

**Section 1: Identification of the Substance/Mixture and of the Company/Undertaking**

**1.1 Product identifier**

**Product Name**

• **API Modified**

**Synonyms**

• Anti-Seize; Lubricant; Sealant; Thread Compound

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

**Relevant identified use(s)**

• Anti-Seize, Lubricant, Sealant, high pressure casing & tubing compound

**1.3 Details of the supplier of the safety data sheet**

**Manufacturer**

• Topco Oilsite Products Ltd.  
 Bay 7, 3401 - 19th Street N.E.  
 Calgary, Alberta T2E 6S8  
 Canada  
[www.topcooilsite.com](http://www.topcooilsite.com)  
[msds@topcooilsite.com](mailto:msds@topcooilsite.com)

**Telephone (General)** • 403-219-0255

**1.4 Emergency telephone number**

**Manufacturer** • 403-219-0255  
**Poison & Drug Information Service (Alberta Health Services)** • 1-800-332-1414

**Section 2: Hazards Identification**

**EU/EEC**

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 2015/830]

**2.1 Classification of the substance or mixture**

**CLP**

- Carcinogenicity 2 - H351
- Reproductive Toxicity 1 - H360FD
- Effects on or via Lactation - H362
- Hazardous to the aquatic environment Chronic 2 - H411

**2.2 Label Elements**

**CLP**

**DANGER**



**Hazard statements** • H351 - Suspected of causing cancer.  
 H360FD - May damage fertility. May damage the unborn child.

H362 - May cause harm to breast-fed children  
H411 - Toxic to aquatic life with long lasting effects

### Precautionary statements

- Prevention**
- P201 - Obtain special instructions before use.
  - P202 - Do not handle until all safety precautions have been read and understood.
  - P260 - Do not breathe dust.
  - P263 - Avoid contact during pregnancy/while nursing.
  - P264 - Wash thoroughly after handling.
  - P270 - Do not eat, drink or smoke when using this product.
  - P273 - Avoid release to the environment.
  - P280 - Wear protective gloves/protective clothing/eye protection/face protection.

- Response**
- P308+P313 - IF exposed or concerned: Get medical advice/attention.
  - P391 - Collect spillage.

- Storage/Disposal**
- P405 - Store locked up.
  - P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

## 2.3 Other Hazards

- CLP**
- Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain. According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

## UN GHS Revision 4

According to: UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS): Fourth Revised Edition

### 2.1 Classification of the substance or mixture

- UN GHS**
- Skin Mild Irritation 3
  - Carcinogenicity 2
  - Reproductive Toxicity 1A
  - Specific Target Organ Toxicity Repeated Exposure 1
  - Hazardous to the aquatic environment Acute 2
  - Hazardous to the aquatic environment Chronic 1

### 2.2 Label elements

**UN GHS**

**DANGER**



- Hazard statements**
- Causes mild skin irritation
  - Suspected of causing cancer.
  - May damage fertility or the unborn child.
  - Causes damage to organs through prolonged or repeated exposure.
  - Toxic to aquatic life
  - Very toxic to aquatic life with long lasting effects

### Precautionary statements

- Prevention**
- Obtain special instructions before use.
  - Do not handle until all safety precautions have been read and understood.
  - Do not breathe dust.
  - Wash thoroughly after handling.
  - Do not eat, drink or smoke when using this product.

Avoid release to the environment.  
Wear protective gloves/protective clothing/eye protection/face protection.

**Response** • If skin irritation occurs: Get medical advice/attention.  
IF exposed or concerned: Get medical advice/attention.  
Get medical advice/attention if you feel unwell.  
Collect spillage.

**Storage/Disposal** • Store locked up.  
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

## 2.3 Other hazards

**UN GHS** • Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain  
According to the Globally Harmonized System for Classification and Labeling (GHS) this product is considered hazardous

## United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

## 2.1 Classification of the substance or mixture

**OSHA HCS 2012** • Carcinogenicity 2  
Reproductive Toxicity 1A  
Specific Target Organ Toxicity Repeated Exposure 1  
Hazards Not Otherwise Classified - Health Hazards - Metal fume fever

## 2.2 Label elements

**OSHA HCS 2012**

**DANGER**



**Hazard statements** • Suspected of causing cancer.  
May damage fertility or the unborn child.  
Causes damage to organs through prolonged or repeated exposure.

### Precautionary statements

**Prevention** • Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Do not breathe dust.  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Wear protective gloves/protective clothing/eye protection/face protection.

**Response** • IF exposed or concerned: Get medical advice/attention.  
Get medical advice/attention if you feel unwell.

**Storage/Disposal** • Store locked up.  
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

## 2.3 Other hazards

**OSHA HCS 2012** • Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain. Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.



## Section 4 - First Aid Measures

### 4.1 Description of first aid measures

- Inhalation**
- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing.
- Skin**
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Get medical attention if symptoms occur.

