



OECD International Academy for Tax Crime Investigation

*Anti-Money Laundering: Current Trends, Prosecutions,
and the Challenges around Cryptocurrencies*



Sanctioning, Freezing, and Asset Recovery

Dealing with “Bad” Addresses

- **Sanctioning:** addresses may be judicially sanctioned and penalties may be imposed on individuals or entities interacting with them.
- **Freezing:** some tokens, including stablecoins, may be frozen inside bad actor’s wallets if they are stolen.
- **Restitution:** frozen tokens may be burned and re-minted and returned to victims if the contract project cooperates.

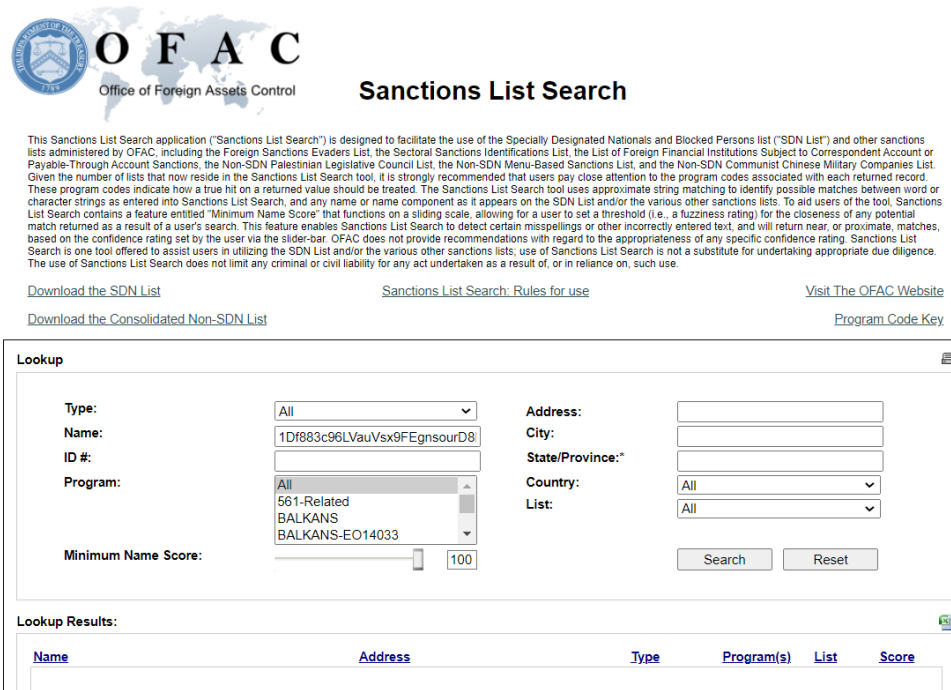
SANCTIONING

OFAC - US Office of Foreign Assets Control

- OFAC publishes lists of individuals and companies owned or controlled by, or acting for or on behalf of, targeted countries. It also lists individuals, groups, and entities, such as terrorists and narcotics traffickers designated under programs that are not country-specific.
- Sanctioned cryptocurrency addresses will be flagged in law enforcement tracing tools such as Chainalysis
- Exchanges and other money service businesses will typically blacklist the addresses.

OFAC Sanctions List Tool

- <https://sanctionssearch.ofac.treas.gov/>
- Does not have a search field for digital currency addresses.



The image shows the OFAC Sanctions List Search application interface. At the top, there is the OFAC logo (Office of Foreign Assets Control) and the title "Sanctions List Search". Below this, a paragraph of text explains the tool's purpose: to facilitate the use of the Specially Designated Nationals and Blocked Persons list (SDN List) and other sanctions lists administered by OFAC. It mentions that the tool uses approximate string matching to identify possible matches between word or character strings as entered into the search field and any name or name component as it appears on the SDN List and/or the various other sanctions lists. It also notes that the tool includes a "Minimum Name Score" feature that functions on a sliding scale, allowing for a user to set a threshold (i.e., a fuzziness rating) for the closeness of any potential match returned as a result of a user's search. The text further states that the tool is designed to detect certain misspellings or other incorrectly entered text, and will return near, or proximate, matches, based on the confidence rating set by the user via the slider-bar. OFAC does not provide recommendations with regard to the appropriateness of any specific confidence rating. Sanctions List Search is one tool offered to assist users in utilizing the SDN List and/or the various other sanctions lists; use of Sanctions List Search is not a substitute for undertaking appropriate due diligence. The use of Sanctions List Search does not limit any criminal or civil liability for any act undertaken as a result of, or in reliance on, such use.

