

SAFETY DATA SHEET

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

Product: EKALAND™ DPG C Page: 1 / 9

Date 09.03.2021 (Cancel and replace: 16.12.2020) SDS No.: 100013-100 (Version 6.2)

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

1.1. Product identifier

Identification of the mixture: EKALAND™ DPG C

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	PC0: Cross-linking agent
SU11: Manufacture of rubber products	
Manufacture of Tyres	PC0: Cross-linking agent
SU11: Manufacture of rubber products	
Manufacture of Masterbatches	PC19: Intermediate
SU 10: Formulation	
Formulation and (re)packing	PC32: Polymer preparations and compounds
SU 10: Formulation	

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

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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 mixture1:

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	98 - 99 %	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 - 2 %	Asp. Tox. 1; H304 Nota L: DMSO <3%

^{1:} See chapter 14 for Proper Shipping Name

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.

²:See the text of the regulation for applicable exceptions or provisions -

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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.

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

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7.3. Specific end use(s): None.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters:

Product:

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):

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:

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	14,9 mg/kg dw
Marine sediment	1,49 mg/kg dw
Soil	0,404 mg/kg dw
Oral (Secondary Poisoning)	3,78 mg/kg food

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: powder

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 : $149 \, ^{\circ}\text{C}$ (OECD Test Guideline 102)Boiling point/boiling range : $> 250 \, ^{\circ}\text{C}$ (OECD Test Guideline 103)

Flash point: Not applicable

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Evaporation rate: No data available.

Flammability (solid, gas):

The product is not flammable. Flammability:

Lower flammable limit: No data available Upper flammable limit: No data available

< 0,0000001 hPa, at 25 °C (OECD Test Guideline 104) Vapour pressure:

Vapour density: No data available. 1,19 g/cm3, at 20 °C Density: **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:

Product stable in the absence of moisture

10.3. Possibility of hazardous reactions: No data available.

10.4. Conditions to avoid:

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. <u>Hazardous decomposition products:</u>

Thermal decomposition gives:, Hydrogen cyanide (hydrocyanic acid)

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 structure, can be considered as: Slightly harmful by inhalation

1,3-DIPHENYLGUANIDINE:

In animals: No mortality/30 min/dog, guinea pig: 0,5 mg/l

According to its structure, can be considered as: Toxic if swallowed. Ingestion:

1,3-DIPHENYLGUANIDINE:

LD50/Rat: 107 mg/kg (Method: OECD Test Guideline 401) In animals

Dermal: According to its structure, can be considered as: Slightly or not harmful in contact with skin

1,3-DIPHENYLGUANIDINE:

No mortality/Rabbit: 2.000 mg/kg · In animals:

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

Skin contact: According to its composition: Causes skin irritation.

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: 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 its composition, can be considered as 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: Based on the available data, the substance is not suspected of having carcinogenic potential

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:

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

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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 relevant

12. ECOLOGICAL INFORMATION

All available and relevant data on this product and/or the components quoted in section 3 and/or the **Ecotoxicology Assessment:**

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:

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:

Stability in water:

1,3-DIPHENYLGUANIDINE:

Not hydrolysable

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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.Clas s*	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	Ш	no	
ADN	2811	TOXIC SOLID, ORGANIC, N.O.S. (1,3 DIPHENYLGUANIDINE)	6.1	6.1	Ш	no	
RID	2811	TOXIC SOLID, ORGANIC, N.O.S. (1,3 DIPHENYLGUANIDINE)	6.1	6.1	Ш	no	
IATA Cargo	2811	Toxic solid, organic, n.o.s. (1,3 DIPHENYLGUANIDINE)	6.1	6.1	Ш	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)

14.7. 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.

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^{14.4.} Packing group

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INVENTORIES:

Product:

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	Type:	
2	2. HAZARDS IDENTIFICATION, Classification Code	Revisions
3	3. COMPOSITION/INFORMATION ON INGREDIENTS	Revisions
14	14. TRANSPORT INFORMATION	Revisions
15	15. REGULATORY INFORMATION	Additions
Exposu	one or more exposure scenario have been changed: see dates and versions	Additions
re		
scenari		
0		

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).