



DEXO Security Assessment



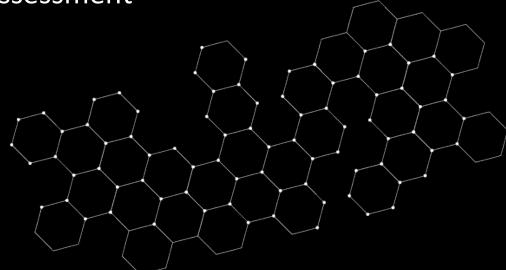




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Report Information

About Report	DEXO Security Assessment
Version	v1.1
Client	DEXO
Language	Solidity
Confidentiality	Public
Platform	BNB Chain (Previously Binance Smart Chain)
Contract Address	[DEXO Token] OxFcfC325875C949F049649101082F703000CB205d [DEXO Presale] Ox2E49b43CAD088740ba253b9F4fc11DF0fefA7c33 [DEXO Presale New Contract]
	0xDEaBa328055A00c3e4a893E381Aed7523c5c2610
Audit Method	Whitebox

*Audit Method

Whitebox: Securi Team receives all source code from the client to provide the assessment. Securi Team receives only bytecode from the client to provide the assessment.

Digital Sign (Only Full Audit Report)





Disclaimer

Regarding this security assessment, there are no guarantees about the security of the program instruction received from the client is hereinafter referred to as "Source code".

And **SECURI** hereinafter referred to as "**Service Provider**", the **Service Provider** will not be held liable for any legal liability arising from errors in the security assessment. The responsibility will be the responsibility of the **client**, hereinafter referred to as "**Service User**" and the **service user** agrees not to be held liable to the **service provider** in any case. By contract **service provider** to conduct security assessments with integrity with professional ethics, and transparency to deliver security assessments to users The **service provider** has the right to postpone the delivery of the security assessment. If the security assessment is delayed whether caused by any reason and is not responsible for any delayed security assessments. If **the service provider** finds a vulnerability The **service provider** will notify the **service user** via the Preliminary Report, which will be kept confidential for security. The **service provider** disclaims responsibility in the event of any attacks occurring whether before conducting a security assessment. Or happened later All responsibility shall be sole with the **service user**.

Security Assessment Not Financial/Investment Advice Any loss arising from any investment in any project is the responsibility of the investor.

SECURI disclaims any liability incurred. Whether it's Rugpull, Abandonment, Soft Rugpull





Executive Summary

For this security assessment, SECURI LAB received a request from DEXO on Wednesday, October 5, 2022.

The SECURI LAB team has conducted a comprehensive security assessment of the vulnerabilities. This assessment is tested with an expert assessment. Using the following test requirements

- 1. Smart Contract Testing with Expert Analysis By testing the most common and uncommon vulnerabilities.
- 2. Automated program testing It includes a sample vulnerability test and a sample of the potential vulnerabilities being used for the most frequent attacks.
- 3. Visibility, Mutability, Modifier function testing, such as whether a function can be seen in general, or whether a function can be changed and if so, who can change it.
- 4. Function association test It will be displayed through the association graph.
- 5. This safety assessment is cross-checked prior to the delivery of the assessment results.

Audit Result

Securi evaluated the smart contract security of the Example project and found:

[Total: 7 Issues | 6 of 7 issues has already resolved]

Critical	High	Medium	Low	Very Low	Informational
0	2[Resolved]	1[Resolved]	3[Resolved]	0	1



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Website: https://securi-lab.com
Telegram: https://t.me/securi_lab
Twitter: https://twitter.com/SECURI_LAB
SECURI REPORT TEMPLATE VERSION 1.1



Project Introduction Scope Information:

Project Name	DEXO
Website	https://dexo.org/ https://www.dexo.exchange/
Chain	BNB Chain (Previously Binance Smart Chain)
Language	Solidity

Audit Information:

Request Date	Wednesday, October 5, 2022
Audit Date	Thursday, October 6, 2022
Reassessment Date	Sunday, October 9, 2022

Audit Version History:

Version	Date	Description
1.0	Thursday, October 6, 2022	Preliminary Report
1.1	Sunday, October 9, 2022	Full Audit Report





Initial Audit Scope: Contract: 0xFcfC325875C949F049649101082F703000CB205d

Smart Contract	0xFcfC325875C949F049649101082F703000CB205d
Contract Name	DEXOToken
Compiler Version	v0.8.16+commit.07a7930e

