



# Safety Data Sheet

## 1. Product and company identification

<b>Material uses</b>	: Industrial applications: Lubricants; grease.
<b>Distributor</b>	: Highline Warren LLC 4500 Malone Road Memphis, TN 38118 Tel: 901-437-8615
<b>Product code</b>	: LIW25500B0 <i>MC2705 SL</i>
<b>MSDS #</b>	: 1245
<b>Validation date</b>	: 11/3/2014
<b><u>In case of emergency</u></b>	: INFOTRAC U.S. and Canada - 800.535.5053 Outside the U.S. and Canada - +1 352.323.3500

## 2. Hazards identification

### Emergency overview

<b>Physical state</b>	: Solid. [grease]
<b>Color</b>	: White.
<b>Odor</b>	: Mild. Petroleum oil
<b>Hazard statements</b>	: MAY CAUSE EYE AND SKIN IRRITATION.
<b>Precautionary measures</b>	: Do not eat, drink or smoke when using this product. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

**OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Routes of entry** : Dermal contact. Eye contact. Inhalation. Ingestion.

### Potential acute health effects

<b>Inhalation</b>	: No known significant effects or critical hazards.
<b>Ingestion</b>	: No known significant effects or critical hazards.
<b>Skin</b>	: Slightly irritating to the skin. No significant irritation expected other than possible mechanical irritation.
<b>Eyes</b>	: Slightly irritating to the eyes. No significant irritation expected other than possible mechanical irritation.

### Potential chronic health effects

<b>Chronic effects</b>	: Contains material that may cause target organ damage, based on animal data.
<b>Carcinogenicity</b>	: No known significant effects or critical hazards.

## 2. Hazards identification

- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.
- Target organs** : Contains material which may cause damage to the following organs: lungs, upper respiratory tract, skin, eyes.

### Over-exposure signs/symptoms

- Inhalation** : No specific data.
- Ingestion** : No specific data.
- Skin** : Adverse symptoms may include the following:  
irritation  
redness
- Eyes** : Adverse symptoms may include the following:  
irritation  
watering  
redness

- Medical conditions aggravated by over-exposure** : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

## 3. Composition/information on ingredients

### United States

Name	CAS number	%
Distillates (petroleum), hydrotreated heavy naphthenic (<3% DMSO Extractables by IP346 test method)	64742-52-5	87-93
Zinc oxide United States - FDA Food additives generally recognized as safe GRAS 21CFR 182.5991, 182.8991	1314-13-2	1-5
Titanium dioxide	13463-67-7	1-5

### Canada

Name	CAS number	%
Distillates (petroleum), hydrotreated heavy naphthenic (<3% DMSO Extractables by IP346 test method)	64742-52-5	87-93
Zinc oxide United States - FDA Food additives generally recognized as safe GRAS 21CFR 182.5991, 182.8991	1314-13-2	1-5
Titanium dioxide	13463-67-7	1-5

### Mexico

#### Classification

Name	CAS number	UN number	%	IDLH	H	F	R	Special

### 3. Composition/information on ingredients

Distillates (petroleum), hydrotreated heavy naphthenic (<3% DMSO Extractables by IP346 test method)	64742-52-5	Not available.	87-93	2500 mg/m <sup>3</sup>	1	1	0	-
Zinc oxide United States - FDA Food additives generally recognized as safe GRAS 21CFR 182.5991, 182.8991	1314-13-2	Not available.	1-5	500 mg/m <sup>3</sup>	1	0	0	-
Titanium dioxide	13463-67-7	Not available.	1-5	5000 mg/m <sup>3</sup>	1	0	0	-

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

### 4. First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
- Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

### 5. Fire-fighting measures

- Flammability of the product** : No specific fire or explosion hazard.
- Extinguishing media**
- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
metal oxide/oxides
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6. Accidental release measures

**Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods for cleaning up

**Small spill** : Move containers from spill area. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## 7. Handling and storage

**Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Storage** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## 8. Exposure controls/personal protection

