SAFETY DATA SHEET

accordance with Annex II of Regulation (EC) No 1907/2006 and its amendment(s)

Product: **EKALAND™ DPG GC** Page: 1 / 9

SDS No.: 100014-100 (Version 5.2) Date 09.03.2021 (*Cancel and replace* : 29.06.2020)

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Identification of the mixture: EKALAND™ DPG GC

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

Use of the Substance/Mixture :

Sector of use :	Product category :
Manufacture of General Rubber Goods **SU11:** Manufacture of rubber products	**PC0:** Cross-linking agent
Manufacture of Tyres **SU11:** Manufacture of rubber products	**PC0:** Cross-linking agent

1.3. Details of the supplier of the safety data sheet

Supplier

MLPC International
209, Avenue Charles Despiau
F-40370 RION-DES-LANDES, FRANCE
Telephone: + 33 (0) 5 58 57 02 00
E-mail address: http://www.mlpc-intl.com
fds@mlpc-intl.com

E-mail address : Exposure scenario reachsubstance@mlpc-intl.com

1.4. Emergency telephone number

+1-703-741-5970 CHEMTREC international emergency phone number (ARKEMA CCN830055)

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008):
Oral: Acute toxicity, 3, H301
Eye irritation, 2, H319
Reproductive toxicity, 2, H361f
Specific target organ toxicity - single exposure, 3, H335
Skin irritation, 2, H315
Chronic aquatic toxicity, 2, H411

Additional information:
For the full text of the H, EUH-phrases mentioned in this Section, see Section 16.

2.2. Label elements

Label elements (REGULATION (EC) No 1272/2008):

Hazardous components which must be listed on the label:

1,3-diphenylguanidine

Hazard pictograms:

Signal word: **Danger**

Hazard statements:
H301 : Toxic if swallowed.
H319 : Causes serious eye irritation.
H335 : May cause respiratory irritation.
H315 : Causes skin irritation.
H361f : Suspected of damaging fertility.
H411 : Toxic to aquatic life with long lasting effects.

Precautionary statements:
Prevention:
P202 : Do not handle until all safety precautions have been read and understood.
P273 : Avoid release to the environment.
P280 : Wear eye protection and face protection.
Response:
P301 + P310 : IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P337 + P313 : If eye irritation persists: Get medical advice/ attention.
P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Disposal:
P501 : Dispose of contents and container to an approved incineration plant.

2.3. Other hazards : None.

Other:
Results of PBT and vPvB assessment : According to REACH regulation, annex XIII, this mixture contains no substance meeting PBT and vPvB criteria.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Chemical nature of the mixture[1]:
Mixture based on:

Hazardous components (accordance with Annex II of Regulation (EC) No 1907/2006 and its amendment(s)) :

Chemical name[1] & REACH Registration Number[2]	EC-No.	CAS-No.	Concentration	Classification REGULATION (EC) No 1272/2008
1,3-Diphenylguanidine (01-2119519144-47) (N° ANNEX: 612-149-00-4)	203-002-1	102-06-7	~ 97,5 %	Acute Tox. 3 (Oral); H301 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Repr. 2; H361f STOT SE 3; H335 Aquatic Chronic 2; H411
Distillates (petroleum), hydrotreated light paraffinic (01-2119487077-29) (N° ANNEX: 649-468-00-3)	265-158-7	64742-55-8	~ 1,5 %	Asp. Tox. 1; H304 Nota L: DMSO <3%
Poly(oxy-1,2-ethanediyl), .alpha.-(2-propylheptyl)-.omega.-hydroxy-	–	160875-66-1	< 1 %	Eye Dam. 2; H319

[1]: See chapter 14 for Proper Shipping Name
[2] :See the text of the regulation for applicable exceptions or provisions -

4. FIRST AID MEASURES

4.1. Description of necessary first-aid measures:

General advice:
Take off immediately all contaminated clothing.

Inhalation:
Move to fresh air. Oxygen or artificial respiration if needed. Consult a physician.

Skin contact:
Wash off immediately with soap and plenty of water.

Eye contact:
Wash well-open eyes immediately, abundantly and thoroughly with water. Consult an ophthalmologist immediately.

Ingestion:
If swallowed, do not induce vomiting - seek medical advice.

Protection of first-aiders:

In case of insufficient ventilation, wear suitable respiratory equipment.