Initial Audit Scope: Contract: 0x2E49b43CAD088740ba253b9F4fc11DF0fefA7c33

Smart Contract	0x2E49b43CAD088740ba253b9F4fc11DF0fefA7c33
Contract Name	presale
Compiler Version	v0.8.15+commit.e14f2714

Reassessment Audit Scope: Contract presale: 0xDEaBa328055A00c3e4a893E381Aed7523c5c2610

Smart Contract	0xDEaBa328055A00c3e4a893E381Aed7523c5c2610
Contract Name	presale
Compiler Version	v0.8.15+commit.e14f2714



Security Assessment Procedure

Securi has the following procedures and regulations for conducting security assessments:

- **1.Request Audit** Client submits a form request through the Securi channel. After receiving the request, Securi will discuss a security assessment. And drafting a contract and agreeing to sign a contract together with the Client
- **2.Auditing** Securi performs security assessments of smart contracts obtained through automated analysis and expert manual audits.
- **3.Preliminary Report** At this stage, Securi will deliver an initial security assessment. To report on vulnerabilities and errors found under Audit Scope will not publish preliminary reports for safety.
- **4.Reassessment** After Securi has delivered the Preliminary Report to the Client, Securi will track the status of the vulnerability or error, which will be published to the Final Report at a later date with the following statuses:
 - **a.Acknowledge** The client has been informed about errors or vulnerabilities from the security assessment.
 - **b.Resolved** The client has resolved the error or vulnerability. Resolved is probably just a commit, and Securi is unable to verify that the resolved has been implemented or not.
- c.Decline Client has rejected the results of the security assessment on the issue.5.Final Report Securi providing full security assessment report and public



Contact us: contact@securi-lab.com
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SECURI REPORT TEMPLATE VERSION 1.1

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Risk Rating

Risk rating using this commonly defined: $Risk \ rating = impact * confidence$

Impact The severity and potential impact of an attacker attack
Confidence Ensuring that attackers expose and use this vulnerability

Both have a total of 3 levels: **High, Medium, Low**. By *Informational* will not be classified as a level

Confidence Impact	Low	Medium	High
Low	Very Low	Low	Medium
Medium	Low	Medium	High
High	Medium	High	Critical

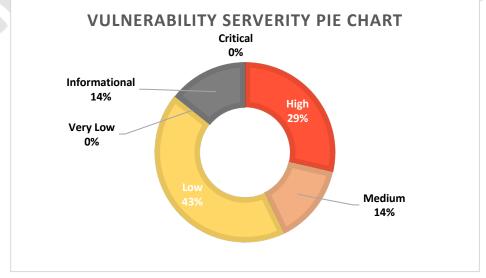
Severity is a risk assessment It is calculated from the Impact and Confidence values using the following calculation methods, $Risk\ rating = impact * confidence$ It is categorized into **5 categories based** on the **lowest severity**: Very Low, Low, Medium, High, Critical. For **Informational** will not be counted as **severity**

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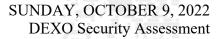


Vulnerability Severity Summary

Vulnerability Severity Level	Total	
Critical	0	
High	2 [Resolved]	
Medium	1 [Resolved]	
Low	3 [Resolved]	
Very Low	0	
Informational (Non severity level)		









Vulnerability Findings

ID	Title	Severity	Contract	Status
SEC-01	Wrong token transfer	High	presale	Resolved
SEC-02	Wrong token transfer	High	presale	Resolved
SEC-03	Incorrect ERC20 interfaces	Medium	presale	Resolved
SEC-04	Missing Events Access Control	Low	presale	Resolved
SEC-05	Missing Events Arithmetic	Low	presale	Resolved
SEC-06	Missing Zero Address Validation	Low	presale	Resolved
SEC-07	Code reuse	Informational	presale	Acknowledge



SEC-01: Wrong token transfer

Туре	Severity	Location	Contract	Status
Wrong token transfer	High	Line: 171-172, 195-196	presale	Resolved

Finding:

function buyTokenbusd() (line:171-172) function buyTokenUSDT() (line:195-196)

Description:

Use openzeppelin safeERC20 to transfer ERC20 token to the contract first before transferring to another address

Recommendation:

BUSD.safeTransferFrom(msg.sender, address(this), amount);

BUSD.safeTransfer(wallet1, amount.mul(35).div(100)); BUSD.safeTransfer(wallet2, amount.mul(65).div(100));

Alleviation:

DEXO Team has already resolved this issue.