## **Section 7 - Handling and Storage**

### **7.1 Precautions for safe handling**

**Handling** • Use only with adequate ventilation. Use good safety and industrial hygiene practices. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe dust. Avoid contact with skin, eyes, and clothing. Do not eat, drink or smoke when using this product. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

**Exposure Limits/Guidelines (Con't.)**

	<b>Result</b>	<b>Canada Manitoba</b>	<b>Canada New Brunswick</b>	<b>Canada Northwest Territories</b>	<b>Canada Nova Scotia</b>	<b>Canada Nunavut</b>
Asphalt (8052-42-4)	TWAs	0.5 mg/m <sup>3</sup> TWA (fume, inhalable particulate matter, as Benzene soluble aerosol)	5 mg/m <sup>3</sup> TWA (petroleum fumes)	0.5 mg/m <sup>3</sup> TWA (Bitumen, fume, as Benzene soluble aerosol (inhalable fraction))	0.5 mg/m <sup>3</sup> TWA (fume, inhalable particulate matter, as Benzene soluble aerosol)	0.5 mg/m <sup>3</sup> TWA (Bitumen, fume, as Benzene soluble aerosol (inhalable fraction))
	STELs	Not established	Not established	1.5 mg/m <sup>3</sup> STEL (Bitumen, fume, as Benzene soluble aerosol (inhalable fraction))	Not established	1.5 mg/m <sup>3</sup> STEL (Bitumen, fume, as Benzene soluble aerosol (inhalable fraction))
Crystalline silica (14808-60-7)	TWAs	0.025 mg/m <sup>3</sup> TWA (respirable particulate matter)	0.1 mg/m <sup>3</sup> TWA (respirable fraction)	0.05 mg/m <sup>3</sup> TWA (respirable fraction, listed under Silica - crystalline)	0.025 mg/m <sup>3</sup> TWA (respirable particulate matter)	0.05 mg/m <sup>3</sup> TWA (respirable fraction, listed under Silica - crystalline)
Copper oxide	TWAs	1 mg/m <sup>3</sup> TWA (dust and mist, as Cu) <i>as Copper compounds</i>	Not established	Not established	1 mg/m <sup>3</sup> TWA (dust and mist, as Cu) <i>as Copper compounds</i>	Not established
Graphite	TWAs	2 mg/m <sup>3</sup> TWA (all forms except Graphite fibers, respirable particulate matter)	2 mg/m <sup>3</sup> TWA (all forms except graphite fibres)	2 mg/m <sup>3</sup> TWA (natural, all forms, except Graphite fibres, respirable fraction)	2 mg/m <sup>3</sup> TWA (all forms except Graphite fibers, respirable particulate matter)	2 mg/m <sup>3</sup> TWA (natural, all forms, except Graphite fibres, respirable fraction)
				4 mg/m <sup>3</sup> STEL (natural, all forms,		4 mg/m <sup>3</sup> STEL (natural, all forms,

### Exposure Limits/Guidelines (Con't.)

Result	Canada Ontario	Canada Quebec	Canada Saskatchewan	Canada Yukon	China
Asphalt (8052-42-4)	STELs Not established	Not established	1.5 mg/m3 STEL (fume and inhalable fraction, as Benzene soluble aerosol)	10 mg/m3 STEL (fume)	12.5 mg/m3 STEL (fume, as Benzene soluble matter)
	TWAs 0.5 mg/m3 TWA (fume, inhalable, as Benzene-soluble aerosol)	5 mg/m3 TWAEV (fume)	0.5 mg/m3 TWA (fume and inhalable fraction, as Benzene soluble aerosol)	5 mg/m3 TWA (fume)	5 mg/m3 TWA (fume, as Benzene soluble matter)
Crystalline silica (14808-60-7)	STELs Not established	Not established	Not established	Not established	2 mg/m3 STEL (containing 10 - 50% free SiO <sub>2</sub> , total dust); 1.4 mg/m3 STEL (containing 50 - 80% free SiO <sub>2</sub> , total dust); 1 mg/m3 STEL (containing >80% free SiO <sub>2</sub> , total dust); 1.4 mg/m3 STEL (containing 10 - 50% free SiO <sub>2</sub> , respirable dust); 0.6 mg/m3 STEL (containing 50 - 80% free SiO <sub>2</sub> , respirable dust); 0.4 mg/m3 STEL (containing >80% free SiO <sub>2</sub> , respirable dust)
	TWAs 0.10 mg/m3 TWA (designated substances regulation, respirable, listed under Silica, crystalline)	0.1 mg/m3 TWAEV (respirable dust)	0.05 mg/m3 TWA (respirable fraction, listed under Silica - crystalline (Trydimite removed))	300 particle/mL TWA (listed under Silica - Quartz, crystalline)	0.7 mg/m3 TWA (containing 50 - 80% free SiO <sub>2</sub> , total dust); 0.3 mg/m3 TWA (containing 50 - 80% free SiO <sub>2</sub> , respirable dust); 1 mg/m3 TWA (containing 10 - 50% free SiO <sub>2</sub> , total dust); 0.7 mg/m3 TWA (containing 10 - 50% free SiO <sub>2</sub> , respirable dust); 0.5 mg/m3 TWA (containing >80% free SiO <sub>2</sub> , total dust); 0.2 mg/m3 TWA (containing >80% free SiO <sub>2</sub> , respirable dust)
Graphite	STELs Not established	Not established	4 mg/m3 STEL (natural, except Graphite fibres, respirable fraction)	Not established	8 mg/m3 STEL (total dust); 4 mg/m3 STEL (respirable dust)
	TWAs 2 mg/m3 TWA (except Graphite fibres, respirable)	2 mg/m3 TWAEV (containing no Asbestos and <1% Crystalline silica, except Graphite fibres, respirable dust)	2 mg/m3 TWA (natural, except Graphite fibres, respirable fraction)	20 mppcf TWA; 30 mppcf TWA (synthetic); 10 mg/m3 TWA (synthetic)	4 mg/m3 TWA (total dust); 2 mg/m3 TWA (respirable dust)
	STELs Not established	Not established	0.15 mg/m3 STEL	0.45 mg/m3 STEL (dust and fume)	0.15 mg/m3 STEL (dust); 0.09 mg/m3 STEL (fume)



