



# Audit Report

## **MetaMemeStarter**

January 2022

Type	BEP20
Network	BSC
Address	0xBcC1148DE053C1B232677B6DD6146e98d40f5B80
Audited by	© coinscope

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## Contract Review

<b>Contract Name</b>	MetaMemeStarter
<b>Compiler Version</b>	v0.6.0+commit.26b70077
<b>Optimization</b>	200 runs
<b>Licence</b>	Unlicense
<b>Explorer</b>	<a href="https://bscscan.com/token/0xBcC1148DE053C1B232677B6DD6146e98d40f5B80">https://bscscan.com/token/0xBcC1148DE053C1B232677B6DD6146e98d40f5B80</a>
<b>Symbol</b>	MMS
<b>Decimals</b>	18
<b>Total Supply</b>	1,000,000,000
<b>Source</b>	contract.sol
<b>Domain</b>	metamemestarter.com

## Audit Updates

<b>Initial Audit</b>	31st January 2022
<b>Corrected</b>	

# Contract Analysis

● Critical
 ● Medium
 ● Minor
 ● Pass

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

## ELFM - Exceed Limit Fees Manipulation

Criticality	medium
Location	contract.sol#L341

### Description

The contract owner has the authority to increase over the allowed limit of 25%. The owner may take advantage of it by enabling the rewards pool.

```
function _caculateExtractAmount(uint256 amount)
    internal

    returns (uint256, uint256)
{

    uint256 extractAmount = (amount * 30) / 1000;

    uint256 burnAmount = (extractAmount * 10) / 100;
    uint256 rewardAmount = (extractAmount * 90) / 100;

    return (burnAmount, rewardAmount);

}
```

### Recommendation

The contract could embody a check for the maximum acceptable value.

The team should carefully manage the private keys of the owner's account. We strongly recommend a powerful security mechanism that will prevent a single user from accessing the contract admin functions. That risk can be prevented by temporarily locking the contract or renouncing ownership.

# Contract Diagnostics

● Critical    ● Medium    ● Minor

Severity	Code	Description
●	MTS	Manipulate Total Supply
●	CO	Code Optimization
●	L01	Public Function could be Declared External
●	L09	Dead Code Elimination

## MTS - Manipulate Total Supply

<b>Criticality</b>	medium
<b>Location</b>	contract.sol#L272

### Description

The contract manipulates the total supply on every transaction. 3% of every transaction is decreased by the total supply. This formula does not scale up correctly. After many transactions, the total supply may end-up less than the user's balances.

```
if(burnAmount>0){
    _burn(sender,burnAmount);
    _balances[sender] = _balances[sender].add(burnAmount);//because sender
    balance already sub in burn
}
```

### Recommendation

The contract owner should carefully manage the adjustment of the circulating supply (increases or decreases), according to the token's price fluctuations.

## CO - Code Optimization

<b>Criticality</b>	minor
<b>Location</b>	contract.sol#L248

### 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 function *countActiveRewardPool()* is called on every transaction. This method calculates the active pool by iterating the *rewardPool* array. There is a lot of gas that is accumulated because of the loop on every transaction.

```
uint totalActivePool=countActiveRewardPool();
```

```
function countActiveRewardPool() public view returns (uint256){
    uint length=0;
    for(uint i=0;i<rewardPool.length;i++){
        if(mapRewardPool[rewardPool[i]].isActive){
            length++;
        }
    }
    return length;
}
```

### Recommendation

A counter *totalActivePool* could keep the active pools. This variable should be updated when the *mapRewardPool* state is changing. That way there will not be an iteration on every transaction. The total active pool calculation will be decreased from  $O(n)$  to  $O(1)$ .



## L01 - Public Function could be Declared External

<b>Criticality</b>	minor
<b>Location</b>	contract.sol#L421,L404,L399 and 19 more

### Description

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

```
withdrawErc20  
decimals  
symbol  
...
```

### Recommendation

Use the external attribute for functions never called from the contract

## L09 - Dead Code Elimination

**Criticality**

minor

**Location**

contract.sol#L67,L102,L97 and 1 more

### Description

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

```
mul
mod
_msgData
...
```

### Recommendation

Remove unused functions.

