SMART CONTRACT AUDITS AND BLOCKCHAIN SECURITY

SAFUAUDIT

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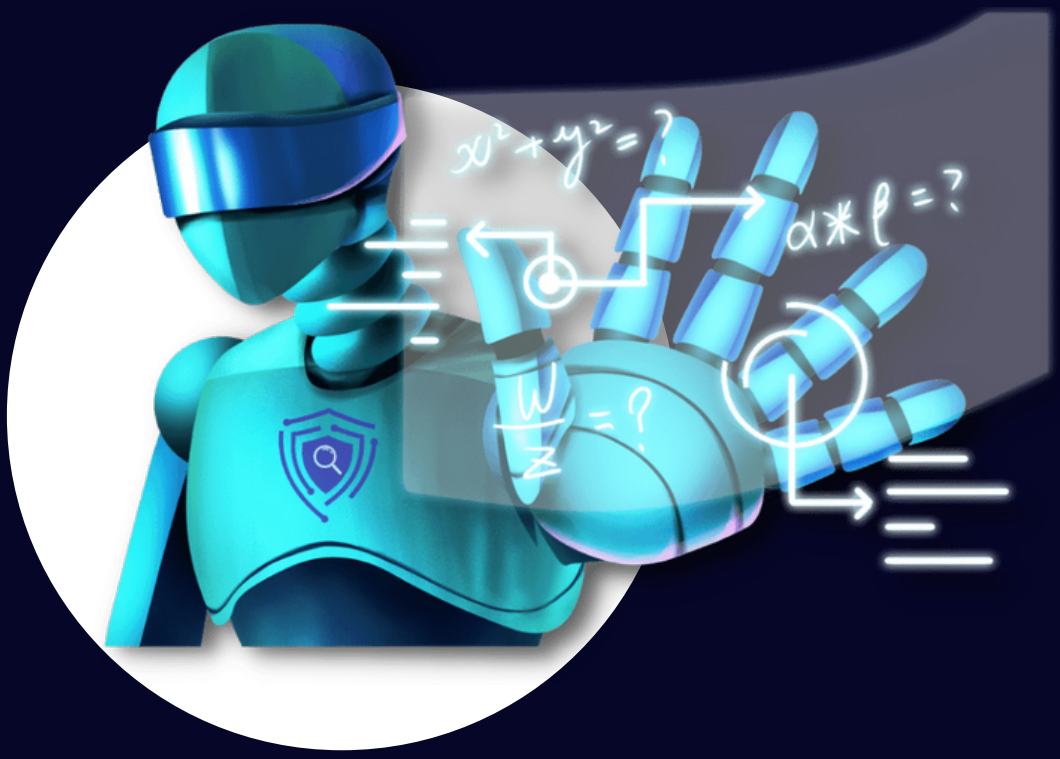

PROJECT: **SOLIDARITY TOKEN**

DATE: September 1, 2022

www.safuaudit.com

INTRODUCTION

Client	SOLIDARITY TOKEN (SDT)
Language	Solidity
Contract address	0xC58322eb9554e7927C1d08D93FC3aBdB0D3EdAb0
Owner	0x1304073448A1f1714Cf9dd5098F7fc9F088EB729
Deployer	0x1304073448A1f1714Cf9dd5098F7fc9F088EB729
SHA1-Hash	01a956d27494e8cdf0f7e8b707a1803e4f986168
Decimals	18
Supply	35,000,000
Platform	Binance Smart Chain
Compiler	v0.8.4+commit.c7e474f2
Optimization	Yes with 200 runs
Website	http://www.solidarityfinance.info/
Telegram	https://t.me/solidarityfinance
Twitter	https://twitter.com/SOLIDARITytoke1

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APPROACH

Audit Details

Our comprehensive audit report provides a full overview of the audited system's architecture, smart contract codebase, and details on any vulnerabilities found within the system.

Audit Goals

The audit goal is to ensure that the project is built to protect investors and users, preventing potentially catastrophic vulnerabilities after launch, that lead to scams and rugpulls.

Code Quality

Our analysis includes both automatic tests and manual code analysis for the following aspects:

- Exploits
- Back-doors
- Vulnerability
- Accuracy
- Readability

Tools

- Remix IDE
- Mythril
- Open Zeppelin Code Analyzer
- Solidity Code Complier
- Hardhat

RISK CLASSIFICATION

CRITICAL

Issues on this level are critical to the smart contract's performance/functionality and should be fixed before moving to a live environment.