**Exposure Limits/Guidelines (Con't.)**

	<b>Result</b>	<b>Israel</b>	<b>Italy</b>	<b>Japan</b>	<b>Malaysia</b>	<b>Mexico</b>
Asphalt (8052-42-4)	STELs	Not established	Not established	Not established	Not established	10 mg/m <sup>3</sup> STEL [PPT-CT]
	TWAs	0.5 mg/m <sup>3</sup> TWA (fume, inhalable fraction, as benzene soluble aerosol)	Not established	Not established	5 mg/m <sup>3</sup> TWA (fume)	5 mg/m <sup>3</sup> TWA VLE- PPT
Crystalline silica (14808-60-7)	TWAs	0.025 mg/m <sup>3</sup> TWA (respirable fraction)	Not established	Not established	0.1 mg/m <sup>3</sup> TWA (respirable fraction)	0.1 mg/m <sup>3</sup> TWA VLE-PPT (respirable fraction)
Copper oxide	TWAs	1 mg/m <sup>3</sup> TWA (dust and mist, as Cu) <i>as Copper compounds</i>	Not established	Not established	Not established	Not established
Graphite (7782-42-5)	TWAs	2 mg/m <sup>3</sup> TWA (respirable fraction, all forms except	Not established	2 mg/m <sup>3</sup> OEL (Class 1 Dust, total dust); 0.5 mg/m <sup>3</sup> OEL (Class 1 Dust,	2 mg/m <sup>3</sup> TWA (all forms except Graphite fibres,	2 mg/m <sup>3</sup> TWA VLE- PPT (synthetic and natural)

graphite fibers)

respirable fraction)

## Exposure Limits/Guidelines (Con't.)

	Result	Russia	Singapore	Thailand	United Kingdom	United States - California
Asphalt (8052-42-4)	TWAs	Not established	5 mg/m <sup>3</sup> PEL (fume)	Not established	5 mg/m <sup>3</sup> TWA (fumes)	5 mg/m <sup>3</sup> PEL (fume)
	STELs	Not established	Not established	Not established	10 mg/m <sup>3</sup> STEL (fumes)	Not established
Crystalline silica (14808-60-7)	TWAs	1 mg/m <sup>3</sup> TWA (glass, disintegration aerosol, total mass of aerosols, listed under Silicon dioxide amorphous and vitreous); 1 mg/m <sup>3</sup> TWA (total mass of aerosols, listed under Crystalline silicon dioxide)	0.1 mg/m <sup>3</sup> PEL (respirable dust)	Not established	Not established	0.3 mg/m <sup>3</sup> PEL (total dust); 0.1 mg/m <sup>3</sup> PEL (respirable dust)
	STELs	3 mg/m <sup>3</sup> STEL (glass, disintegration aerosol, total mass of aerosols, listed under Silicon dioxide amorphous and vitreous); 3 mg/m <sup>3</sup> STEL (regulated under Quartz, total mass of aerosols, listed under Silicon dioxide crystalline)	Not established	Not established	Not established	Not established
Graphite (7782-42-5)	TWAs	Not established	2 mg/m <sup>3</sup> PEL (respirable dust)	Not established	10 mg/m <sup>3</sup> TWA (inhalable dust); 4 mg/m <sup>3</sup> TWA (respirable dust)	2.5 mg/m <sup>3</sup> PEL (natural, respirable dust); 10 mg/m <sup>3</sup> PEL (synthetic total dust); 5 mg/m <sup>3</sup> PEL (synthetic respirable fraction)

## Exposure Limits/Guidelines (Con't.)

	Result	Venezuela
Asphalt (8052-42-4)	TWAs	0.5 mg/m <sup>3</sup> TWA [VTRE-L-8/40 (fume, as Benzene soluble aerosols)]
Crystalline silica (14808-60-7)	TWAs	0.025 mg/m <sup>3</sup> TWA [VTRE-L-8/40 (respirable fraction)]
Graphite	TWAs	2 mg/m <sup>3</sup> TWA [VTRE-L-8/40 (dust)]
Lead, powder (7439-92-1)	TWAs	0.05 ppm TWA [VTRE-L-8/40 (protection of the health and safety of workers from risks related to this chemical agent at work)]

## Exposure Control Notations

### Japan

- Lead, powder (7439-92-1): **Carcinogens:** (Group 2B - Possibly Carcinogenic to Humans)
- Copper oxide as Copper compounds: **Sensitizers:** (Group 2 skin sensitizer (Evaluation does not necessarily apply to all individuals within the group))

