



# Decimalchain Smart Contract Audit Report

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# AUDITED DETAILS

## Audited Project

| Project name | Token ticker | Blockchain          |
|--------------|--------------|---------------------|
| Decimalchain | DEL          | Binance Smart Chain |

## Addresses

|                           |  |
|---------------------------|--|
| Contract address          | 0x9cec03362d759ceca736e5918e8ba7636e2bd64e |
| Contract deployer address | 0xdF889684a4775C765C80ae40b426578d9d6CA037 |

## Project Website

<https://decimalchain.com/>

## Codebase

<https://bscscan.com/address/0x9cec03362d759ceca736e5918e8ba7636e2bd64e#code>

# SUMMARY

Decimal's philosophy is to create a project for people, ordinary users. The Decimal team considers ourselves "one" with the regular users. We believe we have similar origins and upbringings. Such users, the people, live in a world oversaturated with information. Drowning in a stream of different and contradictory data, forced to communicate constantly with strangers. These exchanges are short, in an environment without trust or authentication, with enormous potential for toxicity and far-reaching consequences. The user's simple human needs and values run the risk of being attacked and irrevocably alienated. The average person wastes enormous time, constantly lacking and running out of time, desperately working around the imposing threats. Often they are overwhelmed by their reality, which, so we are focused on providing everyone with a tool to withstand external influences. A universal technical solution to the difficulties and challenges of modern society. A device that is technically complex but easy to use and apply. The consumer should not spend time mastering our product but solving their immediate problems so that the user doesn't need to develop his blockchain network and encode transaction logic. Decimal will provide this functionality already "out of the box." Just generate a wallet and receive or send tokens.

## Contract Summary

### Documentation Quality

Decimalchain provides a very good documentation with standard of solidity base code.

- The technical description is provided clearly and structured and also don't have any high risk issue.

### Code Quality

The Overall quality of the basecode is standard.

- Standard solidity basecode and rules are already followed by Decimalchain with the discovery of several low issues.

### Test Coverage

Test coverage of the project is 100% ( Through Codebase )

## Audit Findings Summary

- SWC-103 | Pragma statements can be allowed to float when a contract is intended on lines 11, 92, 121, 149, 455, 547, 577, 648, 676 and 706.

## CONCLUSION

We have audited the Decimalchain project released on July 2021 to discover issues and identify potential security vulnerabilities in Decimalchain Project. This process is used to find technical issues and security loopholes which might be found in the smart contract.

The security audit report provides satisfactory results with low-risk issues.

The Decimalchain smart contract code issues do not pose a considerable risk. The writing of the contract is close to the standard of writing contracts in general. The low-risk issues found some floating pragma is set. The current pragma Solidity directive is `""^0.8.0""`. Specifying a fixed compiler version is recommended to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

# AUDIT RESULT

| Article                           | Category           | Description   | Result      |
|-----------------------------------|--------------------|---|-------------|
| Default Visibility                | SWC-100<br>SWC-108 | Functions and state variables visibility should be set explicitly. Visibility levels should be specified consciously. | PASS        |
| Integer Overflow and Underflow    | SWC-101            | If unchecked math is used, all math operations should be safe from overflows and underflows.                          | PASS        |
| Outdated Compiler Version         | SWC-102            | It is recommended to use a recent version of the Solidity compiler.   | PASS        |
| Floating Pragma                   | SWC-103            | Contracts should be deployed with the same compiler version and flags that they have been tested thoroughly.          | ISSUE FOUND |
| Unchecked Call Return Value       | SWC-104            | The return value of a message call should be checked.   | PASS        |
| Unprotected Ether Withdrawal      | SWC-105            | Due to missing or insufficient access controls, malicious parties can withdraw from the contract.                     | PASS        |
| SELFDESTRUCT Instruction          | SWC-106            | The contract should not be self-destructible while it has funds belonging to users.                                   | PASS        |
| Reentrancy                        | SWC-107            | Check effect interaction pattern should be followed if the code performs recursive call.                              | PASS        |
| Uninitialized Storage Pointer     | SWC-109            | Uninitialized local storage variables can point to unexpected storage locations in the contract.                      | PASS        |
| Assert Violation                  | SWC-110<br>SWC-123 | Properly functioning code should never reach a failing assert statement.  | PASS        |
| Deprecated Solidity Functions     | SWC-111            | Deprecated built-in functions should never be used.   | PASS        |
| Delegate call to Untrusted Callee | SWC-112            | Delegatecalls should only be allowed to trusted addresses.  | PASS        |

|                                     |                               |   |      |
|-------------------------------------|-------------------------------|---|------|
| DoS (Denial of Service)             | SWC-113<br>SWC-128            | Execution of the code should never be blocked by a specific contract state unless required.   | PASS |
| Race Conditions                     | SWC-114                       | Race Conditions and Transactions Order Dependency should not be possible.   | PASS |
| Authorization through tx.origin     | SWC-115                       | tx.origin should not be used for authorization.   | PASS |
| Block values as a proxy for time    | SWC-116                       | Block numbers should not be used for time calculations.   | PASS |
| Signature Unique ID                 | SWC-117<br>SWC-121<br>SWC-122 | Signed messages should always have a unique id. A transaction hash should not be used as a unique id.   | PASS |
| Incorrect Constructor Name          | SWC-118                       | Constructors are special functions that are called only once during the contract creation.  | PASS |
| Shadowing State Variable            | SWC-119                       | State variables should not be shadowed.   | PASS |
| Weak Sources of Randomness          | SWC-120                       | Random values should never be generated from Chain Attributes or be predictable.  | PASS |
| Write to Arbitrary Storage Location | SWC-124                       | The contract is responsible for ensuring that only authorized user or contract accounts may write to sensitive storage locations.   | PASS |
| Incorrect Inheritance Order         | SWC-125                       | When inheriting multiple contracts, especially if they have identical functions, a developer should carefully specify inheritance in the correct order. The rule of thumb is to inherit contracts from more /general/ to more /specific/. | PASS |
| Insufficient Gas Griefing           | SWC-126                       | Insufficient gas grieving attacks can be performed on contracts which accept data and use it in a sub-call on another contract.   | PASS |
| Arbitrary Jump Function             | SWC-127                       | As Solidity doesnt support pointer arithmetics, it is impossible to change such variable to an arbitrary value.   | PASS |