SEC-02: Wrong token transfer

Туре	Severity	Location	Contract	Status
Wrong token transfer	High	Line: 218	presale	Resolved

Finding:

function claimToken() (line:218)

Description:

We do not recommend transferring ERC20 token from a private wallet

Recommendation:

DEXOToken.safeTransfer(msg.sender, tokenBalance);

The owner should transfer DEXO token to the contract address before starting the presale

Alleviation:

DEXO Team has already resolved this issue.





SEC-03: Incorrect ERC20 interfaces

Туре	Severity	Location	Contract	Status
Incorrect ERC20 interfaces (erc20-interface)	Medium	Line: Check on finding	presale	Resolved

Finding:

X IToken (presale.sol:9-41) has incorrect ERC20 function interface:IToken.approve(address,uint256) (presale.sol#25)

■ Token (presale.sol:9-41) has incorrect ERC20 function interface:IToken.approve(address,uint256) (presale.sol#25).

IToken (presale.sol:9-41) has incorrect ERC20 function interface:IToken.transfer(address,uint256) (presale.sol#27)

XIToken (presale.sol:9-41) has incorrect ERC20 function

interface:IToken.transferFrom(address,address,uint256) (presale.sol#29-33)

Recommendation:

Set the appropriate return values and types for the defined `ERC20` functions.

Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#incorrect-erc20-interface

Alleviation:

DEXO Team has already resolved this issue.





SEC-04: Missing Events Access Control

Туре	Severity	Location	Contract	Status
Missing Events Access Control (events-access)	Low	Line: Check on finding	presale	Resolved

Finding:

x presale.changeOwner(address) (presale.sol:276-278) should emit an event for:

• owner = newOwner (presale.sol#277)

xpresale.changeOwner(address)._newOwner (presale.sol:276) lacks a zero-check on :

• owner = _newOwner (presale.sol#277)

Recommendation:

Emit an event for critical parameter changes.

Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#missing-events-access-control

Alleviation:

DEXO Team has already resolved this issue.





SEC-05: Missing Events Arithmetic

Туре	Severity	Location	Contract	Status
Missing Events Arithmetic (events-maths)	Low	Line: Check on finding	presale	Resolved

Finding:

- x presale.changePrice(uint256) (presale.sol:257-259) should emit an event for:
 - tokenPerUsd = price (presale.sol#258)
- x presale.setPreSaleTime(uint256) (presale.sol:271-273) should emit an event for:
 - preSaleStartTime = startTime (presale.sol#272)
- x presale.settotalSupply(uint256, uint256) (presale.sol:262-268) should emit an event for:
 - totalSupply = _totalSupply (presale.sol#266)
 - soldToken = soldToken (presale.sol#267)

Recommendation:

Emit an event for critical parameter changes.

Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#missing-events-arithmetic

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Alleviation:

DEXO Team has already resolved this issue.





SEC-06: Missing Zero Address Validation

Туре	Severity	Location	Contract	Status
Missing Zero Address Validation (missing-zero-check)	Low	Line: Check on finding	presale	Resolved

Finding:

- x presale.changewallets(address,address)._w1 (presale.sol:291) lacks a zero-check on :
 - wallet1 = w1 (presale.sol#295)
- x presale.changewallets(address,address)._w2 (presale.sol:291) lacks a zero-check on :
 - wallet2 = _w2 (presale.sol#296)

Recommendation:

Check that the address is not zero.

Reference: https://github.com/crytic/slither/wiki/Detector-Documentation#missing-zero-address-validation

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Alleviation:

DEXO Team has already resolved this issue.





SEC-07: Code reuse

Туре	Severity	Location	Contract	Status
Code reuse	Informational	Line: Check on finding	presale	Acknowledge

Finding:

function usdtToToken() (line:236-239)

Recommendation:

busdToToken() and usdtToToken() both functions are the same recommend to remove one of them and renaming to usdToToken

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Alleviation:

DEXO Team has already acknowledge this issue.