4.2. Most important symptoms/effects, acute and delayed: No data available.

4.3. Indication of immediate medical attention and special treatment needed, if necessary: No data available.

5. FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Water spray, Foam, Dry powder

Unsuitable extinguishing media: All other extinguishants

5.2. Special hazards arising from the substance or mixture:
Temperature exceeding 280 °C:, Thermal decomposition gives :, Hydrogen cyanide (hydrocyanic acid)

5.3. Advice for firefighters:

Specific methods:
Remove all sources of ignition. Suppress gases, fumes and/or dust with water spray jet.

Special protective actions for fire-fighters:
Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures:
Avoid contact with skin and eyes and inhalation of dust.

6.2. Environmental precautions:
Do not let product enter drains. Do not contaminate surface water.

6.3. Methods and materials for containment and cleaning up:

Recovery:
Shovel or sweep up. Recover the product and place in a dry labelled container.

Elimination:
Destroy the product by incineration (in accordance with local and national regulations).

6.4. Reference to other sections: None.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling:

Technical measures/Precautions:
Storage and handling precautions applicable to products: Dust forming. Provide appropriate exhaust ventilation at machinery and at places where dust can be generated. Provide water supplies, ocular fountains and showers near the point of use.

Hygiene measures:
General industrial hygiene practice. Avoid contact with skin, eyes and clothing. Avoid breathing dust.
Wash hands after handling. Remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities:
Keep in a well-ventilated place. Keep in a dry place. Store protected from moisture.

Incompatible products:
Strong acids Oxidizing agents

Packaging material:
Recommended: Paper bags, Big bags.

To be avoided:
Non waterproof packaging

7.3. Specific end use(s): None.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters:

Exposure Limit Values (dust)

Source	Date	Value type	Value (ppm)	Value (mg/m3)	Remarks
ACGIH (US)	03 2014	TWA	–	3	Respirable particles.
ACGIH (US)	03 2014	TWA	–	10	Inhalable particles.

Exposure Limit Values Not relevant

Derived No Effect Level (DNEL): 1,3-DIPHENYLGUANIDINE :

End Use	Inhalation	Ingestion	Skin contact
Workers	1,20 mg/m3 (LT, SE)		1,7 mg/kg bw/day (LT, SE)
Consumers	0,30 mg/m3 (LT, SE)	0,085 mg/kg bw/day (LT, SE)	0,85 mg/kg bw/day (LT, SE)

LE : Local effects, **SE** : Systemic effects, **LT** : Long term, **ST** : Short term

Predicted No Effect Concentration: 1,3-DIPHENYLGUANIDINE :

Compartment:	Value:
Fresh water	0,030 mg/l
Marine water	0,003 mg/l
Water (Intermittent release)	0,014 mg/l
Effects on waste water treatment plants	1,47 mg/l
Fresh water sediment	2,51 mg/kg dw
Marine sediment	0,251 mg/kg dw
Soil	0,404 mg/kg dw

8.2. Exposure controls:

General protective measures: Ensure sufficient air exchange and/or exhaust in work areas

Personal protective equipment:

Respiratory protection: Effective dust mask
Hand protection: Impervious gloves
Eye/face protection: Tightly fitting safety goggles
Skin and body protection: At the workplace : Protective suit.

Environmental exposure controls: See chapter 6

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance:

Physical state (20°C): solid
Form: granules
Colour: white, to, Slightly pinkish
Granulometry: D50 : 0,026 mm powder
D10 : 0,010 mm powder
D90 : 0,045 mm powder
Odour: slight
Olfactory threshold: No data available.
pH: Not applicable
Melting point : 149 °C (OECD Test Guideline 102)
Boiling point/boiling range : > 250 °C (OECD Test Guideline 103)
Flash point: Not applicable
Evaporation rate: No data available.
Flammability (solid, gas):
Flammability: The product is not flammable.

Lower flammable limit :	No data available
Upper flammable limit :	No data available
Vapour pressure:	< 0,0000001 hPa , at 25 °C (OECD Test Guideline 104)
Vapour density:	No data available.
Density:	1,19 g/cm3 , at 20 °C
Bulk density:	348 kg/m3 , at 20 °C powder
Water solubility:	0,325 g/l at 20 °C (OECD Test Guideline 105)
Partition coefficient: n-octanol/water:	1,3-DIPHENYLGUANIDINE :
	log Kow : 2,42 (OECD Test Guideline 107)
Auto-ignition temperature:	Not applicable
Decomposition temperature:	No data available.
Viscosity:	No data available.
Explosive properties:	
Explosivity:	Not explosive, Not relevant (due to its chemical structure)
Oxidizing properties:	No data available.

9.2. Other data:

Solubility in other solvents:	Chloroform
Surface tension:	58,8 mN/m at 23 °C
pKA:	10,13 at 20 °C pKa1
Molecular weight:	211 g/mol

10. STABILITY AND REACTIVITY

10.1. Reactivity: No data available.

10.2. Chemical stability:
Stable under recommended storage conditions.
Product stable in the absence of moisture

10.3. Possibility of hazardous reactions: No data available.

10.4. Conditions to avoid:
Thermal decomposition at high temperature
Store protected from moisture and heat. Protect from light. Keep away from direct sunlight.

10.5. Incompatible materials to avoid: No data available.

10.6. Hazardous decomposition products:
Thermal decomposition gives :, Hydrogen cyanide (hydrocyanic acid)
Thermal decomposition gives :, Nitrogen oxides (NOx)

11. TOXICOLOGICAL INFORMATION

All available and relevant data on this product and/or the components quoted in section 3 and/or the analogue substances/metabolites have been taken into account for the hazard assessment.

11.1. Information on toxicological effects:

Acute toxicity:

Inhalation:	**According to its composition, can be considered as Slightly harmful by inhalation**
1,3-DIPHENYLGUANIDINE :	
• In animals :	No mortality/30 min/dog, guinea pig: 0,5 mg/l
Ingestion:	**According to its composition : Toxic if swallowed.**
1,3-DIPHENYLGUANIDINE :	
• In animals :	LD50/Rat: 107 mg/kg (Method: OECD Test Guideline 401)
Dermal:	**According to its composition, can be considered as Slightly or not harmful in contact with skin**
1,3-DIPHENYLGUANIDINE :	
• In animals :	No mortality/Rabbit: 2.000 mg/kg

Local effects (Corrosion / Irritation / Serious eye damage):

Skin contact: **According to its composition, can be considered as Non irritating to skin**

1,3-DIPHENYLGUANIDINE :
• In animals : No skin irritation (after occlusive contact, Rabbit, Exposure time: 24 h)

Eye contact: **According to its composition : Causes serious eye damage.**

1,3-DIPHENYLGUANIDINE :
• In animals : Severe eye irritation (Draize Test, Rabbit)

Respiratory or skin sensitisation:

Inhalation: No data available.

Skin contact: **According to its composition, can be considered as Not a skin sensitizer**

1,3-DIPHENYLGUANIDINE :
• In man : Some cases of cutaneous sensitization reported
• In animals : No skin allergy was observed. (Method: OECD Test Guideline 406 Guinea pig maximization test)

CMR effects :

Mutagenicity: **According to available experimental data: Not genotoxic**

In vitro

1,3-DIPHENYLGUANIDINE :

Ames test in vitro: Active (Method: OECD Test Guideline 471)
Tests for chromosome aberrations in vitro on mammalian cells: Inactive (Method: OECD Test Guideline 473)
In vitro gene mutations test on mammalian cells: Inactive

In vivo

1,3-DIPHENYLGUANIDINE :

Micronucleus test in vivo mouse: Inactive
In vivo mammalian alkaline comet assay: Inactive (Method: OECD Test Guideline 489)

Carcinogenicity: No data available.

Reproductive toxicity:

Fertility: **According to its composition : Suspected of damaging fertility.**

1,3-DIPHENYLGUANIDINE :
• In animals : No toxic effects for reproduction
NOAEL (Fertility): > 25 mg/kg bw/day
(Method: OECD Test Guideline 421, Rat, By oral route)
Absence of toxic effects upon the reproductive system
(By diet, 3 Months)
NOAEL (Parental toxicity): 32 mg/kg bw/day
NOAEL (Fertility): 32 mg/kg bw/day
NOAEL (Developmental Toxicity): 32 mg/kg bw/day
(Rat)
NOAEL (Parental toxicity): 114 mg/kg bw/day
NOAEL (Fertility): 114 mg/kg bw/day
NOAEL (Developmental Toxicity): 114 mg/kg bw/day
(Mouse)

