ARKEMA

SAFETY DATA SHEET

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

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Substance name: EKALAND™ DPTU PD
REACH Registration Number: 01-2119980831-31-0000
EC Nr: 203-004-2
CAS-No.: 102-08-9

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 Masterbatches **SU 10:** Formulation	**PC32:** Polymer preparations and compounds
Formulation and (re)packing **SU 10:** Formulation	**PC32:** Polymer preparations and compounds
Manufacture of General Rubber Goods **SU11:** Manufacture of rubber products	**PC32:** Polymer preparations and compounds
Manufacture of PVC articles **SU12:** Manufacture of plastics products, including compounding and conversion	**PC32:** Polymer preparations and compounds
Sealant manufacturing - Scotch **SU12:** Manufacture of plastics products, including compounding and conversion	**PC1:** Adhesives, sealants

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

+ 33 1 49 00 77 77
European emergency phone number: 112
+1-703-741-5970 (CHEMTREC International emergency phone number)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008):
Skin sensitisation, 1A, H317
Reproductive toxicity, 2, H361d
Specific target organ toxicity - repeated exposure, 2, Thyroid gland, H373
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:
CAS-No. : 102-08-9 1,3-Diphenyl-2-thiourea

Hazard pictograms:

Signal word: **Warning**

Hazard statements:
H317 : May cause an allergic skin reaction.
H361d : Suspected of damaging the unborn child.
H373 : May cause damage to organs through prolonged or repeated exposure.
H411 : Toxic to aquatic life with long lasting effects.

Precautionary statements:
Prevention:
P201 : Obtain special instructions before use.
P260 : Do not breathe dust or mist.
P273 : Avoid release to the environment.
P280 : Wear protective gloves and protective clothing and eye protection and face protection.
Response:
P333 + P313 : If skin irritation or rash occurs: Get medical advice/ attention.
P308 + P313 : IF exposed or concerned: Get medical advice/ attention.
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, the substance does not meet PBT and vPvB criteria.

Endocrine disrupting properties - Health :
Based on the available information, it is not possible to conclude on the endocrine disruptor potential.

Based on the available information, it is not possible to conclude on the endocrine disruptor potential.

Endocrine disrupting properties - Environment :
Based on the available information, it is not possible to conclude on the endocrine disruptor potential.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1.Substances

Chemical name[1] & REACH Registration Number[2]	EC-No.	CAS-No.	Concentration	Classification REGULATION (EC) No 1272/2008	specific concentration limit, M-Factors, Acute toxicity estimate
1,3-Diphenyl-2-thiourea	203-004-2	102-08-9	>= 98 %	Skin Sens.1A; H317 STOT RE2; H373 Repr.2; H361d Aquatic Chronic2; H411	

[1]: See chapter 14 for Proper Shipping Name

SECTION 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 and effects, both acute and delayed: No data available.

4.3. Indication of any immediate medical attention and special treatment needed: No data available.

SECTION 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:
Thermal decomposition gives :, Temperature exceeding 280 °C:
Sulphur oxides, Nitrogen oxides (NOx)

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.

SECTION 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.

SECTION 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.

7.3. Specific end use(s): None.

SECTION 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):

End Use	Inhalation	Ingestion	Skin contact
Workers	1,64 mg/m3 (LT, SE)		2,23 mg/kg bw/day (LT, SE)
Consumers	0,29 mg/m3 (LT, SE)	0,08 mg/kg bw/day (LT, SE)	0,83 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	0,003 mg/l
Effects on waste water treatment plants	10 mg/l
Water (Intermittent release)	0,1 mg/l
Marine water	0,0003 mg/l
Soil	1,25 mg/kg
Marine sediment	0,037 mg/kg
Fresh water sediment	0,366 mg/kg

8.2. Exposure controls:

General protective measures: Ensure sufficient air exchange and/or exhaust in work areas
Appropriate engineering controls: Provide appropriate exhaust ventilation at machinery.

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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance:
Physical state (20°C): solid
Form: powder
Colour: white
Odour: slight
Odour Threshold: No data available.
Melting point : 151 - 154 °C
> 250 °C (OECD Test Guideline 103)
Flammability:
Flammability (solid, gas): Non flammable product (Standard A10)
Upper explosion limit : No data available.
Flash point: Not relevant
Auto-ignition temperature: 550 °C
Decomposition temperature: No data available.
pH: Concentration 1 %, Temperature 20 °C, pH 6,9, not determined

Viscosity, kinematic:	No data available.
Water solubility:	No data available.
Solubility in other solvents:	soluble Chloroform (Reported data)
Partition coefficient: n-octanol/water:	log Kow : 2 (measured)
Vapour pressure:	< 0,001 Pa , at 25 °C (calculated)
Density:	1,3 g/cm3 True volume mass
Relative vapour density:	No data available.
Particle characteristics:	
Particle size:	D10 : < 7 µm powderD50 : 12 µm powderD90 : 32 µm powder

9.2. Other information:

Surface tension:	pKa1 11,6 mN/m at 21 °C (OECD Test Guideline 115)
Bulk density:	Average 0,3 kg/m3
pKA:	pKa1 11,7 at 21 °C (OECD Test Guideline 112)
	pKa2 11,95 at 21 °C (OECD Test Guideline 112)
Molecular weight:	228,3 g/mol (Literature)
Explosive properties:	
Dust explosion class:	St3
Minimum ignition energy:	1 - 3 mJ Dusts
Explosivity:	Not relevant (due to its chemical structure)
Oxidizing properties:	Not relevant (due to its chemical structure)

SECTION 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:
Acids, Strong oxidizing agents

10.6. Hazardous decomposition products:
Nitrogen oxides (NOx), Sulphur oxides
Thermal decomposition gives :, Nitrogen oxides (NOx)

SECTION 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 hazard classes as defined in Regulation (EC) No 1272/2008:

Acute toxicity:

Inhalation:	**Inhalation of vapours due to thermal decomposition: Toxic effects cannot be excluded**
Ingestion:	**Slightly harmful by ingestion**
• In animals :	No mortality/Rat: 2.000 mg/kg (Method: OECD Test Guideline 401)
Dermal:	**Slightly harmful in contact with skin.**
• In animals :	No mortality/Rat: (Method: OECD Test Guideline 402)

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

Skin contact: **Slightly irritating to skin.**
• In animals : No skin irritation (OECD Test Guideline 404, Rabbit)

Eye contact: **Slightly irritating to eyes.**
• In animals : No eye irritation (OECD Test Guideline 405, Rabbit)

Respiratory or skin sensitisation:

Inhalation: No data available.

Skin contact: **Strong skin sensitizer**
• In man : Some cases of cutaneous sensitization reported
• In animals : Strong sensitizing effects by skin contact.
(Method: LLNA: Local Lymph Node Assay, Mouse)
(Method: Guinea pig maximization test)

CMR effects :

Mutagenicity: **Based on the available information, it is not possible to conclude on the hazard potential of this product.**

In vitro

Ames test in vitro: Inactive (Method: OECD Test Guideline 471)
In vitro gene mutations test on mammalian cells: Active (Method: OECD Test Guideline 476)

In vivo

Micronucleus test in vivo rat: Inactive (Method: OECD Test Guideline 474)

Carcinogenicity: No data available.

Reproductive toxicity:

Foetal development: **Suspected of damaging the unborn child.**
• In animals : Exposure during pregnancy: Toxic effects for foetal development
NOAEL (Developmental Toxicity): 50 mg/kg bw/day
(Method: OECD Test Guideline 414, Rat, By oral route)
NOAEL (Maternal Toxicity): > 200 mg/kg bw/day

Specific target organ toxicity :
Single exposure :

Inhalation:

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

Repeated exposure: **The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.**
Target Organs : Thyroid gland

• In animals : By oral route: Target organs: Thyroid gland, NOAEL= 50 mg/kg (Method: OECD Test Guideline 407, Rat, 4 Weeks)

Aspiration hazard:

Not relevant

11.2. Information on other hazards:

Endocrine disrupting properties: **Based on the available information, it is not possible to conclude on the endocrine disruptor potential.**
Based on the available information, it is not possible to conclude on the endocrine disruptor potential.

Other information: Not relevant

SECTION 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.