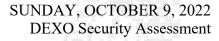




SWC Findings

ID	Title	Scanning	Result
SWC-100	Function Default Visibility	Complete	No risk
SWC-101	Integer Overflow and Underflow	Complete	No risk
SWC-102	Outdated Compiler Version	Complete	No risk
SWC-103	Floating Pragma	Complete	No risk
SWC-104	Unchecked Call Return Value	Complete	No risk
SWC-105	Unprotected Ether Withdrawal	Complete	No risk
SWC-106	Unprotected SELFDESTRUCT Instruction	Complete	No risk
SWC-107	Reentrancy	Complete	No risk
SWC-108	State Variable Default Visibility	Complete	No risk
SWC-109	Uninitialized Storage Pointer	Complete	No risk
SWC-110	Assert Violation	Complete	No risk
SWC-111	Use of Deprecated Solidity Functions	Complete	No risk
SWC-112	Delegatecall to Untrusted Callee	Complete	No risk

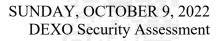






_	TOLL AUDIT KE	7 01(1	
SWC-113	DoS with Failed Call	Complete	No risk
SWC-114	Transaction Order Dependence	Complete	No risk
SWC-115	Authorization through tx.origin	Complete	No risk
SWC-116	Block values as a proxy for time	Complete	No risk
SWC-117	Signature Malleability	Complete	No risk
SWC-118	Incorrect Constructor Name	Complete	No risk
SWC-119	Shadowing State Variables	Complete	No risk
SWC-120	Weak Sources of Randomness from Chain Attributes	Complete	No risk
SWC-121	Missing Protection against Signature Replay Attacks	Complete	No risk
SWC-122	Lack of Proper Signature Verification	Complete	No risk
SWC-123	Requirement Violation	Complete	No risk
SWC-124	Write to Arbitrary Storage Location	Complete	No risk
SWC-125	Incorrect Inheritance Order	Complete	No risk
SWC-126	Insufficient Gas Griefing	Complete	No risk







SWC-127	Arbitrary Jump with Function Type Variable	Complete	No risk
SWC-128	DoS With Block Gas Limit	Complete	No risk
SWC-129	Typographical Error	Complete	No risk
SWC-130	Right-To-Left-Override control character (U+202E)	Complete	No risk
SWC-131	Presence of unused variables	Complete	No risk
SWC-132	Unexpected Ether balance	Complete	No risk
SWC-133	Hash Collisions With Multiple Variable Length Arguments	Complete	No risk
SWC-134	Message call with hardcoded gas amount	Complete	No risk
SWC-135	Code With No Effects	Complete	No risk
SWC-136	Unencrypted Private Data On-Chain	Complete	No risk