MEDIUM

Issues on this level could potentially bring problems and should eventually be fixed.

MINOR

Issues on this level are minor details and warning that can remain unfixed but would be better fixed at some point in the future

INFORMATIONAL

Information level is to offer suggestions for improvement of efficacity or security for features with a risk free factor.

OVERVIEW

Fees

- Buy Fees: 0%
- Sell Fees: 0%

Fees privileges

- Can't set fees

Ownership

- Owned

Minting

- No mint function

Max Tx Amount

- Can't set max Tx amount

Pause function

- Can't pause trading

Blacklist

- Can't blacklist

CONTRACT INSPECTION 🔎

Imported contracts or frameworks used:

```
||||||
| **IERC20** | Interface |  |||
| **Context** | Implementation |  |||
| **Ownable** | Implementation | Context |||
| **SafeMath** | Library |  |||
| **BaseToken** | Implementation |  |||
| **StandardToken** | Implementation | IERC20, Ownable, BaseToken |||
```

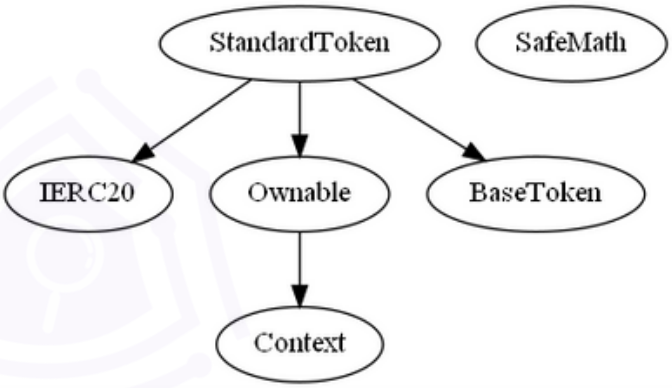
Tested Contract File:

```
|  File Name  |  SHA-1 Hash  |
|-------------|--------------|
| token.sol | 01a956d27494e8cdf0f7e8b707a1803e4f986168 |
```

```
| **StandardToken** | Implementation | IERC20, Ownable, BaseToken |||
| └ | <Constructor> | Public ❗ |  💵 |NO❗ |
| └ | name | Public ❗ |  |NO❗ |
| └ | symbol | Public ❗ |  |NO❗ |
| └ | decimals | Public ❗ |  |NO❗ |
| └ | totalSupply | Public ❗ |  |NO❗ |
| └ | balanceOf | Public ❗ |  |NO❗ |
| └ | transfer | Public ❗ | 🛑 |NO❗ |
| └ | allowance | Public ❗ |  |NO❗ |
| └ | approve | Public ❗ | 🛑 |NO❗ |
| └ | transferFrom | Public ❗ | 🛑 |NO❗ |
| └ | increaseAllowance | Public ❗ | 🛑 |NO❗ |
| └ | decreaseAllowance | Public ❗ | 🛑 |NO❗ |
| └ | _transfer | Internal 🔒 | 🛑 | |
| └ | _mint | Internal 🔒 | 🛑 | |
| └ | _burn | Internal 🔒 | 🛑 | |
| └ | _approve | Internal 🔒 | 🛑 | |
| └ | _setupDecimals | Internal 🔒 | 🛑 | |
| └ | _beforeTokenTransfer | Internal 🔒 | 🛑 | |
```

```
| Symbol |          Meaning          |
|--------|---------------------------|
|   🛑   | Function can modify state |
|   💵   | Function is payable |
|   🔐   | Private function |
|   🔒   | Internal function |
|  NO❗  | Function has no modifier |
```

INHERITANCE TREE



Inheritance is a feature of the object-oriented programming language. It is a way of extending the functionality of a program, used to separate the code, reduces the dependency, and increases the re-usability of the existing code. Solidity supports inheritance between smart contracts, where multiple contracts can be inherited into a single contract.

MANUAL FUNCTIONS ANALYSIS

The contract is verified to check if functions do and work as they should and malicious code is not inserted.

	Tested	Result
Transfer	Yes	Passed
Total Supply	Yes	Passed
Buy Back	Yes	N/A
Burn	Yes	N/A
Mint	Yes	N/A
Rebase	Yes	N/A
Pause	Yes	N/A
Blacklist	Yes	N/A
Lock	Yes	N/A
Max Transaction	Yes	N/A
Transfer Ownership	Yes	Passed
Renounce Ownership	Yes	Passed

VULNERABILITIES TEST

ID	Description	
V-01	Function Default Visibility	Passed
V-02	Integer Overflow and Underflow	Passed
V-03	Outdated Compiler Version	Passed
V-04	Floating Pragma	Passed
V-05	Unchecked Call Return Value	Passed
V-06	Unprotected Ether Withdrawal	Passed
V-07	Unprotected SELF-DESTRUCT Instruction	Passed
V-08	Re-entrancy	Passed
V-09	State Variable Default Visibility	Passed
V-10	Uninitialized Storage Pointer	Passed
V-11	Assert Violation	Passed
V-12	Use of Deprecated Solidity Functions	Passed
V-13	Delegate Call to Untrusted Callee	Passed
V-14	DoS with Failed Call	Passed
V-15	Transaction Order Dependence	Passed
V-16	Authorization through tx.origin	Passed
V-17	Block values as a proxy for time	Passed

V-18	Signature Malleability	**Passed**
V-19	Incorrect Constructor Name	**Passed**
V-20	Shadowing State Variables	**Passed**
V-21	Weak Sources of Randomness from Chain Attributes	**Passed**
V-22	Missing Protection against Signature Replay Attacks	**Passed**
V-23	Lack of Proper Signature Verification	**Passed**
V-24	Requirement Violation	**Passed**
V-25	Write to Arbitrary Storage Location	**Passed**
V-26	Incorrect Inheritance Order	**Passed**
V-27	Insufficient Gas Griefing	**Passed**
V-28	Arbitrary Jump with Function Type Variable	**Passed**
V-29	DoS With Block Gas Limit	**Passed**
V-30	Typographical Error	**Passed**
V-31	Right-To-Left-Override control character (U+202E)	**Passed**
V-32	Presence of unused variables	**Passed**
V-33	Unexpected Ether balance	**Passed**
V-34	Hash Collisions With Multiple Variable Length Arguments	**Passed**
V-35	Message call with the hardcoded gas amount	**Passed**
V-36	Code With No Effects (Irrelevant/Dead Code)	**Passed**
V-37	Unencrypted Private Data On-Chain	**Passed**

GOOD PRACTICES

- The owner cannot mint new tokens after deployment
- The owner cannot stop or pause the contract
- The owner cannot set a transaction limit
- The owner cannot set fees
- The smart contract utilizes "SafeMath" to prevent overflows

```
function tryAdd(uint256 a, uint256 b) internal pure returns (bool, uint256) {
    unchecked {
        uint256 c = a + b;
        if (c < a) return (false, 0);
        return (true, c);
    }
}
function trySub(uint256 a, uint256 b) internal pure returns (bool, uint256) {
    unchecked {
        if (b > a) return (false, 0);
        return (true, a - b);
    }
}
function tryMul(uint256 a, uint256 b) internal pure returns (bool, uint256) {
    unchecked {
        if (a == 0) return (true, 0);
        uint256 c = a * b;
        if (c / a != b) return (false, 0);
        return (true, c);
    }
}
function tryDiv(uint256 a, uint256 b) internal pure returns (bool, uint256) {
    unchecked {
        if (b == 0) return (false, 0);
        return (true, a / b);
    }
}
function tryMod(uint256 a, uint256 b) internal pure returns (bool, uint256) {
    unchecked {
        if (b == 0) return (false, 0);
        return (true, a % b);
    }
}
```

WEBSITE

Website	http://www.solidarityfinance.info/
Domain Registry	http://www.fastdomain.com
Domain Expiry Date	2022-10-27
Response Code	200
SSL Checker and HTTPS Test	Passed
Deprecated HTML tags	Passed
Robots.txt	Informational
Sitemap Test	Informational
SEO Friendly URL	Passed
Responsive Test	Passed
JS Error Test	Informational
Console Errors Test	Passed
Site Loading Speed Test	3.1 seconds - Passed
HTTP2 Test	Passed
Safe Browsing Test	Passed

