Cyberscope

# Audit Report

# AstropepeX

February 2024

Network ETH

Address 0xed4e879087ebD0e8A77d66870012B5e0dffd0Fa4

Audited by © cyberscope

# Analysis

Critical Medium Minor / Informative Pass

| Severity | Code | Description | Status |
|---|---|---|---|
| ● | ST | Stops Transactions | Passed |
| ● | OTUT | Transfers User's Tokens | Passed |
| ● | ELFM | Exceeds Fees Limit | Passed |
| ● | MT | Mints Tokens | Passed |
| ● | BT | Burns Tokens | Passed |
| ● | BC | Blacklists Addresses | Passed |

# Diagnostics

Critical Medium Minor / Informative

| Severity | Code | Description | Status |
|---|---|---|---|
| ● | L15 | Local Scope Variable Shadowing | Unresolved |
| ● | L18 | Multiple Pragma Directives | Unresolved |
| ● | L19 | Stable Compiler Version | Unresolved |

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# Review

| | |
|---|---|
| **Contract Name** | AstroPepeX |
| **Compiler Version** | v0.8.19+commit.7dd6d404 |
| **Optimization** | 200 runs |
| **Explorer** | https://etherscan.io/address/0xed4e879087ebd0e8a77d66870012b5e0dffd0fa4 |
| **Address** | 0xed4e879087ebd0e8a77d66870012b5e0dffd0fa4 |
| **Network** | ETH |
| **Symbol** | APX |
| **Decimals** | 18 |
| **Total Supply** | 65,000,000,000 |
| **Badge Eligibility** | Yes |

## Audit Updates

| | |
|---|---|
| **Initial Audit** | 14 Feb 2024 |

## Source Files

| **Filename** | SHA256 |
|---|---|
| **contracts/AstroPepeX.sol** | aaa742d6756994c3c5f16b9824cce3304333175201756db2aef0ec4c4c059702 |
| **@openzeppelin/contracts/utils/Context.sol** | 1458c260d010a08e4c20a4a517882259a23a4baa0b5bd9add9fb6d6a1549814a |

| | |
|---|---|
| **@openzeppelin/contracts/token/ERC20/IERC20.sol** | 7ebde70853ccafcf1876900dad458f46eb9444d591d39bfc58e952e2582f5587 |
| **@openzeppelin/contracts/token/ERC20/ERC20.sol** | d20d52b4be98738b8aa52b5bb0f88943f62128969b33d654fbca731539a7fe0a |
| **@openzeppelin/contracts/token/ERC20/extensions/IERC20Metadata.sol** | af5c8a77965cc82c33b7ff844deb9826166689e55dc037a7f2f790d057811990 |
| **@openzeppelin/contracts/token/ERC20/extensions/ERC20Burnable.sol** | 0344809a1044e11ece2401b4f7288f414ea41fa9d1dad24143c84b737c9fc02e |
| **@openzeppelin/contracts/access/Ownable.sol** | a8e4e1ae19d9bd3e8b0a6d46577eec098c01fbaffd3ec1252fd20d799e73393b |

# Findings Breakdown


| | |
|---|---|
| Critical | 0 |
| Medium | 0 |
| Minor / Informative | 3 |

| Severity | Unresolved | Acknowledged | Resolved | Other |
|---|---|---|---|---|
| Critical | 0 | 0 | 0 | 0 |
| Medium | 0 | 0 | 0 | 0 |
| Minor / Informative | 3 | 0 | 0 | 0 |

## L15 - Local Scope Variable Shadowing

| | |
|---|---|
| **Criticality** | Minor / Informative |
| **Location** | contracts/AstroPepeX.sol#L9,10,11 |
| **Status** | Unresolved |

### Description

Local scope variable shadowing occurs when a local variable with the same name as a variable in an outer scope is declared within a function or code block. When this happens, the local variable "shadows" the outer variable, meaning that it takes precedence over the outer variable within the scope in which it is declared.

```
string memory _name
string memory _symbol
uint256 _totalSupply
```

### Recommendation

It's important to be aware of shadowing when working with local variables, as it can lead to confusion and unintended consequences if not used correctly. It's generally a good idea to choose unique names for local variables to avoid shadowing outer variables and causing confusion.

## L18 - Multiple Pragma Directives

| | |
|---|---|
| **Criticality** | Minor / Informative |
| **Location** | contracts/AstroPepeX.sol#L1 |
| **Status** | Unresolved |

### Description

If the contract includes multiple conflicting pragma directives, it may produce unexpected errors. To avoid this, it's important to include the correct pragma directive at the top of the contract and to ensure that it is the only pragma directive included in the contract.

```
pragma solidity ^0.8.9;
```

### Recommendation

It is important to include only one pragma directive at the top of the contract and to ensure that it accurately reflects the version of Solidity that the contract is written in.

By including all required compiler options and flags in a single pragma directive, the potential conflicts could be avoided and ensure that the contract can be compiled correctly.

## L19 - Stable Compiler Version

| | |
|---|---|
| **Criticality** | Minor / Informative |
| **Location** | contracts/AstroPepeX.sol#L1 |
| **Status** | Unresolved |

### Description

The `^` symbol indicates that any version of Solidity that is compatible with the specified version (i.e., any version that is a higher minor or patch version) can be used to compile the contract. The version lock is a mechanism that allows the author to specify a minimum version of the Solidity compiler that must be used to compile the contract code. This is useful because it ensures that the contract will be compiled using a version of the compiler that is known to be compatible with the code.

```
pragma solidity ^0.8.9;
```

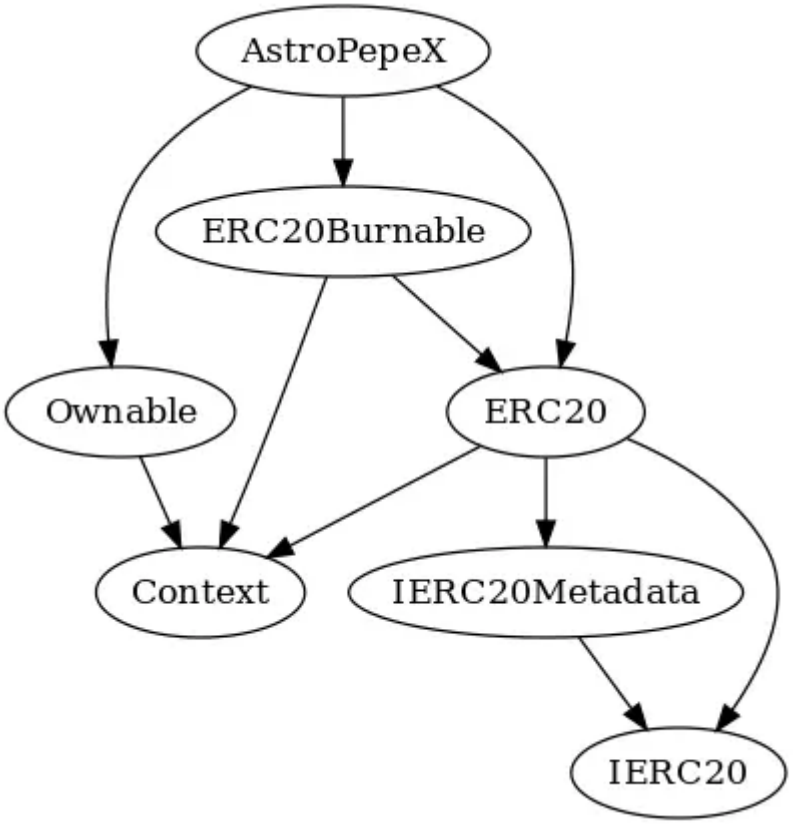
### Recommendation

The team is advised to lock the pragma to ensure the stability of the codebase. The locked pragma version ensures that the contract will not be deployed with an unexpected version. An unexpected version may produce vulnerabilities and undiscovered bugs. The compiler should be configured to the lowest version that provides all the required functionality for the codebase. As a result, the project will be compiled in a well-tested LTS (Long Term Support) environment.