Below the text, there are several links: "Download the SDN List", "Sanctions List Search: Rules for use", "Visit The OFAC Website", "Download the Consolidated Non-SDN List", and "Program Code Key".

The main search area is titled "Lookup" and contains the following fields:

- Type: All (dropdown)
- Name: 1Df883c96LVauVsx9FEgnsourD8 (text input)
- ID #: (text input)
- Program: All (dropdown menu with options: All, 561-Related, BALKANS, BALKANS-EO14033)
- Minimum Name Score: (slider bar set to 100)
- Address: (text input)
- City: (text input)
- State/Province*: (text input)
- Country: All (dropdown)
- List: All (dropdown)

At the bottom right of the lookup section are "Search" and "Reset" buttons.

Below the lookup section is the "Lookup Results:" section, which contains a table with the following headers: Name, Address, Type, Program(s), List, and Score. The table is currently empty.

OFAC – Cryptocurrency Search

- Sanction list (including cryptocurrency addresses) can be downloaded as [txt](#) or [pdf](#)
- Downloaded list can be searched.



OFFICE OF FOREIGN ASSETS CONTROL Specially Designated Nationals and Blocked Persons List

October 3, 2022

ALPHABETICAL LISTING OF SPECIALLY DESIGNATED NATIONALS AND BLOCKED PERSONS ("SDN List"):

This publication of Treasury's Office of Foreign Assets Control ("OFAC") is designed as a reference tool providing actual notice of actions by OFAC with respect to Specially Designated Nationals and other persons (which term includes both individuals and entities) whose property is blocked, to assist the public in complying with the various sanctions programs administered by OFAC. The latest changes to the SDN List may appear here prior to their publication in the

7 KARNES, Avenida Ciudad de Cali No. 15A-91, Local A06-07, Bogota, Colombia; Matricula Mercantil No 1978075 (Colombia) [SDNTK].
7 MAKARA PHARY CO., LTD., Deaum Mien, Daem Mien, Ta Khmau, Kandal 8252, Cambodia; Company Number 00037307 (Cambodia) [GLOMAG] (Linked To: SOPHARY, Kim).

7TH OF TIR (a.k.a. 7TH OF TIR COMPLEX; a.k.a. 7TH OF TIR INDUSTRIAL COMPLEX; a.k.a. 7TH OF TIR INDUSTRIES; a.k.a. 7TH OF TIR INDUSTRIES OF ISFAHAN/ESFAHAN; a.k.a. MOJTAMAE SANATE HAFTOME TIR; a.k.a. SANAYF HAFTOMF TIR; a.k.a.

7TH OF TIR COMPLEX; a.k.a. 7TH OF TIR INDUSTRIAL COMPLEX; a.k.a. 7TH OF TIR INDUSTRIES; a.k.a. MOJTAMAE SANATE HAFTOME TIR; a.k.a. SANAYE HAFTOME TIR; a.k.a. SEVENTH OF TIR), Mobarakeh Road Km 45, Isfahan, Iran; P.O. Box 81465-478, Isfahan, Iran; Additional Sanctions Information - Subject to Secondary Sanctions [NPWMD] [IFSR].

7TH SENSE CREATION (a.k.a. SEVENTH SENSE COMPANY LIMITED), Thu Khi Tar Street, No.3 Bauk Htaw (15) Quarter, Yankin Township, Yangon, Burma; Registration Number 119554144 (Burma) issued 03 Apr

KARASAVIDI, Dmitriy (a.k.a. KARASAVIDI, Dmitrii), Moscow, Russia; DOB 09 Jul 1985; Email Address 2000@911.af; alt. Email Address dm.karasavi@yandex.ru; Gender Male; Digital Currency Address - XBT 1Q6saNmKkyFB9mFR68Ck8F7Dp7dTopF2W; alt. Digital Currency Address - XBT 1DDA93oZPn7wte2eR1ABwcFoxUFxkKMwCf; Digital Currency Address - ETH 0xd882cfc20f52f2599d84b8e8d58c7fb62cfe344b; Digital Currency Address - XMR 5be5543ff73456ab9f2d207887e2af87322c651ea1a873c5b25b7ffae456c320; Secondary sanctions risk: Ukraine-/Russia-Related Sanctions Regulations, 31 CFR 589.201; Digital Currency Address - LTC LNWgtMxcKUQ51dw7bQL1yPQjBVZh6QEsd; Digital Currency Address - ZEC t1g7wowvQ8gn2v8jrU1biyJ26sieNqNsBJy; Digital Currency Address - DASH XnPFsRwTaSgiVauosEwQ6dEitGYXgwznz2; Digital Currency Address - BTG GPwg61XoHqQPmAuCFACuQ5H9sGCDv9TpS; Digital Currency Address - ETC 0xd882cfc20f52f2599d84b8e8d58c7fb62cfe344b; Passport 75 5276391 (Russia) expires 29 Jun 2027 (individual) [CYBER2].

