

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 10/27/2016

Reviewed on 10/27/2016

## 1 Identification

- **Product identifier**
- **Product Name:** 23-ELEMENT OIL STANDARD
- **Part Number:**  
S23-500Y  
S23-500Z
- **Application of the substance / the mixture** *Certified Reference Material*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
SPEX CertiPrep, LLC.  
203 Norcross Ave, Metuchen,  
NJ 08840 USA
- **Information department:** *product safety department*
- **Emergency telephone number:**  
*Emergency Phone Number (24 hours)*  
CHEMTREC (800-424-9300)  
*Outside US:* 703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture** *The product is not classified according to the Globally Harmonized System (GHS).*

- **Label elements**
- **GHS label elements** *Not Regulated*
- **Hazard pictograms** *Not Regulated*
- **Signal word** *Not Regulated*
- **Hazard statements** *Not Regulated*
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

|            |   |                |
|------------|---|----------------|
| HEALTH     | 0 | Health = 0     |
| FIRE       | 0 | Fire = 0       |
| REACTIVITY | 0 | Reactivity = 0 |

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** *Not applicable.*
- **vPvB:** *Not applicable.*

## 3 Composition/information on ingredients

- **Chemical characterization:** *Mixtures*
- **Description:** *Mixture of the substances listed below with nonhazardous additions.*
- **Dangerous components:** *Not Regulated*

### Chemical identification of the substance/preparation

|            |   |        |
|------------|---|--------|
| 64742-65-0 | Distillates (petroleum), solvent-dewaxed heavy paraffinic | 98.85% |
| 7440-23-5  | Sodium from Sodium carbonate                              | 0.05%  |
| 7440-47-3  | Chromium from Chromium(III) nitrate nonahydrate           | 0.05%  |
| 7440-22-4  | silver  | 0.05%  |
| 7440-39-3  | Barium from Barium carbonate                              | 0.05%  |
| 7439-95-4  | magnesium   | 0.05%  |
| 7439-98-7  | molybdenum  | 0.05%  |
| 7440-31-5  | tin   | 0.05%  |
| 7440-42-8  | Boron from Ammonium tetraborate tetrahydrate              | 0.05%  |
| 7440-43-9  | cadmium (non-pyrophoric)                                  | 0.05%  |
| 7440-50-8  | copper  | 0.05%  |
| 7439-96-5  | manganese   | 0.05%  |
| 7440-02-0  | nickel  | 0.05%  |

(Contd. on page 2)

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 10/27/2016

Reviewed on 10/27/2016

**Product Name: 23-ELEMENT OIL STANDARD**

(Contd. of page 1)

|           |   |       |
|-----------|---|-------|
| 7439-92-1 | Lead from Lead Oxide                              | 0.05% |
| 7440-32-6 | titanium  | 0.05% |
| 7440-66-6 | zinc powder -zinc dust (pyrophoric)               | 0.05% |
| 7440-70-2 | Calcium from Calcium carbonate                    | 0.05% |
| 7429-90-5 | aluminium   | 0.05% |
| 7439-89-6 | iron  | 0.05% |
| 7440-09-7 | Potassium from Potassium nitrate                  | 0.05% |
| 7723-14-0 | Phosphorus from Ammonium dihydrogenorthophosphate | 0.05% |
| 7440-36-0 | antimony  | 0.05% |
| 7440-21-3 | alkali fluorosilicates (NH <sub>4</sub> )         | 0.05% |
| 7440-62-2 | Vanadium from Ammonium trioxovanadate             | 0.05% |

**4 First-aid measures**

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for Doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

**5 Fire-fighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents:** CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

**7 Handling and storage**

- **Handling:**
- **Precautions for safe handling**  
No special measures required.  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.  
Follow good laboratory practices.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.

(Contd. on page 3)

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 10/27/2016

Reviewed on 10/27/2016

**Product Name: 23-ELEMENT OIL STANDARD**

(Contd. of page 2)

· **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:** Immediately remove all soiled and contaminated clothing.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** Goggles recommended during refilling.