### Mexico

- Lead, powder (7439-92-1): **Carcinogens:** (A3 - Confirmed animal carcinogen)
- Asphalt (8052-42-4): **Carcinogens:** (A4 - Not classifiable as a human carcinogen)

### Egypt

- Lead, powder (7439-92-1): **Carcinogens:** (Animal Carcinogen)
- Graphite (7782-42-5): **Nuisance Dusts:** (10 mg/m<sup>3</sup> TWA (synthetic, containing <1% Quartz, total dust); 30 mppcf TWA (synthetic, containing <1% Quartz, total dust); 3 mg/m<sup>3</sup> TWA (synthetic, containing <1% Quartz, total dust))

### Portugal

- Lead, powder (7439-92-1): **Carcinogens:** (A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans)
- Crystalline silica (14808-60-7): **Carcinogens:** (A2 - Suspected Human Carcinogen)
- Asphalt (8052-42-4): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen (fumes))

### Indonesia

- Lead, powder (7439-92-1): **Carcinogens:** (A3 - confirmed animal carcinogen)
- Asphalt (8052-42-4): **Carcinogens:** (A4 - not classifiable as a human carcinogen)

### Argentina

- Lead, powder (7439-92-1): **Carcinogens:** (A3 - Confirmed animal carcinogen with unknown relevance to humans)
- Crystalline silica (14808-60-7): **Carcinogens:** (A2 - Suspected human carcinogen)
- Asphalt (8052-42-4): **Carcinogens:** (A4 - Not classifiable as a human carcinogen (fumes))

### Canada Alberta

- Lead, powder (7439-92-1): **Designated Substances:** (Designated substance - requires code of practice)

### Canada British Columbia

- Lead, powder (7439-92-1): **Carcinogens:** (IARC Category 2B - Possible Human Carcinogen) | **Designated Substances:** (IARC Category 2B - Possible Human Carcinogen; Adverse reproductive effect) | **Substances with Reproductive Critical Effects:** (Adverse reproductive effect)
- Crystalline silica (14808-60-7): **Carcinogens:** (ACGIH Category A2 - Suspected Human Carcinogen; IARC Category 1 - Human Carcinogen) | **Designated Substances:** (ACGIH Category A2 - Suspected Human Carcinogen; IARC Category 1 - Human Carcinogen)

- Asphalt (8052-42-4): **Carcinogens:** (IARC Category 2A - Probable Human Carcinogen (fume; occupational exposure to oxidized Bitumens and their emissions during road paving); IARC Category 2B - Possible Human Carcinogen (fume; occupational exposure to straight-run Bitumens and their emissions during road paving)) | **Designated Substances:** (IARC Category 2B - Possible Human Carcinogen (fume; occupational exposure to straight-run Bitumens and their emissions during road paving); IARC Category 2A - Probable Human Carcinogen (fume; occupational exposure to oxidized Bitumens and their emissions during road paving))

### Canada Manitoba

- Lead, powder (7439-92-1): **Carcinogens:** (A3 Confirmed Animal Carcinogen with Unknown Relevance to Humans)
- Crystalline silica (14808-60-7): **Carcinogens:** (A2 Suspected Human Carcinogen)
- Asphalt (8052-42-4): **Carcinogens:** (A4 Not Classifiable as a Human Carcinogen (fume, Coal tar-free))

### Canada New Brunswick

- Lead, powder (7439-92-1): **Carcinogens:** (A3 - Animal Carcinogen)
- Asphalt (8052-42-4): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen (fumes))

### Canada Nova Scotia

- Lead, powder (7439-92-1): **Carcinogens:** (A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans)
- Crystalline silica (14808-60-7): **Carcinogens:** (A2 - Suspected Human Carcinogen)
- Asphalt (8052-42-4): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen (fume, Coal tar-free))

## Canada Ontario

- Lead, powder (7439-92-1): **Designated Substances:** (0.05 mg/m<sup>3</sup> TWA)
- Crystalline silica (14808-60-7): **Designated Substances:** (0.10 mg/m<sup>3</sup> TWA (respirable fraction, listed under Silica, crystalline))

## Canada Quebec

- Lead, powder (7439-92-1): **Carcinogens:** (C3 carcinogen - effect detected in animals)
- Crystalline silica (14808-60-7): **Carcinogens:** (C2 carcinogen - effect suspected in humans)

## Canada Saskatchewan

- Lead, powder (7439-92-1): **Designated Substances:** (Present)

## France

- Lead, powder (7439-92-1): **Carcinogens:** (Carcinogen categories 1A, 1B, 2) | **Reproductive Toxins:** (Reproductive Toxin categories 1A, 1B, 2)

## Venezuela

- Lead, powder (7439-92-1): **Ceilings:** (Present)
- Crystalline silica (14808-60-7): **Ceilings:** (Present)
- Asphalt (8052-42-4): **Ceilings:** (Present)

## ACGIH

- Lead, powder (7439-92-1): **Carcinogens:** (A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans)
- Crystalline silica (14808-60-7): **Carcinogens:** (A2 - Suspected Human Carcinogen)
- Asphalt (8052-42-4): **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen (fume, coal tar-free))