Foetal development: **Based on the available data, the substance is not suspected of having developmental toxicity potential.**

1,3-DIPHENYLGUANIDINE :
• In animals :

(Method: OECD Test Guideline 414, By oral route)
Absence of toxic effects for foetal development at non toxic maternal doses
NOAEL (Developmental Toxicity): 25 mg/kg bw/day
NOAEL (Maternal Toxicity): 5 mg/kg bw/day
(Rat)
Absence of toxic effects for foetal development
NOAEL (Developmental Toxicity): 10 mg/kg bw/day
NOAEL (Maternal Toxicity): 10 mg/kg bw/day
(Mouse)

Specific target organ toxicity :
Single exposure :

Inhalation: **According to available experimental data: Non irritating to respiratory system**

1,3-DIPHENYLGUANIDINE :

At high concentrations , Dust inhalation:, Possible irritation of respiratory system

Repeated exposure: **The substance or mixture is not classified as specific target organ toxicant, repeated exposure.**

1,3-DIPHENYLGUANIDINE :

• In animals : By diet: No specific toxic effects
NOAEL= 17mg/kg bw/day (Method: OECD Test Guideline 408, Rat, 3 months)

Aspiration hazard:

Not applicable

12. ECOLOGICAL INFORMATION

Ecotoxicology Assessment: All available and relevant data on this product and/or the components quoted in section 3 and/or the analogue substances/metabolites have been taken into account for the hazard assessment.

According to available experimental data:

Acute aquatic toxicity : Toxic to aquatic life.
Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

12.1. Acute toxicity :

Fish: **From its composition, it must be considered as: Toxic to fish.**

1,3-DIPHENYLGUANIDINE :

LC50, 96 h (Pimephales promelas (fathead minnow)) : 4,2 mg/l (Method: US EPA)

Aquatic invertebrates: **From its composition, it must be considered as: Harmful to daphnia.**

1,3-DIPHENYLGUANIDINE :

EC50, 48 h (Daphnia magna (Water flea)) : 17 mg/l (Method: US EPA, Immobilization)

Aquatic plants: **From its composition, it must be considered as: Toxic to algae.**

1,3-DIPHENYLGUANIDINE :

EC50, 96 h (Selenastrum capricornutum) : 1,7 mg/l (Method: US EPA, Biomass)

Microorganisms:

1,3-DIPHENYLGUANIDINE :

EC50, 3 h (Activated sludge) : 147 mg/l (Method: OECD Test Guideline 209, Respiration inhibition)

Aquatic toxicity / Long term toxicity:

Fish:

1,3-DIPHENYLGUANIDINE :

NOEC, 34 d (Pimephales promelas (fathead minnow)) : 1,3 mg/l (Method: OECD Test Guideline 210)

Aquatic invertebrates:

1,3-DIPHENYLGUANIDINE :

NOEC, 21 d (Daphnia magna (Water flea)) : 0,6 mg/l (Method: OECD Test Guideline 211, Reproduction inhibition)

Aquatic plants:

1,3-DIPHENYLGUANIDINE :

NOEC, 96 h (Selenastrum capricornutum) : 0,3 mg/l (Method: US EPA, Growth inhibition)

Non aquatic toxicity / Acute toxicity :

Terrestrial plants:

1,3-DIPHENYLGUANIDINE :

NOEC, 16 h (Avena sativa (oats)) : 404 mg/kg (Method: No information available., Inhibition of germination)

12.2. Persistence and degradability :

Biodegradation (In water): **Based on the available information, it is not possible to conclude on biodegradability of this mixture.**

1,3-DIPHENYLGUANIDINE :

Readily biodegradable: 85 % after 28 d (Method: OECD Test Guideline 301 D)

12.3. Bioaccumulative potential :

Bioaccumulation: **Based on the available information, it is not possible to conclude on the bioaccumulation potential of this mixture.**

1,3-DIPHENYLGUANIDINE :

Partition coefficient: n-octanol/water: log Kow : 2,42 (Method: OECD Test Guideline 107)

1,3-DIPHENYLGUANIDINE :

Bioconcentration factor (BCF): < 20 (42 d, 25 °C, Method: OECD Test Guideline 305 C, Cyprinus carpio (Carp)

12.4. Mobility in soil - Distribution among environmental compartments:

Vapor pressure: < 0,0000001 hPa, 25 °C, (Method: OECD Test Guideline 104)
Surface tension: 58,8 mN/m 23 °C

Absorption / desorption:
1,3-DIPHENYLGUANIDINE :

Soil: log Koc: 2,8 (Method: OECD Test Guideline 106)

12.5. Results of PBT and vPvB assessment :
According to REACH regulation, annex XIII, this mixture contains no substance meeting PBT and vPvB criteria.