### 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Liquid

Color: According to product specification

· **Odor:** Characteristic

· **Odour Threshold:** Not applicable.

· **pH-value:** Not applicable.

· **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 315 °C (599 °F)

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:**

Decomposition temperature: Not applicable.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower: Not applicable.

Upper: Not applicable.

· **Vapor pressure:** Not determined.

· **Density** Not applicable.

· **Relative density** Not applicable.

· **Vapor density** Not applicable.

· **Evaporation rate** Not applicable.

(Contd. on page 4)

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 10/27/2016

Reviewed on 10/27/2016

**Product Name: 23-ELEMENT OIL STANDARD**

(Contd. of page 3)

- |   |  |
|---|--|
| · <b>Solubility in / Miscibility with Water:</b>  | Not miscible or difficult to mix.          |
| · <b>Partition coefficient (n-octanol/water):</b> | Not applicable.                            |
| · <b>Viscosity:</b>                               |  |
| <b>Dynamic:</b>                                   | Not applicable.                            |
| <b>Kinematic:</b>                                 | Not applicable.                            |
| · <b>Solvent content:</b>                         |  |
| <b>Organic solvents:</b>                          | 0.0 %                                      |
| <b>Solids content:</b>                            | 1.1 %                                      |
| · <b>Other information</b>                        | No further relevant information available. |

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

**7440-43-9 cadmium (non-pyrophoric)**

Oral LD50 225 mg/kg (rat)

**7440-62-2 Vanadium from Ammonium trioxovanadate**

Oral LD50 160 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

Irritant

- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

|           |   |    |
|-----------|---|----|
| 7440-47-3 | Chromium from Chromium(III) nitrate nonahydrate | 3  |
| 7440-43-9 | cadmium (non-pyrophoric)                        | 1  |
| 7440-02-0 | nickel  | 2B |
| 7439-92-1 | Lead from Lead Oxide                            | 2B |

· **NTP (National Toxicology Program)**

|           |                          |   |
|-----------|--------------------------|---|
| 7440-43-9 | cadmium (non-pyrophoric) | K |
| 7440-02-0 | nickel                   | R |
| 7439-92-1 | Lead from Lead Oxide     | R |

· **OSHA-Ca (Occupational Safety & Health Administration)**

|           |                          |
|-----------|--------------------------|
| 7440-43-9 | cadmium (non-pyrophoric) |
|-----------|--------------------------|

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.

(Contd. on page 5)

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 10/27/2016

Reviewed on 10/27/2016

**Product Name: 23-ELEMENT OIL STANDARD**

(Contd. of page 4)

- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Smaller quantities can be disposed of with household waste.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- |  |                 |
|--|-----------------|
| · <b>UN-Number</b><br>· <b>DOT, ADR, IMDG, IATA</b>                                    | Not Regulated   |
| · <b>UN proper shipping name</b><br>· <b>DOT, ADR, IMDG, IATA</b>                      | Not Regulated   |
| · <b>Transport hazard class(es)</b><br>· <b>DOT, ADR, IMDG, IATA</b><br>· <b>Class</b> | Not Regulated   |
| · <b>Packing group</b><br>· <b>DOT, ADR, IMDG, IATA</b>                                | Not Regulated   |
| · <b>Environmental hazards:</b>  | Not applicable. |
| · <b>Special precautions for user</b>  | Not applicable. |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>       | Not applicable. |
| · <b>UN "Model Regulation":</b>  | Not Regulated   |

### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

· **Section 355 (extremely hazardous substances):**

|           |   |
|-----------|---|
| 7723-14-0 | Phosphorus from Ammonium dihydrogenorthophosphate |
|-----------|---|

· **Section 313 (Specific toxic chemical listings):**

|           |   |
|-----------|---|
| 7440-47-3 | Chromium from Chromium(III) nitrate nonahydrate   |
| 7440-22-4 | silver  |
| 7440-39-3 | Barium from Barium carbonate                      |
| 7440-43-9 | cadmium (non-pyrophoric)                          |
| 7440-50-8 | copper  |
| 7439-96-5 | manganese   |
| 7440-02-0 | nickel  |
| 7439-92-1 | Lead from Lead Oxide                              |
| 7440-66-6 | zinc powder -zinc dust (pyrophoric)               |
| 7429-90-5 | aluminium   |
| 7723-14-0 | Phosphorus from Ammonium dihydrogenorthophosphate |
| 7440-36-0 | antimony  |
| 7440-62-2 | Vanadium from Ammonium trioxovanadate             |