DISCLAIMER

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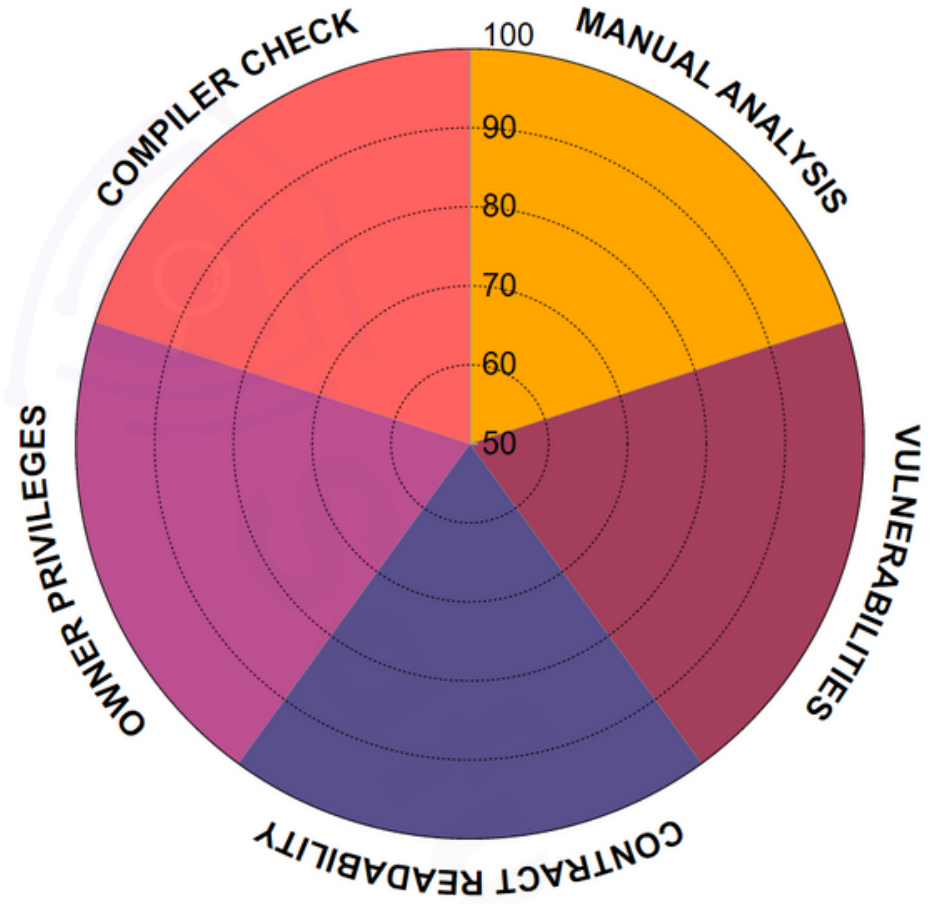
The purpose of the audit is to analyze the on-chain smart contract source code and to provide a basic overview of the project.

While we have used all the information available to us for this straightforward investigation, you should not rely on this report only — we recommend proceeding with several independent audits Be aware that smart contracts deployed on a blockchain aren't secured enough against external vulnerability or a hack. Be aware that active smart contract owner privileges constitute an elevated impact on the smart contract safety and security. Therefore, SafuAudit does not guarantee the explicit security of the audited smart contract. 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.

