1. Company Identification and Product Hazard Overview:

Product Name: Sodium Tungstate Dihydrate

Synonyms: Tungstic Acid Sodium Salt, Dihydrate, Disodium Wolframate Dihydrate

Recommended Use: Used as a source of soluble tungsten for corrosion and fire inhibition, catalysts, ceramics, and light-fast colors and inks.

Manufactured for: NORTH Metal and Chemical Company

P. O. Box 1985
York, PA USA 17405
Tel: 717-845-8646
Email: north@nmc-nic.com

In Case of Emergency Call CHEMTREC (24 Hours): 1-800-424-9300

2. Hazard Identification:

GHS Classification:
Acute Toxicity, Dust Inhalation (Category 4)
Acute Toxicity, Oral (Category 4)
Eye Irritation (Category 2B)
Acute Toxicity, Dermal (Category 5)

Signal Word: WARNING
Pictogram: Acute Toxicity

Hazard Statements:

H302 : Harmful if inhaled
H332 : Harmful if swallowed
H312 : Harmful in contact with skin
H320 : Causes eye irritation

Precautionary Statements:

P261 : Avoid breathing dust.
P264 : Wash skin thoroughly after handling
P270 : Do not eat, drink, or smoke when using this product
P271 : Use only outdoors or in a well-ventilated area
P304+P340 : IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P304+P312 : IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell
P301+P312 : IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P302+P352 : IF ON SKIN, wash with plenty of soap and water
P302+P312 : IF ON SKIN, Call a POISON CENTER or doctor/physician if you feel unwell
P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 : If eye irritation persists: Get medical advice/attention
P330 : Rinse Mouth
P501 : Dispose of contents/container to an approved waste disposal plant
3. Composition/Information on Ingredient:

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS Number</th>
<th>EC</th>
<th>Compo. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Tungstate</td>
<td>13472-45-2</td>
<td>236-743-4</td>
<td>~ 90%</td>
</tr>
<tr>
<td>Water</td>
<td></td>
<td></td>
<td>~ 10%</td>
</tr>
</tbody>
</table>

4. First Aid Measures:

**General recommendation:** If victim is unconscious, get medical attention immediately. Place the unconscious victim in recovery position and maintain an open airway. Loosen tight clothing.

**Eyes:** Flush skin with running water for at least 15 minutes, periodically lifting upper and lower lids. Remove any contact lenses if safe to do so and while rinsing. Get medical attention immediately.

**Skin:** Wash skin with plenty of running water. Remove contaminated clothing. Get medical attention if needed. Clean and dry contaminated clothing thoroughly before reuse.

**Ingestion:** If the product is swallowed, call doctor/physician and get medical attention immediately. Do not induce vomiting. Never give anything by mouth to an unconscious person.

**Inhalation:** If safe to do so, remove individual from further exposure. Keep warm and at rest. If breathing has stopped give artificial respiration. Get medical attention/consult a physician.

**PPE for first responders:** Gloves, safety goggles, boots and dust/vapor respirator.

5. Fire Fighting Measures:

**Fire/Explosion Hazard:** Negligible fire hazard when exposed to flame.

**Extinguishing Media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide

**General Hazard:** Evacuate personnel downwind in-order to avoid inhalation of irritating and/or harmful fumes and smoke.

**Special Hazards arising From the substance:** Sodium oxides, Tungsten oxide

**Fire Fighting Procedures:** This product is a non-flammable substance. No acute hazard.

**Fire Fighting Equipment:** Full protective equipment (bunker gear) and self-contained breathing apparatus (SCBA) should be used for all indoor fires and any significant outdoor fires. If possible, firefighters should control run-off water to prevent environmental contamination.

6. Accidental Release Measures:

**Protective Gear for Personnel:** Gloves and dust mask. Ensure adequate ventilation.

**Spill Clean-up Procedures:** Sweep up and dispose according to state, federal, and local non-hazardous waste laws and regulations. Do not let waste enter the environment.

**Environmental Precaution:** Do not allow to enter sewers or ground water, or penetrate the soil.

7. Handling and Storage:

**Handling:** Use appropriate personal protective equipment as specified in Section 8. Handle in a well-ventilated area. Handle in a manner consistent with good industrial/manufacturing techniques and practices. Wash hands thoroughly with soap and water after use. Remove contaminated clothing and protective equipment before entering eating areas. Avoid formation of dust and aerosols.

**Storage:** Store in a cool, dry well-ventilated area. Keep containers closed when not in use. Observe all federal, state and local regulations when storing or disposing of this substance.
8. Exposure Controls and Personal Protection:

Exposure Limits: Sodium Tungstate
ACGIH
1 mg/m³ TWA (Time Weighted Average)
5 mg/m³ TWA
3 mg/m³ STEL (Short Term Exposure Limit)
10 mg/m³ STEL

NISOH/GUIDE
5 mg/m³ REL (Recommended Exposure Limit)
3 mg/m³ STEL
10 mg/m³ STEL
1 mg/m³ REL

Z1A
1 mg/m³ TWA
5 mg/m³ TWA
3 mg/m³ STEL
10 mg/m³ STEL

Exposure Controls: Sodium Tungstate is not classified as a hazardous substance. High airborne dust concentrations require mechanical ventilation or a respirator mask.

Engineering Controls: Use appropriate engineering controls to minimize exposure to dust generated via routine use. Maintain adequate ventilation of workplace and storage areas.

Personal Protective Equipment: Eyes and face: Wear safety glasses with side shields or goggles when handling this material. Skin: Wear protective clothing and gloves when handling this product to prevent prolonged skin contact. Respiratory: Avoid breathing dust or mist. Use NIOSH approved respiratory protection equipment when air borne exposure is excessive.