(Contd. on page 6)

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 10/27/2016

Reviewed on 10/27/2016

**Product Name: 23-ELEMENT OIL STANDARD**

(Contd. of page 5)

| <b>· TSCA (Toxic Substances Control Act):</b> |   |
|---|---|
| 64742-65-0                                    | Distillates (petroleum), solvent-dewaxed heavy paraffinic |
| 7440-23-5                                     | Sodium from Sodium carbonate                              |
| 7440-47-3                                     | Chromium from Chromium(III) nitrate nonahydrate           |
| 7440-22-4                                     | silver  |
| 7440-39-3                                     | Barium from Barium carbonate                              |
| 7439-95-4                                     | magnesium   |
| 7439-98-7                                     | molybdenum  |
| 7440-31-5                                     | tin   |
| 7440-42-8                                     | Boron from Ammonium tetraborate tetrahydrate              |
| 7440-43-9                                     | cadmium (non-pyrophoric)                                  |
| 7440-50-8                                     | copper  |
| 7439-96-5                                     | manganese   |
| 7440-02-0                                     | nickel  |
| 7439-92-1                                     | Lead from Lead Oxide                                      |
| 7440-32-6                                     | titanium  |
| 7440-70-2                                     | Calcium from Calcium carbonate                            |
| 7429-90-5                                     | aluminium   |
| 7439-89-6                                     | iron  |
| 7440-09-7                                     | Potassium from Potassium nitrate                          |
| 7723-14-0                                     | Phosphorus from Ammonium dihydrogenorthophosphate         |
| 7440-36-0                                     | antimony  |
| 7440-21-3                                     | alkali fluorosilicates (NH <sub>4</sub> )                 |
| 7440-62-2                                     | Vanadium from Ammonium trioxovanadate                     |

**· Proposition 65**

| <b>· Chemicals known to cause cancer:</b> |                          |
|---|--------------------------|
| 7440-43-9                                 | cadmium (non-pyrophoric) |
| 7440-02-0                                 | nickel                   |
| 7439-92-1                                 | Lead from Lead Oxide     |

**· Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

**· Chemicals known to cause reproductive toxicity for males:**

|           |                          |
|-----------|--------------------------|
| 7440-43-9 | cadmium (non-pyrophoric) |
|-----------|--------------------------|

**· Chemicals known to cause developmental toxicity:**

|           |                          |
|-----------|--------------------------|
| 7440-43-9 | cadmium (non-pyrophoric) |
|-----------|--------------------------|

**· Carcinogenic categories**

| <b>· EPA (Environmental Protection Agency)</b> |  |                       |
|--|--|-----------------------|
| 7440-22-4                                      | silver                                       | D                     |
| 7440-39-3                                      | Barium from Barium carbonate                 | D, CBD(inh), NL(oral) |
| 7440-42-8                                      | Boron from Ammonium tetraborate tetrahydrate | I (oral)              |
| 7440-43-9                                      | cadmium (non-pyrophoric)                     | B1                    |
| 7440-50-8                                      | copper                                       | D                     |
| 7439-96-5                                      | manganese                                    | D                     |
| 7439-92-1                                      | Lead from Lead Oxide                         | B2                    |
| 7440-66-6                                      | zinc powder -zinc dust (pyrophoric)          | II                    |

**· TLV (Threshold Limit Value established by ACGIH)**

|           |                              |    |
|-----------|------------------------------|----|
| 7440-39-3 | Barium from Barium carbonate | A4 |
| 7439-98-7 | molybdenum                   | A3 |
| 7440-43-9 | cadmium (non-pyrophoric)     | A2 |
| 7440-02-0 | nickel                       | A5 |
| 7439-92-1 | Lead from Lead Oxide         | A3 |
| 7429-90-5 | aluminium                    | A4 |

