KISHIELD

Security Audit

Safehouse Finance Token

July 14, 2022

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Audit Summary

This report has been prepared for SAFI Token on the Binance Chain network. KISHIELD provides both client-centered and user-centered examination of the smart contracts and their current status when applicable. This report represents the security assessment made to find issues and vulnerabilities on the source code along with the current liquidity and token holder statistics of the protocol.

A comprehensive examination has been performed, utilizing Cross Referencing, Static Analysis, In-House Security Tools, and line-by-line Manual Review.

The auditing process pays special attention to the following considerations:

- Ensuring contract logic meets the specifications and intentions of the client without exposing the user's funds to risk.
- Testing the smart contracts against both common and uncommon attack vectors.
- Inspecting liquidity and holders statistics to inform the current status to both users and client when applicable.
- Assessing the codebase to ensure compliance with current best practices and industry standards.
- Verifying contract functions that allow trusted and/or untrusted actors to mint, lock, pause, and transfer assets.
- Thorough line-by-line manual review of the entire codebase by industry experts.

Project Overview

Token Summary

Parameter	Result
Address	0x5043BD342D355818B295DD5c432B95afB244cb4d
Name	Safehouse Finance (SAFI)
Token Tracker	SAFI
Decimals	10
Supply	1,000,000
Platform	Binance Chain
compiler	v0.8.0+commit.c7dfd78e
Optimization	Yes with 200 runs
LicenseType	Unlicense
Language	Solidity
Codebase	https://bscscan.com/address/0x5043BD342D355818B295DD5c432B95afB244cb4d
Url	https://safehouse.finance

Main Contract Assessed

Name	Contract	Live
SAFI	0x5043BD342D355818B295DD5c432B95afB244cb4d	Yes

Smart Contract Vulnerability Checks

Vulnerability	Automatic Scan	Manual Scan	Result
Unencrypted Private Data On-Chain	Complete	Complete	Low / No Risk
Code With No Effects	Complete	Complete	Low / No Risk
Message call with hardcoded gas amount	Complete	Complete	Low / No Risk
Hash Collisions With Multiple Variable Length Arguments	Complete	Complete	Low / No Risk
Unexpected Ether balance	Complete	Complete	Low / No Risk
Presence of unused variables	Complete	Complete	Low / No Risk
Right-To-Left-Override control character (U+202E)	Complete	Complete	Low / No Risk
Typographical Error	Complete	Complete	Low / No Risk
DoS With Block Gas Limit	Complete	Complete	Low / No Risk
Arbitrary Jump with Function Type Variable	Complete	Complete	Low / No Risk
Insufficient Gas Griefing	Complete	Complete	Low / No Risk
Incorrect Inheritance Order	Complete	Complete	Low / No Risk
Write to Arbitrary Storage Location	Complete	Complete	Low / No Risk
Requirement Violation	Complete	Complete	Low / No Risk
Missing Protection against Signature Replay Attacks	Complete	Complete	Low / No Risk
Weak Sources of Randomness from Chain Attributes	Complete	Complete	Low / No Risk

Vulnerability	Automatic Scan	Manual Scan	Result
Authorization through tx.origin	Complete	Complete	Low / No Risk
Delegatecall to Untrusted Callee	Complete	Complete	Low / No Risk
Use of Deprecated Solidity Functions	Complete	Complete	Low / No Risk
Assert Violation	Complete	Complete	Low / No Risk
Reentrancy	Complete	Complete	Low / No Risk
Unprotected SELFDESTRUCT Instruction	Complete	Complete	Low / No Risk
Unprotected Ether Withdrawal	Complete	Complete	Low / No Risk
Unchecked Call Return Value	Complete	Complete	Low / No Risk
Outdated Compiler Version	Complete	Complete	Low / No Risk
Integer Overflow and Underflow	Complete	Complete	Low / No Risk
Function Default Visibility	Complete	Complete	Low / No Risk

Contract Ownership

The contract ownership of SAFI is not currently renounced. The ownership of the contract grants special powers to the protocol creators, making them the sole addresses that can call sensible ownable functions that may alter the state of the protocol.

The owner wallet has the power to call the functions displayed on the priviliged functions chart below, if the owner wallet is compromised this privileges could be exploited.

We recommend the team to renounce ownership at the right timing if possible, or gradually migrate to a timelock with governing functionalities in respect of transparency and safety considerations.

Important Notes To The Users:

- The owner cannot mint tokens after intial deployment.
- The transfer function is implemented correctly.
- The owner cannot stop Trading.
- The owner cannot change the max tx amount.
- The owner cannot change the fees amount.
- autoRebase and autoAddLiquidity are by default false at deployment time.
- Liquidity is added 2 days after the last liquidity addition.
- Once the owner renounces ownership of the contract, none of the following are applicable.
- Owner can withdraw all tokens from the contract to the treasuryReceiver address.
- Owner can enable/disable autoRebase and AutoAddLiquidity
- Owner can add and remove contracts from the bot blacklist.
- Owner can set wallets for fee exempt in setWhitelist function.
- No high-risk Exploits/Vulnerabilities Were Found in token Source Code.

Audit Passed

Findings Summary

Classification of Issues

Severity	Description
High	Exploits, vulnerabilities or errors that will certainly or probabilistically lead towards loss of funds, control, or impairment of the contract and its functions. Issues under this classification are recommended to be fixed with utmost urgency
Medium	Bugs or issues with that may be subject to exploit, though their impact is somewhat limited.Issues under this classification are recommended to be fixed as soon as possible.
Low	Effects are minimal in isolation and do not pose a significant danger to the project or its users. Issues under this classification are recommended to be fixed nonetheless.
Info	Consistency, syntax or style best practices. Generally pose a negligible level of risk, if any.

Findings

Severity	Found
High	0
Medium	0
Low	1
Info	3
Total	4

Findings

Public function that could be declared external

ID	Severity	Contract	Function
01	Informational	SAFI	Function timeToNextEpoch, getLiquidityBacking, setPairAddress

Description

Gas Optimization. Public function that could be declared external

Recommendation

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

Division before Multiplication

ID	Severity	Contract	Function
02	Low	SAFI	function takeFee(), getLiquidityBacking()

Description

Precision Loss. Division before multiplication can result in truncation and less accurate results

Recommendation

Multiplication should be performed before division to not lose precision.

Variables could be declared as constant

ID	Severity	Contract	Function
03	Informational	SAFI	variables name, symbol, decimals

Description

Gas Optimization. Variables that are never changed could be declared as constant.

Recommendation

We recommend declaring those variables as constant.

Unused Variables

ID	Severity	Contract	Function
04	Informational	SAFI	_name _symbol _decimals

Description

Variables not used as the constructor uses the IERC20Metadata().

Recommendation

Delete this variables or make use of them in the IERC20Metadata() instead of passing the values directly.

Priviliged Functions (onlyOwner)

Function Name	Parameters	Visibility
renounceOwnership	none	public
transferOwnership	address newOwner	public
transfer	none	external
manualAddLiquidity	none	external
transferFrom	none	external
addLiquidity	none	internal
swapBack	none	internal
withdrawAllToTreasury	none	external
withdrawAllToTreasury	none	external
setAutoRebase	bool _flag	external
setAutoAddLiquidity	bool _flag	external
setFeeReceivers	address _autoLiquidityReceiver, address _treasuryReceiver, address _aufinInsuranceFundReceiver, address _firePit	external
setWhitelist	address _addr	external
setBotBlacklist	address _botAddress, bool _flag	external
setPairAddress	address _pairAddress	public
setLP	address _address	external

Disclaimer

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