

SAFETY DATA SHEET

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

Product: **MIXLAND+® ZDTP 50 BA/GA**

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SDS No.: 100080-100 (Version 4.0)

Date 13.07.2021 (*Cancel and replace* : 13.09.2019)

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

1.1. Product identifier

Identification of the mixture: MIXLAND+® ZDTP 50 BA/GA

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

Use of the Substance/Mixture : Curing chemical

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
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1.4. Emergency telephone number

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

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008):

Skin irritation, 2, H315
Eye irritation, 2, H319
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:

Hazard pictograms:



Signal word:

Warning

Hazard statements:

H315 : Causes skin irritation.
H319 : Causes serious eye irritation.
H411 : Toxic to aquatic life with long lasting effects.

Precautionary statements:

Prevention:

P264 : Wash skin thoroughly after handling.
 P273 : Avoid release to the environment.
 P280 : Wear protective gloves or eye protection or face protection.

Response:

P302 + P352 : IF ON SKIN: Wash with plenty of water.
 P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P332 + P313 : If skin irritation occurs: Get medical advice/ attention.
 P337 + P313 : If eye irritation persists: Get medical advice/ attention.
 P362 + P364 : Take off contaminated clothing and wash it before reuse.
 P391 : Collect spillage.

Disposal:

P501 : Dispose of contents or container to an approved waste disposal plant.

2.3. Other hazards : None.**Other:****Results of PBT and vPvB assessment :**

Based on the available information, it is not possible to conclude on PBT and vPvB criteria according to REACH regulation, annex XIII.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.2. Mixtures****Chemical nature of the mixture¹:**

Mixture based on: Polymer and

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	specific concentration limit, M-Factors, Acute toxicity estimate
Phosphorodithioic acid, mixed O,O-bis(2-ethylhexyl and iso-Bu and iso-Pr) esters, zinc salts (01-2119521201-61)	288-917-4	85940-28-9	Approximately 50 %	Skin Irrit.2; H315 Eye Irrit.2; H319 Aquatic Chronic2; H411	
Amorphous silica	-	112926-00-8	Approximately 25 %	WEL substance	
Distillates (petroleum), hydrotreated light paraffinic (01-2119487077-29) (N° ANNEX: 649-468-00-3)	265-158-7	64742-55-8	<= 0,5 %	Asp. Tox.1; H304 Nota L: DMSO <3%	

¹: See chapter 14 for Proper Shipping Name

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

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. Consult a physician.

Skin contact:

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Eye contact:

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

Ingestion:

Call a physician immediately. Do not induce vomiting without medical advice. Rinse mouth.

Protection of first-aiders:

If entering a saturated atmosphere, wear a self contained breathing apparatus.

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: Nitrogen oxides (NOx), Sulphur oxides, Carbon oxides

5.3. **Advice for firefighters:**

Specific methods:

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

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:

Dispose of as hazardous waste in compliance 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:

Provide appropriate exhaust ventilation at machinery. Provide showers, eye-baths. In the presence of an ignition source: Dust may form explosive mixture in air.

Safe handling advice:

In case of dust formation, wear a dust mask. Avoid static electricity build up with connection to earth.

Hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with the skin and the eyes. Wash hands after handling. Remove contaminated clothing and protective equipment before entering eating areas.

7.2. **Conditions for safe storage, including any incompatibilities:**

Store protected from moisture and heat. Protect from light. Keep away from direct sunlight.

Incompatible products:

Strong acids Oxidizing agents

Packaging material:

Recommended: Cardboard lined with polyethylene liner, Paper bags lined with polyethylene

7.3. **Specific end use(s):** None.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. **Control parameters:**

Exposure Limit Values Not relevant

Derived No Effect Level (DNEL): No data available.

Predicted No Effect Concentration: No data available.

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:	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:	roll, or, pellets
Colour:	light grey
Odour:	Characteristic and slight
Odour Threshold:	No data available.
Melting point/range:	No data available.
Boiling point/boiling range:	No data available.
Flammability:	
Flammability (solid, gas):	The product is not flammable.
Flash point:	Active ingredient > 150 °C
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
pH:	No data available.
Viscosity:	No data available.
Water solubility:	No data available.
Partition coefficient: n-octanol/water:	PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS : log Kow : 8,87 (QSAR)
Vapour pressure:	No data available.
Density:	1,61 g/cm ³ , at 20 °C
Vapour density:	No data available.

9.2. Other information:

Explosive properties:

Explosivity: Active substance, Not explosive

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: No data available.

10.2. Chemical stability:

The product is stable under normal handling and storage conditions.

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:

Strong acids and strong bases

10.6. Hazardous decomposition products:

Nitrogen oxides (NO_x), Carbon dioxide (CO₂), Sulphur oxides

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

PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS :
• In animals : No mortality/4 h/Rat: 2,3 mg/l (Method: OECD Test Guideline 403) (vapour)
(Results obtained on a similar product.)

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

PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS :
• In animals : LD50/Rat: 3.080 mg/kg (Method: OECD Test Guideline 401)

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

PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS :
• In animals : No mortality/Rabbit: 20.000 mg/kg (Method: OECD Test Guideline 402)

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

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

PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS :
• In animals : Skin irritation (OECD Test Guideline 404, Rabbit)

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

PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS :
• In animals : Eye irritation (OECD Test Guideline 405, Rabbit)

Respiratory or skin sensitisation:

Inhalation: No data available.