**· NIOSH-Ca (National Institute for Occupational Safety and Health)**

|           |                          |
|-----------|--------------------------|
| 7440-43-9 | cadmium (non-pyrophoric) |
| 7440-02-0 | nickel                   |

(Contd. on page 7)

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 10/27/2016

Reviewed on 10/27/2016

**Product Name: 23-ELEMENT OIL STANDARD**

(Contd. of page 6)

**· Protective Action Criteria for Chemicals****· PAC-1:**

|            |   |                        |
|------------|---|------------------------|
| 64742-65-0 | Distillates (petroleum), solvent-dewaxed heavy paraffinic | 140 mg/m <sup>3</sup>  |
| 7440-23-5  | Sodium from Sodium carbonate                              | 13 mg/m <sup>3</sup>   |
| 7440-47-3  | Chromium from Chromium(III) nitrate nonahydrate           | 1.5 mg/m <sup>3</sup>  |
| 7440-22-4  | silver  | 0.3 mg/m <sup>3</sup>  |
| 7440-39-3  | Barium from Barium carbonate                              | 1.5 mg/m <sup>3</sup>  |
| 7439-95-4  | magnesium   | 18 mg/m <sup>3</sup>   |
| 7439-98-7  | molybdenum  | 30 mg/m <sup>3</sup>   |
| 7440-31-5  | tin   | 6 mg/m <sup>3</sup>    |
| 7440-42-8  | Boron from Ammonium tetraborate tetrahydrate              | 1.9 mg/m <sup>3</sup>  |
| 7440-43-9  | cadmium (non-pyrophoric)                                  | 0.10 mg/m <sup>3</sup> |
| 7440-50-8  | copper  | 3 mg/m <sup>3</sup>    |
| 7439-96-5  | manganese   | 3 mg/m <sup>3</sup>    |
| 7440-02-0  | nickel  | 4.5 mg/m <sup>3</sup>  |
| 7439-92-1  | Lead from Lead Oxide                                      | 0.15 mg/m <sup>3</sup> |
| 7440-32-6  | titanium  | 30 mg/m <sup>3</sup>   |
| 7439-89-6  | iron  | 3.2 mg/m <sup>3</sup>  |
| 7440-09-7  | Potassium from Potassium nitrate                          | 2.3 mg/m <sup>3</sup>  |
| 7723-14-0  | Phosphorus from Ammonium dihydrogenorthophosphate         | 0.27 mg/m <sup>3</sup> |
| 7440-36-0  | antimony  | 1.5 mg/m <sup>3</sup>  |
| 7440-21-3  | alkali fluorosilicates (NH <sub>4</sub> )                 | 45 mg/m <sup>3</sup>   |
| 7440-62-2  | Vanadium from Ammonium trioxovanadate                     | 3 mg/m <sup>3</sup>    |

