

**1 Identification**

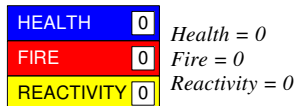
- **Product identifier**
- **Product Name:** 23-ELEMENT OIL STANDARD
- **Part Number:** S23-100Z
- **Application of the substance / the mixture** Certified Reference Material
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
SPEX CertiPrep, LLC.  
203 Norcross Ave, 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)**



- **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	99.77%
7429-90-5	aluminium	0.01%
7440-42-8	Boron from Ammonium tetraborate tetrahydrate	0.01%
7440-39-3	Barium from Barium carbonate	0.01%
7440-70-2	Calcium from Calcium carbonate	0.01%
7440-43-9	cadmium (non-pyrophoric)	0.01%
7440-47-3	Chromium from Chromium(III) nitrate nonahydrate	0.01%
7440-50-8	copper	0.01%
7439-89-6	iron	0.01%
7440-09-7	Potassium from Potassium nitrate	0.01%
7439-95-4	magnesium	0.01%
7439-96-5	manganese	0.01%
7439-98-7	molybdenum	0.01%
7440-23-5	Sodium from Sodium carbonate	0.01%

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7440-02-0	nickel	0.01%
7723-14-0	Phosphorus from Ammonium dihydrogenorthophosphate	0.01%
7439-92-1	Lead from Lead Oxide	0.01%
7440-36-0	antimony	0.01%
7440-21-3	alkali fluorosilicates (NH4)	0.01%
7440-31-5	tin	0.01%
7440-32-6	titanium	0.01%
7440-62-2	Vanadium from Ammonium trioxovanadate	0.01%
7440-66-6	zinc powder -zinc dust (stabilized)	0.01%
7440-22-4	silver	0.01%

#### 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.

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· **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: Undetermined.

· **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.

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- **Solubility in / Miscibility with Water:** Not miscible or difficult to mix.
- **Partition coefficient (n-octanol/water):** Not applicable.
- **Viscosity:**
  - Dynamic:** Not applicable.
  - Kinematic:** Not applicable.
- **Solvent content:**
  - Organic solvents:** 0.0 %
- **Other information** 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:**
- **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)

7440-43-9	cadmium (non-pyrophoric)	I
7440-47-3	Chromium from Chromium(III) nitrate nonahydrate	3
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)
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### 12 Ecological information

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

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- **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>	
· <b>DOT, ADR, IMDG, IATA</b>	Not Regulated
· <b>UN proper shipping name</b>	
· <b>DOT, ADR, IMDG, IATA</b>	Not Regulated
· <b>Transport hazard class(es)</b>	
· <b>DOT, ADR, IMDG, IATA</b>	
· <b>Class</b>	Not Regulated
· <b>Packing group</b>	
· <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
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· **Section 313 (Specific toxic chemical listings):**