Visibility, Mutability, Modifier function testing

```
Contract: presale
  Contract |
                   Type
                                    Bases
           | **Function Name** | **Visibility** | **Mutability**
**Modifiers** |
 **IToken** | Interface | |||
 L | name | External ! |
                        |NO ! |
 L | symbol | External | | NO! |
 L | totalSupply | External | | | NO!
 L | balanceOf | External ! |
                            |N0 | |
 L | allowance | External ! |
 L | approve | External | | 🛑 |NO! |
 L | transfer | External | | 🛑 | NO! |
 L | transferFrom | External [ | 🛑 |NO! |
 **AggregatorV3Interface** | Interface | |||
 L | decimals | External | | NO! |
 L | description | External | | | NO! |
 L | version | External | | | NO | |
 L | getRoundData | External | | NO! |
 L | latestRoundData | External | | | NO! |
\Pi\Pi\Pi\Pi
 **presale** | Implementation | |||
 L | <Receive Ether> | External | | 💹 |NO! |
 L | buyTokenbnb | Public | | 🔤 |NO | |
 L | buyTokenbusd | Public | |
 L | buyTokenUSDT | Public
 L | claimToken | Public | | 🛑 | NO! |
 L | bnbToToken | Public
                           |N0 |
     busdToToken | Public ! |
```





```
usdtToToken | Public
                              |NO | |
                              INO I
    getProgress |
                 Public
                              | onlyOwner |
  | enableClaim | Public
  | changePrice | External 📒 | 🥌
                                | onlyOwner |
  | settotalSupply | External
                                   | onlyOwner |
  | setPreSaleTime | External
                                    | onlyOwner |
  | changeOwner | External |
                                 | onlyOwner |
  | changeToken | External |
                                 | onlyOwner |
  | changeBUSD | External | | 🛑 | onlyOwner |
 | onlyOwner |
 L | changeUSDT | External 📘 | 🥮
                               | onlyOwner |
 📙 | transferFundsBNB | External 📒 | 🥮 | onlyOwner |
 📙 | transferStuckTokens | External 📒 | 🔴 | onlyOwner |
 L | getCurrentTime | External | | NO | |
 L | contractBalancebnb | External | |
 L | contractBalanceBUSD | External ! |
 L | contractBalanceUSDT | External
                                       |N0 |
 |NO |
**SafeMath** | Library |
  | add | Internal 🗎 |
  | sub | Internal 🗎 |
  | sub | Internal 🔒
  | mul | Internal 🔒
  | div | Internal 🗎 |
  | div | Internal 🗎 |
  | mod | Internal 🔒 |
 └ | mod | Internal 🗎 |
Legend
 Symbol
           Meaning
         | Function can modify state |
          Function is payable |
```





```
Contract: DEXOToken
  Contract |
                                 Bases
                  Type
          | **Function Name** | **Visibility** | **Mutability** |
**Modifiers**
 **EIP712** | Implementation | |||
 L | _domainSeparatorV4 | Internal 🛍 | | |
 └ | _buildDomainSeparator | Private 🔐 | | |
 **ECDSA** | Library | |||
 └ | _throwError | Private 🔐 | | |
 └ | tryRecover | Internal 🗎 | | |
 └ | recover | Internal 🗎 | | |
 L | recover | Internal 🗎 |  | |
 └ | tryRecover | Internal 🗎 | | |
 └ | recover | Internal 🗎 | | |
 📙 | toEthSignedMessageHash | Internal 🗎 | | |
 📙 | toEthSignedMessageHash | Internal 🛍 | | |
 1111111
 **Strings** | Library | |||
 L | toHexString | Internal ← |
 L | toHexString | Internal ←
 └ | toHexString | Internal 🗎 |
\Pi\Pi\Pi\Pi
 **Counters** | Library | |||
 └ | current | Internal 🗎 |
 └ | increment | Internal 🔒 |
 L | decrement | Internal 🛍 |
 L | reset | Internal 🗎
```





```
**Context** | Implementation | |||
 **IERC20Permit** | Interface | |||
                            |N0 |
 L | permit | External 📘 | 🥌
 L | nonces | External | | | NO! |
 L | DOMAIN_SEPARATOR | External ! |
                                     |N0 | |
 **IERC20** | Interface | |||
 L | totalSupply | External ! |
 L | balanceOf | External | |
                               |N0 |
 L | transfer | External 👢 📗 🥌
                               |N0 | |
 L | allowance | External | |
                               |NO | |
 L | approve | External ! | 🥌
                              |NO | |
 L | transferFrom | External | | 🛑 | NO! |
 **IERC20Metadata** | Interface | IERC20 |||
 L | name | External ! |
                          |N0 |
 L | symbol | External ! |
 L | decimals | External | | NO | |
\Pi\Pi\Pi\Pi
 **ERC20** | Implementation | Context, IERC20, IERC20Metadata |||
 L | <Constructor> | Public | | 🛑
                                 |N0 |
 L | name | Public | | NO | |
 L | symbol | Public | | NO! |
 L | decimals | Public ! |
                            |N0 |
 L | totalSupply | Public | |
 L | balanceOf | Public ! |
                             |N0 |
 L | transfer | Public ! | 🛑
                             |N0 |
 L | allowance | Public ! |
                             |N0 |
 L | approve | Public ! | 🛑
                            |N0 |
 L | transferFrom | Public ! | 🥌
 L | increaseAllowance | Public 🕴 | 🥌
                                      |N0 |
 L | decreaseAllowance | Public ! | 🧲
                                      |NO |
   | _transfer | Internal 🛍 | 🥌
     mint | Internal 🗎 |
```



