



SECTION 1: Identification of the hazardous chemical or mixture and of the supplier or manufacturer

1.1. GHS product identifier

Product form : Mixture
Trade name : SHELL GADUS (Railmaster LFG EP 2)

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

No additional information available

1.4. Supplier's details

Manufacturer

Shell & Whitmore Reliability Solutions, LLC
930 Whitmore Drive
Rockwall, Texas, 75087
USA
T 1.800.381.6585 or 1.972.771.1000

1.5. Emergency phone 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: Hazards identification

2.1. Classification of the substance or mixture

GHS MX classification

Serious eye damage/eye irritation, Category 2 H319 Causes serious eye irritation.
Full text of H-statements: see section 16

2.2. Label elements

GHS MX labelling

Hazard pictograms (GHS MX) :



Signal word (GHS MX) : Warning
Hazard statements (GHS MX) : H319 - Causes serious eye irritation.
Precautionary statements (GHS MX) : 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 data available

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According to the NOM-018-STPS-2015

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS MX classification
chalk	CAS-No.: 1317-65-3	> 3.8024	Acute Tox. 5 (Dermal), H313
Bis(2-ethylhexyl) phosphorodithioate Zinc Salt	CAS-No.: 4259-15-8	≤ 2.5	Acute Tox. 5 (Oral), H303 Eye Dam. 1, H318 Aquatic Acute 3, H402
graphite	CAS-No.: 7782-42-5	1	Aquatic Acute 2, H401 Aquatic Chronic 2, H411

SECTION 4: First aid measures

4.1. Description of necessary first aid measures

No additional information available

4.2. Most important symptoms/effects, acute and delayed

No additional information available

4.3. Indication of immediate medical attention and special treatment needed, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

No additional information available

5.2. Specific hazards arising from the chemical

No additional information available

5.3. Special protective actions for fire-fighters

No additional information available

SECTION 6: Measures to be taken in case of accidental spillage or accidental leakage

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

No additional information available

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According to the NOM-018-STPS-2015

6.3. Methods and material for containment and cleaning up

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

No additional information available

7.2. Conditions for safe storage, including any incompatibilities

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

graphite (7782-42-5)

Mexico - Occupational Exposure Limits

Local name	Grafito
OEL TWA [1]	2 mg/m ³ todas sus formas, excepto fibras de grafito; Fracción respirable
Remark (MX)	Neumoconiosis
Regulatory reference	NOM-010-STPS-2014

8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures, such as personal protective equipment (PPE)

Hand protection : Neoprene or nitrile rubber gloves

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
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.
Colour	: Grey
Odour	: petroleum-like odour
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 194 °C
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Flammability (solid, gas)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available

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Vapour pressure	: No data available
Relative vapour 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
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: 249 mm ² /s @ 40°C
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

VOC content : < 0.1 %

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

No additional information available

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

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 bodyweight (Equivalent or similar to OECD 401, Rat, Male, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 5000 mg/kg bodyweight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male, Experimental value, Dermal, 14 day(s))
ATE MX (oral)	3100 mg/kg bodyweight

chalk (1317-65-3)

LD50 oral rat	6450 mg/kg (Rat, Literature study, Oral)
LD50 dermal rabbit	> 2000 mg/kg
ATE MX (oral)	6450 mg/kg bodyweight

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According to the NOM-018-STPS-2015

ATE MX (dermal)	2500 mg/kg bodyweight
graphite (7782-42-5)	
LD50 oral rat	> 2000 mg/kg (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Female, Experimental value, Oral)
LC50 Inhalation - Rat	> 2000 mg/m ³ air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (dust))
LC50 Inhalation - Rat (Dust/Mist)	> 2 mg/l Source: ECHA
Skin corrosion/irritation	: Not classified
chalk (1317-65-3)	
pH	8.5 – 9
graphite (7782-42-5)	
pH	7 (1.3 %)
Serious eye damage/irritation	: Causes serious eye irritation.
chalk (1317-65-3)	
pH	8.5 – 9
graphite (7782-42-5)	
pH	7 (1.3 %)
Respiratory or skin sensitisation	: 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 bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)
graphite (7782-42-5)	
NOAEC (inhalation, rat, dust/mist/fume, 90 days)	0.000279 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)
Aspiration hazard	: Not classified
SHELL GADUS (Railmaster LFG EP 2)	
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)
Animal studies and expert judgment for classification	False
chalk (1317-65-3)	
Viscosity, kinematic	Not applicable
Animal studies and expert judgment for classification	False
graphite (7782-42-5)	
Animal studies and expert judgment for classification	False

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According to the NOM-018-STPS-2015

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

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)
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LC50 - Fish [2]	46 mg/l Test organisms (species):
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graphite (7782-42-5)

LC50 - Fish [1]	> 100 mg/l
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EC50 - Crustacea [1]	> 100 mg/l
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ErC50 algae	> 100 mg/l
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EC50 72h - Algae [1]	19 mg/l
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EC50 72h - Algae [2]	7.2 mg/l
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NOEC (chronic)	47 mg/l
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12.2. Persistence and degradability

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

Persistence and degradability	Not readily biodegradable in water.
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chalk (1317-65-3)

Not rapidly degradable

Persistence and degradability	Biodegradability: not applicable.
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Chemical oxygen demand (COD)	Not applicable
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ThOD	Not applicable
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graphite (7782-42-5)

Not rapidly degradable

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)
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Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
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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)
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Ecology - soil	Low potential for adsorption in soil.
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chalk (1317-65-3)

Ecology - soil	No (test) data on mobility of the substance available.
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SHELL GADUS (Railmaster LFG EP 2)

Safety Data Sheet

According to the NOM-018-STPS-2015

12.5. Other adverse effects

Ozone : Not classified

SECTION 13: Disposal considerations

13.1. Waste treatment methods

No additional information available

SECTION 14: Transport information

In accordance with NOM / UN RTDG / IMDG / IATA

NOM	UN RTDG	IMDG	IATA
14.1. UN number			
Not regulated for transport			
14.2. Proper Shipping Name			
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

NOM

No data available

UN RTDG

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

National regulations

chalk (1317-65-3):

Listed in the INSQ (National Inventory of Chemical Substances)

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According to the NOM-018-STPS-2015

graphite (7782-42-5):

Listed in the INSQ (National Inventory of Chemical Substances)

15.2. International regulations

chalk (1317-65-3):

Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active

Listed on the Canadian NDSL (Non-Domestic Substances List)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

graphite (7782-42-5):

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Listed on the Canadian DSL (Domestic Substances List)

SECTION 16: Other information including those related to the preparation and updating of safety data sheets

Issue date : 25/08/2021
Revision date : 26/08/2022
Supersedes : 03/08/2022

Full text of H-statements

H303	May be harmful if swallowed
H313	May be harmful in contact with skin
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H411	Toxic to aquatic life with long lasting effects.

Safety Data Sheet (SDS), Mexico

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.