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

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

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

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7439-92-1	Lead from Lead Oxide	
<b>· Chemicals known to cause reproductive toxicity for females:</b>		
None of the ingredients is listed.		
<b>· Chemicals known to cause reproductive toxicity for males:</b>		
7440-43-9	cadmium (non-pyrophoric)	
<b>· Chemicals known to cause developmental toxicity:</b>		
7440-43-9	cadmium (non-pyrophoric)	
<b>· Carcinogenic categories</b>		
<b>· EPA (Environmental Protection Agency)</b>		
7440-42-8	Boron from Ammonium tetraborate tetrahydrate	I (oral)
7440-39-3	Barium from Barium carbonate	D, CBD(inh), NL(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 (stabilized)	D, I, II
7440-22-4	silver	D
<b>· TLV (Threshold Limit Value established by ACGIH)</b>		
7429-90-5	aluminium	A4
7440-39-3	Barium from Barium carbonate	A4
7440-43-9	cadmium (non-pyrophoric)	A2
7439-98-7	molybdenum	A3
7440-02-0	nickel	A5
7439-92-1	Lead from Lead Oxide	A3
<b>· NIOSH-Ca (National Institute for Occupational Safety and Health)</b>		
7440-43-9	cadmium (non-pyrophoric)	
7440-02-0	nickel	
<b>· Protective Action Criteria for Chemicals</b>		
<b>· PAC-1:</b>		
64742-65-0	Distillates (petroleum), solvent-dewaxed heavy paraffinic	140 mg/m <sup>3</sup>
7440-42-8	Boron from Ammonium tetraborate tetrahydrate	1.9 mg/m <sup>3</sup>
7440-39-3	Barium from Barium carbonate	1.5 mg/m <sup>3</sup>
7440-43-9	cadmium (non-pyrophoric)	0.10 mg/m <sup>3</sup>
7440-47-3	Chromium from Chromium(III) nitrate nonahydrate	1.5 mg/m <sup>3</sup>
7440-50-8	copper	3 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>
7439-95-4	magnesium	18 mg/m <sup>3</sup>
7439-96-5	manganese	3 mg/m <sup>3</sup>
7439-98-7	molybdenum	30 mg/m <sup>3</sup>
7440-23-5	Sodium from Sodium carbonate	13 mg/m <sup>3</sup>
7440-02-0	nickel	4.5 mg/m <sup>3</sup>
7723-14-0	Phosphorus from Ammonium dihydrogenorthophosphate	0.27 mg/m <sup>3</sup>
7439-92-1	Lead from Lead Oxide	0.15 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>
7440-31-5	tin	6 mg/m <sup>3</sup>
7440-32-6	titanium	30 mg/m <sup>3</sup>
7440-62-2	Vanadium from Ammonium trioxovanadate	3 mg/m <sup>3</sup>
7440-66-6	zinc powder -zinc dust (stabilized)	6 mg/m <sup>3</sup>
7440-22-4	silver	0.3 mg/m <sup>3</sup>
<b>· PAC-2:</b>		
64742-65-0	Distillates (petroleum), solvent-dewaxed heavy paraffinic	1,500 mg/m <sup>3</sup>
7440-42-8	Boron from Ammonium tetraborate tetrahydrate	21 mg/m <sup>3</sup>
7440-39-3	Barium from Barium carbonate	180 mg/m <sup>3</sup>

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7440-43-9	cadmium (non-pyrophoric)	0.76 mg/m <sup>3</sup>
7440-47-3	Chromium from Chromium(III) nitrate nonahydrate	17 mg/m <sup>3</sup>
7440-50-8	copper	33 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>
7439-95-4	magnesium	200 mg/m <sup>3</sup>
7439-96-5	manganese	5 mg/m <sup>3</sup>
7439-98-7	molybdenum	330 mg/m <sup>3</sup>
7440-23-5	Sodium from Sodium carbonate	140 mg/m <sup>3</sup>
7440-02-0	nickel	50 mg/m <sup>3</sup>
7723-14-0	Phosphorus from Ammonium dihydrogenorthophosphate	3 mg/m <sup>3</sup>
7439-92-1	Lead from Lead Oxide	120 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>
7440-31-5	tin	67 mg/m <sup>3</sup>
7440-32-6	titanium	330 mg/m <sup>3</sup>
7440-62-2	Vanadium from Ammonium trioxovanadate	5.8 mg/m <sup>3</sup>
7440-66-6	zinc powder -zinc dust (stabilized)	21 mg/m <sup>3</sup>
7440-22-4	silver	170 mg/m <sup>3</sup>

**· PAC-3:**

64742-65-0	Distillates (petroleum), solvent-dewaxed heavy paraffinic	8,900 mg/m <sup>3</sup>
7440-42-8	Boron from Ammonium tetraborate tetrahydrate	130 mg/m <sup>3</sup>
7440-39-3	Barium from Barium carbonate	1,100 mg/m <sup>3</sup>
7440-43-9	cadmium (non-pyrophoric)	4.7 mg/m <sup>3</sup>
7440-47-3	Chromium from Chromium(III) nitrate nonahydrate	99 mg/m <sup>3</sup>
7440-50-8	copper	200 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>
7439-95-4	magnesium	1,200 mg/m <sup>3</sup>
7439-96-5	manganese	1,800 mg/m <sup>3</sup>
7439-98-7	molybdenum	2,000 mg/m <sup>3</sup>
7440-23-5	Sodium from Sodium carbonate	870 mg/m <sup>3</sup>
7440-02-0	nickel	99 mg/m <sup>3</sup>
7723-14-0	Phosphorus from Ammonium dihydrogenorthophosphate	18 mg/m <sup>3</sup>
7439-92-1	Lead from Lead Oxide	700 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>
7440-31-5	tin	400 mg/m <sup>3</sup>
7440-32-6	titanium	2,000 mg/m <sup>3</sup>
7440-62-2	Vanadium from Ammonium trioxovanadate	35 mg/m <sup>3</sup>
7440-66-6	zinc powder -zinc dust (stabilized)	120 mg/m <sup>3</sup>
7440-22-4	silver	990 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 / -

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**· 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)**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*

US