



### SECTION 1: Identification

#### 1.1. Product identifier

Product form : Mixture  
Trade name : SHELL GADUS (Railmaster LFG EP 1)  
Product group : Trade product

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

##### Manufacturer

Shell & Whitmore Reliability Solutions, LLC  
930 Whitmore Drive  
Rockwall, Texas, 75087  
USA

T 1.800.381.6585 or 1.972.771.1000

[Regulatory@whitmores.com](mailto:Regulatory@whitmores.com) - [www.shellwhitmorereliability.com](http://www.shellwhitmorereliability.com)

##### Distributor

Shell & Whitmore Reliability Solutions of Canada Ltd.  
Suite 3810, Bankers Hall West  
888 - 3rd Street S.W.  
Calgary, AB, T2P 5C5  
Canada

T 1.800.381.6585 or 1.972.771.1000

[Regulatory@whitmores.com](mailto:Regulatory@whitmores.com) - [www.shellwhitmorereliability.com](http://www.shellwhitmorereliability.com)

#### 1.4. Emergency telephone number

Emergency number : For Chemical Emergency Call CHEMTREC 24hr/day 7days/week  
Within USA and Canada: 1.800.424.9300  
Outside USA and Canada: +1.703.527.3887  
(collect calls accepted)

### SECTION 2: Hazard identification

#### 2.1. Classification of the substance or mixture

##### Classification (GHS CA)

Serious eye damage/eye irritation Category 2

H319

Causes serious eye irritation

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS CA labeling

Hazard pictograms (GHS CA) :



Signal word (GHS CA) :

Warning

Hazard statements (GHS CA) :

H319 - Causes serious eye irritation

Precautionary statements (GHS CA) :

P264 - Wash hands, forearms and face thoroughly after handling.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 - If eye irritation persists: Get medical advice/attention.

#### 2.3. Other hazards

No additional information available

#### 2.4. Unknown acute toxicity (GHS CA)

No data available

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### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
Bis(2-ethylhexyl) phosphorodithioate Zinc Salt	(T-4)-bis(O,O-bis(2-ethylhexyl)phosphorodithioato-kappaS,kappaS')zinc / 1-hexanol, 2-ethyl-, O,O-diester with phosphorodithioic acid, zinc salt / additin RC1529 / additin RC3180 / bis(2-ethylhexyl) phosphorodithioate zinc salt / DDP-Zn-O / multadit OB / phosphorodithioic acid, O,O-bis(2-ethylhexyl) ester, zinc salt / RC 31800 / ZDDP (=zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)) / ZDTP (=zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)) / zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate) / zinc O,O-di-2-ethylhexyl phosphorodithioate / zinc O,O-bis(2-ethylhexyl)dithiophosphate / zinc, bis(O,O-bis(2-ethylhexyl) phosphorodithioato-S,S')- (T-4)- / zinc, O,O'-di-2-ethylhexyl dithiophosphate / ZPTP 3	CAS-No.: 4259-15-8	≤ 2.5	Eye Dam. 1, H318

Full text of hazard classes and H-statements : see section 16

### SECTION 4: First-aid measures

#### 4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

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First-aid measures after skin contact : Wash skin with plenty of water.  
First-aid measures after eye contact : Rinse eyes with water as a precaution.  
First-aid measures after ingestion : Call a poison center/doctor/physician if you feel unwell.

### 4.2. Most important symptoms and effects (acute and delayed)

No additional information available

### 4.3. Immediate medical attention and special treatment, if necessary

Other medical advice or treatment : Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

### 5.2. Unsuitable extinguishing media

No additional information available

### 5.3. Specific hazards arising from the hazardous product

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.4. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

### 6.2. Methods and materials for containment and cleaning up

Methods for cleaning up : Mechanically recover the product.  
Other information : Dispose of materials or solid residues at an authorized site.

### 6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment.  
Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

No additional information available

#### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.  
Environmental exposure controls : Avoid release to the environment.

#### 8.3. Individual protection measures/Personal protective equipment

##### Hand protection:

Neoprene or nitrile rubber gloves

Type	Material	Permeation	Thickness (mm)	Penetration
Disposable gloves	Nitrile rubber (NBR), Neoprene rubber (HNBR)	2 (> 30 minutes)	0.3 mm - 0.6 mm	

##### Eye protection:

Wear eye protection

##### Skin and body protection:

Wear suitable protective clothing

##### Respiratory protection:

No respiratory protection needed under normal use conditions

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state : Solid  
Appearance : Grease.  
Color : Black  
Odor : Petroleum-like odour  
Odor threshold : No data available  
pH : No data available  
Relative evaporation rate (butyl acetate=1) : No data available  
Relative evaporation rate (ether=1) : No data available  
Melting point : No data available  
Freezing point : Not applicable  
Boiling point : No data available  
Flash point : > 204 °C Open cup  
Auto-ignition temperature : Not applicable  
Decomposition temperature : No data available  
Flammability (solid, gas) : Non flammable.  
Vapor pressure : No data available  
Relative vapor density at 20°C : No data available  
Relative density : No data available  
Solubility : insoluble in water.  
Partition coefficient n-octanol/water (Log Pow) : No data available  
Viscosity, kinematic : > 249 mm<sup>2</sup>/s @ 40°C  
Explosion limits : Not applicable

#### 9.2. Other information

VOC content : < 0.1 %

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### SECTION 10: Stability and reactivity

Reactivity	: The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use.
Conditions to avoid	: None under recommended storage and handling conditions (see section 7).
Incompatible materials	: No additional information available
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hardening time:	: No additional information available

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Bis(2-ethylhexyl) phosphorodithioate Zinc Salt (4259-15-8)	
LD50 oral rat	3100 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 5000 mg/kg body weight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male, Experimental value, Dermal, 14 day(s))
ATE CA (oral)	3100 mg/kg body weight

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified

Bis(2-ethylhexyl) phosphorodithioate Zinc Salt (4259-15-8)	
NOAEL (oral,rat,90 days)	125 mg/kg body weight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)

Aspiration hazard	: Not classified
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SHELL GADUS (Railmaster LFG EP 1)	
Viscosity, kinematic	> 249 mm <sup>2</sup> /s @ 40°C

Bis(2-ethylhexyl) phosphorodithioate Zinc Salt (4259-15-8)	
Viscosity, kinematic	131.6 mm <sup>2</sup> /s (40 °C, ASTM D445: Capillary viscometer)
Animal studies and expert judgment for classification	False

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

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Bis(2-ethylhexyl) phosphorodithioate Zinc Salt (4259-15-8)	
LC50 - Fish [1]	46 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Cyprinodon variegatus, Semi-static system, Fresh water, Experimental value, GLP)
LC50 - Fish [2]	46 mg/l Test organisms (species):

### 12.2. Persistence and degradability

Bis(2-ethylhexyl) phosphorodithioate Zinc Salt (4259-15-8)	
Persistence and degradability	Not readily biodegradable in water.

### 12.3. Bioaccumulative potential

Bis(2-ethylhexyl) phosphorodithioate Zinc Salt (4259-15-8)	
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Partition coefficient n-octanol/water (Log Pow)	3.59 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 22 °C)

### 12.4. Mobility in soil

Bis(2-ethylhexyl) phosphorodithioate Zinc Salt (4259-15-8)	
Surface tension	63.7 mN/m (21 °C, 1.25 g/l, OECD 115: Surface Tension of Aqueous Solutions)
Ecology - soil	Low potential for adsorption in soil.

### 12.5. Other adverse effects

Ozone : Not classified

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

## SECTION 14: Transport information

In accordance with TDG / DOT / IMDG / IATA

TDG	DOT	IMDG	IATA
<b>14.1. UN number</b>			
Not regulated for transport			
<b>14.2. Proper Shipping Name</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>			
Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available			

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### 14.6. Special precautions for user

#### TDG

No data available

#### DOT

No data available

#### IMDG

No data available

#### IATA

No data available

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. National regulations

No additional information available

### 15.2. International regulations

No additional information available

## SECTION 16: Other information

Issue date : 08-25-2021  
Revision date : 08-26-2022  
Supersedes : 08-01-2022

### Full text of H-phrases:

H318	Causes serious eye damage
H319	Causes serious eye irritation

Safety Data Sheet (SDS), Canada

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.