Safety Data Sheet

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

1.1 Product identifier

Product Name • **Thermal-Kote**

Synonyms • Thread Compound, Sealant, Anti-Seize, Lubricant

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

Relevant identified use(s) • Anti-Seize, Lubricant, and Sealant

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
msds@topcooilsite.com

Telephone (General) • 403-219-0255

1.4 Emergency telephone number

Manufacturer

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

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 • Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation - H335
Reproductive Toxicity 1B - H360D
Specific Target Organ Toxicity Single Exposure 1 - H370
Specific Target Organ Toxicity Repeated Exposure 2 - H373
Hazardous to the aquatic environment Acute 1 - H400
Hazardous to the aquatic environment Chronic 1 - H410

2.2 Label Elements

CLP

DANGER

Hazard statements

- H335 - May cause respiratory irritation
  H360D - May damage the unborn child.
  H370 - Causes damage to organs.
  H373 - May cause damage to organs through prolonged or repeated exposure.
  H400 - Very toxic to aquatic life
  H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements

Response

- P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  P312 - Call a POISON CENTER/doctor if you feel unwell.
  P308+P311 - IF exposed or concerned: Call a POISON CENTER or doctor/physician.
  P321 - Specific treatment, see supplemental first aid information.
  P308+P313 - IF exposed or concerned: Get medical advice/attention.
  P314 - Get medical advice/attention if you feel unwell.
  P391 - Collect spillage.

Storage/Disposal

- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
  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

- Acute Toxicity Oral 4
  Skin Mild Irritation 3
  Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
  Reproductive Toxicity 1B
  Specific Target Organ Toxicity Single Exposure 1
  Specific Target Organ Toxicity Repeated Exposure 2
  Hazardous to the aquatic environment Acute 1
  Hazardous to the aquatic environment Chronic 1

2.2 Label elements

UN GHS

DANGER

Hazard statements
- Harmful if swallowed
- Causes mild skin irritation
- May cause respiratory irritation
- May damage fertility or the unborn child.
- Causes damage to organs.
- May cause damage to organs through prolonged or repeated exposure.
- Very 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.
- Use only outdoors or in a well-ventilated area.
- Avoid release to the environment.
- Wear protective gloves/protective clothing/eye protection/face protection.

Response
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- IF exposed or concerned: Call a POISON CENTER or doctor/physician.
- If skin irritation occurs: Get medical advice/attention.
- IF exposed or concerned: Call a POISON CENTER/doctor.
- Specific treatment, see supplemental first aid information.
- IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
- Rinse mouth.
- IF exposed or concerned: Get medical advice/attention.
- Get medical advice/attention if you feel unwell.
- Collect spillage.

Storage/Disposal
- Store in a well-ventilated place. Keep container tightly closed.
- Store locked up.
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Supplemental information
- 35.65 - 51.5 percent of this product consists of an ingredient of unknown toxicity.

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

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United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012

- Acute Toxicity Oral 4
  Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
  Reproductive Toxicity 1B
  Specific Target Organ Toxicity Single Exposure 1
  Specific Target Organ Toxicity Repeated Exposure 2
  Hazards Not Otherwise Classified - Health Hazards - Metal fume fever

2.2 Label elements

OSHA HCS 2012

DANGER

Hazard statements

- Harmful if swallowed
  May cause respiratory irritation
  May damage fertility or the unborn child.
  Causes damage to organs.
  May cause 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.
  Use only outdoors or in a well-ventilated area.
  Wear protective gloves/protective clothing/eye protection/face protection.

Response

- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  Call a POISON CENTER/doctor if you feel unwell.
  IF exposed: Call POISON CENTER or doctor/physician.
  Specific treatment, see supplemental first aid information.
  IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician if you feel unwell.
  Rinse mouth.
  IF exposed or concerned: Get medical advice/attention.
  Get medical advice/attention if you feel unwell.

Storage/Disposal

- Store in a well-ventilated place. Keep container tightly closed.
  Store locked up.
  Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Supplemental information

- 35.65 - 51.5 percent of this product consists of an ingredient of unknown toxicity.

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.

Canada
According to: WHMIS 2015

2.1 Classification of the substance or mixture

WHMIS 2015

- Acute Toxicity Oral 4
  Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
  Reproductive Toxicity 1B
  Specific Target Organ Toxicity Single Exposure 1
  Specific Target Organ Toxicity Repeated Exposure 2
  Health Hazards Not Otherwise Classified 1

2.2 Label elements

WHMIS 2015

DANGER

Hazard statements

- Harmful if swallowed
  May cause respiratory irritation
  May damage fertility or the unborn child.
  Causes damage to organs.
  May cause damage to organs through prolonged or repeated exposure.
  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.

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.
  Use only outdoors or in a well-ventilated area.
  Wear protective gloves/protective clothing/eye protection/face protection.

Response

- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  Call a POISON CENTER/doctor if you feel unwell.
  IF exposed or concerned: Call a POISON CENTER/doctor.
  Specific treatment, see supplemental first aid information.
  IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
  Rinse mouth.
  IF exposed or concerned: Get medical advice/attention.
  Get medical advice/attention if you feel unwell.

Storage/Disposal

- Store in a well-ventilated place. Keep container tightly closed.
  Store locked up.
  Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Supplemental information

- 35.65 - 51.5 percent of this product consists of an ingredient of unknown toxicity.

2.3 Other hazards

WHMIS 2015

- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance.

3.2 Mixtures

Composition					
Chemical Name	**Identifiers**	**%**	**LD50/LC50**	**Classifications According to Regulation/Directive**	**Comments**
Copper	**CAS:**7440-50-8 **EC Number:**231-159-6	28% TO 36%	NDA	**EU CLP:** Repr. 1B, H360D (Orl); STOT SE 1, H370 (Kidney/Orl); STOT SE 3: Resp. Irrit., H335; STOT RE 2, H373 (Liver/Orl); Aquatic Acute 1, H400 (M=100); Aquatic Chronic 1, H410 (M=10) **UN GHS Revision 4:** Repr. 1B (Orl); STOT SE 1 (Kidney/Orl); STOT SE 3: Resp. Irrit.; STOT RE 2 (Liver/Orl); Aquatic Acute 1 (M=100); Aquatic Chronic 1 (M=10) **OSHA HCS 2012:** Comb. Dust; Repr. 1B (Orl); STOT SE 1 (Kidney/Orl); STOT SE 3: Resp. Irrit.; STOT RE 2 (Liver/Orl); Hazard Not Otherwise Classified - Health Hazard - Metal Fume Fever **WHMIS 2015:** Comb. Dust; Repr. 1B (Orl); STOT SE 1 (Kidney/Orl); STOT SE 3: Resp. Irrit.; STOT RE 2 (Liver/Orl); Hazard Not Otherwise Classified - Health Hazard - Metal Fume Fever	NDA
Mineral oil, petroleum distillates, solvent-refined (mild) heavy paraffinic	**CAS:**64741-88-4 **EC Number:**265-090-8 **EU Index:**649-454-00-7	10.5% TO 16%	Ingestion/Oral-Rat LD50 • >5000 mg/kg Skin-Rabbit LD50 • >2000 mg/kg	**EU CLP:** Annex VI, Table 3.1: Carc. 1B, H350 **UN GHS Revision 4:** Skin Irrit. 3; Asp. Tox. 2 **OSHA HCS 2012:** Not Classified **WHMIS 2015:** Not Classified	NDA
Copper oxide	**CAS:**1317-38-0 **EU Index:**029-016-00-6 **EINECS:**215-269-1	10% TO 15%	Ingestion/Oral-Rat LD50 • 470 mg/kg	**EU CLP:** Annex VI, Table 3.1: Aquatic Acute 1, H400; Aquatic Chronic 1, H410 **UN GHS Revision 4:** Acute Tox. 4 (Orl); Aquatic Acute 1 (M=10); Aquatic Chronic 1 (M=1) **OSHA HCS 2012:** Acute Tox. 4 (Orl); Hazard Not Otherwise Classified - Health Hazard - Metal Fume Fever **WHMIS 2015:** Acute Tox. 4 (Orl);	NDA

				Hazard Not Otherwise Classified - Health Hazard - Metal Fume Fever	
Graphite	**CAS:**7782-42-5 **EC Number:**231-955-3	2% TO 7%	NDA	**EU CLP:** STOT RE 1 (Lungs / Inhl), H372 **UN GHS Revision 4:** STOT RE 1 (Lungs / Inhl) **OSHA HCS 2012:** Comb. Dust; STOT RE 1 (Lungs / Inhl) **WHMIS 2015:** Comb. Dust; STOT RE 1 (Lungs / Inhl)	NDA
1-Decene, homopolymer, hydrogenated	**CAS:**68037-01-4 **EC Number:**500-183-1	4.95% TO 5%	Inhalation-Rat LC50 • >2500 mg/m³ 4 Hour(s)	**EU CLP:** Not Classified **UN GHS Revision 4:** Not Classified **OSHA HCS 2012:** Not Classified **WHMIS 2015:** Not Classified	NDA
Calcium monocarbonate	**CAS:**471-34-1 **EC Number:**207-439-9	4.8%	Ingestion/Oral-Rat LD50 • 6450 mg/kg	**EU CLP:** Skin Irrit. 2, H315; Eye Irrit. 2, H319 **UN GHS Revision 4:** Skin Irrit. 2; Eye Irrit. 2 **OSHA HCS 2012:** Skin Irrit. 2; Eye Irrit. 2 **WHMIS 2015:** Skin Irrit. 2; Eye Irrit. 2	NDA
Sulfonic acid, petroleum, calcium salt	**CAS:**61789-86-4 **EINECS:**263-093-9	0.45% TO 2.25%	NDA	**EU CLP:** Not Classified **UN GHS Revision 4:** Not Classified **OSHA HCS 2012:** Not Classified **WHMIS 2015:** Not Classified	NDA
Molybdenum sulfide	**CAS:**1317-33-5 **EC Number:**215-263-9	0.35% TO 1.75%	Inhalation-Rat LC50 • >2820 mg/m³ 4 Hour(s)	**EU CLP:** Not Classified **UN GHS Revision 4:** Not Classified **OSHA HCS 2012:** Not Classified **WHMIS 2015:** Not Classified	NDA
Calcium alkylbenzene sulfonate	**CAS:**70024-69-0 **EINECS:**274-263-7	0.35% TO 1.75%	NDA	**EU CLP:** Not Classified **UN GHS Revision 4:** Not Classified **OSHA HCS 2012:** Not Classified **WHMIS 2015:** Not Classified	NDA
Benzenesulfonic acid, dodecyl-, calcium salt	**CAS:**26264-06-2 **EINECS:**247-557-8	0.45% TO 1.55%	Ingestion/Oral-Rat LD50 • 1300 mg/kg	**EU CLP:** Acute Tox. 4, H302 **UN GHS Revision 4:** Acute Tox. 4 (Orl); Aquatic Acute 2 **OSHA HCS 2012:** Acute Tox. 4 (Orl) **WHMIS 2015:** Acute Tox. 4 (Orl)	NDA
Alkylated Diphenylamine	**CAS:**36878-20-3 **EINECS:**253-249-4	0.35% TO 0.875%	NDA	**EU CLP:** Not Classified **UN GHS Revision 4:** Not Classified **OSHA HCS 2012:** Not Classified **WHMIS 2015:** Not Classified	NDA
Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	**CAS:**68584-23-6 **EINECS:**271-529-4	0.1% TO 0.5%	NDA	**EU CLP:** Not Classified **UN GHS Revision 4:** Not Classified **OSHA HCS 2012:** Not Classified **WHMIS 2015:** Not Classified	NDA

See Section 16 for full text of H-statements.

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.

Eye • In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. Get medical attention if symptoms occur.

Ingestion • Obtain medical attention immediately if ingested.

4.2 Most important symptoms and effects, both acute and delayed

• Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician • All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media • In case of fire use media as appropriate for surrounding fire.

Unsuitable Extinguishing Media • No data available

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards • The product itself does not burn.

Hazardous Combustion Products • No data available

5.3 Advice for firefighters

• Structural firefighters' protective clothing will only provide limited protection.
Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions • Ventilate the area. Do not walk through spilled material. Wear appropriate personal protective equipment, avoid direct contact.

Emergency Procedures • Keep unauthorized personnel away. Stay upwind.

6.2 Environmental precautions

• Avoid run off to waterways and sewers.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures • Carefully shovel or sweep up spilled material and place in suitable container.

6.4 Reference to other sections

• Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

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. 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.

7.2 Conditions for safe storage, including any incompatibilities

Storage • Keep container tightly closed. Store in a cool, dry, well-ventilated place.

7.3 Specific end use(s)

• Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines						
	Result	**ACGIH**	**Argentina**	**Australia**	**Canada Alberta**	**Canada British Columbia**
Graphite	TWAs	2 mg/m3 TWA (all forms except graphite fibers, respirable particulate matter)	2 mg/m3 TWA [CMP] (all forms except fibers, respirable fraction)	3 mg/m3 TWA (containing no asbestos and <1% crystalline silica; all forms except fibres; natural and synthetic, respirable dust)	2 mg/m3 TWA (all forms except Graphite fibres, respirable)	2 mg/m3 TWA (all forms except Graphite fibres, respirable)
Calcium monocarbonate (471-34-1)	TWAs	Not established	Not established	10 mg/m3 TWA (containing no asbestos and <1% crystalline silica, inhalable dust)	10 mg/m3 TWA	Not established
Copper oxide	TWAs	1 mg/m3 TWA (dust and mist, as Cu) *as Copper compounds*	Not established	Not established	Not established	Not established
Copper (7440-50-8)	TWAs	0.2 mg/m3 TWA (fume)	0.2 mg/m3 TWA [CMP] (fume); 1 mg/m3 TWA [CMP] (dust and mist)	1 mg/m3 TWA (dust and mist); 0.2 mg/m3 TWA (fume)	0.2 mg/m3 TWA (fume); 1 mg/m3 TWA (dust and mist)	1 mg/m3 TWA (dust and mist); 0.2 mg/m3 TWA (fume)

Exposure Limits/Guidelines (Con't.)						
	Result	**Canada Manitoba**	**Canada New Brunswick**	**Canada Northwest Territories**	**Canada Nova Scotia**	**Canada Nunavut**
Graphite	TWAs	2 mg/m3 TWA (all forms except Graphite fibers, respirable particulate matter)	2 mg/m3 TWA (all forms except graphite fibres)	2 mg/m3 TWA (natural, all forms, except Graphite fibres, respirable fraction)	2 mg/m3 TWA (all forms except Graphite fibers, respirable particulate matter)	2 mg/m3 TWA (natural, all forms, except Graphite fibres, respirable fraction)
	STELs	Not established	Not established	4 mg/m3 STEL (natural, all forms, except Graphite fibres, respirable fraction)	Not established	4 mg/m3 STEL (natural, all forms, except Graphite fibres, respirable fraction)

Calcium monocarbonate (471-34-1)	STELs	Not established	Not established	20 mg/m3 STEL (listed under Limestone)	Not established	20 mg/m3 STEL (listed under Limestone)
	TWAs	Not established	Not established	10 mg/m3 TWA (listed under Limestone)	Not established	10 mg/m3 TWA (listed under Limestone)
Copper oxide	TWAs	1 mg/m3 TWA (dust and mist, as Cu) *as Copper compounds*	Not established	Not established	1 mg/m3 TWA (dust and mist, as Cu) *as Copper compounds*	Not established
Copper (7440-50-8)	TWAs	0.2 mg/m3 TWA (fume)	0.2 mg/m3 TWA (fume); 1 mg/m3 TWA (dust and mist)	0.2 mg/m3 TWA (fume); 1 mg/m3 TWA (dust and mist)	0.2 mg/m3 TWA (fume)	0.2 mg/m3 TWA (fume); 1 mg/m3 TWA (dust and mist)
	STELs	Not established	Not established	3 mg/m3 STEL (dust and mist); 0.6 mg/m3 STEL (fume)	Not established	3 mg/m3 STEL (dust and mist); 0.6 mg/m3 STEL (fume)

Exposure Limits/Guidelines (Con't.)

	Result	Canada Ontario	Canada Quebec	Canada Saskatchewan	Canada Yukon	China
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)
Calcium monocarbonate (471-34-1)	TWAs	Not established	10 mg/m3 TWAEV (total dust)	10 mg/m3 TWA (listed under Limestone)	30 mppcf TWA; 10 mg/m3 TWA	Not established
	STELs	Not established	Not established	20 mg/m3 STEL (listed under Limestone)	20 mg/m3 STEL	Not established
Copper (7440-50-8)	STELs	Not established	Not established	0.6 mg/m3 STEL (fume); 3 mg/m3 STEL (dust and mist)	0.2 mg/m3 STEL (fume); 2 mg/m3 STEL (dust and mist)	2.5 mg/m3 STEL (dust); 0.6 mg/m3 STEL (fume)
	TWAs	0.2 mg/m3 TWA (fume); 1 mg/m3 TWA (dust and mist)	0.2 mg/m3 TWAEV (fume); 1 mg/m3 TWAEV (dust and mist)	0.2 mg/m3 TWA (fume); 1 mg/m3 TWA (dust and mist)	0.2 mg/m3 TWA (fume); 1 mg/m3 TWA (dust and mist)	1 mg/m3 TWA (dust); 0.2 mg/m3 TWA (fume)

Exposure Limits/Guidelines (Con't.)

	Result	France	Germany DFG	Germany TRGS	India	Indonesia
Sulfonic acid, petroleum, calcium salt (61789-86-4)	TWAs	Not established	Not established	5 mg/m3 TWA AGW (respirable fraction, exposure factor 4)	Not established	Not established
	Ceilings	Not established	20 mg/m3 Peak (respirable fraction)	Not established	Not established	Not established

	MAKs	Not established	5 mg/m3 TWA MAK (respirable fraction)	Not established	Not established	Not established
Graphite (7782-42-5)	TWAs	2 mg/m3 TWA [VME] (alveolar fraction)	Not established	Not established	Not established	2 mg/m3 TWA
	MAKs	Not established	1.5 mg/m3 TWA MAK (respirable fraction); 4 mg/m3 TWA MAK (inhalable fraction)	Not established	Not established	Not established
Calcium monocarbonate (471-34-1)	TWAs	10 mg/m3 TWA [VME]	Not established	Not established	Not established	Not established
Copper (7440-50-8)	TWAs	0.2 mg/m3 TWA [VME] (fume); 1 mg/m3 TWA [VME] (dust, as Cu)	Not established	Not established	0.2 mg/m3 TWA (fume)	0.2 mg/m3 TWA (fume); 1 mg/m3 TWA (dust and mist)
	STELs	2 mg/m3 STEL [VLCT] (dust, as Cu)	Not established	Not established	Not established	Not established
	Ceilings	Not established	0.02 mg/m3 Peak (respirable fraction)	Not established	Not established	Not established
	MAKs	Not established	0.01 mg/m3 TWA MAK (including inorganic copper compounds, respirable fraction)	Not established	Not established	Not established

Exposure Limits/Guidelines (Con't.)

	Result	Israel	Japan	Malaysia	Mexico	Netherlands
Graphite (7782-42-5)	TWAs	2 mg/m3 TWA (respirable fraction, all forms except graphite fibers)	2 mg/m3 OEL (Class 1 Dust, total dust); 0.5 mg/m3 OEL (Class 1 Dust, respirable dust)	2 mg/m3 TWA (all forms except Graphite fibres, respirable fraction)	2 mg/m3 TWA VLE-PPT (synthetic and natural)	Not established
Copper oxide	TWAs	1 mg/m3 TWA (dust and mist, as Cu) *as Copper compounds*	Not established	Not established	Not established	Not established
Copper (7440-50-8)	STELs	Not established	Not established	Not established	2 mg/m3 STEL [PPT-CT] (fume, as Cu); 2 mg/m3 STEL [PPT-CT] (dust and mist, as Cu)	Not established
	TWAs	0.2 mg/m3 TWA (fume)	Not established	0.2 mg/m3 TWA (fume); 1 mg/m3 TWA (dust and mist)	0.2 mg/m3 TWA VLE-PPT (fume, as Cu); 1 mg/m3 TWA VLE-PPT (dust and mist, as Cu)	0.1 mg/m3 TWA (inhalable fraction)

Exposure Limits/Guidelines (Con't.)

	Result	NIOSH	OSHA	OSHA Vacated	Portugal	Russia

Graphite	TWAs	2.5 mg/m3 TWA (natural, respirable dust)	15 mg/m3 TWA (synthetic, total dust); 5 mg/m3 TWA (synthetic, respirable fraction)	2.5 mg/m3 TWA (natural, respirable dust); 10 mg/m3 TWA (synthetic, total dust); 5 mg/m3 TWA (synthetic, respirable fraction)	2 mg/m3 TWA [VLE-MP] (all forms except Graphite fibers, respirable fraction)	Not established
Calcium monocarbonate (471-34-1)	TWAs	10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)	Not established	Not established	10 mg/m3 TWA [VLE-MP] (particulate matter containing no Asbestos and <1% Crystalline silica)	Not established
Copper oxide	TWAs	0.1 mg/m3 TWA (fume, as Cu)	Not established	Not established	Not established	Not established
Copper (7440-50-8)	TWAs	1 mg/m3 TWA (dust and mist); 0.1 mg/m3 TWA (fume)	0.1 mg/m3 TWA (fume); 1 mg/m3 TWA (dust and mist)	0.1 mg/m3 TWA (dust, fume, mist, as Cu)	0.2 mg/m3 TWA [VLE-MP] (fume); 1 mg/m3 TWA [VLE-MP] (dust and mist, as Cu)	0.5 mg/m3 TWA (aerosol)
	STELs	Not established	Not established	Not established	Not established	1 mg/m3 STEL (aerosol)

Exposure Limits/Guidelines (Con't.)

