



# MOTECH AUDIT

SMART CONTRACT SECURITY AUDIT

**SECURITY ASSESSMENT**

## BROKOLI TOKEN AUDIT REPORT

2021

**7 DEC 2021**

## SECURITY ASSESMENT

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# SECURITY ASSESMENT

## SUMMARY

This report has been prepared for Brokoli to discover issues and vulnerabilities in the source code of the Brokoli project as well as any contract dependencies that were not part of an officially recognized library. A comprehensive examination has been performed, utilizing Static Analysis, Manual Review, and Testnet Deployment techniques.

The auditing process pays special attention to the following considerations:

- Testing the smart contracts against both common and uncommon attack vectors.
- Assessing the codebase to ensure compliance with current best practices and industry standards.
- Ensuring contract logic meets the specifications and intentions of the client.
- Cross referencing contract structure and implementation against similar smart contracts produced by industry leaders.
- Thorough line-by-line manual review of the entire codebase by industry experts.

The security assessment resulted in findings that ranged from critical to informational. We recommend addressing these findings to ensure a high level of security standards and industry practices. We suggest recommendations that could better serve the project from the security perspective:

- Enhance general coding practices for better structures of source codes;
- Add enough unit tests to cover the possible use cases given they are currently missing in the repository;
- Provide more comments per each function for readability, especially contracts are verified in public;
- Provide more transparency on privileged activities once the protocol is live.

# SECURITY ASSESSMENT

# 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.



**MOTECH AUDIT**  
SMART CONTRACT SECURITY AUDIT

# SECURITY ASSESSMENT

# BACKGROUND

MotechAudit was commissioned by Brokoli to perform an audit of smart contracts:

<https://etherscan.io/address/0x4674a4f24c5f63d53f22490fb3a08eaaad739ff8>

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.



**MOTECH AUDIT**  
SMART CONTRACT SECURITY AUDIT

# SECURITY ASSESSMENT

## AUDIT DETAILS



### AUDITED PROJECT

BROKOLI



### DEPLOYER ADDRESS

0x333273259d6a4F5Ebd938fCa45c57F104061E26d



### CLIENT CONTACTS:

BROKOLI Team



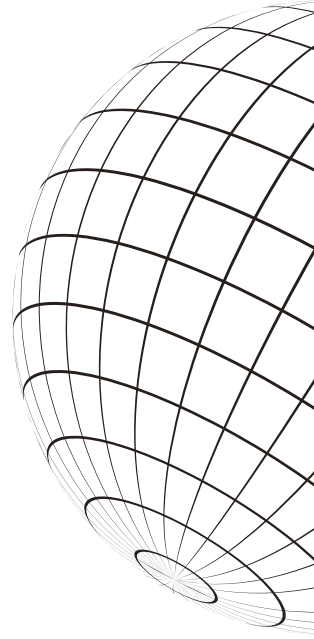
### BLOCKCHAIN

Ethereum Project



### WEBSITE:

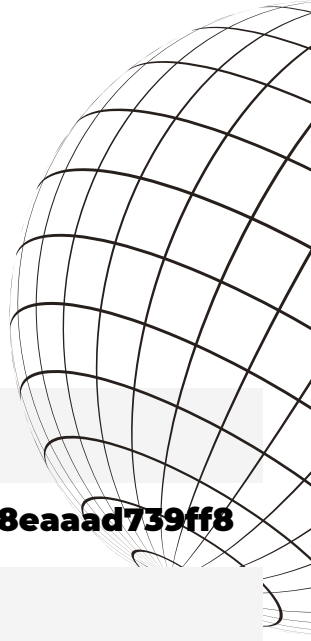
<https://brokoli.network>



## SECURITY ASSESSMENT

# CONTRACT DETAILS

### Token contract details for Sep-23-2021



<b>Contract name</b>	<b>BROKOLI</b>
<b>Contract address</b>	<b>0x4674a4f24c5f63d53f22490fb3a08eaaad739ff8</b>
<b>Total supply</b>	<b>125,000,000 BRK</b>
<b>Token ticker</b>	<b>Brokoli Token (BRKL)</b>
<b>Decimals</b>	<b>18</b>
<b>Token holders</b>	<b>485</b>
<b>Transactions count</b>	<b>3,911</b>
<b>Top 100 holders dominance</b>	<b>99.39%</b>
<b>Contract deployer address</b>	<b>0x333273259d6a4F5Ebd938fCa45c57F104061E26d</b>
<b>Contract's current owner address</b>	<b>0x333273259d6a4F5Ebd938fCa45c57F104061E26d</b>

## SECURITY ASSESSMENT

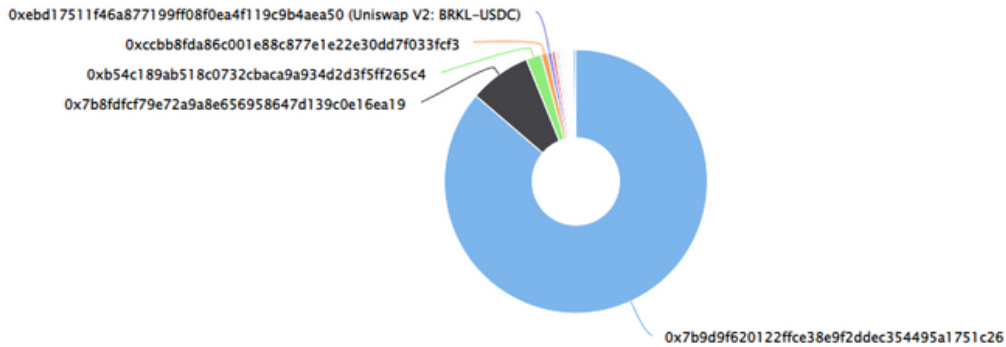
# THE TRUTH TOKEN DISTRIBUTION

The top 100 holders collectively own 99.69% (124,614,396.56 Tokens) of Brokoli Token

Token Total Supply: 125,000,000.00 Token | Total Token Holders: 485

Brokoli Token Top 100 Token Holders

Source: Etherscan.io



(A total of 124,614,396.56 tokens held by the top 100 accounts from the total supply of 125,000,000.00 token)

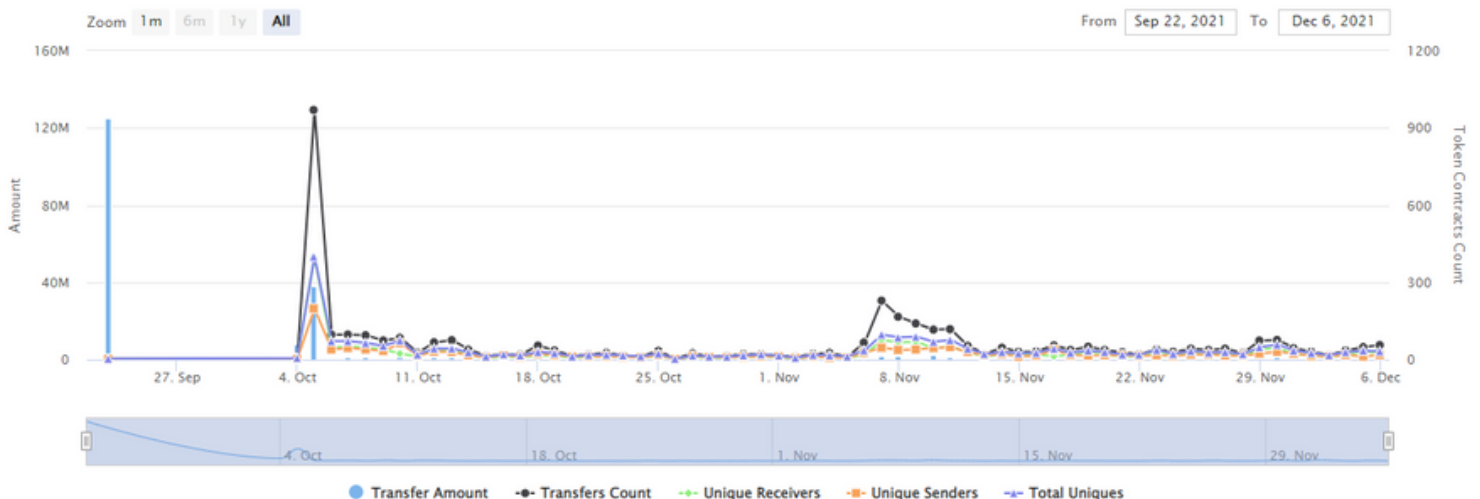
## THE TRUTH TOKEN CONTRACT INTERACTION DETAILS

Time Series: Token Contract Overview

Thu 23, Sept 2021 - Mon 6, Dec 2021

Token Contract 0x4674a4f24c5f63d53f22490fb3a08eaaad739ff8 (Brokoli Token)