## Germany TRGS

- Lead, powder (7439-92-1): **Developmental Toxins:** (Category 1A (bioavailable, metal)) | **Reproductive Toxins:** (Category 2 (bioavailable; metal))

## Germany DFG

- Lead, powder (7439-92-1): **Carcinogens:** (Category 2 (considered to be carcinogenic for man))
- Zinc powder, stabilized (7440-66-6): **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to (respirable; inhalable))
- Graphite (7782-42-5): **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to (inhalable fraction; respirable fraction))
- Crystalline silica (14808-60-7): **Carcinogens:** (Category 1 (causes cancer in man; alveola fraction))
- Asphalt (8052-42-4): **Carcinogens:** (Category 2 (considered to be carcinogenic for man; aerosol and vapor)) | **Skin:** (skin notation (aerosol and vapour))

## Exposure Limits Supplemental

### Thailand

- Graphite (7782-42-5): **Mineral Dusts:** (15 mppcf TWA)
- Graphite as Particulates not otherwise classified (PNOC): **Mineral Dusts:** (15 mppcf TWA (respirable dust); 15 mg/m<sup>3</sup> TWA (total dust); 50 mppcf TWA (total dust); 5 mg/m<sup>3</sup> TWA (respirable dust))
- Crystalline silica (14808-60-7): **Mineral Dusts:** (TWA ((250/(%SiO<sub>2</sub> + 5)), mppcf, respirable dust); TWA ((10/(%SiO<sub>2</sub> + 2)), mg/m<sup>3</sup>, respirable dust); TWA ((30/(%SiO<sub>2</sub> + 2)), mg/m<sup>3</sup>, total dust))

### Argentina

- Lead, powder (7439-92-1): **BEIs:** (30 µg/100 mL blood not critical Pb (Women of child bearing potential, whose blood Pb level exceeds 10 mg/dL, are at risk of delivering a child with blood Pb level over the current CDC guideline. If the blood Pb of such children remains elevated, they may be at increased risk of cognitive deficiencies. The blood Pb of these children should be closely monitored and appropriate steps should be taken to minimize the child's exposure to environmental lead.))

### Canada Yukon

- Lead, powder (7439-92-1): **Miximum Acceptable Body Burdens:** (80 µg/100 mL Medium: blood; 200 µg/L Medium: urine)

### Israel

- Lead, powder (7439-92-1): **Action Levels:** (0.025 mg/m<sup>3</sup> AL (as Pb)) | **Biological Markers of Occupational Exposure:** (30 µg/100 mL Medium: blood Parameter: Lead (Women age 45 and over and all men); 30 µg/100 mL Medium: blood Parameter: Lead (Women under age 45))
- Asphalt (8052-42-4): **Biological Markers of Occupational Exposure:** (Medium: urine Time: end of shift at end of workweek Parameter: 1-Hydroxypyrene with hydrolysis (nonquantitative))

### Venezuela

- Lead, powder (7439-92-1): **Biological Exposure Indices:** (30 µg/100 mL blood not critical Lead (Note: Women of reproductive age, whose levels of blood Pb exceed 10 µg/dL are at risk of giving birth to children with Pb blood values exceeding said level, which was established by the Center of Disease Control in the United States. If Pb levels in said children remain elevated, they may be at an increased risk of cognitive deficits. The Pb in the blood of those children must be watched very closely and the children must be kept from being exposed to environmental lead.))

### OSHA

- Graphite (7782-42-5): **Mineral Dusts:** (15 mppcf TWA (natural))
- Graphite as Particulates not otherwise classified (PNOC): **Mineral Dusts:** (15 mppcf TWA (respirable fraction); 5 mg/m<sup>3</sup> TWA (respirable fraction); 50 mppcf TWA (total dust); 15 mg/m<sup>3</sup> TWA (total dust))
- Crystalline silica (14808-60-7): **Mineral Dusts:** ((250/(%SiO<sub>2</sub> + 5)) mppcf TWA, respirable fraction; (10/(%SiO<sub>2</sub> + 2) mg/m<sup>3</sup> TWA, respirable fraction)

### ACGIH

- Lead, powder (7439-92-1): **BEIs:** (30 µg/100 mL Medium: blood Time: not critical Parameter: Lead (Note: Women of child bearing potential, whose blood Pb exceeds 10 µg/dL, are at risk of delivering a child with a blood Pb over the current Centers for Disease Control guideline of 10 µg/dL. If the blood Pb of such children remains elevated, they may be at increased risk of cognitive deficits. The blood Pb of these children should be closely monitored and appropriate steps should be taken to minimize the child's exposure to environmental lead.)) | **TLV Basis - Critical Effects:** (CNS and PNS impairment; hematologic effects) | **Notice of Intended Changes (BEIs):** (200 µg/L Medium: blood Time: not critical Parameter: lead)
- Graphite (7782-42-5): **TLV Basis - Critical Effects:** (pneumoconiosis (all forms except graphite fibers))
- Copper oxide as Copper compounds: **TLV Basis - Critical Effects:** (gastrointestinal (dust and mist); irritation (dust and mist))
- Crystalline silica (14808-60-7): **TLV Basis - Critical Effects:** (lung cancer; pulmonary fibrosis)
- Asphalt (8052-42-4): **BEIs:** (Medium: urine Time: end of shift at end of workweek Parameter: 1-Hydroxypyrene with hydrolysis (nonquantitative)) |

## Section 9 - Physical and Chemical Properties

### 9.1 Information on Basic Physical and Chemical Properties

#### Material Description

Physical Form	Solid	Appearance/Description	Brown/copper semi-solid paste with mild petroleum odor.
Color	Brown/copper	Odor	Mild, petroleum.
Odor Threshold	Data lacking		

#### General Properties

Boiling Point	Data lacking	Melting Point/Freezing Point	Data lacking
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	Data lacking	Water Solubility	Insoluble
Viscosity	Data lacking	Explosive Properties	Data lacking
Oxidizing Properties:	Data lacking		

#### Volatility

Vapor Pressure	Data lacking	Vapor Density	Data lacking
Evaporation Rate	Data lacking		

#### Flammability

Flash Point	> 260 °C(> 500 °F)	UEL	Data lacking
LEL	Data lacking	Autoignition	Data lacking
Flammability (solid, gas)	Data lacking		

#### Environmental

Octanol/Water Partition coefficient	Data lacking
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## Section 11 - Toxicological Information

### 11.1 Information on toxicological effects

#### Components

Lead, powder (> 25%)	7439-92-1	<p><b>Acute Toxicity:</b> Ingestion/Oral-Woman TDLo • 450 mg/kg 6 Year(s); <i>Peripheral Nerve and Sensation:Flaccid paralysis without anesthesia (usually neuromuscular blockage)</i>; <i>Behavioral:Hallucinations, distorted perceptions</i>; <i>Behavioral:Muscle weakness</i>; Inhalation-Human TCLo • 10 µg/m<sup>3</sup>; <i>Gastrointestinal:Gastritis</i>; <i>Liver:Other changes</i>;</p> <p><b>Multi-dose Toxicity:</b> Ingestion/Oral-Rat TDLo • 43.75 mg/kg 1 Week(s)-Continuous; <i>Blood:Other changes</i>; <i>Kidney, Ureter, and Bladder:Other changes in urine composition</i>; <i>Biochemical:Metabolism (intermediary):Porphyrin, including bile pigments</i>; Inhalation-Human TCLo • 0.011 mg/m<sup>3</sup> 26 Week(s)-Intermittent; <i>Brain and Coverings:Other degenerative changes</i>; Inhalation-Man TCLo • 0.03 mg/m<sup>3</sup> 5 Year(s)-Intermittent; <i>Endocrine:Androgenic</i>;</p> <p><b>Mutagen:</b> Cytogenetic analysis • Ingestion/Oral-Monkey • 42 mg/kg 30 Week(s); Cytogenetic analysis • Inhalation-Rat • 23 µg/m<sup>3</sup> 16 Week(s);</p> <p><b>Reproductive:</b> Ingestion/Oral-Rat TDLo • 790 mg/kg (multigenerations); <i>Reproductive Effects:Effects on Embryo or Fetus:Fetotoxicity (except death, e.g., stunted fetus)</i>; <i>Reproductive Effects:Effects on Embryo or Fetus:Fetal death</i>; Inhalation-Rat TCLo • 10 mg/m<sup>3</sup> 24 Hour(s)(1-21D preg); <i>Reproductive Effects:Effects on Embryo or Fetus:Fetotoxicity (except death, e.g., stunted fetus)</i>; <i>Reproductive Effects:Specific Developmental Abnormalities:Blood and lymphatic system</i></p>
Zinc powder, stabilized (10% TO 15%)	7440-66-6	<p><b>Irritation:</b> Skin-Human • 300 µg 3 Day(s)-Intermittent • Mild irritation;</p> <p><b>Tumorigen / Carcinogen:</b> Ingestion/Oral-Mouse TDLo • 12.6 mg/kg 46 Week(s)-Continuous; <i>Tumorigenic:Carcinogenic by RTECS criteria</i>; <i>Gastrointestinal:Tumors</i>; <i>Tumorigenic:Facilitates action of known carcinogen</i></p>
Copper oxide (1% TO 5%)	1317-38-0	<p><b>Acute Toxicity:</b> Ingestion/Oral-Rat LD50 • 470 mg/kg;</p> <p><b>Multi-dose Toxicity:</b> Ingestion/Oral-Woman TDLo • 0.7 mg/kg 7 Day(s)-Continuous; <i>Gastrointestinal:Hypermotility, diarrhea</i>; <i>Gastrointestinal:Nausea or vomiting</i>; <i>Gastrointestinal:Other changes</i></p>
Zinc O,O-bis(mixed iso-butyl and pentyl) phosphorodithioate (0.714%)	68457-79-4	<p><b>Acute Toxicity:</b> Ingestion/Oral-Rat LD50 • 3.6 g/kg; <i>Behavioral:Somnolence (general depressed activity)</i>; <i>Lungs, Thorax, or Respiration:Other changes</i>; <i>Gastrointestinal:Hypermotility, diarrhea</i></p> <p><b>Acute Toxicity:</b> Inhalation-Human TCLo • 16 mppcf 8 Hour(s) 17.9 Year(s)-Intermittent; <i>Lungs, Thorax, or Respiration:Fibrosis, focal (pneumoconiosis)</i>; <i>Lungs, Thorax, or Respiration:Cough</i>; <i>Lungs, Thorax, or Respiration:Dyspnea</i>; Inhalation-Rat TCLo • 200 mg/kg; <i>Lungs, Thorax, or Respiration:Fibrosis, focal (pneumoconiosis)</i>; <i>Lungs, Thorax, or Respiration:Other changes</i>; <i>Nutritional and Gross Metabolic:Changes in Chemistry or Temperature:Fe</i>;</p>