	Result	Singapore	United Kingdom	United States - California	Venezuela
Graphite (7782-42-5)	TWAs	2 mg/m3 PEL (respirable dust)	10 mg/m3 TWA (inhalable dust); 4 mg/m3 TWA (respirable dust)	2.5 mg/m3 PEL (natural, respirable dust); 10 mg/m3 PEL (synthetic total dust); 5 mg/m3 PEL (synthetic respirable fraction)	2 mg/m3 TWA [VTRE-L-8/40 (dust)
	STELs	Not established	30 mg/m3 STEL (calculated, inhalable dust); 12 mg/m3 STEL (calculated, respirable dust)	Not established	Not established
Calcium monocarbonate (471-34-1)	TWAs	Not established	Not established	5 mg/m3 PEL (respirable fraction, listed under Particulates not otherwise regulated); 10 mg/m3 PEL (total dust, listed under Particulates not otherwise regulated)	10 mg/m3 TWA [VTRE-L-8/40
Copper (7440-50-8)	TWAs	0.2 mg/m3 PEL (fume); 1 mg/m3 PEL (dust and mist)	1 mg/m3 TWA (dust and mists); 0.2 mg/m3 TWA (fume)	0.1 mg/m3 PEL (fume); 1 mg/m3 PEL (dust and mist)	0.2 mg/m3 TWA [VTRE-L-8/40 (fume); 1 mg/m3 TWA [VTRE-L-8/40 (dust and mist)
	STELs	Not established	0.6 mg/m3 STEL (calculated, fume); 2 mg/m3 STEL (dust and mist)	Not established	Not established

Exposure Control Notations

Japan

•Copper (7440-50-8): **Sensitizers:** (Group 2 skin sensitizer)

•Copper as Copper compounds: **Sensitizers:** (Group 2 skin sensitizer (Evaluation does not necessarily apply to all individuals within the group))

•Copper oxide as Copper compounds: **Sensitizers:** (Group 2 skin sensitizer (Evaluation does not necessarily apply to all individuals within the group))

Egypt

•Graphite (7782-42-5): **Nuisance Dusts:** (10 mg/m3 TWA (synthetic, containing <1% Quartz, total dust); 30 mppcf TWA (synthetic, containing <1% Quartz, total dust); 3 mg/m3 TWA (synthetic, containing <1% Quartz, total dust))

•Calcium monocarbonate (471-34-1): **Nuisance Dusts:** (10 mg/m3 TWA (containing <1% Quartz, total dust); 30 mppcf TWA (containing <1% Quartz, total dust); 3 mg/m3 TWA (containing <1% Quartz, inhalable dust))

Germany DFG

•Copper (7440-50-8): **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to)

•Graphite (7782-42-5): **Pregnancy:** (no risk to embryo/fetus if exposure limits adhered to (inhalable fraction; respirable fraction))

•Sulfonic acid, petroleum, calcium salt (61789-86-4): **Pregnancy:** (classification not yet possible (respirable fraction))

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/m3 TWA (total dust); 50 mppcf TWA (total dust); 5 mg/m3 TWA (respirable dust))

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/m3 TWA (respirable fraction); 50 mppcf TWA (total dust); 15 mg/m3 TWA (total dust))

ACGIH

•Copper (7440-50-8): **TLV Basis - Critical Effects:** (metal fume fever (fume))

•Copper as Copper compounds: **TLV Basis - Critical Effects:** (gastrointestinal (dust and mist); irritation (dust and mist))

•Copper oxide as Copper compounds: **TLV Basis - Critical Effects:** (gastrointestinal (dust and mist); irritation (dust and mist))

•Graphite (7782-42-5): **TLV Basis - Critical Effects:** (pneumoconiosis (all forms except graphite fibers))

8.2 Exposure controls

Engineering Measures/Controls	• Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment

Respiratory	• In case of insufficient ventilation, wear suitable respiratory equipment.
Eye/Face	• Wear protective eyewear (goggles, face shield, or safety glasses).
Skin/Body	• Wear appropriate gloves. Wear long sleeves and/or protective coveralls.
Environmental Exposure Controls	• Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH	= American Conference of Governmental Industrial Hygiene	STEL	= Short Term Exposure Limits are based on 15-minute exposures
MAK	= Maximale Arbeitsplatz Konzentration is the maximum permissible concentration	TLV	= Threshold Limit Value determined by the American Conference of Governmental Industrial Hygienists (ACGIH)
NIOSH	= National Institute of Occupational Safety and Health	TWA	= Time-Weighted Averages are based on 8h/day, 40h/week exposures
OSHA	= Occupational Safety and Health Administration	TWAEV	= Time-Weighted Average Exposure Value

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	Data lacking
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	Data lacking	UEL	Data lacking
LEL	Data lacking	Autoignition	Data lacking
Flammability (solid, gas)	Data lacking		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- Keep away from heat, sparks and flame.

10.5 Incompatible materials

- Strong oxidizing agents.

10.6 Hazardous decomposition products

- Carbon Monoxide, Carbon Dioxide.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Components		
Copper (28% TO 36%)	7440-50-8	**Acute Toxicity:** Ingestion/Oral-Mouse TDLo • 108 mg/kg; *Behavioral*:**Tremor**; *Gastrointestinal*:**Hypermotility, diarrhea**; *Gastrointestinal*:**Nausea or vomiting**; Ingestion/Oral-Mouse TDLo • 158 mg/kg; *Kidney, Ureter, and Bladder*:**Changes in tubules (including acute renal failure, acute tubular**