<https://www.treasury.gov/ofac/downloads/sdnlist.txt>

<https://www.treasury.gov/ofac/downloads/sdnlist.pdf>

Exercise – OFAC Search

Download the OFAC Sanctions List:

<https://www.treasury.gov/ofac/downloads/sdnlist.txt>

1. Who do the following sanctioned addresses belong to and what cryptocurrency is listed?
 - **0x4736dCf1b7A3d580672CcE6E7c65cd5cc9cFBa9D**
 - **134r8iHv69xdT6p5qVKTsHrcUEuBVZAYak**
 - **0x19aa5fe80d33a56d56c78e82ea5e50e5d80b4dff**

<https://www.treasury.gov/ofac/downloads/sdnlist.txt>

<https://www.treasury.gov/ofac/downloads/sdnlist.pdf>

Chainalysis: Sanctions Screening Tool

Free Sanction Screening Tools for The Cryptocurrency Industry

As countries around the world continue to leverage economic sanctions in response to Russia's invasion of Ukraine, decentralized web3 groups like DEXs, DeFi platforms, DAOs, and DApp developers are searching for lightweight tools to help them and their customers comply with sanctions policies.

Chainalysis is offering sanctions wallet screening tools for the cryptocurrency industry free of charge. These solutions offer a simple way to quickly check if an address is on a sanctions list before allowing it to connect with their service:

1. Our free crypto sanctions screening API is now available. Fill out the form to receive access.
2. Chainalysis oracle for sanctions screening: [click here to learn more.](https://go.chainalysis.com/crypto-sanctions-screening.html)

<https://go.chainalysis.com/crypto-sanctions-screening.html>

Chainalysis oracle for sanctions screening

The Chainalysis oracle is a smart contract that validates if a cryptocurrency wallet address has been included in a sanctions designation. The smart contract is maintained by Chainalysis on a variety of popular blockchains and will be regularly updated to reflect the latest sanctions designations listed on economic/trade embargo lists from organizations including the US, EU, or UN. The smart contract is available for anyone to use and does not require a customer relationship with Chainalysis.

Defining Sanctions Data

Sanctioned entities refer to entities listed on economic/trade embargo lists, such as by the US, EU, or UN, with which anyone subject to those jurisdictions is prohibited from dealing. Currently, this includes the Specially Designated Nationals (SDN) list of the US Department of the Treasury's **Office of Foreign Assets Control (OFAC)**. While we will be taking reasonable measures to keep the sanctions oracle up-to-date, Chainalysis cannot guarantee the accuracy, timeliness, suitability, or validity of the data.

Compatible networks

Currently, the Chainalysis oracle is available on the Ethereum network as well as the following EVM-compatible networks (click the links to view the Chainalysis oracle on each network):

- Ethereum: [0x40C57923924B5c5c5455c48D93317139ADDaC8fb](#)
- Polygon: [0x40C57923924B5c5c5455c48D93317139ADDaC8fb](#)
- BNB Smart Chain: [0x40C57923924B5c5c5455c48D93317139ADDaC8fb](#)
- Avalanche: [0x40C57923924B5c5c5455c48D93317139ADDaC8fb](#)
- Optimism: [0x40C57923924B5c5c5455c48D93317139ADDaC8fb](#)
- Arbitrum: [0x40C57923924B5c5c5455c48D93317139ADDaC8fb](#)
- Fantom: [0x40c57923924b5c5c5455c48d93317139addac8fb](#)
- Celo: [0x40C57923924B5c5c5455c48D93317139ADDaC8fb](#)

Contact chainalysis-oracle-support@chainalysis.com to provide feedback or ask us any questions.

FREEZING

Freezing Cryptocurrency

- **Layer 1 tokens cannot be frozen if a user controls their own keys**
 - Bitcoin
 - Litecoin
 - Ether
 - Doge
 - Monero
 - Etc.

Freezing on a Platform

- **Centralized platforms such as cryptocurrency exchanges are able to freeze accounts and the funds they contain.**
- “Not your keys, not your coins...”
- Court orders are required (e.g. Mareva Injunction).
- Many exchanges will freeze temporarily while law enforcement seek a court order.

Freezing via Smart Contracts

- **Cryptocurrency tokens** (e.g. Tether, USDC) may be frozen at a suspect's address if the token smart contract permits it.
- **NFTs** may be frozen at a suspect's address if the token smart contract permits it.

