

Product: MIXLAND+® ZDTP 50 GA F500

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SDS No.: 100209-100 (Version 1.0)

Date 17.03.2023

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING
1.1. Product identifier
Identification of the mixture: MIXLAND+® ZDTP 50 GA F500

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):

EC Nr : 288-917-4

 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.

Endocrine disrupting properties - Health :

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**3.2. 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	
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based (N° ANNEX: 649-482-00-X)	276-737-9	72623-86-0	0,5 - 5 %	Asp. Tox.1; H304 Nota L: DMSO <3%	
Distillates (petroleum), hydrotreated light paraffinic (01-2119487077-29) (N° ANNEX: 649-468-00-3)	265-158-7	64742-55-8	0,5 - 5 %	Asp. Tox.1; H304 Nota L: DMSO <3%	
Distillates (petroleum), hydrotreated light naphthenic; Baseoil — unspecified [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C15 through C30 and produces a finished oil with a viscosity of less than 100 SUS at 100 °F (19cSt at 40 °C). It contains relatively few normal paraffins.]	-	64742-53-6	0,5 - 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/effects, 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.

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

End Use	Inhalation	Ingestion	Skin contact
Workers	6,6 mg/m ³ (SE, LT)		9,6 mg/kg bw/day (SE, LT)
Consumers	1,67 mg/m ³ (SE, LT)	0,19 mg/kg bw/day (SE, LT)	4,8 mg/kg bw/day (SE, LT)

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

Derived No Effect Level (DNEL): DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

End Use	Inhalation	Ingestion	Skin contact
Workers	2,73 mg/m ³ (SE, LT) 5,58 mg/m ³ (LE, LT)		0,970 mg/kg bw/day (SE, LT)
Consumers	1,19 mg/m ³ (LE, LT)	0,740 mg/kg bw/day (SE, LT)	

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

Derived No Effect Level (DNEL): DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC; BASEOIL — UNSPECIFIED [A COMPLEX COMBINATION OF HYDROCARBONS OBTAINED BY TREATING A PETROLEUM FRACTION WITH HYDROGEN IN THE PRESENCE OF A CATALYST. IT CONSISTSOFT HYDROCARBONS HAVING CARBON NUMBERS PREDOMINANTLY IN THE RANGE OF C15THROUGH C30 AND PRODUCES A FINISHED OIL WITH A VISCOSITY OF LESS THAN 100 SUS AT 100 °F (19CST AT 40 °C). IT CONTAINS RELATIVELY FEW NORMAL PARAFFINS.] :

End Use	Inhalation	Ingestion	Skin contact
Workers	2,73 mg/m ³ (SE, LT) 5,58 mg/m ³ (LE, LT)		0,970 mg/kg bw/day (SE, LT)
Consumers	1,19 mg/m ³ (LE, LT)	0,740 mg/kg bw/day (SE, LT)	

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

Predicted No Effect Concentration: PHOSPHORODITHIOIC ACID, MIXED O,O-BIS(2-ETHYLHEXYL AND ISO-BU AND ISO-PR) ESTERS, ZINC SALTS :

Compartment:	Value:
Fresh water	0,002 mg/l
Marine water	0,0002 mg/l
Water (Intermittent release)	0,02 mg/l
Effects on waste water treatment plants	100 mg/l
Fresh water sediment	19,3 mg/kg
Marine sediment	1,93 mg/kg
Soil	15,7 mg/kg

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:	granules
Colour:	white 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.
Upper explosion limit :	No data available.
Flash point:	Active ingredient > 150 °C
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
pH:	No data available.
Viscosity, kinematic:	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) LUBRICATING OILS (PETROLEUM), C15-30, HYDROTREATED NEUTRAL OIL-BASED : log Kow : 1,99 - 18 (QSAR) DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC : DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC; BASEOIL — UNSPECIFIED [A COMPLEX COMBINATION OF HYDROCARBONS OBTAINED BY TRE : (QSAR)
Vapour pressure:	No data available.
Density:	1,2 g/cm ³ , at 20 °C True volume mass
Relative vapour density:	No data available.
Particle characteristics:	
Particle size:	measured 0,7 - 0,8 cm pellets

9.2. Other information:**Explosive properties:**

Minimum ignition energy:	not determined
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 (NOx), 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:** **Inhalation of vapours due to thermal decomposition: Toxic effects cannot be excluded**
- 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.)
- LUBRICATING OILS (PETROLEUM), C15-30, HYDROTREATED NEUTRAL OIL-BASED :
- Through analogy with a comparable product :
- In animals : No mortality/4 h/Rat: 5,53 mg/l (Method: OECD Test Guideline 403), No specific toxic effects (Aerosol)
- DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :
- Through analogy with a comparable product :
- In animals : No mortality/4 h/Rat: 5,53 mg/l (Method: OECD Test Guideline 403) (Aerosol)
- DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC; BASEOIL — UNSPECIFIED [A COMPLEX COMBINATION OF HYDROCARBONS OBTAINED BY TRE :
- Through analogy with a comparable product :
- In animals : No mortality/4 h/Rat: 5,53 mg/l (Method: OECD Test Guideline 403) (Aerosol)
- 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)
- LUBRICATING OILS (PETROLEUM), C15-30, HYDROTREATED NEUTRAL OIL-BASED :
- Through analogy with a comparable product :
- In animals : No mortality/Rat: 5.000 mg/kg (Method: OECD Test Guideline 423)
- DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :
- Through analogy with a comparable product :
- In animals : No mortality/Rat: 5 g/kg (Method: OECD Test Guideline 401)
- DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC; BASEOIL — UNSPECIFIED [A COMPLEX COMBINATION OF HYDROCARBONS OBTAINED BY TRE :
- Through analogy with a comparable product :
- In animals : No mortality/Rat: 5 g/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)
- LUBRICATING OILS (PETROLEUM), C15-30, HYDROTREATED NEUTRAL OIL-BASED :
- Through analogy with a comparable product :
- In animals : No mortality/24 h/Rabbit: 5.000 mg/kg (Method: OECD Test Guideline 402)
- DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :
- Through analogy with a comparable product :
- In animals : No mortality/Rabbit: 5 g/kg (Method: OECD Test Guideline 402)
- DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC; BASEOIL — UNSPECIFIED [A COMPLEX COMBINATION OF HYDROCARBONS OBTAINED BY TRE :
- Through analogy with a comparable product :
- In animals : No mortality/Rabbit: 5 g/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)

LUBRICATING OILS (PETROLEUM), C15-30, HYDROTREATED NEUTRAL OIL-BASED :

Through analogy with a comparable product :

- In animals : Mild skin irritation (after occlusive contact, Rabbit, Exposure time: 24 h)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

Through analogy with a comparable product :

- In animals : Slightly irritating to skin. (Rabbit, Exposure time: 24 h)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC; BASEOIL — UNSPECIFIED [A COMPLEX COMBINATION OF HYDROCARBONS OBTAINED BY TRE :

Through analogy with a comparable product :

- In animals : Slightly irritating to skin. (Rabbit, Exposure time: 24 h)

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)

LUBRICATING OILS (PETROLEUM), C15-30, HYDROTREATED NEUTRAL OIL-BASED :

Through analogy with a comparable product :

- In animals : Not irritating to the eyes. (OECD Test Guideline 405, Rabbit)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

Through analogy with a comparable product :

- In animals : No eye irritation (OECD Test Guideline 405, Rabbit)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC; BASEOIL — UNSPECIFIED [A COMPLEX COMBINATION OF HYDROCARBONS OBTAINED BY TRE :

Through analogy with a comparable product :

- In animals : No 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)

LUBRICATING OILS (PETROLEUM), C15-30, HYDROTREATED NEUTRAL OIL-BASED :

Through analogy with a comparable product :

- In animals : Not a skin sensitizer (Method: OECD Test Guideline 406 Buehler Test, Guinea pig)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

Through analogy with a comparable product :

- In animals : Not a skin sensitizer (Method: OECD Test Guideline 406 Buehler Test, Guinea pig)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC; BASEOIL — UNSPECIFIED [A COMPLEX COMBINATION OF HYDROCARBONS OBTAINED BY TRE :

Through analogy with a comparable product :

- In animals : Not a skin sensitizer (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)
- LUBRICATING OILS (PETROLEUM), C15-30, HYDROTREATED NEUTRAL OIL-BASED :
Through analogy with a comparable product :, Conflicting results have been seen in different studies.
- DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :
Through analogy with a comparable product :, Conflicting results have been seen in different studies.
- DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC; BASEOIL — UNSPECIFIED [A COMPLEX COMBINATION OF HYDROCARBONS OBTAINED BY TRE :
Through analogy with a comparable product :, Conflicting results have been seen in different studies.