RATING



Manual Analysis

Vulnerabilities

Contract Readability

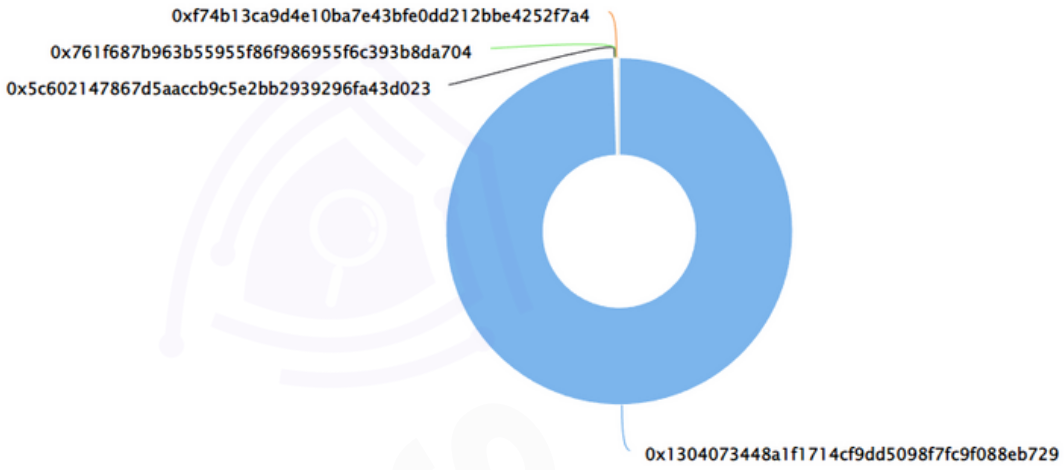
Owner Privileges

Compiler Check

Final Score: **100**

SUMMARY

Top 10 holders



Rank	Address	Quantity (Token)	Percentage
1	0x1304073448a1f1714cf9dd5098f7fc9f088eb729	34,825,297.85999996233403806	99.5009%
2	0x5c602147867d5aaccb9c5e2bb2939296fa43d023	48,409.223822165176146676	0.1383%
3	0x761f687b963b55955f86f986955f6c393b8da704	33,027.687919446415913578	0.0944%
4	0xf74b13ca9d4e10ba7e43bfe0dd212bbe4252f7a4	20,198	0.0577%
5	0xb86511cab62fcb2cab465558fd01f387368398d1	17,089	0.0488%
6	0x2024e4ecaba8cf409167743101c632e7b0570aff	8,965	0.0256%
7	0x6a78553daf6dbcbcf48b4564c190446ed163d945	3,764	0.0108%
8	0x36f5ecd6f491812bc3a65035897bca1ca91396fc	3,050	0.0087%
9	0x6404d2430e3e7acc6fd46f8b7856fb2ca220b121	2,691.010028210467803976	0.0077%
10	0x7a5a00bf16c247c8eb3e9012473422e34b54b7c6	2,500	0.0071%

CONCLUSION

Project SOLIDARITY TOKEN (SDT) does not contain any severe issues or risk characteristics.

SafuAudit has tested the security based on manual and automated tests. Please note that we don't offer any warranties for the business model.

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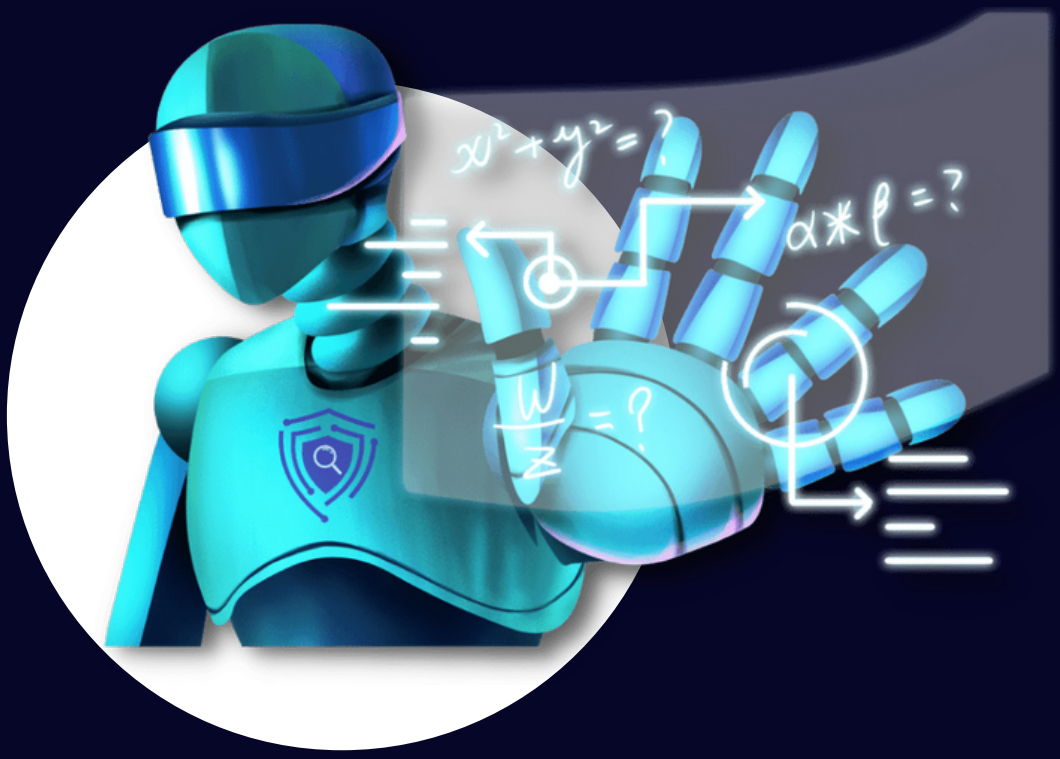

"Only in growth, reform, and change, paradoxically enough, is true security to be found."

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