Freezing Fungible Tokens

- Some cryptocurrency token projects are able to block specific addresses from sending their tokens.
- This effectively freezes the assets at the address.
- Frozen assets cannot be recovered.
- Freezing a specific type of token in an address currently freezes any co-mingled tokens of the same type.

Freezing Non-Fungible Tokens

- Some NFT token projects are able to block addresses from sending their tokens.
 - This is done by coding blacklisted addresses from interacting with their smart contracts.
- Blacklisting an address freezes the asset at an address.
- Frozen assets cannot be recovered until the address is un-frozen.
- Freezing a specific type of token in an address freezes any co-mingled tokens of the same type.

Can you freeze NFTs?

OpenSea freezes \$2.2M of stolen Bored Apes

Art gallery owner Todd Kramer had his valuable NFT collection stolen from his hot wallet yesterday, so OpenSea froze the stolen assets worth about \$2.2 million.



OpenSea & Freezing

“We do not have the power to freeze or delist NFTs that exist on these blockchains, however we do disable the ability to use OpenSea to buy or sell stolen items.”

“It’s an article of faith that crypto transactions are irreversible. But there’s nothing inherent in blockchain technology that requires that, and **some crypto projects already allow reversals.**”

“Code is Law”

- If the ability to freeze a token is coded into its smart contract, then it can be frozen or destroyed.
- Some tokens are programmed so that they may be frozen, even burned.
- Most tokens are not programmed to be frozen.

Centralization Facilitates Freezing and Restitution

- If you control the blockchain (i.e. the ledger of account balances) or the smart contract for a token, you can freeze, burn or return tokens.

1. The DAO Hack

- A hard fork rolled back the Ethereum ledger to before the hack. This effectively returned the stolen funds.

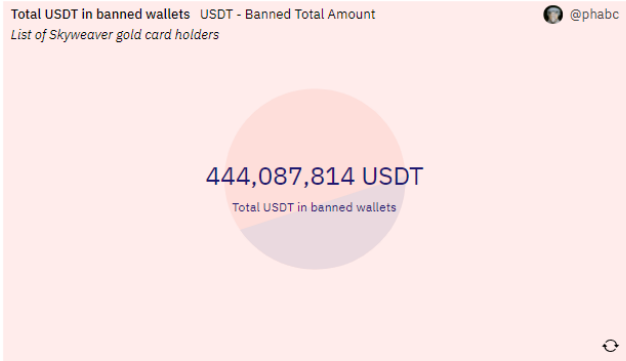
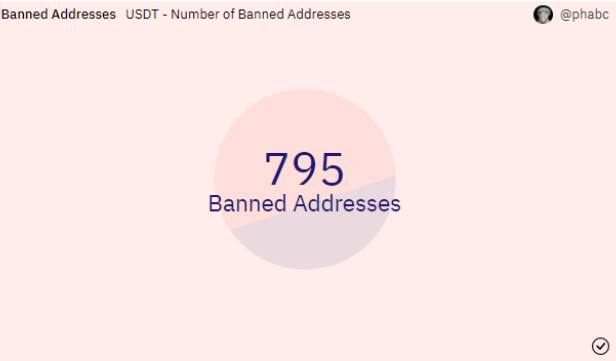
2. Tether

- As a centralized company, Tether is able to blacklist addresses it believes are involved in crime, money laundering or for any other reason it chooses.

Exchanges freeze sanctioned accounts and addresses

- Most Virtual Asset Service Providers will proactively freeze or terminate sanctioned accounts
 - **Binance freezes accounts** of individuals (e.g. Russians) targeted by international sanctions.
 - **Coinbase terminates accounts** of sanctioned individuals.