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)
- LUBRICATING OILS (PETROLEUM), C15-30, HYDROTREATED NEUTRAL OIL-BASED :
Through analogy with a comparable product :
In vivo micronucleus test: Inactive (Method: OECD Test Guideline 474)
- DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :
Through analogy with a comparable product :
Micronucleus test in vivo mouse: Inactive (Method: OECD Test Guideline 474)
- DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC; BASEOIL — UNSPECIFIED [A COMPLEX COMBINATION OF HYDROCARBONS OBTAINED BY TRE :
Through analogy with a comparable product :
Micronucleus test in vivo mouse: Inactive (Method: OECD Test Guideline 474)

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

- LUBRICATING OILS (PETROLEUM), C15-30, HYDROTREATED NEUTRAL OIL-BASED :
Through analogy with a comparable product :
- In animals : Absence of carcinogenic effects (Mouse, Dermal)
- DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :
Through analogy with a comparable product :
- In animals : Absence of carcinogenic effects (Mouse, Dermal)
- DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC; BASEOIL — UNSPECIFIED [A COMPLEX COMBINATION OF HYDROCARBONS OBTAINED BY TRE :
Through analogy with a comparable product :
- In animals : Absence of carcinogenic effects (Mouse, Dermal)

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).)
- LUBRICATING OILS (PETROLEUM), C15-30, HYDROTREATED NEUTRAL OIL-BASED :
Through analogy with a comparable product :
- In animals : Reproductive/Developmental Effects Screening Assay: Absence of toxic effects on fertility
NOAEL (Parental toxicity) : 1.000 mg/kg bw/day
NOAEL (Fertility) : 1.000 mg/kg bw/day
NOAEL (Developmental Toxicity) : 1000 mg/kg bw/day
(Method: OECD Test Guideline 421, Rat, Oral)
- DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :
Through analogy with a comparable product :
- In animals : Reproductive/Developmental Effects Screening Assay: Absence of toxic effects on fertility
NOAEL (Parental toxicity) : 1.000 mg/kg bw/day
NOAEL (Fertility) : 1.000 mg/kg bw/day
NOAEL (Developmental Toxicity) : 1000 mg/kg bw/day
(Method: OECD Test Guideline 421, Rat, Oral)
- DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC; BASEOIL — UNSPECIFIED [A COMPLEX COMBINATION OF HYDROCARBONS OBTAINED BY TRE :

- Through analogy with a comparable product :
- In animals : Reproductive/Developmental Effects Screening Assay: Absence of toxic effects on fertility
No observed adverse effect level (Parental toxicity) : 1.000 mg/kg bw/day
No observed adverse effect level (Fertility) : 1.000 mg/kg bw/day
NOAEL (Developmental Toxicity) : 1000 mg/kg bw/day
(Method: OECD Test Guideline 421, Rat, Oral)
- Foetal development:** **Based on the available information, it is not possible to conclude on the hazard potential of this mixture.**
- LUBRICATING OILS (PETROLEUM), C15-30, HYDROTREATED NEUTRAL OIL-BASED :
- Through analogy with a comparable product :
- In animals : Exposure during pregnancy: Absence of toxic effects for foetal development
NOAEL (Developmental Toxicity) : 1.000 mg/kg bw/day
NOAEL (Maternal Toxicity) : 125 mg/kg bw/day
(Rat, Dermal)
- DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :
- Through analogy with a comparable product :
- In animals : Exposure during pregnancy: Absence of toxic effects for foetal development.
NOAEL (Developmental Toxicity) : 2 g/kg
NOAEL (Maternal Toxicity) : < 0,125 g/kg
(Method: OECD Test Guideline 414, Rat, dermal route)
- DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC; BASEOIL — UNSPECIFIED [A COMPLEX COMBINATION OF HYDROCARBONS OBTAINED BY TRE :
- Through analogy with a comparable product :
- In animals : Exposure during pregnancy: Absence of toxic effects for foetal development
No observed adverse effect level (Developmental Toxicity) : 2 g/kg
No observed adverse effect level (Maternal Toxicity) : < 0,125 g/kg
(Method: OECD Test Guideline 414, Rat, Dermal)

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).)

LUBRICATING OILS (PETROLEUM), C15-30, HYDROTREATED NEUTRAL OIL-BASED :

Through analogy with a comparable product :

- In animals : Inhalation: No specific toxic effects, NOAEL= 220mg/m3 (3 months)

Dermal: NOAEL= 1000mg/kgbw/d (Repeated exposure)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

Through analogy with a comparable product :

- In animals : Inhalation: No specific toxic effects, NOAEL= 220mg/m3 (3 months)

Dermal: NOAEL= 1000mg/kgbw/d (Repeated exposure)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC; BASEOIL — UNSPECIFIED [A COMPLEX COMBINATION OF HYDROCARBONS OBTAINED BY TRE :

Through analogy with a comparable product :

- In animals : Inhalation: No effect is reported.
NOAEL= > 1 mg/l (Rat, 4 Weeks) (Aerosol)
Dermal: NOAEL= 1000mg/kgbw/d (Repeated exposure)

Aspiration hazard:

Not applicable

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.**

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)

LUBRICATING OILS (PETROLEUM), C15-30, HYDROTREATED NEUTRAL OIL-BASED :
LL50, 96 h (Pimephales promelas) : > 100 mg/l (Method: OECD Test Guideline 203)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :
LL50, 96 h (Pimephales promelas (fathead minnow)) : > 100 mg/l (Method: OECD Test Guideline 203)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC; BASEOIL — UNSPECIFIED [A COMPLEX COMBINATION OF HYDROCARBONS OBTAINED BY TRE :
LL50, 96 h (Pimephales promelas (fathead minnow)) : > 100 mg/l (Method: OECD Test Guideline 203) Water accommodated fraction was tested.

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 :
May be considered as comparable to a similar product for which experimental results are:
EL50, 48 h (Daphnia magna (Water flea)) : 5,4 mg/l (Method: OECD Test Guideline 202)

LUBRICATING OILS (PETROLEUM), C15-30, HYDROTREATED NEUTRAL OIL-BASED :
LL50, 48 h (Daphnia magna (Water flea)) : > 10.000 mg/l (Method: OECD Test Guideline 202)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :
May be considered as comparable to a similar product for which experimental results are:
LL50, 48 h (Daphnia magna (Water flea)) : > 10.000 mg/l (Method: OECD Test Guideline 202)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC; BASEOIL — UNSPECIFIED [A COMPLEX COMBINATION OF HYDROCARBONS OBTAINED BY TRE :
LOEC, 48 h (Daphnia magna (Water flea)) : > 10.000 mg/l Water accommodated fraction was tested.

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)

LUBRICATING OILS (PETROLEUM), C15-30, HYDROTREATED NEUTRAL OIL-BASED :
ErL50 (Pseudokirchneriella subcapitata (green algae)) : > 100 mg/l (Method: OECD Test Guideline 201)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :
May be considered as comparable to a similar product for which experimental results are:
ErL50, 72 h (Pseudokirchneriella subcapitata (green algae)) : > 100 mg/l (Method: OECD Test Guideline 201)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC; BASEOIL — UNSPECIFIED [A COMPLEX COMBINATION OF HYDROCARBONS OBTAINED BY TRE :
NOEC, 72 h (Pseudokirchneriella subcapitata (green algae)) : > 100 mg/l (growth rate) Water accommodated fraction was tested.

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)) : 0,4 mg/l (Method: OECD Test Guideline 211)

LUBRICATING OILS (PETROLEUM), C15-30, HYDROTREATED NEUTRAL OIL-BASED :
NOELR, 21 d (Daphnia magna (Water flea)) : 10 mg/l (Method: OECD Test Guideline 211)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

May be considered as comparable to a similar product for which experimental results are:
NOEC, 21 d (Daphnia magna (Water flea)) : 10 mg/l (Method: OECD Test Guideline 211, Growth inhibition/Reproduction inhibition)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC; BASEOIL — UNSPECIFIED [A COMPLEX COMBINATION OF HYDROCARBONS OBTAINED BY TRE :

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)

LUBRICATING OILS (PETROLEUM), C15-30, HYDROTREATED NEUTRAL OIL-BASED :

NOEC r, 72 h (Pseudokirchneriella subcapitata (green algae)) : > 100 mg/l (Method: OECD Test Guideline 201)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

NOEC r, 72 h (Pseudokirchneriella subcapitata (green algae)) : 100 mg/l (Method: OECD Test Guideline 201)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC; BASEOIL — UNSPECIFIED [A COMPLEX COMBINATION OF HYDROCARBONS OBTAINED BY TRE :

NOEC, 72 h (Raphidocelis subcapitata) : 100 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)

LUBRICATING OILS (PETROLEUM), C15-30, HYDROTREATED NEUTRAL OIL-BASED :

Not readily biodegradable.: 31 % after 28 d (Method: OECD Test Guideline 301 F)

Not readily biodegradable.: 2 - 8 % after 28 d (Method: OECD Test Guideline 301 B)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

Not readily biodegradable.: 2 - 31 % after 28 d (Method: OECD Test Guideline 301 B)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC; BASEOIL — UNSPECIFIED [A COMPLEX COMBINATION OF HYDROCARBONS OBTAINED BY TRE :

Not readily biodegradable.: 31 % after 28 d

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)

LUBRICATING OILS (PETROLEUM), C15-30, HYDROTREATED NEUTRAL OIL-BASED :

Partition coefficient: n-octanol/water: log Kow : 1,99 - 18 (Method: QSAR)

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT PARAFFINIC :

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT NAPHTHENIC; BASEOIL — UNSPECIFIED [A COMPLEX COMBINATION OF HYDROCARBONS OBTAINED BY TRE :

(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:

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 ^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:

Listed in:

EU. REACH, Annex XVII, Appendix 2, Entry 28 - Carcinogens: Category 1B (CLP Table 3 of Anx VI). (Reg. 1907/2006/EC)

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) : Conforms to
 DSL/NDSL (CA) : 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
 NZIOC (NZ) : Conforms to

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).