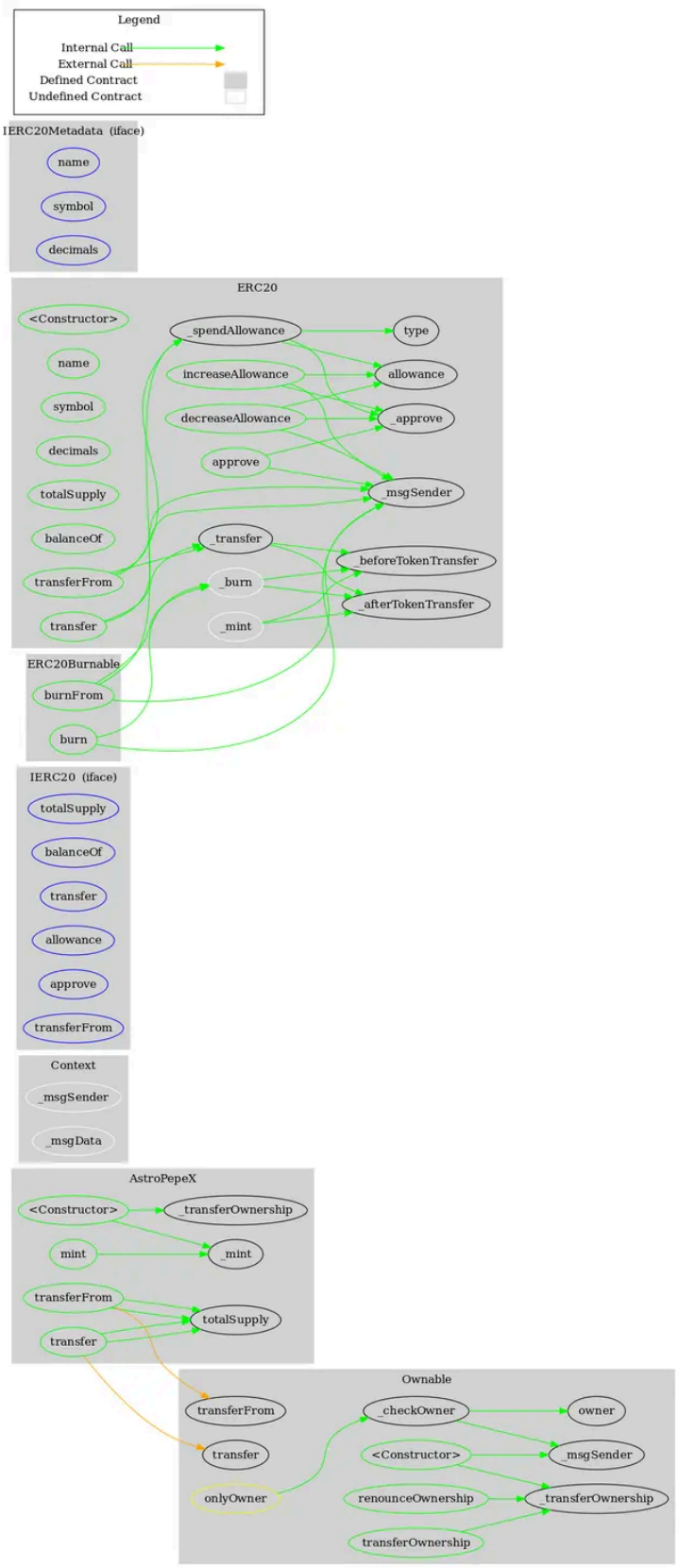
# Functions Analysis

| Contract | Type | Bases | | |
|---|---|---|---|---|
| | **Function Name** | **Visibility** | **Mutability** | **Modifiers** |
| | | | | |
| **AstroPepeX** | Implementation | ERC20, ERC20Burnable, Ownable | | |
| | | Public | ✓ | ERC20 |
| | mint | Public | ✓ | onlyOwner |
| | transfer | Public | ✓ | - |
| | transferFrom | Public | ✓ | - |

# Inheritance Graph



# Flow Graph


Legend
Internal Call
External Call
Defined Contract
Undefined Contract
IERC20Metadata (iface)
name
symbol
decimals
ERC20
<Constructor>
name
symbol
decimals
totalSupply
balanceOf
transferFrom
transfer
_spendAllowance
increaseAllowance
decreaseAllowance
approve
_transfer
_burn
_mint
type
allowance
_approve
msgSender
_beforeTokenTransfer
_afterTokenTransfer
ERC20Burnable
burnFrom
burn
IERC20 (iface)
totalSupply
balanceOf
transfer
allowance
approve
transferFrom
Context
_msgSender
_msgData
AstroPepeX
<Constructor>
mint
transferFrom
transfer
_transferOwnership
_mint
totalSupply
Ownable
transferFrom
transfer
onlyOwner
_checkOwner
<Constructor>
renounceOwnership
transferOwnership
owner
_msgSender
_transferOwnership

# Summary

AstropepeX contract implements a token mechanism. This audit investigates security issues, business logic concerns and potential improvements. AstropepeX is an interesting project that has a friendly and growing community. The Smart Contract analysis reported no compiler error or critical issues. The contract ownership has been renounced.

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# About Cyberscope

Cyberscope is a blockchain cybersecurity company that was founded with the vision to make web3.0 a safer place for investors and developers. Since its launch, it has worked with thousands of projects and is estimated to have secured tens of millions of investors' funds.

Cyberscope is one of the leading smart contract audit firms in the crypto space and has built a high-profile network of clients and partners.

**The Cyberscope team**

https://www.cyberscope.io