

TechRate  
March, 2022



# SMART CONTRACTS SECURITY AUDIT REPORT



Techrate\_audits



Techrate



Techrate1

# Audit Details



Audited project

CYLUM



Deployer address

0xbe830877676ac30f172981f10f4c6c2c88432d76



Client contacts:

CYLUM team



Blockchain

Binance Smart Chain



Project website:

<https://cylum.io>

# 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 CYLUM to perform an audit of smart contracts:**

<https://bscscan.com/address/0x15ea6b8481bf1c991ac3dc8e67279d31651a56fe#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 24.03.2022

**Contract name** CYLUM

**Contract address** 0x15Ea6B8481bF1C991aC3dC8e67279d31651a56FE

**Total supply** 5,000,000,000

**Token ticker** CYM

**Decimals** 9

**Token holders** 146,771

**Transactions count** 184,435

**Top 100 holders dominance** 99.67%

**Total fees** 888927781155242

**Percentfee** 10

**Lock contract 1** 0xdb4c6317d8baa30c8d32b9302d2803e157fea497

**Lock contract 2** 0x00

**Contract deployer address** 0xbe830877676ac30f172981f10f4c6c2c88432d76

**Owner address** 0xbe830877676ac30f172981f10f4c6c2c88432d76

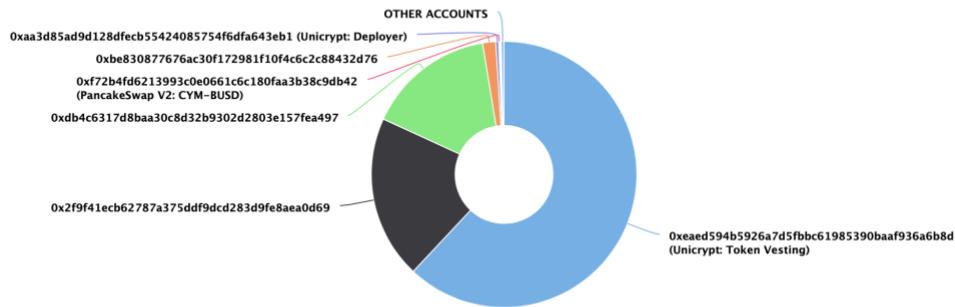
# CYLUM Token Distribution

The top 100 holders collectively own 99.67% (4,983,671,145.98 Tokens) of CYLUM

Token Total Supply: 5,000,000,000.00 Token | Total Token Holders: 146,771

CYLUM Top 100 Token Holders

Source: BscScan.com



(A total of 4,983,671,145.98 tokens held by the top 100 accounts from the total supply of 5,000,000,000.00 token)

## CYLUM Contract Interaction Details

Time Series: Token Contract Overview




Mon 14, Mar 2022 - Tue 22, Mar 2022

Token Contract 0x15ea6b8481bf1c991ac3dc8e67279d31651a56fe (CYLUM)

Source: BscScan.com



# CYLUM Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	 Unicrypt: Token Vesting	3,100,000,000	62.0000%
2	 0x2f9f41ecb62787a375ddf9dcd283d9fe8aea0d69	991,972,432.766550014	19.8394%
3	 0xdb4c6317d8baa30c8d32b9302d2803e157fe497	778,530,414	15.5706%
4	0xbe830877676ac30f172981f10f4c6c2c88432d76	79,999,700	1.6000%
5	Unicrypt: Deployer	17,216,403.85097842	0.3443%
6	PancakeSwap V2: CYM-BUSD	4,846,825.549938246	0.0969%
7	Null Address: 0x000...dEaD	2,783,596.14902158	0.0557%
8	0x5017901715645996a52bf2668bc808b4e609fc12	1,425,471.576781491	0.0285%
9	0x718337ded28ec6cc679a8b49839263f74c573c1a	543,540.415563689	0.0109%
10	0xb5e2b8f44e9f1ae0b23de64cd4579f1ce9ffa7c	451,576.749662231	0.0090%

# Contract functions details

## + Context

- [Int] \_msgSender
- [Int] \_msgData

## + [Int] IERC20

- [Ext] totalSupply
- [Ext] balanceOf
- [Ext] transfer #
- [Ext] allowance
- [Ext] approve #
- [Ext] transferFrom #

## + [Lib] SafeMath

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

## + [Lib] Address

- [Int] isContract
- [Int] sendValue #
- [Int] functionCall #
- [Int] functionCall #
- [Int] functionCallWithValue #
- [Int] functionCallWithValue #
- [Prv] \_functionCallWithValue #

## + Ownable (Context)

- [Int] <Constructor> #
- [Pub] owner
- [Pub] renounceOwnership #
  - modifiers: onlyOwner
- [Pub] transferOwnership #
  - modifiers: onlyOwner

## + [Int] ILockContract

- [Ext] lockedAmount



- [Ext] updateStakeAirdrop #
- + CYLUM (Context, IERC20, Ownable)
  - [Pub] <Constructor> #
  - [Pub] name
  - [Pub] symbol
  - [Pub] decimals
  - [Pub] totalSupply
  - [Pub] balanceOf
  - [Pub] transfer #
  - [Pub] allowance
  - [Pub] approve #
  - [Pub] transferFrom #
  - [Pub] increaseAllowance #
  - [Pub] decreaseAllowance #
  - [Pub] isExcludedRewards
  - [Pub] isExcludedFee
  - [Pub] totalFees
  - [Pub] reflect #
  - [Pub] reflectionFromToken
  - [Pub] tokenFromReflection
  - [Ext] excludeAccountRewards #
    - modifiers: onlyOwner
  - [Ext] excludeAccountFee #
    - modifiers: onlyOwner
  - [Ext] setLockContract #
    - modifiers: onlyOwner
  - [Ext] setSecondLockContract #
    - modifiers: onlyOwner
  - [Ext] withdrawStuckToken #
    - modifiers: onlyOwner
  - [Ext] setFeeHolders #
    - modifiers: onlyOwner
  - [Ext] includeAccountRewards #
    - modifiers: onlyOwner
  - [Ext] includeAccountFee #
    - modifiers: onlyOwner
  - [Prv] \_approve #
  - [Prv] \_transfer #
  - [Prv] \_transferStandard #
  - [Prv] \_transferToExcluded #
  - [Prv] \_transferFromExcluded #
  - [Prv] \_transferBothExcluded #
  - [Prv] \_transferNoFee #
  - [Prv] \_reflectFee #

- [Prv] \_getValues
- [Prv] \_getTValues
- [Prv] \_getRValues
- [Prv] \_getRate
- [Prv] \_getCurrentSupply

(\$) = payable function

# = non-constant function

# Issues Checking Status

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

# Security Issues

## ✓ High Severity Issues

No high severity issues found.

## ✓ Medium Severity Issues

No medium severity issues found.

## ✓ Low Severity Issues

### 1. Out of gas

#### Issue:

- The function `includeAccountRewards()` uses the loop to find and remove addresses from the `_excluded` list. Function will be aborted with `OUT_OF_GAS` exception if there will be a long excluded addresses list.
- The function `_getCurrentSupply()` also uses the loop for evaluating total supply. It also could be aborted with `OUT_OF_GAS` exception if there will be a long excluded addresses list.

#### Recommendation:

Check that the excluded array length is not too big.

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

- Owner can exclude addresses from fees.
- Owner can change lock contracts addresses.
- Owner can withdraw ERC20 tokens.
- Owner can change percentfee.

# Conclusion

Smart contracts contain low severity issues! Liquidity pair contract's security is not checked due to out of scope. The further transfers and operations with the funds raise are not related to this particular contract. Smart contract contains interfaces that is not audited due to out of scope, some functions may work different way.

Liquidity locking details are provided by the team:

<https://app.unicrypt.network/amm/pancake-v2/token/0x15Ea6B8481bF1C991aC3dC8e67279d31651a56FE>

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*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.*