
# Audit Report

# **Glory Allstar**

February 2022

| | |
|---|---|
| Type | BEP20 |
| Network | BSC |
| Address | 0x8d721B0Fd5075005fc22BC7d4983d5Bb8a2e761D |
| Audited by | © coinscope |

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# Contract Review

| | |
|---|---|
| **Contract Name** | MoBaToken |
| **Compiler Version** | v0.8.7+commit.e28d00a7 |
| **Optimization** | 200 runs |
| **Licence** | MIT |
| **Explorer** | https://bscscan.com/token/0x8d721B0Fd5075005fc22BC7d4983d5Bb8a2e761D |
| **Symbol** | MoBa |
| **Decimals** | 18 |
| **Total Supply** | - |
| **Source** | contract.sol |
| **Domain** | gloryallstar.io |

# Audit Updates

| | |
|---|---|
| **Initial Audit** | 16th February 2022 |
| **Corrected** | |

# Contract Analysis

● Critical ● Medium ● Minor ● Pass

| Severity | Code | Description |
|---|---|---|
| ● | ST | Contract Owner is not able to stop or pause transactions |
| ● | OCTD | Contract Owner is not able to transfer tokens from specific address |
| ● | OTUT | Owner Transfer User's Tokens |
| ● | ELFM | Contract Owner is not able to increase fees more than a reasonable percent (25%) |
| ● | ULTW | Contract Owner is not able to increase the amount of liquidity taken by dev wallet more than a reasonable percent |
| ● | MT | Contract Owner is not able to mint new tokens |
| ● | BT | Contract Owner is not able to burn tokens from specific wallet |
| ● | BC | Contract Owner is not able to blacklist wallets from selling |

# MT - Mint Tokens

| | |
|---|---|
| **Criticality** | critical |
| **Location** | contract.sol#L799 |

## Description

The contract owner has the authority to mint tokens. The owner may take advantage of it by calling the `cross` function with a small amount, and after some period call it again with a huge amount. As a result the contract tokens will be highly inflated.

```
function cross(address account, uint256 amount) onlyOwner public {
    require(totalSupply().add(amount) <= cap, "exceeds.");
    _mint(account, amount);
}
```

## Recommendation

The owner should carefully manage the credentials of the owner's account. We advised considering an extra-strong security mechanism that the actions may be quarantined by many users instead of one. The owner could also renounce the contract ownership for a period of time or pass the access to the zero address.

# BT - Burn Tokens

| | |
|---|---|
| **Criticality** | critical |
| **Location** | contract.sol#L804 |

## Description

The contract owner has the authority to burn tokens from a specific address. The owner may take advantage of it by calling the `managerBurn` function. As a result the targeted contract address will lose the corresponding tokens.

```
function managerBurn(address account, uint256 amount) onlyOwner public {
    require(totalSupply().sub(amount) >= 0, "exceeds.");
    _burn(account, amount);
}
```

## Recommendation

The owner should carefully manage the credentials of the owner's account. We advised considering an extra-strong security mechanism that the actions may be quarantined by many users instead of one. The owner could also renounce the contract ownership for a period of time or pass the access to the zero address.

# Contract Diagnostics

Critical Medium Minor

| Severity | Code | Description |
|---|---|---|
| | CO | Code Optimization |
| | L01 | Public Function could be Declared External |
| | L02 | State Variables could be Declared Constant |
| | L05 | Unused State Variable |
| | L04 | Conformance to Solidity Naming Conventions |
| | L09 | Dead Code Elimination |
| | L12 | Using Variables before Declaration |
| | L15 | Local Scope Variable Shadowing |
| | L14 | Uninitialized Variables in Local Scope |

# CO - Code Optimization

| | |
|---|---|
| **Criticality** | minor |
| **Location** | contract.sol#L1595 |

## Description

There are code segments that could be optimized. A segment may be optimized so that it becomes a smaller size, consumes less memory, executes more rapidly, or performs fewer operations.

The “swapTokensForEth()” is called four times during the swap & liquify process. The repetitive call produced a lot of gas fees.

```
uint256 marketingTokens = contractTokenBalance
.mul(marketingFee)
.div(totalFees);
swapAndSendDividendsToMarketing(marketingTokens);

uint256 buyBackTokens = contractTokenBalance
.mul(buyBackFee)
.div(totalFees);
swapAndSendDividendsToBuyBackAddress(buyBackTokens);

uint256 swapTokens = contractTokenBalance.mul(liquidityFee).div(
    totalFees
);
swapAndLiquify(swapTokens);

uint256 sellTokens = balanceOf(address(this));
swapAndSendDividends(sellTokens);
```

## Recommendation

There could be one call to the “swapTokensForEth()” function that swaps the accumulated amount. Then the total amount could be splitted proportionally.

# L01 - Public Function could be Declared External

| | |
|---|---|
| **Criticality** | minor |
| **Location** | contract.sol#L284,293,676,684,701,727,735,746,764,782 and 18 more |

## Description

Public functions that are never called by the contract should be declared external to save gas.

```
process
getAccountAtIndex
dividendTokenBalanceOf
withdrawableDividendOf
isExcludedFromFees
updateGasForProcessing
setAutomatedMarketMakerPair
excludeMultipleAccountsFromFees
updateUniswapV2Router
...
```

## Recommendation

Use the external attribute for functions never called from the contract

# L02 - State Variables could be Declared Constant

| | |
|---|---|
| **Criticality** | minor |
| **Location** | contract.sol#L2000,1999,1997,1988 |

## Description

Constant state variables should be declared constant to save gas.

```
_tokenSupply
_routerAddress
_marketingAddress
_buyBackAddress
```

## Recommendation

Add the constant attribute to state variables that never change.

# L05 - Unused State Variable

| | |
|---|---|
| **Criticality** | minor |
| **Location** | contract.sol#L306 |

## Description

There are segments that contain unused state variables.

```
MAX_INT256
```

## Recommendation

Remove unused state variables.

# L04 - Conformance to Solidity Naming Conventions

| | |
|---|---|
| **Criticality** | minor |
| **Location** | contract.sol#L18,175,176,193,1138,1145,1152,1162,1053,1818 |

## Description

Solidity defines a naming convention that should be followed. Rule exceptions:

- Allow constant variable name/symbol/decimals to be lowercase.
- Allow _ at the beginning of the mixed_case match for private variables and unused parameters.

```
_account
magnitude
_owner
MINIMUM_LIQUIDITY
PERMIT_TYPEHASH
DOMAIN_SEPARATOR
WETH
...
```

## Recommendation

Follow the Solidity naming convention.
https://docs.soliditylang.org/en/v0.4.25/style-guide.html#naming-conventions

# L09 - Dead Code Elimination

| | |
|---|---|
| **Criticality** | minor |
| **Location** | contract.sol#L242,1172,899,548,510,568,382,418,428,403 and 4 more |

## Description

Functions that are not used in the contract, and make the code's size bigger.

```
mul
div
abs
trySub
tryMul
tryMod
tryDiv
tryAdd
mod
...
```

## Recommendation

Remove unused functions.

# L12 - Using Variables before Declaration

| | |
|---|---|
| **Criticality** | minor |
| **Location** | contract.sol#L1641,1640,1642 |

## Description

The contract is using a variable before the declaration. This is usually happening either if it has not been declared yet or the variable has been declared in a different scope.

```
lastProcessedIndex
iterations
claims
```

## Recommendation

The variables should be declared before any usage of them.

# L15 - Local Scope Variable Shadowing

| | |
|---|---|
| **Criticality** | minor |
| **Location** | contract.sol#L1073 |

## Description

The are variables that are defined in the local scope containing the same name from an upper scope.

```
_symbol
_name
```

## Recommendation

The local variables should have different names from the upper scoped variables.

# L14 - Uninitialized Variables in Local Scope

| | |
|---|---|
| **Criticality** | minor |
| **Location** | contract.sol#L1640,1641,1642 |

## Description

The are variables that are defined in the local scope and are not initialized.

```
lastProcessedIndex
claims
iterations
```

## Recommendation

All the local scoped variables should be initialized.

# Contract Functions

| Contract | Type | Bases | | |
|---|---|---|---|---|
| | **Function Name** | **Visibility** | **Mutability** | **Modifiers** |
| | | | | |
| **IUniswapV2Router01** | Interface | | | |
| | factory | External | | - |
| | WETH | External | | - |
| | addLiquidity | External | ✓ | - |
| | addLiquidityETH | External | Payable | - |
| | removeLiquidity | External | ✓ | - |
| | removeLiquidityETH | External | ✓ | - |
| | removeLiquidityWithPermit | External | ✓ | - |
| | removeLiquidityETHWithPermit | External | ✓ | - |
| | swapExactTokensForTokens | External | ✓ | - |
| | swapTokensForExactTokens | External | ✓ | - |
| | swapExactETHForTokens | External | Payable | - |
| | swapTokensForExactETH | External | ✓ | - |
| | swapExactTokensForETH | External | ✓ | - |
| | swapETHForExactTokens | External | Payable | - |
| | quote | External | | - |
| | getAmountOut | External | | - |
| | getAmountIn | External | | - |
| | getAmountsOut | External | | - |
| | getAmountsIn | External | | - |
| | | | | |
| **IUniswapV2Router02** | Interface | IUniswapV2Router01 | | |
| | removeLiquidityETHSupportingFeeOnTransferTokens | External | ✓ | - |
| | removeLiquidityETHWithPermitSupportingFeeOnTransferTokens | External | ✓ | - |
| | swapExactTokensForTokensSupportingFeeOnTransferTokens | External | ✓ | - |

| | | | | |
|---|---|---|---|---|
| | swapExactETHForTokensSupportingFeeOnTransferTokens | External | Payable | - |
| | swapExactTokensForETHSupportingFeeOnTransferTokens | External | ✓ | - |
| | | | | |
| **IUniswapV2Pair** | Interface | | | |
| | name | External | | - |
| | symbol | External | | - |
| | decimals | External | | - |
| | totalSupply | External | | - |
| | balanceOf | External | | - |
| | allowance | External | | - |
| | approve | External | ✓ | - |
| | transfer | External | ✓ | - |
| | transferFrom | External | ✓ | - |
| | DOMAIN_SEPARATOR | External | | - |
| | PERMIT_TYPEHASH | External | | - |
| | nonces | External | | - |
| | permit | External | ✓ | - |
| | MINIMUM_LIQUIDITY | External | | - |
| | factory | External | | - |
| | token0 | External | | - |
| | token1 | External | | - |
| | getReserves | External | | - |
| | price0CumulativeLast | External | | - |
| | price1CumulativeLast | External | | - |
| | kLast | External | | - |
| | mint | External | ✓ | - |
| | burn | External | ✓ | - |
| | swap | External | ✓ | - |
| | skim | External | ✓ | - |
| | sync | External | ✓ | - |
| | initialize | External | ✓ | - |
| | | | | |
| **IUniswapV2Factory** | Interface | | | |

| | | | | |
|---|---|---|---|---|
| | feeTo | External | | - |
| | feeToSetter | External | | - |
| | getPair | External | | - |
| | allPairs | External | | - |
| | allPairsLength | External | | - |
| | createPair | External | ✓ | - |
| | setFeeTo | External | ✓ | - |
| | setFeeToSetter | External | ✓ | - |
| | | | | |
| **Context** | Implementation | | | |
| | _msgSender | Internal | | |
| | _msgData | Internal | | |
| | | | | |
| **Ownable** | Implementation | Context | | |
| | <Constructor> | Public | ✓ | - |
| | owner | Public | | - |
| | renounceOwnership | Public | ✓ | onlyOwner |
| | transferOwnership | Public | ✓ | onlyOwner |
| | | | | |
| **SafeMathInt** | Library | | | |
| | mul | Internal | | |
| | div | Internal | | |
| | sub | Internal | | |
| | add | Internal | | |
| | abs | Internal | | |
| | toUint256Safe | Internal | | |
| | | | | |
| **SafeMathUint** | Library | | | |
| | toInt256Safe | Internal | | |
| | | | | |
| **SafeMath** | Library | | | |
| | tryAdd | Internal | | |
| | trySub | Internal | | |
| | tryMul | Internal | | |
| | tryDiv | Internal | | |

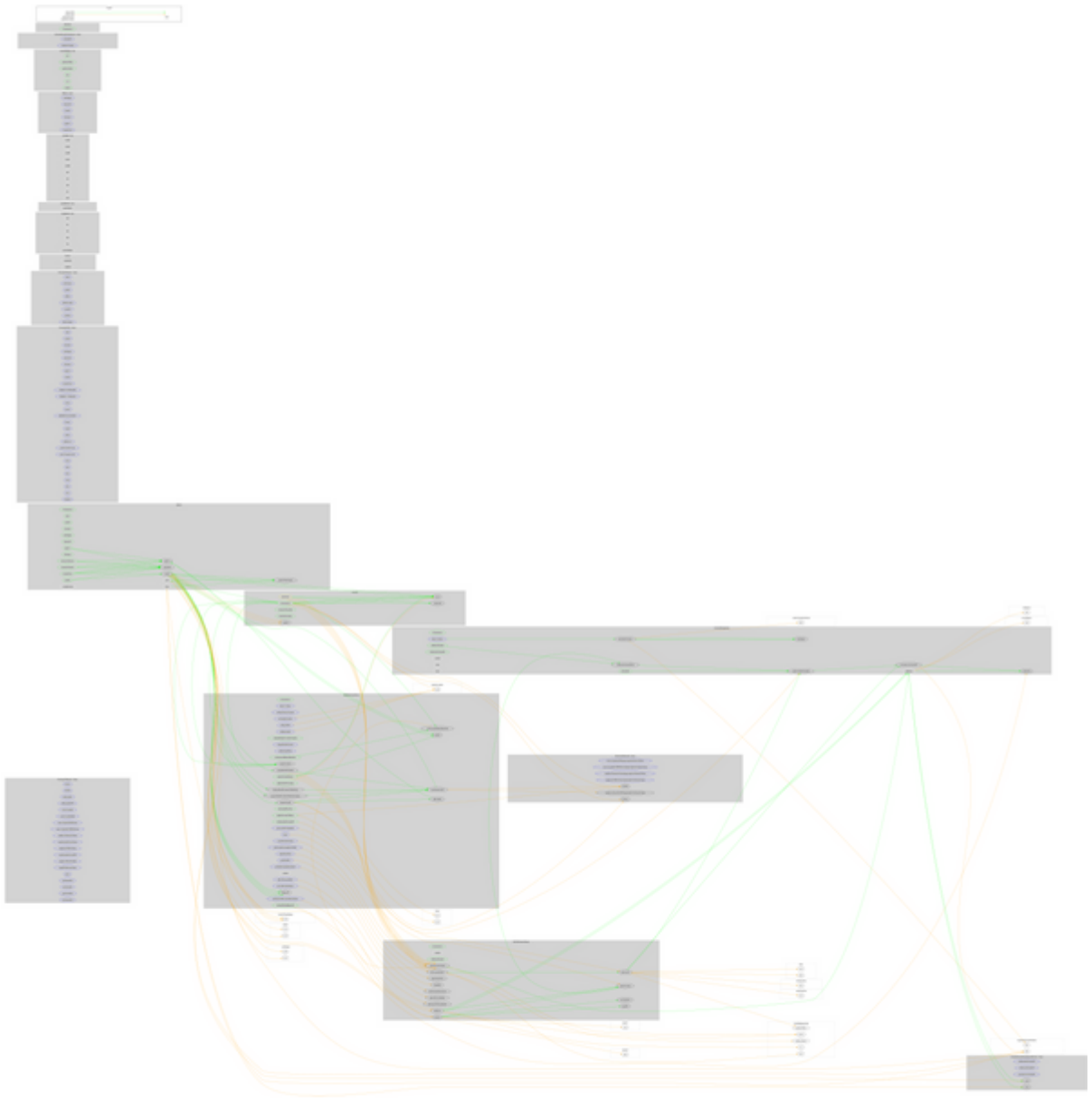
| | | | | |
|---|---|---|---|---|
| | tryMod | Internal | | |
| | add | Internal | | |
| | sub | Internal | | |
| | mul | Internal | | |
| | div | Internal | | |
| | mod | Internal | | |
| | sub | Internal | | |
| | div | Internal | | |
| | mod | Internal | | |
| | | | | |
| **IERC20** | Interface | | | |
| | totalSupply | External | | - |
| | balanceOf | External | | - |
| | transfer | External | ✓ | - |
| | allowance | External | | - |
| | approve | External | ✓ | - |
| | transferFrom | External | ✓ | - |
| | | | | |
| **ERC20** | Implementation | Context, IERC20 | | |
| | <Constructor> | Public | ✓ | - |
| | name | Public | | - |
| | symbol | Public | | - |
| | decimals | Public | | - |
| | totalSupply | Public | | - |
| | balanceOf | Public | | - |
| | transfer | Public | ✓ | - |
| | allowance | Public | | - |
| | approve | Public | ✓ | - |
| | transferFrom | Public | ✓ | - |
| | increaseAllowance | Public | ✓ | - |
| | decreaseAllowance | Public | ✓ | - |
| | _transfer | Internal | ✓ | |
| | _mint | Internal | ✓ | |
| | _burn | Internal | ✓ | |
| | _approve | Internal | ✓ | |

| | | | | |
|---|---|---|---|---|
| | _setupDecimals | Internal | ✓ | |
| | _beforeTokenTransfer | Internal | ✓ | |
| | | | | |
| **IterableMapping** | Library | | | |
| | get | Public | | - |
| | getIndexOfKey | Public | | - |
| | getKeyAtIndex | Public | | - |
| | size | Public | | - |
| | set | Public | ✓ | - |
| | remove | Public | ✓ | - |
| | | | | |
| **DividendPayingTokenInterface** | Interface | | | |
| | dividendOf | External | | - |
| | withdrawDividend | External | ✓ | - |
| | | | | |
| **DividendPayingTokenOptionalInterface** | Interface | | | |
| | withdrawableDividendOf | External | | - |
| | withdrawnDividendOf | External | | - |
| | accumulativeDividendOf | External | | - |
| | | | | |
| **DividendPayingToken** | Implementation | ERC20, DividendPayingTokenInterface, DividendPayingTokenOptionalInterface | | |
| | <Constructor> | Public | ✓ | ERC20 |
| | <Receive Ether> | External | Payable | - |
| | distributeDividends | Public | Payable | - |
| | withdrawDividend | Public | ✓ | - |
| | _withdrawDividendOfUser | Internal | ✓ | |
| | dividendOf | Public | | - |

| | | | | |
|---|---|---|---|---|
| | withdrawableDividendOf | Public | | - |
| | withdrawnDividendOf | Public | | - |
| | accumulativeDividendOf | Public | | - |
| | _transfer | Internal | ✓ | |
| | _mint | Internal | ✓ | |
| | _burn | Internal | ✓ | |
| | _setBalance | Internal | ✓ | |
| | | | | |
| **ERC20DividendToken** | Implementation | ERC20, Ownable | | |
| | <Constructor> | Public | ✓ | ERC20 |
| | <Receive Ether> | External | Payable | - |
| | setSwapTokensAtAmount | External | ✓ | onlyOwner |
| | updateDividendTracker | Public | ✓ | onlyOwner |
| | updateUniswapV2Router | Public | ✓ | onlyOwner |
| | excludeFromFees | Public | ✓ | onlyOwner |
| | excludeMultipleAccountsFromFees | Public | ✓ | onlyOwner |
| | changeMaxSellAmount | External | ✓ | onlyOwner |
| | setMarketingWallet | External | ✓ | onlyOwner |
| | setTokenRewardsFee | External | ✓ | onlyOwner |
| | setLiquiditFee | External | ✓ | onlyOwner |
| | setMarketingFee | External | ✓ | onlyOwner |
| | setAutomatedMarketMakerPair | Public | ✓ | onlyOwner |
| | _setAutomatedMarketMakerPair | Private | ✓ | |
| | updateGasForProcessing | Public | ✓ | onlyOwner |
| | updateClaimWait | External | ✓ | onlyOwner |
| | getClaimWait | External | | - |
| | getTotalDividendsDistributed | External | | - |
| | isExcludedFromFees | Public | | - |
| | withdrawableDividendOf | Public | | - |
| | dividendTokenBalanceOf | Public | | - |
| | excludeFromDividends | External | ✓ | onlyOwner |
| | getAccountDividendsInfo | External | | - |
| | getAccountDividendsInfoAtIndex | External | | - |
| | processDividendTracker | External | ✓ | - |
| | claim | External | ✓ | - |

| | | | | |
|---|---|---|---|---|
| | getLastProcessedIndex | External | | - |
| | getNumberOfDividendTokenHolders | External | | - |
| | _transfer | Internal | ✓ | |
| | swapAndLiquify | Private | ✓ | |
| | swapTokensForEth | Private | ✓ | |
| | addLiquidity | Private | ✓ | |
| | swapAndSendDividends | Private | ✓ | |
| | swapAndSendDividendsToMarketing | Private | ✓ | |
| | swapAndSendDividendsToBuyBackAddress | Private | ✓ | |
| | | | | |
| **ERC20DividendTracker** | Implementation | Ownable, DividendPayingToken | | |
| | <Constructor> | Public | ✓ | DividendPayingToken |
| | _transfer | Internal | | |
| | withdrawDividend | Public | | - |
| | excludeFromDividends | External | ✓ | onlyOwner |
| | updateClaimWait | External | ✓ | onlyOwner |
| | getLastProcessedIndex | External | | - |
| | getNumberOfTokenHolders | External | | - |
| | getAccount | Public | | - |
| | getAccountAtIndex | Public | | - |
| | canAutoClaim | Private | | |
| | setBalance | External | ✓ | onlyOwner |
| | process | Public | ✓ | - |
| | processAccount | Public | ✓ | onlyOwner |
| | | | | |
| **BabyZilla** | Implementation | ERC20DividendToken | | |
| | <Constructor> | Public | ✓ | ERC20DividendToken |

# Contract Flow



# Domain Info

| | |
|---|---|
| **Domain Name** | gloryallstar.io |
| **Registry Domain ID** | bc33254e0daf402e9ae4a711300ad9d6-DONUTS |
| **Creation Date** | 2021-11-09T13:12:39Z |
| **Updated Date** | 2021-11-23T12:15:52Z |
| **Registry Expiry Date** | 2023-11-09T13:12:39Z |
| **Registrar WHOIS Server** | whois.godaddy.com/ |
| **Registrar URL** | http://www.godaddy.com/domains/search.aspx?ci=8990 |
| **Registrar** | GoDaddy.com, LLC |
| **Registrar IANA ID** | 146 |

The domain has been created 3 months before the creation of the audit. It will expire in over 1 year.

There is no public billing information, the creator is protected by the privacy settings.

# Summary

The contract owner has the authority to mint or burn tokens on a specific address. If this functionality is abused by the contract owner, the contract tokens will be highly inflated or deflated. A multi-wallet signing pattern will provide security against potential hacks. Temporarily locking the contract or renouncing ownership will eliminate all the contract threats.

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Coinscope is the leading early coin listing, voting and auditing authority firm. The audit process is analyzing and monitoring many aspects of the project. That way, it gives the community a good sense of security using an informative report and a generic score.

Coinscope is aiming to make crypto discoverable and efficient globally. It provides all the essential tools to assist users draw their own conclusions.

The Coinscope.co team

https://www.coinscope.co