Crystalline silica (0% TO 39.285%)	14808-60-7	<p><b>Multi-dose Toxicity:</b> Inhalation-Hamster TCLo • 3 mg/m<sup>3</sup> 6 Hour(s) 78 Week(s)-Intermittent; <i>Lungs, Thorax, or Respiration:</i><b>Fibrosis (interstitial); Lungs, Thorax, or Respiration:Changes in lung weight;</b> Inhalation-Rat TCLo • 6.2 mg/m<sup>3</sup> 6 Hour(s) 6 Week(s)-Intermittent; <i>Lungs, Thorax, or Respiration:</i><b>Other changes; Blood:Changes in spleen; Immunological Including Allergic:Increase in cellular immune response;</b> Inhalation-Rat TCLo • 80 mg/m<sup>3</sup> 26 Week(s)-Intermittent; <i>Lungs, Thorax, or Respiration:</i><b>Fibrosis, focal (pneumoconiosis); Blood:Changes in spleen; Immunological Including Allergic:Decrease in cellular immune response;</b></p> <p><b>Mutagen:</b> Micronucleus test • Unreported Route-Hamster • Lung (Somatic cell) • 160 µg/cm<sup>3</sup>; DNA damage • Unreported Route-Human • Other Cell Type • 120 mg/L 24 Hour(s); Micronucleus test • Unreported Route-Human • Lung (Somatic cell) • 40 µg/cm<sup>3</sup>;</p> <p><b>Tumorigen / Carcinogen:</b> Inhalation-Rat TCLo • 50 mg/m<sup>3</sup> 6 Hour(s) 71 Week(s)-Intermittent; <i>Tumorigenic:</i><b>Carcinogenic by RTECS criteria; Liver:Tumors</b></p> <p><b>Acute Toxicity:</b> Ingestion/Oral-Rat LD50 • &gt;5000 mg/kg; <i>Gastrointestinal:</i><b>Hypermotility, diarrhea;</b> Inhalation-Rat LC50 • &gt;94.4 mg/m<sup>3</sup>;</p> <p><b>Multi-dose Toxicity:</b> Inhalation-Rat TCLo • 100 mg/m<sup>3</sup> 6 Hour(s) 14 Week(s)-Intermittent; <i>Sense Organs and Special Senses:</i><b>Olfaction:Tumors; Behavioral:Food intake (animal); Nutritional and Gross Metabolic:Gross Metabolite Changes:Weight loss or decreased weight gain;</b> Inhalation-Human TDLo • &lt;10 mg/m<sup>3</sup> 5.5 Year(s)-Intermittent; <i>Sense Organs and Special Senses:</i><b>Eye:Conjunctive irritation; Lungs, Thorax, or Respiration:Cough; Gastrointestinal:Changes in structure or function of salivary glands;</b></p> <p><b>Mutagen:</b> DNA adduct • Skin-Mouse • 600 mg/kg;</p> <p><b>Tumorigen / Carcinogen:</b> Skin-Mouse TDLo • 130 g/kg 81 Week(s)-Intermittent; <i>Tumorigenic:</i><b>Carcinogenic by RTECS criteria; Lungs, Thorax, or Respiration:Tumors; Skin and Appendages:Other:Tumors</b></p>
Asphalt (0% TO 39.285%)	8052-42-4	

GHS Properties	Classification
Acute toxicity	<p><b>EU/CLP</b>•Data lacking  <b>UN GHS 4</b>•Data lacking  <b>OSHA HCS 2012</b>•Data lacking  <b>WHMIS 2015</b>•Data lacking</p>
Skin corrosion/Irritation	<p><b>EU/CLP</b>•Data lacking  <b>UN GHS 4</b>•Skin Mild Irritation 3  <b>OSHA HCS 2012</b>•Data lacking  <b>WHMIS 2015</b>•Data lacking</p>
Serious eye damage/Irritation	<p><b>EU/CLP</b>•Data lacking  <b>UN GHS 4</b>•Data lacking  <b>OSHA HCS 2012</b>•Data lacking  <b>WHMIS 2015</b>•Data lacking</p>
Skin sensitization	<p><b>EU/CLP</b>•Data lacking  <b>UN GHS 4</b>•Data lacking  <b>OSHA HCS 2012</b>•Data lacking  <b>WHMIS 2015</b>•Data lacking</p>
Respiratory sensitization	<p><b>EU/CLP</b>•Data lacking  <b>UN GHS 4</b>•Data lacking  <b>OSHA HCS 2012</b>•Data lacking  <b>WHMIS 2015</b>•Data lacking</p>
Aspiration Hazard	<p><b>EU/CLP</b>•Data lacking  <b>UN GHS 4</b>•Data lacking  <b>OSHA HCS 2012</b>•Data lacking  <b>WHMIS 2015</b>•Data lacking</p>
Carcinogenicity	<p><b>EU/CLP</b>•Carcinogenicity 2; Suspected of causing cancer  <b>UN GHS 4</b>•Carcinogenicity 2  <b>OSHA HCS 2012</b>•Carcinogenicity 2  <b>WHMIS 2015</b>•Carcinogenicity 2</p>
Germ Cell Mutagenicity	<p><b>EU/CLP</b>•Data lacking  <b>UN GHS 4</b>•Data lacking  <b>OSHA HCS 2012</b>•Data lacking  <b>WHMIS 2015</b>•Data lacking</p>
	<b>EU/CLP</b> •Effects on or via lactation; Toxic to Reproduction 1A