Skin contact: **Based on the available information, it is not possible to conclude on the hazard potential of this mixture.**

PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS :
• In animals : No skin allergy was observed. (Method: OECD Test Guideline 406 Buehler Test, Guinea pig)

CMR effects :

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

In vitro

PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS :
(Results obtained on a similar product).
Ames test in vitro: Inactive (Method: OECD Test Guideline 471)
In vitro gene mutations test on mammalian cells: Some positive tests (Method: OECD Test Guideline 476)

In vivo

PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS :
Micronucleus test in vivo mouse: Inactive (Method: OECD Test Guideline 474)

Carcinogenicity: No data available.

Reproductive toxicity:

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

PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS :
• In animals : Reproductive/Developmental Effects Screening Assay: Effect on reproduction capacity, Effects on F1 offspring.
NOAEL (Parental toxicity): 30 mg/kg bw/day
NOAEL (Fertility): 30 mg/kg bw/day
NOAEL (Developmental Toxicity): 30 mg/kg bw/day
(Method: OECD Test Guideline 421, By oral route) (Results obtained on a similar product.)

Specific target organ toxicity :**Single exposure :** No data available.**Repeated exposure:** **Based on the available information, it is not possible to conclude on the hazard potential of this mixture.**

PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS :

- In animals : By oral route: Local irritation of the stomach
NOAEL= 125 mg/kg (Method: OECD Test Guideline 407, Rat, 28 d) ((Results obtained on a similar product).)

Aspiration hazard:

Not applicable

11.2. Information on other hazards: Not relevant**Endocrine disrupting properties:** None known.**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:** **From its composition, it must be considered as: Toxic to fish.**

PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS :
May be considered as comparable to a similar product for which experimental results are:
LL50, 96 h (Oncorhynchus mykiss (rainbow trout)) : 4,5 mg/l (Method: OECD Test Guideline 203)

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

PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS :
EL50, 48 h (Daphnia magna (Water flea)) : 5,7 mg/l (Method: OECD Test Guideline 202)

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

PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS :
May be considered as comparable to a similar product for which experimental results are:
ErL50, 72 h (Selenastrum capricornutum (green algae)) : 2,1 mg/l (Method: OECD Test Guideline 201)

Microorganisms:

PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS :
EC50, 3 h (Activated sludge) : > 10.000 mg/l (Method: OECD Test Guideline 209, Respiration inhibition)

Aquatic toxicity / Long term toxicity:**Aquatic invertebrates:**

PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS :
May be considered as comparable to a similar product for which experimental results are:
NOEC, 21 d (Daphnia magna (Water flea)) : 0,262 mg/l (Method: OECD Test Guideline 211)

Aquatic plants:

PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS :
NOEC r, 72 h (Selenastrum capricornutum) : 1 mg/l (Method: OECD Test Guideline 201)

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

PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS :
May be considered as comparable to a similar product for which experimental results are:
Not readily biodegradable.: 1,5 % after 28 d (Method: OECD Test Guideline 301 B)

12.3. Bioaccumulative potential :

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

PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS :
Partition coefficient: n-octanol/water: log Kow : 8,87 (Method: QSAR)

PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS :
May be considered as comparable to a similar product for which experimental results are:
Bioconcentration factor (BCF): < 100 (6 Weeks, Cyprinus carpio (Carp))

12.4. Mobility in soil - Distribution among environmental compartments:

Absorption / desorption:

PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS :
log Koc: 5 (Method: calculated)

12.5. Results of PBT and vPvB assessment :

Based on the available information, it is not possible to conclude on PBT and vPvB criteria according to REACH regulation, annex XIII.

12.6. Endocrine disrupting properties: None known.

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 ^{s*}	Label	14.4. PG [*]	14.5. Environmental hazards	14.6. Special precautions for user
ADR	3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (MIXTURE, CONTAINS, PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISOBUTYL AND ISOPROPYL) ESTERS, ZINC SALTS)	9	9	III	yes	
ADN	3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (MIXTURE, CONTAINS, PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISOBUTYL AND ISOPROPYL) ESTERS, ZINC SALTS)	9	9	III	yes	
RID	3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (MIXTURE, CONTAINS, PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISOBUTYL AND ISOPROPYL) ESTERS, ZINC SALTS)	9	9	III	yes	
IATA Cargo	3077	Environmentally hazardous substance, solid, n.o.s. (mixture, contains, phosphorodithioic acid, mixed o,o-bis(2-ethylhexyl and isobutyl and isopropyl) esters, zinc salts)	9	9MI	III	yes	
IATA Passenger	3077	Environmentally hazardous substance, solid, n.o.s. (mixture, contains, phosphorodithioic acid, mixed o,o-bis(2-ethylhexyl and isobutyl and isopropyl) esters, zinc salts)	9	9MI	III	yes	
IMDG	3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (MIXTURE, CONTAINS, PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISOBUTYL AND ISOPROPYL) ESTERS, ZINC SALTS)	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:

EINECS:	Conforms to
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):	Conforms to
AICS:	Conforms to
NZIOC:	Conforms to
TSCA 12B:	

SECTION 16: OTHER INFORMATION**Full text of H, EUH-phrases referred to under sections 2 and 3**

H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.

Update:

Safety datasheet sections which have been updated:		Type:
1	SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING, Emergency telephone number	Revisions
2	SECTION 2: HAZARDS IDENTIFICATION	Revisions
3	SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS	Revisions
8	SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION	Revisions
11	SECTION 11: TOXICOLOGICAL INFORMATION	Revisions
12	SECTION 12: ECOLOGICAL INFORMATION	Revisions
15	SECTION 15: REGULATORY INFORMATION	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).