Source: Etherscan.io





## SECURITY ASSESSMENT

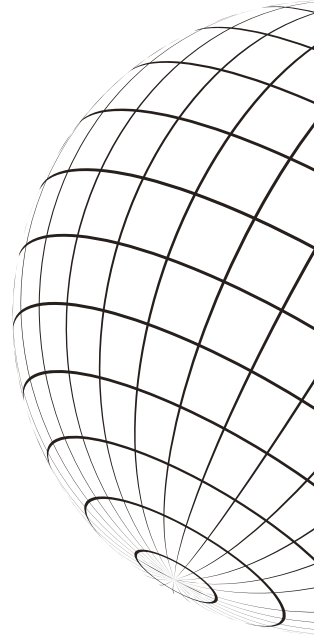
# TOP 10 TOKEN HOLDERS

Rank	Address	Quantity	Percentage	Value	Analytics
1	<a href="#">0x7b9d9f620122ffce38e9f2dddec354495a1751c26</a>	107,850,558	86.2804%	\$131,577,680.76	<a href="#">📈</a>
2	<a href="#">📁 0x7b8fdcf79e72a9a8e656958647d139c0e16ea19</a>	9,474,502.999999999999606784	7.5796%	\$11,558,893.66	<a href="#">📈</a>
3	<a href="#">0xb54c189ab518c0732cbaca9a934d2d3f5ff265c4</a>	2,343,755	1.8750%	\$2,859,381.10	<a href="#">📈</a>
4	<a href="#">0xccbb8fda86c001e88c877e1e22e30dd7f033fc3</a>	1,000,000	0.8000%	\$1,220,000.00	<a href="#">📈</a>
5	<a href="#">📁 Uniswap V2: BRKL-USDC</a>	644,734.931083748298310339	0.5158%	\$786,576.62	<a href="#">📈</a>
6	<a href="#">Gate.io</a>	512,913.267145787007620793	0.4103%	\$625,754.19	<a href="#">📈</a>
7	<a href="#">0x6e50d3c6b659db780f21da84fa8194f437239ca6</a>	299,870	0.2399%	\$365,841.40	<a href="#">📈</a>
8	<a href="#">📁 0x90a8825da4c8cf6d7e14c765fe2c411ce33ff117</a>	260,937.5	0.2088%	\$318,343.75	<a href="#">📈</a>
9	<a href="#">0x9953794f39786b540c3c6a49e27bba5bf3520598</a>	185,149.929409428281696698	0.1481%	\$225,882.91	<a href="#">📈</a>
10	<a href="#">0x08a3ac8dff839daefaa13945f2e88aa3128488fd</a>	156,250	0.1250%	\$190,625.00	<a href="#">📈</a>

source:<https://etherscan.io/>

# SECURITY ASSESSMENT

## SECURITY ISSUES



✓ Critical Severity Issues  
No high severity issues found.

✓ High Severity Issues  
No high severity issues found.

⚠ Medium Severity Issues

The owner could withdraw rewards token

The owner account could withdraw any tokens from the IDO contract, including the reward tokens before users will receive their reward allocations.

**Recommendation:** Please add the “require” statement to check that emergency withdrawal is requested not for the rewards token.

**Lines:** BaseClaim.sol#101-106

```
function emergencyWithdrawToken(ERC20 tokenAddress) external onlyOwner {
    tokenAddress.safeTransfer(
        msg.sender,
        tokenAddress.balanceOf(address(this))
    );
}
```

# SECURITY ASSESMENT

# SECURITY ISSUES

## Low Severity Issues

1. Boolean equality Boolean constants can be used directly and do not need to be compared to true or false.

**Recommendation:** Remove the equality to the boolean constant

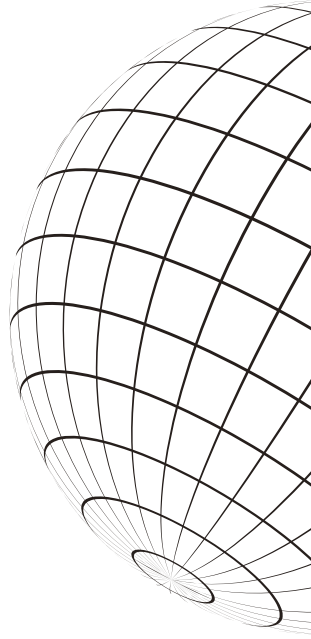
**Fixed before the second review**

2. Dust amounts could be left on percentage Because of finding percentage for before 90 days and after (20 and 80) there could be dust amount of tokens left. It's better to just subtract the unlockedOnClaim amount from the total to get the rest 80% instead of doing calculations

**Recommendation:** Please consider subtracting the unlockedOnClaim value from the total

**Fixed before the second review.**

# SECURITY ASSESMENT TOKEN LOGO



# SECURITY ASSESMENT CONCLUSION

Smart contracts contain owner privileges!

Motech Audit 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.