		necrosis); Ingestion/Oral-Mouse TDLo • 232 mg/kg; *Kidney, Ureter, and Bladder*:**Changes primarily in glomeruli**; *Blood*:**Changes in spleen**; *Blood*:**Changes in serum composition (e.g., TP, bilirubin cholesterol)**; **Multi-dose Toxicity:** Ingestion/Oral-Rabbit TDLo • 3 g/kg 60 Day(s)-Continuous; *Cardiac*:**Other changes**; *Liver*:**Hepatitis (hepatocellular necrosis), zonal**; *Related to Chronic Data*:**Death in the Other Multiple Dose data type field**; **Reproductive:** Ingestion/Oral-Rat TDLo • 152 mg/kg (22W pre); *Reproductive Effects:Effects on Embryo or Fetus*:**Fetotoxicity (except death, e.g., stunted fetus)**; *Reproductive Effects:Specific Developmental Abnormalities*:**Central nervous system**; Ingestion/Oral-Rat TDLo • 1210 µg/kg (35W pre); *Reproductive Effects:Effects on Fertility*:**Pre-implantation mortality**; *Reproductive Effects:Effects on Fertility*:**Post-implantation mortality**; Ingestion/Oral-Rat TDLo • 1520 µg/kg (22W pre); *Reproductive Effects:Specific Developmental Abnormalities*:**Musculoskeletal system**; **Tumorigen / Carcinogen:** Ingestion/Oral-Mouse TDLo • 10.08 mg/kg 12 Week(s)-Continuous; *Tumorigenic*:**Carcinogenic by RTECS criteria**; *Lungs, Thorax, or Respiration*:**Other changes**
Copper oxide (10% TO 15%)	1317-38-0	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 470 mg/kg
Calcium monocarbonate (4.8%)	471-34-1	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 6450 mg/kg; **Irritation:** Eye-Rabbit • 750 µg 24 Hour(s) • Severe irritation; Skin-Rabbit • 500 mg 24 Hour(s) • Moderate irritation; **Multi-dose Toxicity:** Ingestion/Oral-Woman TDLo • 4.08 g/kg 30 Day(s)-Intermittent; *Vascular*:**BP elevation not characterized in autonomic section**; *Gastrointestinal*:**Changes in structure or function of endocrine pancreas**; *Biochemical:Metabolism (intermediary)*:**Effect on inflammation or mediation of inflammation**
Benzenesulfonic acid, dodecyl-, calcium salt (0.45% TO 1.55%)	26264-06-2	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • 1300 mg/kg
Sulfonic acid, petroleum, calcium salt (0.45% TO 2.25%)	61789-86-4	**Acute Toxicity:** Ingestion/Oral-Rat LD50 • >5 g/kg; *Gastrointestinal*:**Hypermotility, diarrhea**; Skin-Rabbit LD50 • >5 g/kg
Molybdenum sulfide (0.35% TO 1.75%)	1317-33-5	**Acute Toxicity:** Ingestion/Oral-Rat LDLo • >2 g/kg; *Skin and Appendages:Other*:**Hair**; Ingestion/Oral-Rat LDLo • 6 g/kg; *Behavioral*:**Food intake (animal)**; *Gastrointestinal*:**Hypermotility, diarrhea**; *Gastrointestinal*:**Nausea or vomiting**; Skin-Rat LDLo • >2 g/kg; *Skin and Appendages:After systemic exposure*:**Dermatitis, other**; *Nutritional and Gross Metabolic:Gross Metabolite Changes*:**Weight loss or decreased weight gain**
1-Decene, homopolymer, hydrogenated (4.95% TO 5%)	68037-01-4	**Acute Toxicity:** Inhalation-Rat LC50 • >2500 mg/m³ 4 Hour(s); *Lungs, Thorax, or Respiration*:**Other changes**

GHS Properties	Classification
Acute toxicity	**EU/CLP**•Data lacking **UN GHS 4**•Acute Toxicity - Oral 4 - ATEmix (oral) = 1465 mg/kg **OSHA HCS 2012**•Acute Toxicity - Oral 4 - ATEmix (oral) = 1465 mg/kg **WHMIS 2015**•Acute Toxicity - Oral 4 - ATEmix (oral) = 1465 mg/kg
Skin corrosion/Irritation	**EU/CLP**•Data lacking **UN GHS 4**•Skin Mild Irritation 3 **OSHA HCS 2012**•Data lacking **WHMIS 2015**•Data lacking
Serious eye damage/Irritation	**EU/CLP**•Data lacking **UN GHS 4**•Data lacking

	OSHA HCS 2012•Data lacking **WHMIS 2015**•Data lacking
Skin sensitization	**EU/CLP**•Data lacking **UN GHS 4**•Data lacking **OSHA HCS 2012**•Data lacking **WHMIS 2015**•Data lacking
Respiratory sensitization	**EU/CLP**•Data lacking **UN GHS 4**•Data lacking **OSHA HCS 2012**•Data lacking **WHMIS 2015**•Data lacking
Aspiration Hazard	**EU/CLP**•Data lacking **UN GHS 4**•Data lacking **OSHA HCS 2012**•Data lacking **WHMIS 2015**•Data lacking
Carcinogenicity	**EU/CLP**•Data lacking **UN GHS 4**•Data lacking **OSHA HCS 2012**•Data lacking **WHMIS 2015**•Data lacking
Germ Cell Mutagenicity	**EU/CLP**•Data lacking **UN GHS 4**•Data lacking **OSHA HCS 2012**•Data lacking **WHMIS 2015**•Data lacking
Toxicity for Reproduction	**EU/CLP**•Toxic to Reproduction 1B **UN GHS 4**•Toxic to Reproduction 1B **OSHA HCS 2012**•Toxic to Reproduction 1B **WHMIS 2015**•Toxic to Reproduction 1B
STOT-SE	**EU/CLP**•Specific Target Organ Toxicity Single Exposure 1; Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation **UN GHS 4**•Specific Target Organ Toxicity Single Exposure 1; Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation **OSHA HCS 2012**•Specific Target Organ Toxicity Single Exposure 1; Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation **WHMIS 2015**•Specific Target Organ Toxicity Single Exposure 1; Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
STOT-RE	**EU/CLP**•Specific Target Organ Toxicity Repeated Exposure 2 **UN GHS 4**•Specific Target Organ Toxicity Repeated Exposure 2 **OSHA HCS 2012**•Specific Target Organ Toxicity Repeated Exposure 2 **WHMIS 2015**•Specific Target Organ Toxicity Repeated Exposure 2

Potential Health Effects

Inhalation

Acute (Immediate)
- May cause respiratory irritation.

Chronic (Delayed)
- No data available

Skin

Acute (Immediate)
- Causes mild skin irritation.

Chronic (Delayed)	• No data available

Eye

Acute (Immediate)	• Under normal conditions of use, no health effects are expected.
Chronic (Delayed)	• No data available

Ingestion

Acute (Immediate)	• Harmful if swallowed. Ingestion of large amounts of copper may cause damage to the kidneys.
Chronic (Delayed)	• Repeated and prolonged exposure to copper may affect the liver.

Reproductive Effects • Repeated and prolonged exposure may cause reproductive effects.

11.2 Other information

• Heating above the melting point releases metallic oxides which may cause metal fume fever which is an influenza like illness. Symptoms include headache, metallic taste in the mouth, cough, thirst, throat irritation, shortness of breath, fever, sweating and pain in the limbs. This illness is not permanent and recovery usually occurs within 24-48 hours after onset.

Key to abbreviations

LC = Lethal Concentration
LD = Lethal Dose
TD = Toxic Dose

Section 12 - Ecological Information

12.1 Toxicity

Components		
Copper (28% TO 36%)	7440-50-8	**Aquatic Toxicity-Fish:** 96 Hour(s) LC50 *Osteichthyes (Bony Fishes)* 0.0051 mg/L 7 Day(s) NOEC *Salmo trutta (Brown Trout)* 0.0075 mg/L **Aquatic Toxicity-Crustacea:** 21 Day(s) NOEC *Daphnia magna (Water Flea)* 0.002 mg/L 48 Hour(s) EC50 *Ceriodaphnia dubia (Water Flea)* 0.001 mg/L **Aquatic Toxicity-Algae and Other Aquatic Plant(s):** 48 Hour(s) EC50 *Chlorella sp. (Green Algae)* 0.0011 mg/L 7 Day(s) NOEC *Laminaria saccharina (Tangleweed, Brown Algae)* 0.01 mg/L
Copper oxide (10% TO 15%)	1317-38-0	**Aquatic Toxicity-Fish:** 96 Hour(s) LC50 *Gambusia affinis (Western Mosquitofish)* >56000 mg/L 15 Day(s) NOEC *Cyprinus carpio (Common Carp)* 0.0128 mg/L **Aquatic Toxicity-Crustacea:** 48 Hour(s) EC50 *Daphnia magna (Water Flea)* 92.7 mg/L **Aquatic Toxicity-Algae and Other Aquatic Plant(s):** 72 Hour(s) EC50 *Pseudokirchneriella subcapitata (Green Algae)* 0.014 mg/L 3 Day(s) NOEC *Pseudokirchneriella subcapitata (Green Algae)* 0.421 mg/L

• Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

• Material data lacking.

12.3 Bioaccumulative potential

• Material data lacking.

12.4 Mobility in Soil

• Material data lacking.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

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
DOT	UN3077	Environmentally hazardous substance, solid, n.o.s (copper, cupric oxide)	9	III	Marine Pollutant
TDG	UN3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (copper, cupric oxide)	9	III	Marine Pollutant
IMO/IMDG	UN3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (copper, cupric oxide)	9	II	Marine Pollutant
IATA/ICAO	UN3077	Environmentally hazardous substance, solid, n.o.s (copper, cupric oxide)	9	III	NDA

14.6 Special precautions for user
- None specified.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
- Data lacking.

14.8 Other information
- Limited Quantity: Air/Ground/Marine: Not over 5.0 kg net capacity per container. Other considerations/exemptions: 49 CFR§171.4/IATA DGR SP A197/IMDG Code, Chapter 2.10, s.2.10.7.7/TDGR SP 99; Part 1, s. 1.45.1 special case; and Part 4 s.4.22.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

State Right To Know		
Component	**CAS**	**PA**

1-Decene, homopolymer, hydrogenated	68037-01-4	No
Alkylated Diphenylamine	36878-20-3	No
Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	68584-23-6	No
Benzenesulfonic acid, dodecyl-, calcium salt	26264-06-2	Yes
Calcium alkylbenzene sulfonate	70024-69-0	No
Calcium monocarbonate	471-34-1	No
Copper	7440-50-8	Yes
Copper oxide	1317-38-0	No
Graphite	7782-42-5	Yes
Mineral oil, petroleum distillates, solvent-refined (mild) heavy paraffinic	64741-88-4	No
Molybdenum sulfide	1317-33-5	No
Sulfonic acid, petroleum, calcium salt	61789-86-4	No

Inventory				
Component	**CAS**	**EU EINECS**	**EU ELNICS**	**TSCA**
1-Decene, homopolymer, hydrogenated	68037-01-4	No	No	Yes
Alkylated Diphenylamine	36878-20-3	Yes	No	Yes
Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	68584-23-6	Yes	No	Yes
Benzenesulfonic acid, dodecyl-, calcium salt	26264-06-2	Yes	No	Yes
Calcium alkylbenzene sulfonate	70024-69-0	Yes	No	Yes
Calcium monocarbonate	471-34-1	Yes	No	Yes
Copper	7440-50-8	Yes	No	Yes
Copper oxide	1317-38-0	Yes	No	Yes
Graphite	7782-42-5	Yes	No	Yes
Mineral oil, petroleum distillates, solvent-	64741-88-4	Yes	No	Yes

refined (mild) heavy paraffinic				
Molybdenum sulfide	1317-33-5	Yes	No	Yes
Sulfonic acid, petroleum, calcium salt	61789-86-4	Yes	No	Yes

United States - California

Environment

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

•Sulfonic acid, petroleum, calcium salt	61789-86-4	Not Listed
•1-Decene, homopolymer, hydrogenated	68037-01-4	Not Listed
•Copper oxide	1317-38-0	Not Listed
•Copper	7440-50-8	Not Listed
•Molybdenum sulfide	1317-33-5	Not Listed
•Calcium monocarbonate	471-34-1	Not Listed
•Calcium alkylbenzene sulfonate	70024-69-0	Not Listed
•Graphite	7782-42-5	Not Listed
•Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	68584-23-6	Not Listed
•Benzenesulfonic acid, dodecyl-, calcium salt	26264-06-2	Not Listed
•Alkylated Diphenylamine	36878-20-3	Not Listed
•Mineral oil, petroleum distillates, solvent-refined (mild) heavy paraffinic	64741-88-4	Not Listed

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

•Sulfonic acid, petroleum, calcium salt	61789-86-4	Not Listed
•1-Decene, homopolymer, hydrogenated	68037-01-4	Not Listed
•Copper oxide	1317-38-0	Not Listed
•Copper	7440-50-8	Not Listed
•Molybdenum sulfide	1317-33-5	Not Listed
•Calcium monocarbonate	471-34-1	Not Listed
•Calcium alkylbenzene sulfonate	70024-69-0	Not Listed
•Graphite	7782-42-5	Not Listed
•Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	68584-23-6	Not Listed
•Benzenesulfonic acid, dodecyl-, calcium salt	26264-06-2	Not Listed
•Alkylated Diphenylamine	36878-20-3	Not Listed
•Mineral oil, petroleum distillates, solvent-refined (mild) heavy paraffinic	64741-88-4	Not Listed

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

•Sulfonic acid, petroleum, calcium salt	61789-86-4	Not Listed
•1-Decene, homopolymer, hydrogenated	68037-01-4	Not Listed
•Copper oxide	1317-38-0	Not Listed
•Copper	7440-50-8	Not Listed
•Molybdenum sulfide	1317-33-5	Not Listed
•Calcium monocarbonate	471-34-1	Not Listed
•Calcium alkylbenzene sulfonate	70024-69-0	Not Listed
•Graphite	7782-42-5	Not Listed
•Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	68584-23-6	Not Listed
•Benzenesulfonic acid, dodecyl-, calcium salt	26264-06-2	Not Listed
•Alkylated Diphenylamine	36878-20-3	Not Listed
•Mineral oil, petroleum distillates, solvent-refined (mild) heavy paraffinic	64741-88-4	Not Listed

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

•Sulfonic acid, petroleum, calcium salt	61789-86-4	Not Listed
•1-Decene, homopolymer, hydrogenated	68037-01-4	Not Listed
•Copper oxide	1317-38-0	Not Listed
•Copper	7440-50-8	Not Listed
•Molybdenum sulfide	1317-33-5	Not Listed
•Calcium monocarbonate	471-34-1	Not Listed

•Calcium alkylbenzene sulfonate	70024-69-0	Not Listed
•Graphite	7782-42-5	Not Listed
•Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	68584-23-6	Not Listed
•Benzenesulfonic acid, dodecyl-, calcium salt	26264-06-2	Not Listed
•Alkylated Diphenylamine	36878-20-3	Not Listed
•Mineral oil, petroleum distillates, solvent-refined (mild) heavy paraffinic	64741-88-4	Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Female		
•Sulfonic acid, petroleum, calcium salt	61789-86-4	Not Listed
•1-Decene, homopolymer, hydrogenated	68037-01-4	Not Listed
•Copper oxide	1317-38-0	Not Listed
•Copper	7440-50-8	Not Listed
•Molybdenum sulfide	1317-33-5	Not Listed
•Calcium monocarbonate	471-34-1	Not Listed
•Calcium alkylbenzene sulfonate	70024-69-0	Not Listed
•Graphite	7782-42-5	Not Listed
•Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	68584-23-6	Not Listed
•Benzenesulfonic acid, dodecyl-, calcium salt	26264-06-2	Not Listed
•Alkylated Diphenylamine	36878-20-3	Not Listed
•Mineral oil, petroleum distillates, solvent-refined (mild) heavy paraffinic	64741-88-4	Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Male		
•Sulfonic acid, petroleum, calcium salt	61789-86-4	Not Listed
•1-Decene, homopolymer, hydrogenated	68037-01-4	Not Listed
•Copper oxide	1317-38-0	Not Listed
•Copper	7440-50-8	Not Listed
•Molybdenum sulfide	1317-33-5	Not Listed
•Calcium monocarbonate	471-34-1	Not Listed
•Calcium alkylbenzene sulfonate	70024-69-0	Not Listed
•Graphite	7782-42-5	Not Listed
•Benzenesulfonic acid, C10-16-alkyl derivs., calcium salts	68584-23-6	Not Listed
•Benzenesulfonic acid, dodecyl-, calcium salt	26264-06-2	Not Listed
•Alkylated Diphenylamine	36878-20-3	Not Listed
•Mineral oil, petroleum distillates, solvent-refined (mild) heavy paraffinic	64741-88-4	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Relevant Phrases (code & full text)

- H302 - Harmful if swallowed
  H315 - Causes skin irritation
  H319 - Causes serious eye irritation
  H350 - May cause cancer.
  H372 - Causes damage to organs through prolonged or repeated exposure.

Revision Date
- 26/June/2018

Last Revision Date
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Preparation Date
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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