### United States

Ingredient	Exposure limits
Distillates (petroleum), hydrotreated heavy naphthenic	<p><b>ACGIH TLV (United States, 6/2013).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Inhalable fraction</p> <p><b>NIOSH REL (United States, 4/2013).</b> TWA: 5 mg/m<sup>3</sup> 10 hours. Form: Mist STEL: 10 mg/m<sup>3</sup> 15 minutes. Form: Mist</p> <p><b>OSHA PEL (United States, 2/2013).</b> TWA: 5 mg/m<sup>3</sup> 8 hours.</p>
zinc oxide	<p><b>NIOSH REL (United States, 4/2013).</b> CEIL: 15 mg/m<sup>3</sup> Form: Dust TWA: 5 mg/m<sup>3</sup> 10 hours. Form: Dust and fumes STEL: 10 mg/m<sup>3</sup> 15 minutes. Form: Fume</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Fume</p>

## 8. Exposure controls/personal protection

titanium dioxide	<p>STEL: 10 mg/m<sup>3</sup> 15 minutes. Form: Fume  TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction  TWA: 10 mg/m<sup>3</sup> 8 hours. Form: Total dust  <b>OSHA PEL (United States, 2/2013).</b>  TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Fume  TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction  TWA: 15 mg/m<sup>3</sup> 8 hours. Form: Total dust  <b>ACGIH TLV (United States, 6/2013).</b>  TWA: 2 mg/m<sup>3</sup> 8 hours. Form: Respirable fraction  STEL: 10 mg/m<sup>3</sup> 15 minutes. Form: Respirable fraction  <b>ACGIH TLV (United States, 6/2013).</b>  TWA: 10 mg/m<sup>3</sup> 8 hours.  <b>OSHA PEL 1989 (United States, 3/1989).</b>  TWA: 10 mg/m<sup>3</sup> 8 hours. Form: Total dust  <b>OSHA PEL (United States, 2/2013).</b>  TWA: 15 mg/m<sup>3</sup> 8 hours. Form: Total dust</p>
------------------	---

### Canada

<u>Occupational exposure limits</u>		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	ppm	mg/m <sup>3</sup>	Other	Notations
zinc oxide	US ACGIH 6/2013	-	2	-	-	10	-	-	-	-	[a]
	AB 4/2009	-	2	-	-	10	-	-	-	-	[b]
	BC 7/2013	-	2	-	-	10	-	-	-	-	[b]
	ON 1/2013	-	2	-	-	10	-	-	-	-	[a]
	QC 12/2012	-	5	-	-	10	-	-	-	-	[c]
Distillates (petroleum), hydrotreated heavy naphthenic	US ACGIH 6/2013	-	5	-	-	-	-	-	-	-	[d]
	AB 4/2009	-	5	-	-	10	-	-	-	-	[e]
	ON 1/2013	-	5	-	-	10	-	-	-	-	[f]
	QC 12/2012	-	5	-	-	10	-	-	-	-	[f]
titanium dioxide	US ACGIH 6/2013	-	10	-	-	-	-	-	-	-	
	AB 4/2009	-	10	-	-	-	-	-	-	-	[3]
	BC 7/2013	-	3	-	-	-	-	-	-	-	[g]
		-	10	-	-	-	-	-	-	-	[h]
	ON 1/2013	-	10	-	-	-	-	-	-	-	
	QC 12/2012	-	10	-	-	-	-	-	-	-	[i]

[3]Skin sensitization

**Form:** [a]Respirable fraction [b]Respirable [c]fume [d]Inhalable fraction [e]Mist [f]mist [g]Respirable dust [h]Total dust [i] Total dust.

### Mexico

#### Occupational exposure limits

Ingredient	Exposure limits
Distillates (petroleum), hydrotreated heavy naphthenic	<p><b>NOM-010-STPS (Mexico, 9/2000).</b>  LMPE-PPT: 5 mg/m<sup>3</sup> 8 hours. Form: mist  LMPE-CT: 10 mg/m<sup>3</sup> 15 minutes. Form: mist</p>
zinc oxide	<p><b>NOM-010-STPS (Mexico, 9/2000).</b>  LMPE-PPT: 10 mg/m<sup>3</sup> 8 hours. Form: powder  LMPE-PPT: 5 mg/m<sup>3</sup> 8 hours. Form: smoke  LMPE-CT: 10 mg/m<sup>3</sup> 15 minutes. Form: smoke</p>
titanium dioxide	<p><b>NOM-010-STPS (Mexico, 9/2000).</b>  LMPE-PPT: 10 mg/m<sup>3</sup>, (as Ti) 8 hours.  LMPE-CT: 20 mg/m<sup>3</sup>, (as Ti) 15 minutes.</p>

## 8. Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**Engineering measures** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal protection

**Respiratory** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Eyes** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9. Physical and chemical properties

**Physical state** : Solid. [grease]  
**Flash point** : Not available.  
**Auto-ignition temperature** : Not available.  
**Flammable limits** : Not available.  
**Color** : White.  
**Odor** : Mild. Petroleum oil  
**pH** : Not available.  
**Boiling/condensation point** : Not available.  
**Melting/freezing point** : Not available.

## 9. Physical and chemical properties

<b>Density</b>	: 0.9 g/cm <sup>3</sup>
<b>Vapor pressure</b>	: Not available.
<b>Vapor density</b>	: Not available.
<b>Volatility</b>	: Not available.
<b>Evaporation rate</b>	: Not available.
<b>Viscosity</b>	: Not available.
<b>Dispersibility properties</b>	: Not available.
<b>Solubility</b>	: Insoluble in the following materials: cold water and hot water.

## 10. Stability and reactivity

<b>Chemical stability</b>	: The product is stable.
<b>Conditions to avoid</b>	: No specific data.
<b>Incompatible materials</b>	: No specific data.
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.

## 11. Toxicological information

### United States

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Distillates (petroleum), hydrotreated heavy naphthenic	LD50 Oral	Rat	>5000 mg/kg	-

**Conclusion/Summary** : Slightly irritating to the eyes and skin. No significant irritation expected other than possible mechanical irritation.

#### Chronic toxicity

**Conclusion/Summary** : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation.

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
zinc oxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
titanium dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-

#### **Conclusion/Summary**

**Skin** : Slightly irritating to the skin. No significant irritation expected other than possible mechanical irritation.

**Eyes** : Slightly irritating to the eyes. No significant irritation expected other than possible mechanical irritation.

## 11. Toxicological information

**Respiratory** : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation. Pre-existing respiratory disorders may be aggravated by over-exposure to this product.

### Sensitizer

#### **Conclusion/Summary**

**Skin** : No specific information is available in our database regarding the skin sensitizing properties of this product. Sensitization not suspected for humans.

**Respiratory** : Sensitization not suspected for humans.

### Carcinogenicity

**Conclusion/Summary** : There are no data available on the mixture itself. Carcinogenicity not suspected for humans.

### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
zinc oxide	A4	-	-	-	-	-

### Mutagenicity

**Conclusion/Summary** : There are no data available on the mixture itself. Mutagenicity not suspected for humans.

### Teratogenicity

**Conclusion/Summary** : There are no data available on the mixture itself. Teratogenicity not suspected for humans.

### Reproductive toxicity

**Conclusion/Summary** : There are no data available on the mixture itself. Not considered to be dangerous to humans, according to our database.

## Canada

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Distillates (petroleum), hydrotreated heavy naphthenic	LD50 Oral	Rat	>5000 mg/kg	-

**Conclusion/Summary** : Slightly irritating to the eyes and skin. No significant irritation expected other than possible mechanical irritation.

### Chronic toxicity

**Conclusion/Summary** : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation.

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
zinc oxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
titanium dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-

#### **Conclusion/Summary**

**Skin** : Slightly irritating to the skin. No significant irritation expected other than possible mechanical irritation.



## 11. Toxicological information

- Eyes** : Slightly irritating to the eyes. No significant irritation expected other than possible mechanical irritation.
- Respiratory** : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation. Pre-existing respiratory disorders may be aggravated by over-exposure to this product.

### Sensitizer

#### **Conclusion/Summary**

- Skin** : No specific information is available in our database regarding the skin sensitizing properties of this product. Sensitization not suspected for humans.
- Respiratory** : Sensitization not suspected for humans.

### Carcinogenicity

#### **Conclusion/Summary**

- : There are no data available on the mixture itself. Carcinogenicity not suspected for humans.

### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
zinc oxide	A4	-	-	-	-	-

### Mutagenicity

#### **Conclusion/Summary**

- : There are no data available on the mixture itself. Mutagenicity not suspected for humans.

### Teratogenicity

#### **Conclusion/Summary**

- : There are no data available on the mixture itself. Teratogenicity not suspected for humans.

### Reproductive toxicity

#### **Conclusion/Summary**

- : There are no data available on the mixture itself. Not considered to be dangerous to humans, according to our database.

### Mexico

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Distillates (petroleum), hydrotreated heavy naphthenic	LD50 Oral	Rat	>5000 mg/kg	-

#### **Conclusion/Summary**

- : Slightly irritating to the eyes and skin. No significant irritation expected other than possible mechanical irritation.

