1. Identification

Product Name: Sodium Tungstate Dihydrate (Certified ACS)

Cat No.: S450-3, S450-500

Synonyms: Tungstic acid, sodium salt dihydrate

Recommended Use: Laboratory chemicals.

Uses advised against: No Information available

Details of the supplier of the safety data sheet

Company: Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute oral toxicity
Category 4

Label Elements

Signal Word
Warning

Hazard Statements
Harmful if swallowed

Precautionary Statements
Prevention
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Avoid breathing dust/fume/gas/mist/vapors/spray

Page 1 / 7
Use only outdoors or in a well-ventilated area

**Inhalation**
If INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell

**Ingestion**
If SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

**Storage**
Store in a well-ventilated place. Keep container tightly closed
Store locked up

**Disposal**
Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**
None identified

### 3. Composition / information on ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium tungstate dihydrate</td>
<td>10213-10-2</td>
<td>&gt;95</td>
</tr>
<tr>
<td>Sodium tungstate</td>
<td>13472-45-2</td>
<td>-</td>
</tr>
</tbody>
</table>

### 4. First-aid measures

**General Advice**
If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance.

**Eye Contact**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

**Skin Contact**
Get medical attention if symptoms occur. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

**Inhalation**
Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If symptoms persist, call a physician.

**Ingestion**
Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician.

**Most important symptoms/effects**
No information available.

**Notes to Physician**
Treat symptomatically

### 5. Fire-fighting measures

**Unsuitable Extinguishing Media**
No information available

**Flash Point**
No information available

**Method -**
No information available

**Autoignition Temperature**
No data available

**Explosion Limits**
No data available

**Sensitivity to Mechanical Impact**
No information available

**Sensitivity to Static Discharge**
No information available
Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products
Sodium oxides

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
<td>N/A</td>
</tr>
</tbody>
</table>

6. Accidental release measures

Personal Precautions
Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental Precautions
Avoid release to the environment. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional ecological information.

Methods for Containment and Clean Up
Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

7. Handling and storage

Handling
Wear personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

8. Exposure controls / personal protection

Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium tungstate dihydrate</td>
<td>TWA: 1 mg/m³</td>
<td>(Vacated) TWA: 1 mg/m³</td>
<td>TWA: 1 mg/m³</td>
</tr>
<tr>
<td></td>
<td>STEL: 3 mg/m³</td>
<td>(Vacated) STEL: 3 mg/m³</td>
<td>STEL: 3 mg/m³</td>
</tr>
<tr>
<td>Sodium tungstate</td>
<td>TWA: 1 mg/m³</td>
<td>(Vacated) TWA: 1 mg/m³</td>
<td>TWA: 1 mg/m³</td>
</tr>
<tr>
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<td>(Vacated) STEL: 3 mg/m³</td>
<td>STEL: 3 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>Quebec</th>
<th>Mexico OEL (TWA)</th>
<th>Ontario TWAEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium tungstate dihydrate</td>
<td>TWA: 1 mg/m³</td>
<td>TWA: 1 mg/m³</td>
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<tr>
<td></td>
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<td>STEL: 3 mg/m³</td>
</tr>
<tr>
<td>Sodium tungstate</td>
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</tr>
<tr>
<td></td>
<td>STEL: 3 mg/m³</td>
<td>STEL: 3 mg/m³</td>
<td>STEL: 3 mg/m³</td>
</tr>
</tbody>
</table>

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures
Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection
Tightly fitting safety goggles.
Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>8-9 @ 20°C 5% aq. solution</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability or explosive limits</td>
<td></td>
</tr>
<tr>
<td>Upper</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water</td>
</tr>
<tr>
<td>Partition coefficient; n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>&gt;100 ºC</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
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</tr>
<tr>
<td>Viscosity</td>
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</tr>
<tr>
<td>Molecular Formula</td>
<td>Na₂O₄·2H₂O</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>329.85</td>
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</table>

Stability and reactivity

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactive Hazard</td>
<td>None known, based on information available</td>
</tr>
<tr>
<td>Stability</td>
<td>Stable under recommended storage conditions.</td>
</tr>
<tr>
<td>Conditions to Avoid</td>
<td>Avoid dust formation. Incompatible products. Excess heat.</td>
</tr>
<tr>
<td>Incompatible Materials</td>
<td>Strong oxidizing agents</td>
</tr>
<tr>
<td>Hazardous Decomposition Products</td>
<td>Sodium oxides</td>
</tr>
<tr>
<td>Hazardous Polymerization</td>
<td>Hazardous polymerization does not occur.</td>
</tr>
<tr>
<td>Hazardous Reactions</td>
<td>None under normal processing.</td>
</tr>
</tbody>
</table>

Toxicological information

<table>
<thead>
<tr>
<th>Component Information</th>
<th>LD₅₀ Oral</th>
<th>LD₅₀ Dermal</th>
<th>LC₅₀ Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium tungstate</td>
<td>LD₅₀ = 1190 mg/kg ( Rat )</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Hygiene Measures

- Wear appropriate protective gloves and clothing to prevent skin exposure. Long sleeved clothing. Impervious gloves.
- Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
- When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

Revision Date: 17-May-2016

Sodium Tungstate Dihydrate (Certified ACS)
Toxicologically Synergistic Products

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation

No information available

Sensitization

No information available

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium tungstate dihydrate</td>
<td>10213-10-2</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Sodium tungstate</td>
<td>13472-45-2</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects

No information available

Reproductive Effects

No information available.

Developmental Effects

No information available.

Teratogenicity

No information available.

STOT - single exposure

None known

STOT - repeated exposure

None known

Aspiration hazard

No information available

Symptoms / effects, both acute and delayed

No information available

Endocrine Disruptor Information

No information available

Other Adverse Effects

The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Do not empty into drains.

Persistence and Degradability

Soluble in water. Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation

No information available.

Mobility

Will likely be mobile in the environment due to its water solubility.

13. Disposal considerations

Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

Not regulated

TDG

Not regulated

IATA

Not regulated

IMDG/IMO

Not regulated

15. Regulatory information

All of the components in the product are on the following Inventory lists: X = listed

International Inventories
<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium tungstate dihydrate</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>Sodium tungstate</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>236-743-4</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:
X - Listed
E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
P - Indicates a commenced PMN substance
R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
T - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).
XU - Indicates a substance that has a number-average molecular weight of 1,000 or greater.
Y1 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable
SARA 313 Not applicable

SARA 311/312 Hazard Categories
- Acute Health Hazard Yes
- Chronic Health Hazard No
- Fire Hazard No
- Sudden Release of Pressure Hazard No
- Reactive Hazard No

CWA (Clean Water Act) Not applicable
Clean Air Act Not applicable
OSHA Occupational Safety and Health Administration Not applicable
CERCLA Not applicable
California Proposition 65 This product does not contain any Proposition 65 chemicals
U.S. State Right-to-Know Regulations Not applicable

U.S. Department of Transportation
Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security
This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available
Canada This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and
the MSDS contains all the information required by the CPR

WHMIS Hazard Class

D2B  Toxic materials

16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date
13-May-2014

Revision Date
17-May-2016

Print Date
17-May-2016

Revision Summary
This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of SDS