



SHELL GADUS (Railmaster LFG EP 1)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 2/6/2020 Revision date: 8/26/2022 Supersedes: 7/28/2022 Version: 3.3

SECTION 1: Identification

1.1. Identification

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

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@whitmore.com - 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(s) identification

2.1. Classification of the substance or mixture

GHS US classification

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 US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning
Hazard statements (GHS US) : H319 - Causes serious eye irritation
Precautionary statements (GHS US) : 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 which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Name | Product identifier | % | GHS US classification |
|--|--------------------|-------|-----------------------|
| Bis(2-ethylhexyl) phosphorodithioate Zinc Salt | 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

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

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

5.2. Specific hazards arising from the chemical

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

5.3. 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

6.1.1. For non-emergency personnel

Emergency procedures : Exercise caution. Spill area may be slippery.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material 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.

6.4. Reference to other sections

For further information refer to section 13.

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.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available

Bis(2-ethylhexyl) phosphorodithioate Zinc Salt (4259-15-8)

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

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| 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 |
| Melting point | : No data available |
| Freezing point | : Not applicable |
| Boiling point | : No data available |
| Flash point | : > 204 °C Open cup |
| Relative evaporation rate (butyl acetate=1) | : 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 |
| Auto-ignition temperature | : Not applicable |
| Decomposition temperature | : No data available |
| Viscosity, kinematic | : > 249 mm ² /s @ 40°C |
| Viscosity, dynamic | : No data available |
| Explosion limits | : Not applicable |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |

9.2. Other information

| | |
|-------------|-----------|
| VOC content | : < 0.1 % |
|-------------|-----------|

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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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 US (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 |
| Viscosity, kinematic | : > 249 mm ² /s @ 40°C |

| Bis(2-ethylhexyl) phosphorodithioate Zinc Salt (4259-15-8) | |
|--|---|
| Viscosity, kinematic | 131.6 mm ² /s (40 °C, ASTM D445: Capillary viscometer) |

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. |
|-------------------|--|

| 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) | |
|--|---|
| Partition coefficient n-octanol/water (Log Pow) | 3.59 (Experimental value, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 22 °C) |
| Bioaccumulative potential | Low potential for bioaccumulation (Log Kow < 4). |

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. |

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12.5. Other adverse effects

No additional information available

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 DOT / TDG / IMDG / IATA

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

14.6. Special precautions for user

DOT

No data available

TDG

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. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

| | | |
|--|-------------------|--------|
| Bis(2-ethylhexyl) phosphorodithioate Zinc Salt | CAS-No. 4259-15-8 | ≤ 2.5% |
|--|-------------------|--------|

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

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National regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

| Component | State or local regulations |
|---|---|
| chalk(1317-65-3) | U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List |
| quartz, 1%≤conc respirable crystalline silica<10%(14808-60-7) | U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List |
| graphite(7782-42-5) | U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List |

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date

: 08/26/2022

| Full text of H-phrases | |
|------------------------|-------------------------------|
| H318 | Causes serious eye damage |
| H319 | Causes serious eye irritation |

Safety Data Sheet (SDS), USA

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.