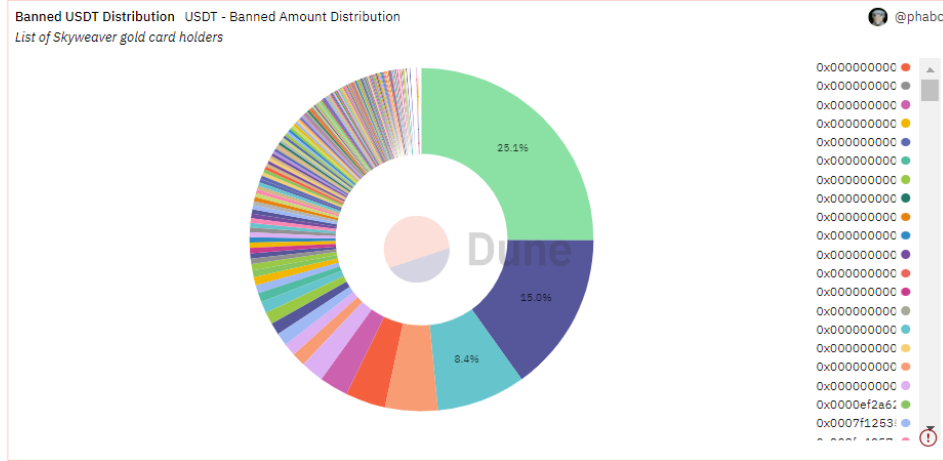
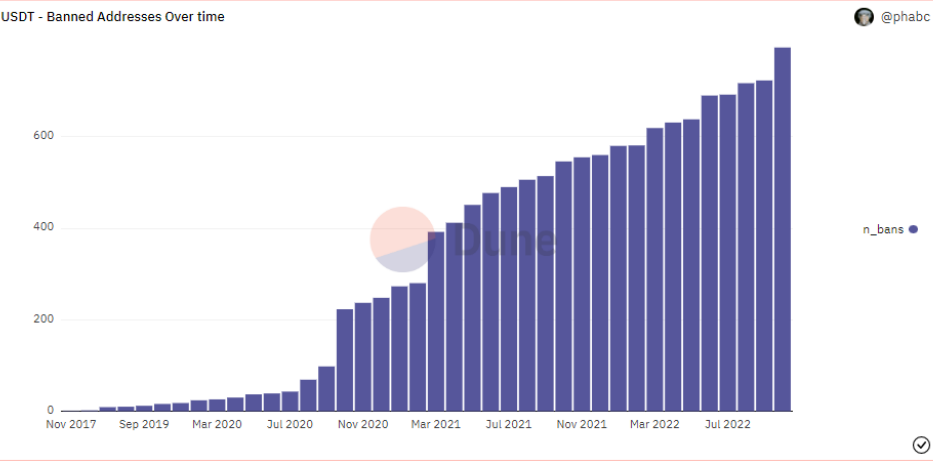
FREEZING TETHER (USDT)



USDT - Banned Addresses @phabc

Banned Addresses	Ban Time	Transaction
0x6c3ce666a5b030e82d08881216d4aac582604f3f	2022-10-10 21:56	https://etherscan.io/t
0xb7a62b9729034fecfcab7ee4256a4ba983eef7b	2022-10-10 21:54	https://etherscan.io/t
0xe0fe2b4c9f7d58a05b4a16b71ef8afb42557aef2	2022-10-10 21:53	https://etherscan.io/t
0x489a8756c18c0b8b24ec2a2b9f3d4d447f79bec	2022-10-06 21:24	https://etherscan.io/t
0x8a55cafb137ef8c206d24d7efa3cc9859bf21415	2022-10-06 17:49	https://etherscan.io/t
0xb2a55570ae16cb8b04432790ada44d6008e1111a	2022-10-06 17:49	https://etherscan.io/t
0xefc1c73a3d8728dc4cf2a18ac5705fe93e5914ac	2022-10-06 17:48	https://etherscan.io/t
0x1659668950f84a3127b14cb4eaeef59a55fbf30c	2022-10-06 17:48	https://etherscan.io/t

