



TechRate

AUDIT COMPANY

KoalaDeFi

Smart Contract Security Audit

TechRate

August, 2021

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 KoalaDeFi to perform an audit of smart contracts:

NALIS token :

- <https://polygonscan.com/address/0x04f2E3ec0642e501220f32Fcd9E26E77924929A9>

NALIS Masterchef :

- <https://polygonscan.com/address/0xf6948f00fc2ba4cda934c931628b063ed9091019>

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.

Issues Checking Status

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

Security Issues

✓ High Severity Issues

No high severity issues found.

✓ Medium Severity Issues

No medium severity issues found.

✓ Low Severity Issues

1. Block gas limit

Issue:

The `massUpdatePools()` function can fail due to block gas limit if the pool size is too big.

Recommendation:

Check that the `poolInfo` array length is not too big.

Notes:

- There is sending tokens to the dead address in overridden `_transfer` functions, instead of burning them in token contract.
- There are withdrawal fee and locking amount on withdraw in the contract.
- There are deposits fee on deposit.
- 10% amount also minted to dev address, 2% to burn address. Also, there is minting to lottery address (with changeable rate and address).
- Contract has interfaces that are not audited. Some functions may work different ways.

Owner privileges

- Charity address can change charity address.
- Owner can change lottery address.
- Owner can change nalisPerBlock.
- Owner can change nails referral.
- Owner can change referral commission rate.
- Owner can change lotteryMintRate.
- Owner can change charity fee rate.
- Owner can change lyptusDiscountFeeBP.
- Owner can change nalisLocker address.
- Owner can change locker rate.
- Owner can exclude from locker.
- Owner can change start block.
- Owner can change lyptus address.
- Operator can change lyptusPriceMA7 value.
- Operator can change pool's lpPriceMA7 value.
- Operator can reset totalBuybackBurnDepFee.
- Token Operator can change the burn rate.
- Token Operator can change the max transfer amount rate.
- Token Operator can exclude and include in antiWhale.
- Token Operator can withdraw BEP20 tokens from the contract.

Conclusion

Smart contracts contain low severity issues! The further transfers and operations with the funds raise are not related to this particular contract.

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.



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