### Chronic toxicity

#### **Conclusion/Summary**

- : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation.

### Irritation/Corrosion

Product/ingredient name	Result	Score	Score	Exposure	Observation
zinc oxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
titanium dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	-

## 11. Toxicological information

### Conclusion/Summary

- Skin** : Slightly irritating to the skin. No significant irritation expected other than possible mechanical irritation.
- Eyes** : Slightly irritating to the eyes. No significant irritation expected other than possible mechanical irritation.
- Respiratory** : Repeated or prolonged exposure to spray or mist may produce respiratory tract irritation. Pre-existing respiratory disorders may be aggravated by over-exposure to this product.

### Sensitizer

#### Conclusion/Summary

- Skin** : No specific information is available in our database regarding the skin sensitizing properties of this product. Sensitization not suspected for humans.
- Respiratory** : Sensitization not suspected for humans.

### Carcinogenicity

#### Conclusion/Summary

- : There are no data available on the mixture itself. Carcinogenicity not suspected for humans.

### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
zinc oxide	A4	-	-	-	-	-

### Mutagenicity

#### Conclusion/Summary

- : There are no data available on the mixture itself. Mutagenicity not suspected for humans.

### Teratogenicity

#### Conclusion/Summary

- : There are no data available on the mixture itself. Teratogenicity not suspected for humans.

### Reproductive toxicity

#### Conclusion/Summary

- : There are no data available on the mixture itself. Not considered to be dangerous to humans, according to our database.

## 12. Ecological information

**Ecotoxicity** : Not readily biodegradable.

### United States

#### Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
zinc oxide	Acute EC50 0.042 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute LC50 98 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 1.1 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 0.017 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
titanium dioxide	Acute EC50 5.83 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute LC50 3 mg/l Fresh water	Crustaceans - Ceriodaphnia	48 hours

## 12. Ecological information

	Acute LC50 5.5 ppm Fresh water	dubia - Neonate Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 1000 mg/l Fresh water Chronic NOEC 0.984 mg/l Fresh water	Fish - Pimephales promelas Algae - Pseudokirchneriella subcapitata - Exponential growth phase	96 hours 72 hours

**Conclusion/Summary** : There are no data available on the mixture itself.

**Persistence/degradability**

**Conclusion/Summary** : This product has not been tested for biodegradation. Not readily biodegradable. This product is not expected to bioaccumulate through food chains in the environment.

### Canada

**Aquatic ecotoxicity**

Product/ingredient name	Result	Species	Exposure
zinc oxide	Acute EC50 0.042 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute LC50 98 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 1.1 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 0.017 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
titanium dioxide	Acute EC50 5.83 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute LC50 3 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 5.5 ppm Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 1000 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 0.984 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours

**Conclusion/Summary** : There are no data available on the mixture itself.

**Persistence/degradability**

**Conclusion/Summary** : This product has not been tested for biodegradation. Not readily biodegradable. This product is not expected to bioaccumulate through food chains in the environment.

### Mexico

**Aquatic ecotoxicity**

## 12. Ecological information

Product/ingredient name	Result	Species	Exposure
zinc oxide	Acute EC50 0.042 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute LC50 98 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 1.1 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 0.017 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
titanium dioxide	Acute EC50 5.83 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute LC50 3 mg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 5.5 ppm Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 1000 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 0.984 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours

**Conclusion/Summary** : There are no data available on the mixture itself.

**Persistence/degradability**

**Conclusion/Summary** : This product has not been tested for biodegradation. Not readily biodegradable. This product is not expected to bioaccumulate through food chains in the environment.

## 13. Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Disposal should be in accordance with applicable regional, national and local laws and regulations.**

**Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.**

## 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	Not regulated.	-	-	-		-
TDG Classification	Not regulated.	-	-	-		-
Mexico Classification	Not regulated.	-	-	-		-
ADR/RID Class	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA-DGR Class	Not regulated.	-	-	-		-