|                            |                    |  |      |
|----------------------------|--------------------|--|------|
| Typographical Error        | SWC-129            | A typographical error can occur for example when the intent of a defined operation is to sum a number to a variable.                                     | PASS |
| Override control character | SWC-130            | Malicious actors can use the Right-To-Left-Override unicode character to force RTL text rendering and confuse users as to the real intent of a contract. | PASS |
| Unused variables           | SWC-131<br>SWC-135 | Unused variables are allowed in Solidity and they do not pose a direct security issue.   | PASS |
| Unexpected Ether balance   | SWC-132            | Contracts can behave erroneously when they strictly assume a specific Ether balance.   | PASS |
| Hash Collisions Variable   | SWC-133            | Using abi.encodePacked() with multiple variable length arguments can, in certain situations, lead to a hash collision.                                   | PASS |
| Hardcoded gas amount       | SWC-134            | The transfer() and send() functions forward a fixed amount of 2300 gas.  | PASS |
| Unencrypted Private Data   | SWC-136            | It is a common misconception that private type variables cannot be read.   | PASS |



# SMART CONTRACT ANALYSIS

|                  |  |
|------------------|--|
| Started          | Tuesday Jul 27 2021 16:01:38 GMT+0000 (Coordinated Universal Time)   |
| Finished         | Wednesday Jul 28 2021 02:04:35 GMT+0000 (Coordinated Universal Time) |
| Mode             | Standard   |
| Main Source File | DERC20.sol   |

## Detected Issues

[illegible]

## SWC-103 | A FLOATING PRAGMA IS SET.

LINE 11

### low SEVERITY

The current pragma Solidity directive is `""^0.8.0""`. It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

### Source File

- DERC20.sol

### Locations

```
10
11  pragma solidity ^0.8.0;
12
13  /**
14   * @dev Interface of the ERC20 standard as defined in the EIP.
15
```

## SWC-103 | A FLOATING PRAGMA IS SET.

LINE 92

### low SEVERITY

The current pragma Solidity directive is `""^0.8.0""`. It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

### Source File

- DERC20.sol

### Locations

```
91
92  pragma solidity ^0.8.0;
93
94  /**
95   * @dev Interface for the optional metadata functions from the ERC20 standard.
96
```

## SWC-103 | A FLOATING PRAGMA IS SET.

LINE 121

### low SEVERITY

The current pragma Solidity directive is `""^0.8.0""`. It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

### Source File

- DERC20.sol

### Locations

```
120
121  pragma solidity ^0.8.0;
122
123  /*
124   * @dev Provides information about the current execution context, including the
125
```

## SWC-103 | A FLOATING PRAGMA IS SET.

LINE 149

### low SEVERITY

The current pragma Solidity directive is `""^0.8.0""`. It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

### Source File

- DERC20.sol

### Locations

```
148
149  pragma solidity ^0.8.0;
150
151
152
153
```

## SWC-103 | A FLOATING PRAGMA IS SET.

LINE 455

### low SEVERITY

The current pragma Solidity directive is `""^0.8.0""`. It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

### Source File

- DERC20.sol

### Locations

```
454
455  pragma solidity ^0.8.0;
456
457  /**
458   * @dev Contract module which allows children to implement an emergency stop
459
```

## SWC-103 | A FLOATING PRAGMA IS SET.

LINE 547

### low SEVERITY

The current pragma Solidity directive is `""^0.8.0""`. It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

### Source File

- DERC20.sol

### Locations

```
546
547  pragma solidity ^0.8.0;
548
549
550  /**
551
```

# SWC-103 | A FLOATING PRAGMA IS SET.

LINE 577

## low SEVERITY

The current pragma Solidity directive is `""^0.8.0""`. It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

## Source File

- DERC20.sol

## Locations

```
576
577  pragma solidity ^0.8.0;
578
579  /**
580   * @dev String operations.
581
```



# SWC-103 | A FLOATING PRAGMA IS SET.

LINE 648

## low SEVERITY

The current pragma Solidity directive is `""^0.8.0""`. It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

## Source File

- DERC20.sol

## Locations

```

647
648  pragma solidity ^0.8.0;
649
650  /**
651   * @dev Interface of the ERC165 standard, as defined in the
652
```

## SWC-103 | A FLOATING PRAGMA IS SET.

LINE 676

### low SEVERITY

The current pragma Solidity directive is `""^0.8.0""`. It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

### Source File

- DERC20.sol

### Locations

```

675
676  pragma solidity ^0.8.0;
677
678  /**
679   * @dev Implementation of the {IERC165} interface.
680
```

## SWC-103 | A FLOATING PRAGMA IS SET.

LINE 706

### low SEVERITY

The current pragma Solidity directive is `""^0.8.0""`. It is recommended to specify a fixed compiler version to ensure that the bytecode produced does not vary between builds. This is especially important if you rely on bytecode-level verification of the code.

### Source File

- DERC20.sol

### Locations

```
705
706  pragma solidity ^0.8.0;
707
708
709
710
```

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This is a limited report on our findings based on our analysis, in accordance with good industry practice as of 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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