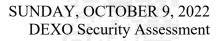


```
| _burn | Internal 🗎 | 🛑
   | _approve | Internal 🖴 | 🥌
   | _spendAllowance | Internal 🛍 | 🥌 | |
 📙 | _beforeTokenTransfer | Internal 🛍 | 🛑
 L | _afterTokenTransfer | Internal ☐ | — | |
ТППП
 **ERC20Permit** | Implementation | ERC20, IERC20Permit, EIP712 |||
 L | <Constructor> | Public | | 🛑 | EIP712 |
 L | permit | Public | | 🛑 | NO ! |
 L | nonces | Public | | | NO! |
 L | DOMAIN_SEPARATOR | External | |
                                   |NO | |
 L | _useNonce | Internal 🗎 | 🛑 | |
 **Ownable** | Implementation | Context |||
 L | <Constructor> | Public ! | 🛑
 L | owner | Public | | NO! |
 L | _checkOwner | Internal 	☐ |
 L | renounceOwnership | Public 👢 | 🥌
                                   | onlyOwner |
 L | transferOwnership | Public | | 🛑 | onlyOwner |
 L | _transferOwnership | Internal 🔒 | 🥌
 **DEXOToken** | Implementation | ERC20Permit, Ownable |||
 L | mint | Public | | 🛑 | onlyOwner |
 L | transferFrom | Public | | 🛑 |NO! |
 L | delegates | External | | NO! |
 L | delegate | External 📒 | 🥌
                             |N0 |
 L | delegateBySig | External | | 🛑
 L | getCurrentVotes | External ! |
 L | getPriorVotes | External ! | |NO! |
 L | _delegate | Internal 🛍 | 🥌 | |
 L | _moveDelegates | Internal 🛍 | 🛑
 L | _writeCheckpoint | Internal 🗎 | 🥌 | |
 └ | getChainId | Internal 🗎 | | |
```







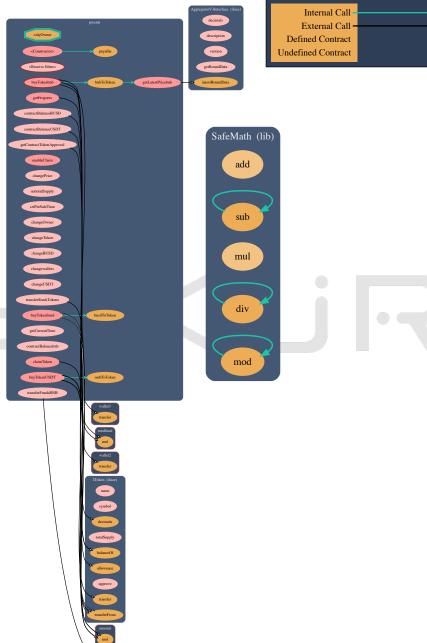


Legend



FULL AUDIT REPORT

Inheritate Function Relation Graph Contract: presale

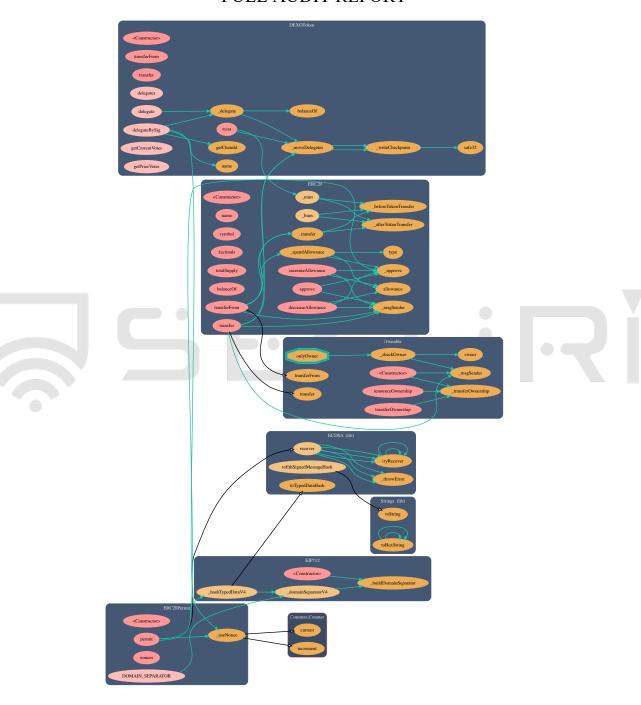






Contract: DEXOToken Legend IERC20Metadata (iface) IERC20 (iface) Internal Call External Call name totalSupply Defined Contract Undefined Contract symbol balanceOf Counters (lib) IERC20Permit (iface) decimals permit current transfer Context nonces allowance increment _msgSender DOMAIN_SEPARATOR approve decrement _msgData transferFrom reset





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About Securi

SECURI LAB is a group of cyber security experts providing cyber security consulting, smart contract security audits, and KYC services.



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