**· PAC-2:**

|            |   |                         |
|------------|---|-------------------------|
| 64742-65-0 | Distillates (petroleum), solvent-dewaxed heavy paraffinic | 1,500 mg/m <sup>3</sup> |
| 7440-23-5  | Sodium from Sodium carbonate                              | 140 mg/m <sup>3</sup>   |
| 7440-47-3  | Chromium from Chromium(III) nitrate nonahydrate           | 17 mg/m <sup>3</sup>    |
| 7440-22-4  | silver  | 170 mg/m <sup>3</sup>   |
| 7440-39-3  | Barium from Barium carbonate                              | 180 mg/m <sup>3</sup>   |
| 7439-95-4  | magnesium   | 200 mg/m <sup>3</sup>   |
| 7439-98-7  | molybdenum  | 330 mg/m <sup>3</sup>   |
| 7440-31-5  | tin   | 67 mg/m <sup>3</sup>    |
| 7440-42-8  | Boron from Ammonium tetraborate tetrahydrate              | 21 mg/m <sup>3</sup>    |
| 7440-43-9  | cadmium (non-pyrophoric)                                  | 0.76 mg/m <sup>3</sup>  |
| 7440-50-8  | copper  | 33 mg/m <sup>3</sup>    |
| 7439-96-5  | manganese   | 5 mg/m <sup>3</sup>     |
| 7440-02-0  | nickel  | 50 mg/m <sup>3</sup>    |
| 7439-92-1  | Lead from Lead Oxide                                      | 120 mg/m <sup>3</sup>   |
| 7440-32-6  | titanium  | 330 mg/m <sup>3</sup>   |
| 7439-89-6  | iron  | 35 mg/m <sup>3</sup>    |
| 7440-09-7  | Potassium from Potassium nitrate                          | 25 mg/m <sup>3</sup>    |
| 7723-14-0  | Phosphorus from Ammonium dihydrogenorthophosphate         | 3 mg/m <sup>3</sup>     |
| 7440-36-0  | antimony  | 13 mg/m <sup>3</sup>    |
| 7440-21-3  | alkali fluorosilicates (NH <sub>4</sub> )                 | 100 mg/m <sup>3</sup>   |
| 7440-62-2  | Vanadium from Ammonium trioxovanadate                     | 5.8 mg/m <sup>3</sup>   |

**· PAC-3:**

|            |   |                         |
|------------|---|-------------------------|
| 64742-65-0 | Distillates (petroleum), solvent-dewaxed heavy paraffinic | 8,900 mg/m <sup>3</sup> |
| 7440-23-5  | Sodium from Sodium carbonate                              | 870 mg/m <sup>3</sup>   |
| 7440-47-3  | Chromium from Chromium(III) nitrate nonahydrate           | 99 mg/m <sup>3</sup>    |
| 7440-22-4  | silver  | 990 mg/m <sup>3</sup>   |
| 7440-39-3  | Barium from Barium carbonate                              | 1,100 mg/m <sup>3</sup> |
| 7439-95-4  | magnesium   | 1,200 mg/m <sup>3</sup> |
| 7439-98-7  | molybdenum  | 2,000 mg/m <sup>3</sup> |
| 7440-31-5  | tin   | 400 mg/m <sup>3</sup>   |
| 7440-42-8  | Boron from Ammonium tetraborate tetrahydrate              | 130 mg/m <sup>3</sup>   |
| 7440-43-9  | cadmium (non-pyrophoric)                                  | 4.7 mg/m <sup>3</sup>   |

(Contd. on page 8)

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 10/27/2016

Reviewed on 10/27/2016

**Product Name: 23-ELEMENT OIL STANDARD**

(Contd. of page 7)

|           |   |                         |
|-----------|---|-------------------------|
| 7440-50-8 | copper  | 200 mg/m <sup>3</sup>   |
| 7439-96-5 | manganese   | 1,800 mg/m <sup>3</sup> |
| 7440-02-0 | nickel  | 99 mg/m <sup>3</sup>    |
| 7439-92-1 | Lead from Lead Oxide                              | 700 mg/m <sup>3</sup>   |
| 7440-32-6 | titanium  | 2,000 mg/m <sup>3</sup> |
| 7439-89-6 | iron  | 150 mg/m <sup>3</sup>   |
| 7440-09-7 | Potassium from Potassium nitrate                  | 150 mg/m <sup>3</sup>   |
| 7723-14-0 | Phosphorus from Ammonium dihydrogenorthophosphate | 18 mg/m <sup>3</sup>    |
| 7440-36-0 | antimony  | 80 mg/m <sup>3</sup>    |
| 7440-21-3 | alkali fluorosilicates (NH <sub>4</sub> )         | 630 mg/m <sup>3</sup>   |
| 7440-62-2 | Vanadium from Ammonium trioxovanadate             | 35 mg/m <sup>3</sup>    |

- **GHS label elements** Not Regulated
- **Hazard pictograms** Not Regulated
- **Signal word** Not Regulated
- **Hazard statements** Not Regulated
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** product safety department

- **Contact:**

SPEX CertiPrep, LLC.

1-732-549-7144

- **Date of preparation / last revision** 10/27/2016 / -

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit