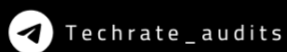


TechRate  
June, 2022



# SMART CONTRACTS SECURITY AUDIT REPORT



# Audit Details



Audited project

**Mastermind Games Ascension**



Deployer address

**0xe6444ccee2ab9db962a7e918426118b3080926d2**



Client contacts:

**Mastermind Games Ascension team**



Blockchain

**Binance Smart Chain**



Project website:

<https://mastermindgames.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 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 Mastermind Games Ascension to perform an audit of smart contracts:**

<https://bscscan.com/address/0x0a7c8b7374f600b229Be7B7A237ad178329530b9#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 07.06.2022

<b>Contract name</b>	Mastermind Games Ascension
<b>Contract address</b>	0xDa7c8b7374f600b229Be7B7A237ad178329530b9
<b>Total supply</b>	300,000,000
<b>Token ticker</b>	MGA
<b>Decimals</b>	18
<b>Token holders</b>	18
<b>Transactions count</b>	44
<b>Top 100 holders dominance</b>	99.96%
<b>Total fees</b>	77406109863135482404232
<b>Tax fee</b>	2
<b>Liquidity fee</b>	0
<b>Uniswap V2 pair</b>	0x4358def10c443f23ec0c2c9448353ea08e16fc89
<b>Contract deployer address</b>	0xe6444ccee2ab9db962a7e918426118b3080926d2
<b>Owner address</b>	0x58a78539b1fea3b6b03dfa44690ef6de9eada26e

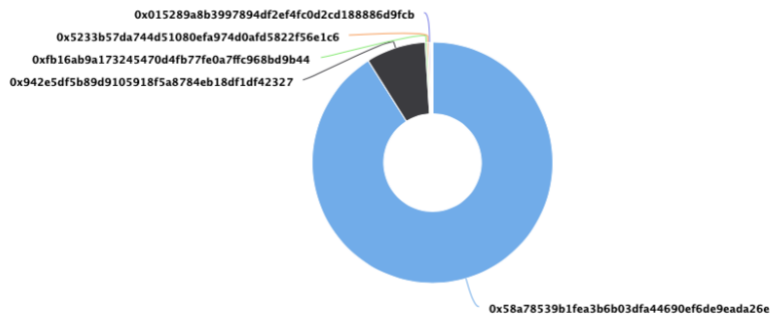
# Mastermind Games Ascension Token Distribution

The top 100 holders collectively own 99.96% (299,883,634.44 Tokens) of Mastermind Games Ascension

Token Total Supply: 300,000,000.00 Token | Total Token Holders: 18

### Mastermind Games Ascension Top 100 Token Holders

Source: BscScan.com



(A total of 299,883,634.44 tokens held by the top 100 accounts from the total supply of 300,000,000.00 token)

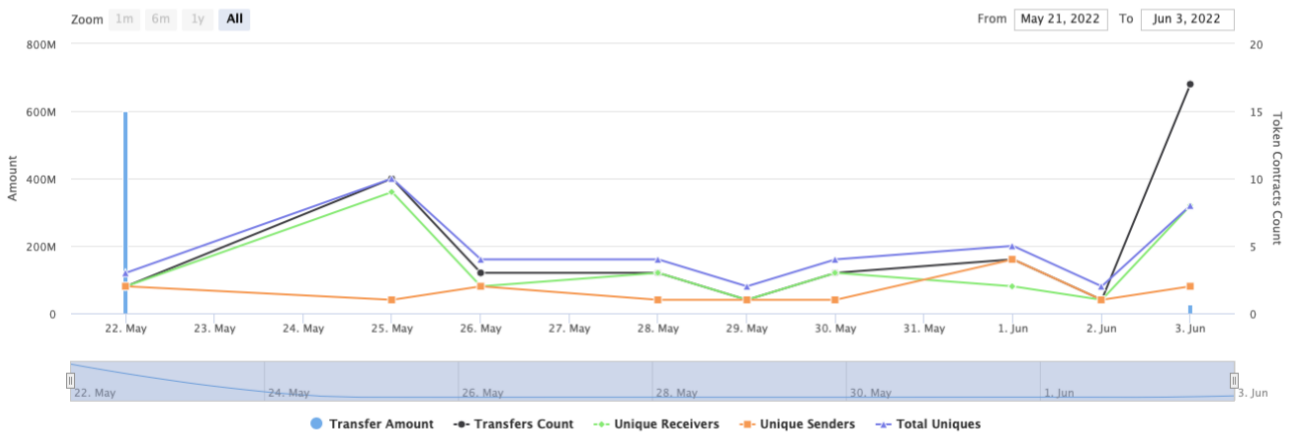
# Mastermind Games Ascension Contract Interaction Details

Time Series: Token Contract Overview

Sun 22, May 2022 - Fri 3, Jun 2022

### Token Contract 0xDa7c8b7374f60b2298e787A237ad178329530b9 (Mastermind Games Ascension)

Source: BscScan.com



# Mastermind Games Ascension Top 10 Token Holders

Rank	Address	Quantity (Token)	Percentage
1	<a href="#">0x58a78539b1fea3b6b03dfa44690ef6de9eada26e</a>	273,079,167.116002071787823914	91.0264%
2	<a href="#">0x942e5df5b89d9105918f5a8784eb18df1df42327</a>	24,043,289.175458745548099732	8.0144%
3	<a href="#">0xfb16ab9a173245470d4fb77fe0a7ffc968bd9b44</a>	752,635.626781339066953347	0.2509%
4	<a href="#">0x5233b57da744d51080efa974d0afd5822f56e1c6</a>	663,796.049590678952220884	0.2213%
5	<a href="#">0x015289a8b3997894df2ef4fc0d2cd188886d9fcb</a>	635,599.405778885446847	0.2119%
6	<a href="#">0xc2c9ab71843c108fef4b48a3dc07174f3bf7fa30</a>	201,001.407641806613715769	0.0670%
7	<a href="#">0xa933592d532e9f7544294f0c52d3c922f5d8a26e</a>	106,549.647188787231238689	0.0355%
8	<a href="#">0x9f8aa2678bf5dfbc1207cf0259d6df5e9ed7180</a>	104,870.321768663314731643	0.0350%
9	<a href="#">0x7bb2f22ea0c827a3da68378eb20c916db7458a1c</a>	66,503.739451674573094173	0.0222%
10	<a href="#">0x568c220dfb22df07cd80dea006ed5135baea24e2</a>	50,245.677166257688224608	0.0167%

1408

C6

780

DF1408

65

76C6

5C780

29C4CAD8

C4

87C9C

31B2A384

DF14

65

# Contract functions details

## + [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

## + Context

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

## + [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
- [Pub] getUnlockTime
- [Pub] lock #
  - modifiers: onlyOwner

DF1408

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5C780

29C4CAD8

C4

87C9C

31B2A384



- [Pub] unlock #
  
- + [Int] IUniswapV2Factory
  - [Ext] feeTo
  - [Ext] feeToSetter
  - [Ext] getPair
  - [Ext] allPairs
  - [Ext] allPairsLength
  - [Ext] createPair #
  - [Ext] setFeeTo #
  - [Ext] setFeeToSetter #
  
- + [Int] IUniswapV2Pair
  - [Ext] name
  - [Ext] symbol
  - [Ext] decimals
  - [Ext] totalSupply
  - [Ext] balanceOf
  - [Ext] allowance
  - [Ext] approve #
  - [Ext] transfer #
  - [Ext] transferFrom #
  - [Ext] DOMAIN\_SEPARATOR
  - [Ext] PERMIT\_TYPEHASH
  - [Ext] nonces
  - [Ext] permit #
  - [Ext] MINIMUM\_LIQUIDITY
  - [Ext] factory
  - [Ext] token0
  - [Ext] token1
  - [Ext] getReserves
  - [Ext] price0CumulativeLast
  - [Ext] price1CumulativeLast
  - [Ext] kLast
  - [Ext] mint #
  - [Ext] burn #
  - [Ext] swap #
  - [Ext] skim #
  - [Ext] sync #
  - [Ext] initialize #
  
- + [Int] IUniswapV2Router01
  - [Ext] factory
  - [Ext] WETH
  - [Ext] addLiquidity #

- [Ext] addLiquidityETH (\$)
  - [Ext] removeLiquidity #
  - [Ext] removeLiquidityETH #
  - [Ext] removeLiquidityWithPermit #
  - [Ext] removeLiquidityETHWithPermit #
  - [Ext] swapExactTokensForTokens #
  - [Ext] swapTokensForExactTokens #
  - [Ext] swapExactETHForTokens (\$)
  - [Ext] swapTokensForExactETH #
  - [Ext] swapExactTokensForETH #
  - [Ext] swapETHForExactTokens (\$)
  - [Ext] quote
  - [Ext] getAmountOut
  - [Ext] getAmountIn
  - [Ext] getAmountsOut
  - [Ext] getAmountsIn
- + [Int] IUniswapV2Router02 (IUniswapV2Router01)
- [Ext] removeLiquidityETHSupportingFeeOnTransferTokens #
  - [Ext] removeLiquidityETHWithPermitSupportingFeeOnTransferTokens #
  - [Ext] swapExactTokensForTokensSupportingFeeOnTransferTokens #
  - [Ext] swapExactETHForTokensSupportingFeeOnTransferTokens (\$)
  - [Ext] swapExactTokensForETHSupportingFeeOnTransferTokens #
- + MastermindGames (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] isExcludedFromReward
  - [Pub] totalFees
  - [Pub] deliver #
  - [Pub] reflectionFromToken
  - [Pub] tokenFromReflection
  - [Pub] excludeFromReward #
    - modifiers: onlyOwner
  - [Ext] includeInReward #

- modifiers: onlyOwner
- [Prv] \_transferBothExcluded #
- [Pub] excludeFromFee #
  - modifiers: onlyOwner
- [Pub] includeInFee #
  - modifiers: onlyOwner
- [Ext] setTaxFeePercent #
  - modifiers: onlyOwner
- [Ext] setLiquidityFeePercent #
  - modifiers: onlyOwner
- [Ext] setMaxTxPercent #
  - modifiers: onlyOwner
- [Pub] setSwapAndLiquifyEnabled #
  - modifiers: onlyOwner
- [Ext] <Fallback> (\$)
- [Prv] \_reflectFee #
- [Prv] \_getValues
- [Prv] \_getTValues
- [Prv] \_getRValues
- [Prv] \_getRate
- [Prv] \_getCurrentSupply
- [Prv] \_takeLiquidity #
- [Prv] calculateTaxFee
- [Prv] calculateLiquidityFee
- [Prv] removeAllFee #
- [Prv] restoreAllFee #
- [Pub] isExcludedFromFee
- [Prv] \_approve #
- [Prv] \_transfer #
- [Prv] swapAndLiquify #
  - modifiers: lockTheSwap
- [Prv] swapTokensForEth #
- [Prv] addLiquidity #
- [Prv] \_tokenTransfer #
- [Prv] \_transferStandard #
- [Prv] \_transferToExcluded #
- [Prv] \_transferFromExcluded #

(\$) = 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 `includeInReward()` 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 change the tax and liquidity fee.
- Owner can change the maximum transaction amount.
- Owner can exclude from the fee.
- Owner can lock and unlock. By the way, using these functions the owner could leave as owner even after the ownership was renounced.

# 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.

Liquidity locking details are NOT provided by the team.

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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.*