PG\* : Packing group

## 15. Regulatory information

### United States

**HCS Classification** : Target organ effects

**U.S. Federal regulations** : TSCA 8(a) CDR Exempt/Partial exemption: Not determined

**United States inventory (TSCA 8b)**: All components are listed or exempted.

**SARA 302/304**: No products were found.

**SARA 311/312 Hazards identification**: Delayed (chronic) health hazard

**Clean Water Act (CWA) 307**: zinc oxide; zinc bis(dipentylidithiocarbamate)

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 313

	Product name	CAS number	Concentration
<b>Form R - Reporting requirements</b>	: Zinc oxide Lead - impurity in zinc	1314-13-2 7439-92-1	1-5 <0.0001
<b>Supplier notification</b>	: zinc oxide	1314-13-2	1-5

## 15. Regulatory information

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

### State regulations

<b>Connecticut Carcinogen Reporting</b>	: None of the components are listed.
<b>Connecticut Hazardous Material Survey</b>	: None of the components are listed.
<b>Florida substances</b>	: None of the components are listed.
<b>Illinois Chemical Safety Act</b>	: None of the components are listed.
<b>Illinois Toxic Substances Disclosure to Employee Act</b>	: None of the components are listed.
<b>Louisiana Reporting</b>	: None of the components are listed.
<b>Louisiana Spill</b>	: None of the components are listed.
<b>Massachusetts Spill</b>	: None of the components are listed.
<b>Massachusetts Substances</b>	: The following components are listed: ZINC OXIDE FUME; TITANIUM DIOXIDE
<b>Michigan Critical Material</b>	: None of the components are listed.
<b>Minnesota Hazardous Substances</b>	: None of the components are listed.
<b>New Jersey Spill</b>	: None of the components are listed.
<b>New Jersey Toxic Catastrophe Prevention Act</b>	: None of the components are listed.
<b>New Jersey Hazardous Substances</b>	: The following components are listed: ZINC OXIDE; TITANIUM DIOXIDE; TITANIUM OXIDE (TiO <sub>2</sub> )
<b>New York Acutely Hazardous Substances</b>	: None of the components are listed.
<b>New York Toxic Chemical Release Reporting</b>	: None of the components are listed.
<b>Pennsylvania RTK Hazardous Substances</b>	: The following components are listed: ZINC OXIDE (ZNO); TITANIUM OXIDE (TiO <sub>2</sub> )
<b>Rhode Island Hazardous Substances</b>	: None of the components are listed.

### California Prop. 65

**WARNING:** This product contains a chemical known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Lead - impurity in zinc	Yes.	Yes.	15 µg/day (ingestion)	Yes.
Cadmium (Non-pyrophoric) - impurity in zinc	Yes.	Yes.	0.05 µg/day (inhalation)	4.1 µg/day (ingestion)

**United States inventory (TSCA 8b)** : All components are listed or exempted.

### Canada

**WHMIS (Canada)** : Not controlled under WHMIS (Canada).

### Canadian lists

**Canadian NPRI** : The following components are listed: Zinc (and its compounds)

**CEPA Toxic substances** : None of the components are listed.

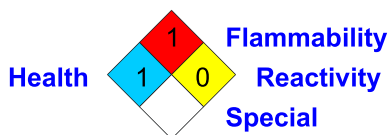
**Canada inventory; DSL/ NDSL** : All components are listed or exempted.

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

### Mexico

## 15. Regulatory information

Classification :



### International regulations

#### International lists

- : **Australia inventory (AICS):** All components are listed or exempted.
- : **China inventory (IECSC):** All components are listed or exempted.
- : **Japan inventory:** All components are listed or exempted.
- : **Korea inventory:** All components are listed or exempted.
- : **Malaysia Inventory (EHS Register):** Not determined.
- : **New Zealand Inventory of Chemicals (NZIoC):** All components are listed or exempted.
- : **Philippines inventory (PICCS):** All components are listed or exempted.
- : **Taiwan inventory (CSNN):** Not determined.
- : **Europe inventory :** All components are listed or exempted.

**Chemical Weapons Convention List Schedule I Chemicals** : Not listed

**Chemical Weapons Convention List Schedule II Chemicals** : Not listed

**Chemical Weapons Convention List Schedule III Chemicals** : Not listed

## 16. Other information

**Label requirements** : MAY CAUSE EYE AND SKIN IRRITATION.

**Hazardous Material Information System (U.S.A.)** :

Health	*	1
Flammability		1
Physical hazards		0
		B

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

**National Fire Protection Association (U.S.A.)** :



## 16. Other information

Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

**Date of issue** : 11/3/2014  
**Date of previous issue** : No previous validation.  
**Version** : 1

✔ Indicates information that has changed from previously issued version.

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.