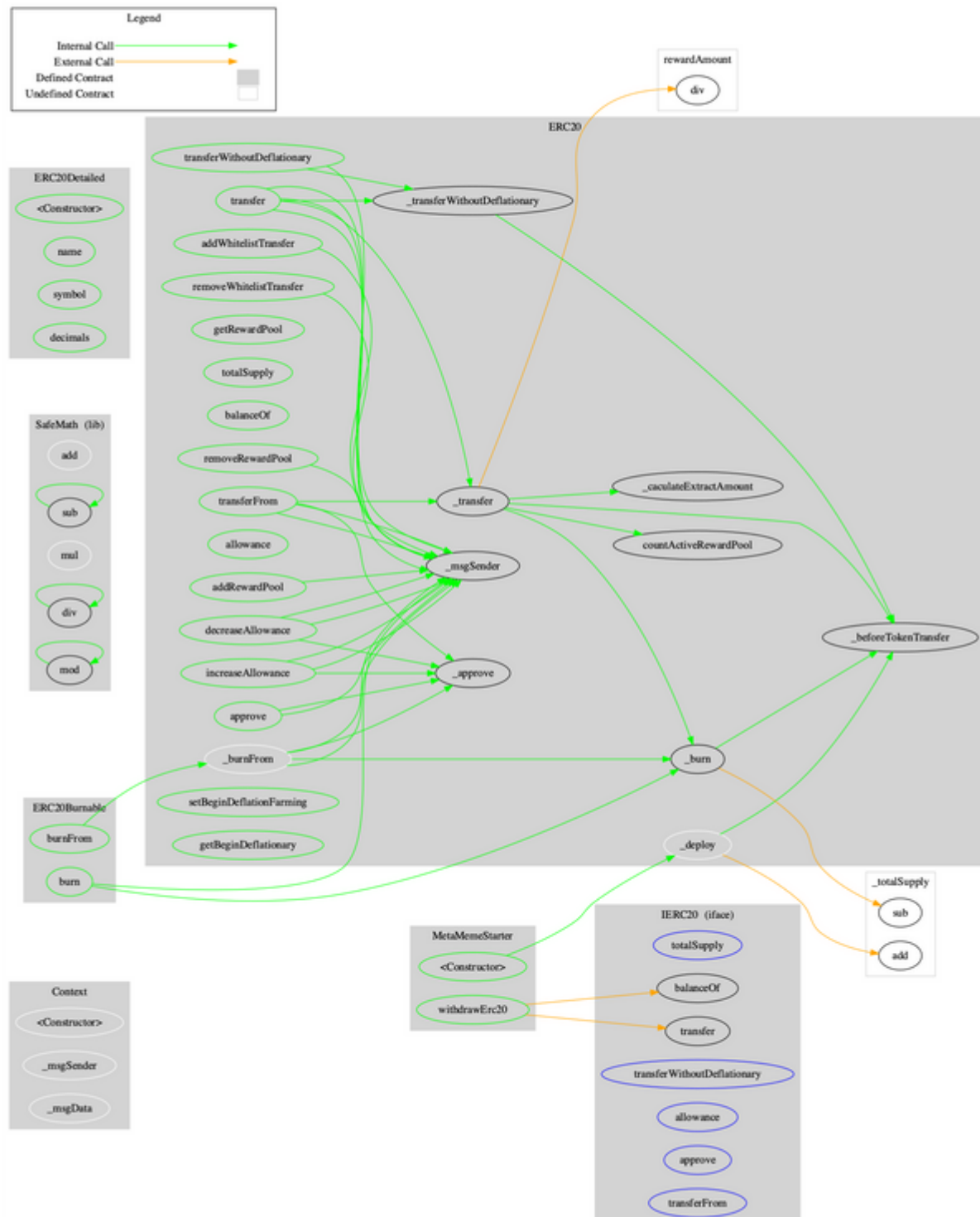
# Contract Functions

Contract	Type	Bases		
	Function Name	Visibility	Mutability	Modifiers
<b>Context</b>	Implementation			
	<Constructor>	Internal	✓	
	_msgSender	Internal		
	_msgData	Internal		
<b>IERC20</b>	Interface			
	totalSupply	External		-
	balanceOf	External		-
	transfer	External	✓	-
	transferWithoutDeflationary	External	✓	-
	allowance	External		-
	approve	External	✓	-
	transferFrom	External	✓	-
<b>SafeMath</b>	Library			
	add	Internal		
	sub	Internal		
	sub	Internal		
	mul	Internal		
	div	Internal		
	div	Internal		
	mod	Internal		
	mod	Internal		
<b>ERC20</b>	Implementation	Context, IERC20		
	addRewardPool	Public	✓	-
	addWhitelistTransfer	Public	✓	-
	removeWhitelistTransfer	Public	✓	-

	removeRewardPool	Public	✓	-
	countActiveRewardPool	Public		-
	getRewardPool	Public		-
	totalSupply	Public		-
	balanceOf	Public		-
	transfer	Public	✓	-
	transferWithoutDeflationary	Public	✓	-
	allowance	Public		-
	approve	Public	✓	-
	transferFrom	Public	✓	-
	increaseAllowance	Public	✓	-
	decreaseAllowance	Public	✓	-
	_transfer	Internal	✓	
	_transferWithoutDeflationary	Internal	✓	
	_deploy	Internal	✓	
	_burn	Internal	✓	
	_approve	Internal	✓	
	_burnFrom	Internal	✓	
	_beforeTokenTransfer	Internal	✓	
	_caculateExtractAmount	Internal	✓	
	setBeginDeflationFarming	Public	✓	-
	getBeginDeflationary	Public		-
<b>ERC20Burnable</b>	Implementation	Context, ERC20		
	burn	Public	✓	-
	burnFrom	Public	✓	-
<b>ERC20Detailed</b>	Implementation	IERC20		
	<Constructor>	Public	✓	-
	name	Public		-
	symbol	Public		-
	decimals	Public		-

<b>MetaMemeStarter</b>	Implementation	ERC20, ERC20Detailed, ERC20Burnable		
	<Constructor>	Public	✓	ERC20Detailed
	withdrawErc20	Public	✓	-

# Contract Flow



## Domain Info

<b>Domain Name</b>	metamemestarter.com
<b>Registry Domain ID</b>	2671647922_DOMAIN_COM-VRSN
<b>Creation Date</b>	2022-01-29T11:22:15Z
<b>Updated Date</b>	2022-01-29T11:58:17Z
<b>Registry Expiry Date</b>	2023-01-29T11:22:15Z
<b>Registrar WHOIS Server</b>	whois.godaddy.com
<b>Registrar URL</b>	<a href="http://www.godaddy.com">http://www.godaddy.com</a>
<b>Registrar</b>	GoDaddy.com, LLC
<b>Registrar IANA ID</b>	146

The domain has been created 2 days before the creation of the audit. It will expire in 12 months.

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

## Summary

MetaMemeStarter is a meme token. The Project has a friendly and growing community. The Smart Contract analysis reported some issues. The contract contains a fixed 30% fee. 10% of this decreases the total supply. The rest 90% is shared to some addresses that are defined by the contract owner. These addresses called “pools”

The decrease of the total supply without the decrease of the corresponding tokens may produce some scale-up issues.

There is no connection between the users and the pools. Hence, there is no way for the users to “claim” their rewards from that pool. Essentially the pools are addresses that are defined by the contract owner and accumulate the tokens from the fees.



## Disclaimer

All the content provided in this document is for general information only and should not be used as financial advice or a reason to buy any investment.

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## About Coinscope

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>