## Section 14 - Transport Information

**14.1 UN  
number**

**14.2 UN proper shipping name**

**14.3 Transport  
hazard class(es)**

**14.4  
Packing  
group**

**14.5 Environmental  
hazards**

Component	CAS	Inventory (Con't.)		Japan ENCS	TSCA
		EU ELNICS			
Asphalt	8052-42-4	No	No		Yes
Copper oxide	1317-38-0	No	Yes		Yes
Crystalline silica	14808-60-7	No	Yes		Yes
Lead, powder	7439-92-1	No	Yes		Yes
Zinc O,O-bis(mixed iso-butyl and pentyl) phosphorodithioate	68457-79-4	No	Yes		Yes
Zinc powder, stabilized	7440-66-6	No	No		Yes

## United States - California

### Environment

#### U.S. - California - Proposition 65 - Carcinogens List

•Copper oxide	1317-38-0	Not Listed
•Lead, powder	7439-92-1	carcinogen, 10/1/1992
•Asphalt	8052-42-4	Not Listed
•Zinc powder, stabilized	7440-66-6	Not Listed
•Zinc O,O-bis(mixed iso-butyl and pentyl) phosphorodithioate	68457-79-4	Not Listed
•Crystalline silica	14808-60-7	Not Listed

#### U.S. - California - Proposition 65 - Developmental Toxicity

•Copper oxide	1317-38-0	Not Listed
•Lead, powder	7439-92-1	developmental toxicity, 2/27/1987
•Asphalt	8052-42-4	Not Listed
•Zinc powder, stabilized	7440-66-6	Not Listed
•Zinc O,O-bis(mixed iso-butyl and pentyl) phosphorodithioate	68457-79-4	Not Listed
•Crystalline silica	14808-60-7	Not Listed

#### U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

•Copper oxide	1317-38-0	Not Listed
•Lead, powder	7439-92-1	0.5 µg/day MADL
•Asphalt	8052-42-4	Not Listed
•Zinc powder, stabilized	7440-66-6	Not Listed
•Zinc O,O-bis(mixed iso-butyl and pentyl) phosphorodithioate	68457-79-4	Not Listed
•Crystalline silica	14808-60-7	Not Listed

#### U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

•Copper oxide	1317-38-0	Not Listed
•Lead, powder	7439-92-1	15 µg/day NSRL (oral)
•Asphalt	8052-42-4	Not Listed
•Zinc powder, stabilized	7440-66-6	Not Listed
•Zinc O,O-bis(mixed iso-butyl and pentyl) phosphorodithioate	68457-79-4	Not Listed
•Crystalline silica	14808-60-7	Not Listed

#### U.S. - California - Proposition 65 - Reproductive Toxicity - Female

•Copper oxide	1317-38-0	Not Listed
•Lead, powder	7439-92-1	female reproductive toxicity 2/27/87
•Asphalt	8052-42-4	Not Listed
•Zinc powder, stabilized	7440-66-6	Not Listed
•Zinc O,O-bis(mixed iso-butyl and pentyl) phosphorodithioate	68457-79-4	Not Listed
•Crystalline silica	14808-60-7	Not Listed

#### U.S. - California - Proposition 65 - Reproductive Toxicity - Male

•Copper oxide	1317-38-0	Not Listed
•Lead, powder	7439-92-1	male reproductive toxicity, 2/27/87
•Asphalt	8052-42-4	Not Listed
•Zinc powder, stabilized	7440-66-6	Not Listed
•Zinc O,O-bis(mixed iso-butyl and pentyl) phosphorodithioate	68457-79-4	Not Listed
•Crystalline silica	14808-60-7	Not Listed

## 15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

## 15.3 Other Information

- **WARNING:** This product contains a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

## Section 16 - Other Information

### Relevant Phrases (code & full text)

- H350i - May cause cancer by inhalation.
- H372 - Causes damage to organs through prolonged or repeated exposure.
- H400 - Very toxic to aquatic life
- H410 - Very toxic to aquatic life with long lasting effects

### Revision Date

- 05/September/2017

### Last Revision Date

- 05/September/2017

### Preparation Date

- 05/September/2017

### Disclaimer/Statement of Liability

- 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.

### Key to abbreviations

NDA = No Data Available