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

12.1. Toxicity :

Fish: **No effect up to the limit of solubility**
LC50, 96 h (Danio rerio (zebra fish)) : > 33 mg/l (Method: OECD Test Guideline 203)

Aquatic invertebrates: **Toxic to daphnia.**
EC50, 48 h (Daphnia magna (Water flea)) : 10,0 mg/l (Method: OECD Test Guideline 202)

Aquatic plants: **Harmful to algae.**
ErC50, 72 h (Pseudokirchneriella subcapitata (green algae)) : 14 mg/l (Method: OECD Test Guideline 201)

Microorganisms:
NOEC, 3 h (Activated sludge) : 93,9 mg/l (Method: OECD Test Guideline 209)

Aquatic toxicity / Long term toxicity:

Aquatic invertebrates: NOEC, 21 d (Daphnia magna (Water flea)) : 0,15 mg/l (Method: OECD Test Guideline 211)

Aquatic plants: ErC10, 72 h (Pseudokirchneriella subcapitata (green algae)) : 4,7 mg/l (Method: OECD Test Guideline 201)

Non aquatic toxicity / Toxicity :

Toxicity to soil dwelling organisms:

NOEC, 28 d (Microorganisms) (Method: OECD Test Guideline 216)
NOEC, 56 d (Eisenia andrei (red worm)) (Method: OECD Test Guideline 222, reproduction)

12.2. Persistence and degradability :

Stability in water:
Not hydrolysable

Biodegradation (In water): **Not readily biodegradable.**
Not readily biodegradable.: 0 % after 28 d (Method: OECD Test Guideline 301 F)

12.3. Bioaccumulative potential :
Bioaccumulation: **Bioaccumulation is unlikely.**
Partition coefficient: n-octanol/water: log Kow : 2 (Method: measured)

12.4. Mobility in soil - Distribution among environmental compartments:

Vapor pressure: < 0,001 Pa, 25 °C, (Method: calculated)
Surface tension: pKa1 11,6 mN/m 21 °C (Method: OECD Test Guideline 115)

12.5. Results of PBT and vPvB assessment :

According to REACH regulation, annex XIII, the substance does not meet PBT and vPvB criteria.

12.6. Endocrine disrupting properties:

Based on the available information, it is not possible to conclude on the endocrine disruptor potential.

12.7. Other adverse effects: None known.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods:

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).

SECTION 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	3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (1,3-DIPHENYL-2-THIOUREE)	9	9	III	yes	
ADN	3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (1,3-DIPHENYL-2-THIOUREE)	9	9	III	yes	
RID	3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (1,3-DIPHENYL-2-THIOUREE)	9	9	III	yes	
IATA Cargo	3077	Environmentally hazardous substance, solid, n.o.s. (1,3-DIPHENYL-2-THIOUREE)	9	9MI	III	yes	
IATA Passenger	3077	Environmentally hazardous substance, solid, n.o.s. (1,3-DIPHENYL-2-THIOUREE)	9	9MI	III	yes	
IMDG	3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (1,3-DIPHENYL-2-THIOUREE)	9	9	III	Marine pollutant	EmS Number: F-A, S-F Mark: MP

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

14.7. Maritime transport in bulk according to IMO instruments: Not applicable

SECTION 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:

15.2. Chemical safety assessment: None.

INVENTORIES:

European union/EEA : In the event of purchase from an Arkema legal entity based in the European Economic Area (EEA), it is established that this product complies with the registration provisions of REACH Regulation (EC) No. 1907/2006, given that all of its components are excluded, exempted and / or registered. If purchasing from a legal entity established outside the EEA, please contact your local representative for more information.

TSCA (USA) : The components of this product are all on the TSCA Inventory
DSL/NDSL (CA) : All components of this product are on the Canadian DSL
IECSC (CN) : All components of this product are listed or exempted
ENCS (JP) : All components of this product are listed or exempted
ISHL (JP) : All components of this product are listed or exempted
KECI (KR) : All components of this product are listed or exempted
PICCS (PH) : All components of this product are listed or exempted
NZIOC (NZ) : All components of this product are listed or exempted
AIIC (AU) : All components of this product are listed or exempted
TCSI (TW) : All components of this product are listed or exempted

SECTION 16: OTHER INFORMATION

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

H317 May cause an allergic skin reaction.
H361d Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

H411 Toxic to aquatic life with long lasting effects.

Update:

Safety datasheet sections which have been updated:		Type:
1-16	General update of Safety Data Sheet.	Revisions

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).