12.6. Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment:

Disposal of product: Destroy the product by incineration (in accordance with local and national regulations).

Disposal of packaging: Destroy packaging by incineration at an approved waste disposal site (in accordance with local and national regulations).

14. TRANSPORT INFORMATION

Regulation	14.1. UN number	14.2.UN proper shipping name	14.3.Class*	Label	14.4. PG*	14.5. Environmental hazards	14.6. Special precautions for user
ADR	2811	TOXIC SOLID, ORGANIC, N.O.S. (1,3 DIPHENYLGUANIDINE)	6.1	6.1	III	no	
ADN	2811	TOXIC SOLID, ORGANIC, N.O.S. (1,3 DIPHENYLGUANIDINE)	6.1	6.1	III	no	
RID	2811	TOXIC SOLID, ORGANIC, N.O.S. (1,3 DIPHENYLGUANIDINE)	6.1	6.1	III	no	
IATA Cargo	2811	Toxic solid, organic, n.o.s. (1,3 DIPHENYLGUANIDINE)	6.1	6.1	III	no	
IATA Passenger	2811	Toxic solid, organic, n.o.s. (1,3 DIPHENYLGUANIDINE)	6.1	6.1	III	no	
IMDG	2811	TOXIC SOLID, ORGANIC, N.O.S. (1,3 DIPHENYLGUANIDINE)	6.1	6.1	III	no	EmS Number: F-A, S-A

*Description: 14.3. Transport hazard class(es)
14.4. Packing group

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

15. REGULATORY INFORMATION

Safety data sheets: accordance with Annex II of Regulation (EC) No 1907/2006 and its amendment(s)

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

Listed in:

EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC): 1,3-diphenylguanidine

15.2. Chemical safety assessment: None.

INVENTORIES:

EINECS:	Does not conform
TSCA:	Conforms to
DSL:	This product contains one or several components that are not on the Canadian DSL nor NDSL lists.
IECSC (CN):	Conforms to
ENCS (JP):	Does not conform
ISHL (JP):	Does not conform
KECI (KR):	Conforms to
PICCS (PH):	Does not conform
AICS:	Conforms to
NZIOC:	Conforms to

16. OTHER INFORMATION

Full text of H, EUH-phrases referred to under sections 2 and 3

H301	Toxic if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H361f	Suspected of damaging fertility.
H411	Toxic to aquatic life with long lasting effects.

Update:

Safety datasheet sections which have been updated:		Type:
2	2. HAZARDS IDENTIFICATION, Classification Code	Revisions
14	14. TRANSPORT INFORMATION	Revisions
15	15. REGULATORY INFORMATION	Additions

Thesaurus:
NOAEL : No Observed Adverse Effect Level (NOAEL)
LOAEL : Lowest Observed Adverse Effect Level (LOAEL)
bw : Body weight
food : oral feed
dw : Dry weight
vPvB : very Persistent and very Bioaccumulative
PBT : Persistent, Bioaccumulative and Toxic

This information applies to the PRODUCT AS SUCH and conforming to specifications of ARKEMA. In case of formulations or mixtures, it is necessary to ascertain that a new danger will not appear. The information contained is based on our knowledge of the product, at the date of publishing and it is given quite sincerely. Users are advised of possible additional hazards when the product is used in applications for which it was not intended. This sheet shall only be used and reproduced for prevention and security purposes. The references to legislative, regulatory and codes of practice documents cannot be considered as exhaustive. It is the responsibility of the person receiving the product to refer to the totality of the official documents concerning the use, the possession and the handling of the product. It is also the responsibility of the handlers of the product to pass on to any subsequent persons who will come into contact with the product (usage, storage, cleaning of containers, other processes) the totality of the information contained within this safety data sheet and necessary for safety at work, the protection of health and the protection of environment.

NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma).