifiers: authorized
- [Ext] setTargetLiquidity #
 - modifiers: authorized
- [Ext] setDistributionCriteria #
 - modifiers: authorized
- [Ext] setDistributorSettings #
 - modifiers: authorized
- [Pub] getCirculatingSupply
- [Pub] getLiquidityBacking
- [Pub] isOverLiquified

(\$) = payable function

= non-constant function

Issues Checking Status

Issue description	Checking status
1. Compiler errors.	Passed
2. Race conditions and Reentrancy. Cross-function race conditions.	Passed
3. Possible delays in data delivery.	Passed
4. Oracle calls.	Passed
5. Front running.	Passed
6. Timestamp dependence.	Passed
7. Integer Overflow and Underflow.	Passed
8. DoS with Revert.	Passed
9. DoS with block gas limit.	Passed
10. Methods execution permissions.	Passed
11. Economy model of the contract.	Passed
12. The impact of the exchange rate on the logic.	Passed
13. Private user data leaks.	Passed
14. Malicious Event log.	Passed
15. Scoping and Declarations.	Passed
16. Uninitialized storage pointers.	Passed
17. Arithmetic accuracy.	Passed
18. Design Logic.	Passed
19. Cross-function race conditions.	Passed
20. Safe Open Zeppelin contracts implementation and usage.	Passed
21. Fallback function security.	Passed

Security Issues

✓ High Severity Issues

No high severity issues found.

✓ Medium Severity Issues

No medium severity issues found.

✓ Low Severity Issues

No low severity issues found.

Notes

- To be able to sell, pair balance should be > 0 .

Owner privileges (In the period when the owner is not renounced)

- Owner can authorize / unauthorize addresses.
- Owner can change `_enabledAddLiquidityAddress`.
- Owner can mark addresses as team wallet.
- Authorized addresses can call `triggerHODLBuyback` that's initiate buyback.
- Authorized addresses can change auto buyback settings.
- Authorized addresses can change the maximum transaction amount.
- Authorized addresses can include in and exclude from dividends.
- Authorized addresses can include in and exclude from fee.
- Authorized addresses can include in and exclude from transaction amount limit.
- Authorized addresses can change fees.
- Authorized addresses can change fee receivers.
- Authorized addresses can change swap threshold and disable/enable swap.
- Authorized addresses can change target liquidity values.
- Authorized addresses can change distribution criteria.
- Authorized addresses can change distribution GAS.

Conclusion

Smart contracts contain owner privileges! Liquidity pair contract's security is not checked due to out of scope.

Liquidity locking details are **NOT** provided by the team.

TechRate note:

Please check the disclaimer above and note, the audit makes no statements or warranties on business model, investment attractiveness or code sustainability. The report is provided for the only contract mentioned in the report and does not include any other potential contracts deployed by Owner.