Work Hygienic Practices: Facilities storing or using this material should be equipped with emergency eyewash, and a safety shower. Good personal hygiene practices should always be followed.

9. Chemical and Physical Properties:

Appearance/Color: White fine crystals
Melting Point: 100°C elimination of water of crystallization

Odor: Odorless
Freezing Point: Not available

Odor threshold: Not applicable
Boiling Range: Not applicable

Flash Point: Not applicable
Molecular Weight: 329.86 g/mole

Evaporation Rate: Not applicable at ambient conditions
Flammability: Not flammable

Lower Explosive Limit: Not explosive
Relative Density: 3.23 g/cm³ at 20 °C

Upper Explosive Limit: Not explosive
Auto-ignition Temp: Not applicable

Decomposition Temp: Not available

Vapor Pressure: Negligible

Vapor Density: Not applicable

Partition Coefficient: Not applicable

Solubility: Soluble in water (730g/l at 20 °C)

pH (neat): 8.0 - 10.0
10. Stability and Reactivity:

Stability: The product is stable under normal ambient conditions of temperature and pressure.

Hazardous Decomposition Products: None identified.

Incompatible Materials: Strong oxidizing agents

Conditions to Avoid: Avoid exposure to extreme temperatures.

11. Toxicological Information:

Toxicity Data: LD50 oral, rat 1,453 mg/kg

LC50 inhalation, rat, 4 h - > 5,010 mg/m3
LDLO Dermal, rat, > 2,000 mg/kg
LD50 Intraperitoneal, rat, 204 mg/kg
LD50 Subcutaneous, rat, 251 mg/kg
LD50 Intraperitoneal, mouse, 145 mg/kg

Skin Corrosion Irritation: Rabbit No irritation

Serious Eye Damage/Irritation: Rabbit, No eye irritation

Respiratory or skin sensitization: No data available

Germ cell mutagenicity: No data available

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

Reproductive toxicity: No data available

Specific target organ toxicity - single exposure: No data available

Specific target organ toxicity - repeated exposure: No data available

Aspiration Hazard: No data available

Additional Information: RTECS: YO7900000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
12. Ecological Information:

All work practices must be aimed at eliminating environmental contamination.

Ecotoxicity

Terrestrial Ecotoxicity: No data available

Aquatic Ecotoxicity: No data available

Invertebrate Toxicity: Daphnia and other aquatic vertebrates
EC50 Daphnia magna (Water flea): 89.4 mg/l; 48 h (ECOTOX Database)

Algae Toxicity: No data available

Reptile Toxicity: No data available

Mobility in Soil: No data available.

Results of PBT and vPvB assessment: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

13. Disposal Considerations:

Disposal Method: Dispose of waste at an appropriate waste disposal facility according to current applicable laws and regulations.

Product Disposal: Recycle or reuse whenever possible. Uncontaminated waste may be returned to the manufacturer. Dispose of any contaminated waste product as non-hazardous waste, unless contamination is hazardous in nature.

Packaging Disposal: Dispose of at a supervised incineration facility or an appropriate waste disposal facility.

14. Transport Information:

Shipping Name: Not D.O.T regulated

Hazard Class: Not Dangerous for Transport

UN Number: None

15. Regulatory Information:

U.S. Federal Regulations:

TSCA Inventory Status: CAS# 10213-10-2 is not listed on the TSCA Inventory because is a dihydrate. It is considered to be listed if the number for the anhydrous form is on the Inventory (40CFR720.3(u)(2)). CAS# 13472-45-2 is listed on the TSCA Inventory.

EINECS listed: 236-743-4

CERCLA Section 103: No

SARA TITLE III (EPCRA) Section 302: No chemicals in this material are subject to reporting requirements of SARA Title III, Section 302

SARA TITLE III (EPCRA) Section 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA TITLE III (EPCRA) Section 311/312: This product was found to be on the acute hazard chemicals lists.

OSHA process Safety (29CFR1910.119): Harmful if swallowed or inhaled

Canadian WHMIS Classifications: D1B, D2B

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by those regulations.

CAS# 10213-10-2 is not listed on Canada’s Ingredient Disclosure list

CAS# 13472-45-2 is listed on Canada’s Ingredient Disclosure list
15. Regulatory Information continued:

U.S. Federal Regulations:

Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act

Pennsylvania Right To Know Components

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
</tr>
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<tbody>
<tr>
<td>Disodium wolframate dihydrate</td>
<td>10213-10-2</td>
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New Jersey Right To Know Components

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California Prop. 65 Components
This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

16. Other Information:

**HMIS Rating:**

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
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<tbody>
<tr>
<td>HEALTH</td>
<td>1  Can cause irritation or minor reversible injury.</td>
</tr>
<tr>
<td>FLAMMABILITY</td>
<td>0  Will not burn</td>
</tr>
<tr>
<td>PHYSICAL HAZARD</td>
<td>0  Product stable under ambient temperature and condition.</td>
</tr>
<tr>
<td>PERSONAL PROTECTION</td>
<td>D  —Face shield, gloves, and apron</td>
</tr>
</tbody>
</table>

**NFPA Rating:**

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<tr>
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<tbody>
<tr>
<td>HEALTH</td>
<td>1  Can cause significant irritation</td>
</tr>
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<td>FLAMMABILITY</td>
<td>0  Will not burn</td>
</tr>
<tr>
<td>REACTIVITY</td>
<td>0  Normally stable</td>
</tr>
<tr>
<td>SPECIFIC HAZARD</td>
<td>—None</td>
</tr>
</tbody>
</table>

**Revision Date:** March 12, 2015

**Reasons for Revision:** Add necessary data to meet GHS requirements.

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