795 rows Search... Page 1



<https://dune.com/phabc/usdt---banned-addresses>

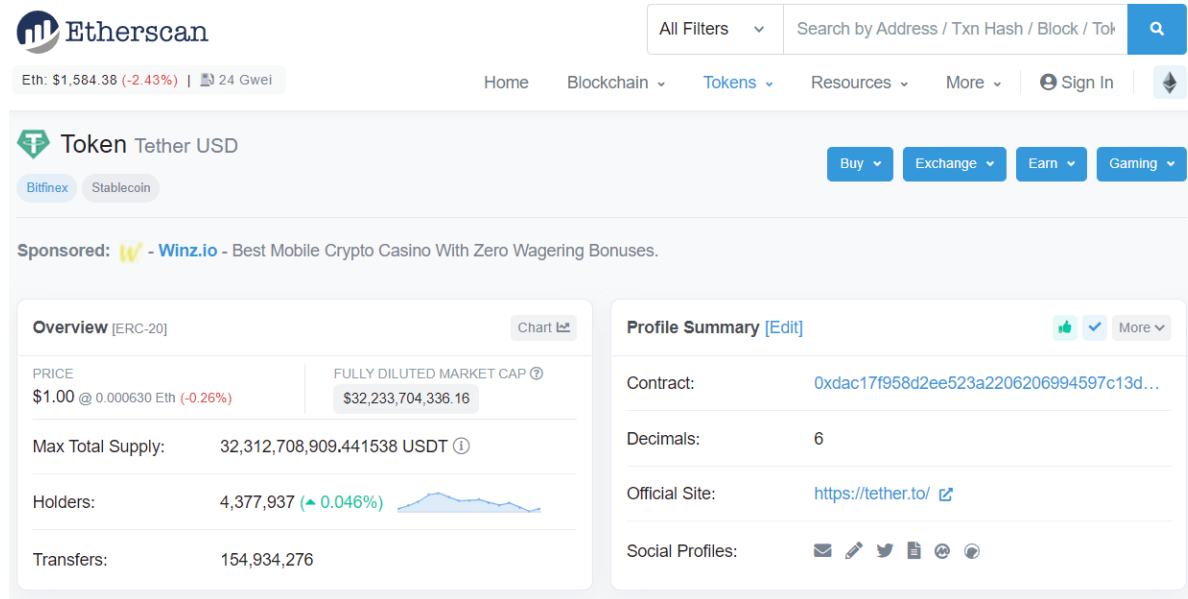
Bitfinex can Blacklist Tether

- Tether Limited is owned by the Hong Kong-based company iFinex Inc., which also owns the Bitfinex cryptocurrency exchange.

USDT Blacklist

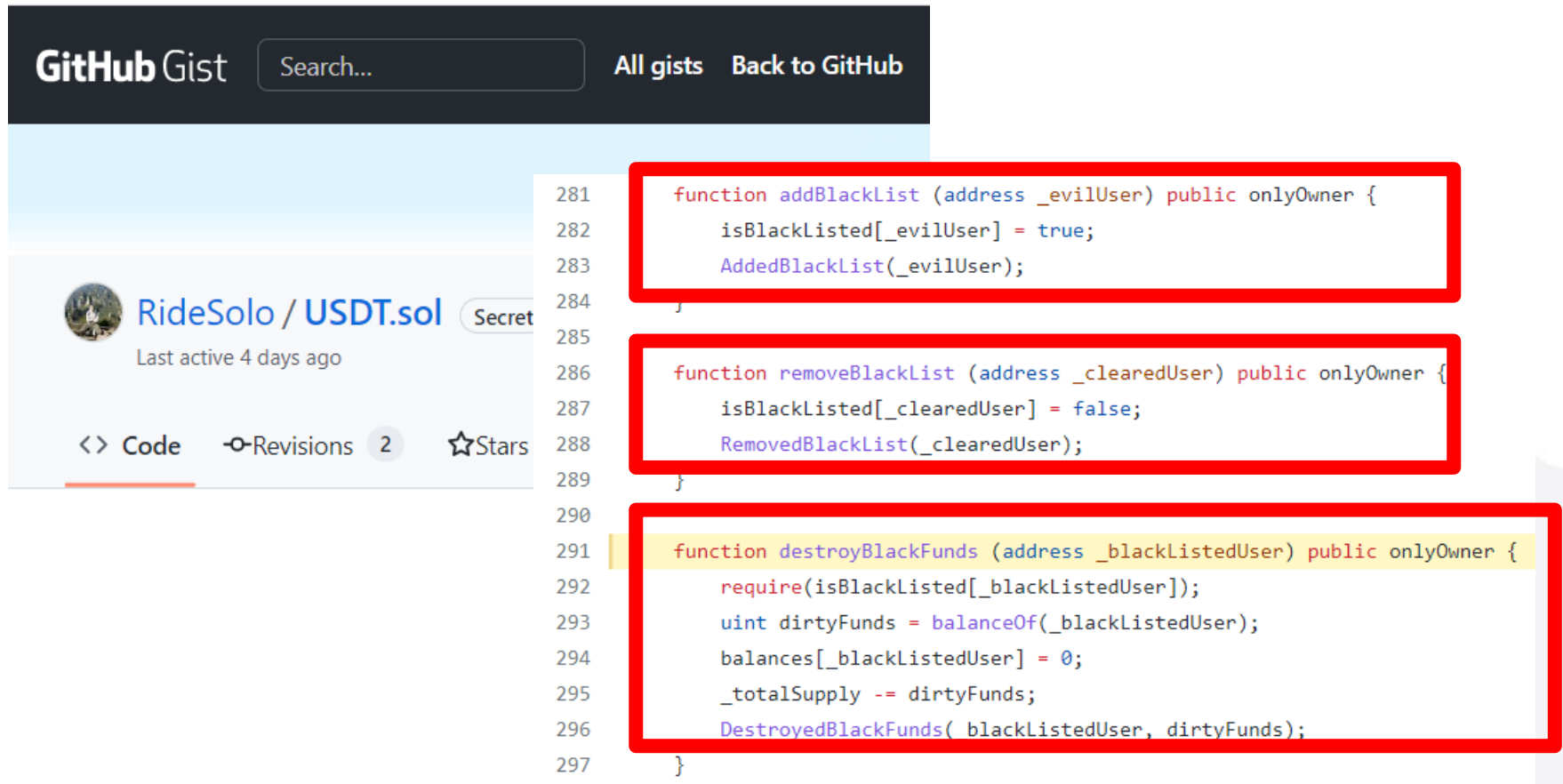
BitFinex MultiSig (0xC6CDE7C39eB2f0F0095F41570af89eFC2C1Ea828) has the ability to call `addToBlacklist` on the USDT contract to prevent an address from moving their owned USDT.

The Tether (USDT) Smart Contract can “destroy” blacklisted funds



```
291 function destroyBlackFunds (address _blackListedUser) public onlyOwner {
292     require(isBlackListed[_blackListedUser]);
293     uint dirtyFunds = balanceOf(_blackListedUser);
294     balances[_blackListedUser] = 0;
295     _totalSupply -= dirtyFunds;
296     DestroyedBlackFunds(_blackListedUser, dirtyFunds);
297 }
```

The Tether (USDT) Smart Contract can blacklist and destroy funds



GitHub Gist Search... All gists Back to GitHub

RideSolo / USDT.sol Secret
Last active 4 days ago

<> Code Revisions 2 Stars

```
281     function addBlackList (address _evilUser) public onlyOwner {
282         isBlackListed[_evilUser] = true;
283         AddedBlackList(_evilUser);
284     }
285
286     function removeBlackList (address _clearedUser) public onlyOwner {
287         isBlackListed[_clearedUser] = false;
288         RemovedBlackList(_clearedUser);
289     }
290
291     function destroyBlackFunds (address _blackListedUser) public onlyOwner {
292         require(isBlackListed[_blackListedUser]);
293         uint dirtyFunds = balanceOf(_blackListedUser);
294         balances[_blackListedUser] = 0;
295         _totalSupply -= dirtyFunds;
296         DestroyedBlackFunds( blackListedUser, dirtyFunds);
297     }
```

<https://gist.github.com/RideSolo/24c79eb34b565ade477ec89c2af49a5b#file-usdt-sol-L291>

FREEZING USDC

USDC Actively Blacklists Addresses

Circle 'blacklists' all Tornado Cash ETH addresses effectively freezing USDC

Circle's USDC has "blacklisted" all Ethereum addresses owned by Tornado Cash listed in the US Treasury Department's sanction against the protocol.



Liam 'Akiba' Wright   

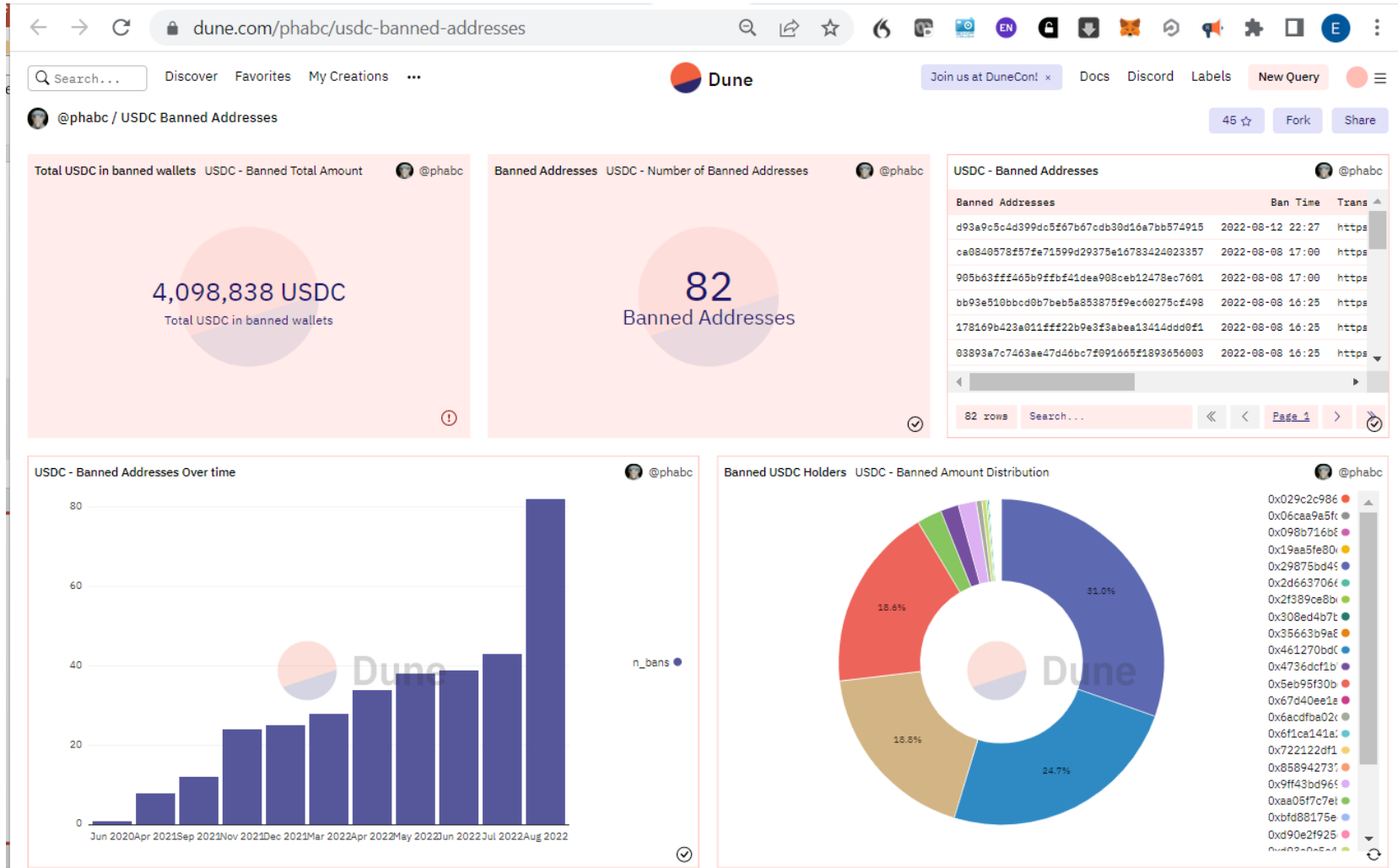
Aug. 8, 2022 at 8:44 pm UTC

1 min read

Updated: August 9, 2022 at 1:50 am

<https://cryptoslate.com/circle-blacklists-all-tornado-cash-eth-addresses-effectively-freezing-usdc/>

USDC Banned Addresses



USDC Smart Contract Code

GitHub Gist

Search...

All gists Back to GitHub

Instantly share code,



chappjc / usdc.sol

Created 2 years ago

<> Code - Revisions 1

usdc solidity contracts

usdc.sol

```
1  /**
2   *Submitted for verification at Etherscan.io on 2020-08-20
3   */
4
5   // File: @openzeppelin/contracts/math/SafeMath.sol
6
7   // License: MIT
8
9   pragma solidity ^0.6.0;
```

```
527  pragma solidity 0.6.12;
528
529  /**
530   * @title Blacklistable Token
531   * @dev Allows accounts to be blacklisted by a "blacklister" role
532   */
533  contract Blacklistable is Ownable {
534      address public blacklister;
535      mapping(address => bool) internal blacklisted;
536
537      event Blacklisted(address indexed _account);
538      event UnBlacklisted(address indexed _account);
```


USDC Blacklisting Policy

Centre Consortium
USDC Network Blacklisting Policy

- The Centre Consortium (“Centre”) has the ability to block individual Ethereum Blockchain addresses from sending and receiving US Dollar Coins (“USDC”).
- When an address is blacklisted, it can no longer receive USDC and all of the USDC controlled by that address is blocked and cannot be transferred on-chain.
- It is not possible to blacklist individual USDC tokens.

USDC Blacklisting Conditions

1. Where Centre determines, in its sole discretion, that failure to grant a blacklisting request presents a threat to the security, integrity, or reliability of the USDC Network.
2. To comply with a law, regulation, or legal order from a duly recognized US authorized authority, US court of competent jurisdiction, or other governmental authority with jurisdiction over Centre.

https://www.centre.io/hubfs/PDF/Centre_Blacklisting_Policy_20200512.pdf

RESTITUTION?

Seizing or Returning Assets

- Frozen coins may be re-minted and handed over to victims or to law enforcement.
- Asset holders may be convinced to return NFTs or other assets.
- Private keys of suspects may be seized and used to return assets.

The future?

ERC-20R & ERC-721R

1. Victim requests a freeze on the stolen funds.
2. Judges accept or deny freeze request.
3. Freeze is executed.
 - Any amount over the frozen amount can be spent.
4. Trial.
5. Reversal, if applicable.